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March 10, 2023

Mr. Aaron Yue
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Subject: *Fourth Quarter 2022 Quarterly Progress Report, PG&E Topock Compressor Station, Needles, California* (PGE20180115A)

Dear Mr. Yue:

Enclosed is the Fourth Quarter 2022 Quarterly Progress Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station located in Needles, California (the Site). In December 2021, startup began for Phase 1 of the groundwater remedy system including start of National Trails Highway in-situ reactive zone (IRZ) system operation, maintenance, and monitoring to address hexavalent chromium in groundwater. Operation of the IRZ injection and extraction wells using generators continued at the start of Fourth Quarter 2022. On November 1, 2022, transfer to Topock Compressor Station (TCS) power was successful, and continuous operation of the IRZ system resumed using TCS power through the end of the quarter. Groundwater and surface water monitoring was performed to evaluate the performance of the groundwater remedy to attain the remedial action objectives and comply with Applicable or Relevant and Appropriate Requirements.

In accordance with the reporting requirements outlined in the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy, this quarterly progress report presents an overview of the groundwater remedy and remedial action objectives; a summary of Fourth Quarter 2022 communications, operations, and performance; and recommendations and planned activities for the next reporting period.

Please contact me at 415.314.8530 if you have any questions about the quarterly progress report.

Sincerely,

Iain Baker
Chromium Remediation Manager

Cc: Chris Guerre/DTSC
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Topock Project Executive Abstract

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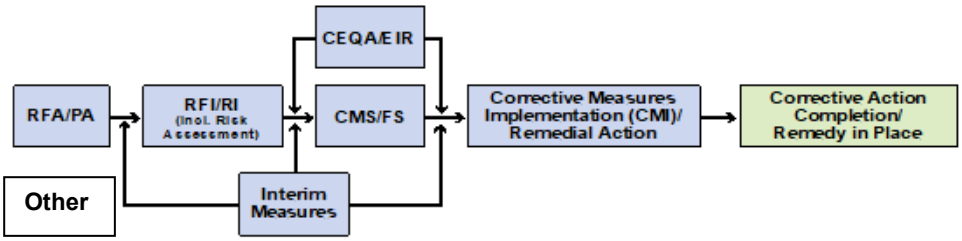
Is this a regulatory requirement?	☒ Yes ☐ No If no, why is the document needed?
What is the consequence of NOT doing this item? What is the consequence of DOING this item?	Submittal of this report is a compliance requirement under DTSC and DOI requirements.
Other Justification/s:	☐ Permit ☐ Other / Explain:
Brief Summary of Attached Document:	In December 2021, startup began for Phase 1 of the groundwater remedy system including start of National Trails Highway in-situ reactive zone (IRZ) system operation, maintenance, and monitoring to address hexavalent chromium in groundwater. Operation of the IRZ injection and extraction wells using generators continued at the start of Fourth Quarter 2022. On November 1, 2022, transfer to Topock Compressor Station (TCS) power was successful, and continuous operation of the IRZ system resumed using TCS power through the end of the quarter. Groundwater and surface water monitoring was performed to evaluate the performance of the groundwater remedy to attain the remedial action objectives and comply with Applicable or Relevant and Appropriate Requirements. In accordance with the reporting requirements outlined in the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy, this quarterly progress report presents an overview of the groundwater remedy and remedial action objectives; a summary of Fourth Quarter 2022 communications, operations, and performance; and recommendations and planned activities for the next reporting period. Written by: PG&E

Recommendations:	None.
How is this information related to the Final Remedy or Regulatory Requirements?:	This report is required by DTSC and DOI as part of the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy.
Other requirements of this information?:	None.
Related Reports and Documents:	Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site (www.dtsc-topock.com).  **Legend** RFA/PA – RCRA Facility Assessment/Preliminary Assessment RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment) CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study CEQA/EIR – California Environmental Quality Act/Environmental Impact Report

Version 9

Pacific Gas and Electric Company

Fourth Quarter 2022 Quarterly Progress Report

Topock Compressor Station

Needles, California

March 10, 2023

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Topock Compressor Station

Needles, California

March 10, 2023

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Acronyms and Abbreviations

Agencies	Department of the Interior and the California Department of Toxic Substances Control
ARAR	Applicable or Relevant and Appropriate Requirements
BOD SMP	Basis of Design Sampling and Monitoring Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	constituent of potential concern
Cr3	trivalent chromium
Cr6	hexavalent chromium
C/RAWP	Construction/Remedial Action Work Plan
DOI	U.S. Department of the Interior
DQO	Data Quality Objective
DTSC	California Department of Toxic Substances Control
Final BOD	Basis of Design Report/Final (100%) Design Submittal and Construction/ Remedial Action Work Plan for the Final Groundwater Remedy
ft/ft	foot per foot
ft amsl	feet above mean sea level
GREM	Green Remediation Evaluation Matrix
IRZ	in-situ reactive zone
µg/L	microgram per liter
MCL	Maximum Contaminant Level
mg/L	milligram per liter
MS/MSD	matrix spike/matrix spike duplicate
NRWQC	National Recommended Water Quality Criteria
NTH	National Trails Highway
O&M	operation and maintenance
ORP	oxidation-reduction potential
PAP	Perimeter Assessment Plan
PARCC	precision, accuracy, representativeness, comparability, and completeness
PG&E	Pacific Gas and Electric Company
Phase 1 Monitoring Plan	Groundwater Remedy Phase 1 Interim Monitoring Plan
Phase 1 Monitoring Program	Groundwater Remedy Phase 1 Monitoring Program

QAPP	Quality Assurance Project Plan
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RPWC	remedy-produced water conditioning
Site	PG&E Topock Compressor Station, located in eastern San Bernardino County, 15 miles southeast of the City of Needles, California
SMP	Sampling and Monitoring Plan
SOP	Standard Operating Procedure
TCS	Topock Compressor Station
TDS	total dissolved solids
TOC	total organic carbon
USEPA	United States Environmental Protection Agency
VFD	variable frequency drive

Executive Summary

Startup of the Phase 1 groundwater remedy system at the Topock Compressor Station (TCS) in Needles, California (the Site) began in December 2021 including the start of National Trails Highway (NTH) in-situ reactive zone (IRZ) system operation, maintenance, and monitoring to address hexavalent chromium (Cr6) in groundwater. Operation of the IRZ injection and extraction wells using generators continued at the start of Fourth Quarter 2022. On November 1, 2022, transfer to TCS power was successful, and continuous operation of the IRZ system resumed using TCS power through the end of the quarter. Ethanol injections into operational IRZ injection wells occurred twice weekly, when operating. On December 19, 2022, the amount of ethanol injected per dosing event was doubled from 30 milligrams per liter (mg/L) to 60 mg/L total organic carbon (TOC) time-weighted target average to enhance Cr6 treatment throughout the IRZ.

Groundwater and surface water monitoring was performed in Fourth Quarter 2022 in accordance with the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy (Final BOD; CH2M Hill 2015a), Groundwater Remedy Phase 1 Interim Monitoring Plan (Phase 1 Monitoring Plan; Arcadis 2021b), Standard Operating Procedures presented in Appendix B of the Phase 1 Monitoring Plan, and the PG&E Program Quality Assurance Project Plan (QAPP; CH2M Hill 2014; Critigen 2020) to evaluate the performance of the groundwater remedy to attain the Remedial Action Objectives (RAOs) and comply with Applicable or Relevant and Appropriate Requirements (ARARs). Key observations of Fourth Quarter 2022 remedy performance are highlighted below:

- The process control monitoring results indicated that initial or continued Cr6 treatment was observed at dose response monitoring wells MW-26, MW-31-060, MW-51, MW-76-181, MW-76-218, MW-78-070, MW-78-142, MW-79-058, MW-79-102, MW-80-057, MW-80-082, TW-02D, and TW-03D. These results indicate that increased flow to the southern IRZ injection wells (IRZ-27 [lower], IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37) in June 2022 and doubling ethanol dosing in September 2022 from once a week (TOC time-weighted average of 30 mg/L once weekly or 15 percent of the nominal design dosing in the Final BOD) to twice a week (TOC time-weighted average of 30 mg/L twice weekly or 30 percent of the nominal design dosing in the Final BOD) had a positive impact on Cr6 treatment. Cr6 concentrations at MW-78-070, MW-26, MW-80-082, and MW-31-060 decreased to less than 32 micrograms per liter (µg/L). To further enhance Cr6 treatment and generate reducing capacity, ethanol dosing at the IRZ injection wells was increased to 60 mg/L TOC time-weighted target average starting on December 19, 2022 (two injections per week; 60 percent of the planned dosing in the Final BOD).
- Cr6 concentrations in the downgradient monitoring wells are evaluated to determine if concentrations are within expectations provided in the Final BOD (CH2M Hill 2015a). In Fourth Quarter 2022, Cr6 concentrations were less than 32 µg/L, except at MW-39-100, MW-77-187, and PT5D.
    - Cr6 concentrations at MW-39-100 (270 µg/L in December 2022) and PT5D (40 µg/L in November 2022) have increased since remedy startup, likely in response to active system operation at IRZ-23. IRZ-23 is pulling this portion of the downgradient plume from east to west through MW-39-100 when the system is actively operating. The sampling frequency at select monitoring wells downgradient of MW-39-100 and PT5D was increased from quarterly in the Phase 1 Monitoring Plan to monthly to better evaluate changes in Cr6 concentrations over time in response to system operation.
    - Cr6 concentrations at MW-77-187 decreased from 33 µg/L in October 2022 to 10 µg/L in December 2022 as treated water from the IRZ arrived at this location. MW-77-187 and monitoring wells downgradient of the well will be further evaluated in the monthly datasets.

- In-situ byproduct (dissolved arsenic, dissolved iron, and dissolved manganese) concentrations at the dose response and downgradient monitoring wells were lower than the action levels in Fourth Quarter 2022. In Third Quarter 2022, the dissolved iron concentration at MW-53S (5.9 mg/L) was greater than the action level (5.4 mg/L). The monitoring well was sampled in November 2022, and the dissolved iron concentration (5.1 mg/L) decreased to lower than the action level. No operational changes were warranted in Fourth Quarter 2022.
- On the northern end of the NTH IRZ, multiple lines of evidence were used to demonstrate control of the Cr6 plume in Fourth Quarter 2022. The Cr6 plume in this area is situated within a shallow zone (Layer 1) and a deep zone (Layers 4 and 5). In both zones, Cr6 concentrations remained low (less than 32 µg/L) in monitoring wells to the east of the plume. In the shallow zone, the hydraulic gradient was flat with localized flow toward extraction well IRZ-13S while operating. In the deep zone, groundwater within the Cr6 plume flowed towards extraction well IRZ-13D. Collectively, the Cr6 results and groundwater elevation data demonstrate control of the Cr6 plume targeted by northern extraction.
- Remedy compliance monitoring data were collected in Fourth Quarter 2022 to evaluate progress towards achievement of RAOs 2, 3, and 4. RAO progress is anticipated to be evaluated throughout the duration of the remedy. Data collected each quarter will contribute to the overall evaluation.
- Constituents of Potential Concern (COPCs) Perimeter Assessment Plan (PAP) monitoring results in Fourth Quarter 2022 were lower than the trigger levels, except for the dissolved selenium and nitrate/nitrite concentrations at monitoring well MW-71-035. PG&E submitted an exceedance notification to the Department of Toxic Substances Control (DTSC) and the Department of Interior (DOI) on January 4, 2023; see table below. The COPC PAP trigger levels were updated in Fourth Quarter 2022 and will be applied in 2023.
- Former IM-3 injection area monitoring was performed for the first time since IM-3 system shutdown. The analytical results suggest that groundwater conditions in the former IM-3 injection area have remained generally consistent with conditions during active IM-3 operation. In addition, after IM-3 system shutdown, potentiometric mounding in the middle and deep aquifer zones dissipated.
- The domestic wells were sampled for the first time since remedy startup. Data collection will continue from these wells biennially and will be evaluated during startup of Phase 2 of the remedy.

The table below provides a summary of COPC PAP trigger level exceedances from Fourth Quarter 2022 and associated response actions.

Program	Well	Constituent	Trigger Level	Fourth Quarter 2022 Result	Response Actions
COPC Monitoring	MW-71-035	Dissolved selenium	Trigger Level: 0.52 µg/L	1.6 µg/L (November 10, 2022)	Notified agencies of trigger level exceedance on January 4, 2023. Will collect verification sample in First Quarter 2023.
COPC Monitoring	MW-71-035	Nitrate/nitrite as N	Trigger Level: 0.19 mg/L N	0.43 mg/L N (November 10, 2022)	Notified agencies of trigger level exceedance on January 4, 2023. Will collect verification sample in First Quarter 2023.

1 Introduction

Pacific Gas and Electric Company (PG&E) is implementing a final groundwater remedy to address hexavalent chromium (Cr6) in groundwater near the PG&E Topock Compressor Station (TCS) located in eastern San Bernardino County, 15 miles southeast of the City of Needles, California (the Site). PG&E is implementing the groundwater remedy at the TCS in conformance with the requirements of the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The U.S. Department of the Interior (DOI) and the California Department of Toxic Substances Control (DTSC), collectively known at the 'Agencies,' executed a Memorandum of Understanding on November 22, 2011 establishing coordination guidelines for overseeing implementation of a groundwater response action at the TCS (DTSC and DOI 2011). In a coordinated effort, the DOI and DTSC selected the final groundwater remedy to address chromium in groundwater, which is presented in the Record of Decision (DOI 2010).

In November 2015, PG&E submitted a Basis of Design Report/Final (100%) Design Submittal (Final BOD), which presents the final design basis, design criteria, drawings, specifications, and operation and maintenance (O&M) requirements for the groundwater remedy (CH2M Hill, Inc. [CH2M Hill] 2015a). The infrastructure for the groundwater remedy is being constructed following the plans and procedures documented within the Construction/Remedial Action Work Plan (C/RAWP; CH2M Hill 2015b). Construction and startup of the groundwater remedy is proceeding in phases.

Construction of Phase 1 was completed in December 2021 sufficient for initial system startup. The design was modified during construction to accommodate conditions encountered including a plume footprint smaller than documented in the Final BOD. Modifications included changes to the remediation and monitoring well networks and associated infrastructure including deferral of wells to Phase 2. Construction of the Phase 2A remedy was initiated in First Quarter 2022. Post-development Cr6 data collected from the Phase 2A injection (FW-02B, TSC-1, and TSC-2) and extraction wells (TWB-01, TWB-03, ER-01, and ER-02) are provided herein; however, Phase 2A construction details and monitoring results are provided in monthly construction reports and are not included in this quarterly progress report. Construction of Phase 2B is anticipated to begin in 2023 and be completed in 2026.

In December 2021, startup began for Phase 1 of the groundwater remedy system including the start of National Trails Highway (NTH) in-situ reactive zone (IRZ) system operation, maintenance, and monitoring. O&M are being performed in accordance with the O&M Plan (Appendix L, Volume 1; CH2M Hill 2015a). Monitoring is being performed in accordance with the Sampling and Monitoring Plan (BOD SMP), with modifications, provided in the Final BOD O&M Manual (Appendix L, Volume 2; CH2M Hill 2015a) to evaluate the performance of the groundwater remedy to attain the Remedial Action Objectives (RAOs) and comply with Applicable or Relevant and Appropriate Requirements (ARARs). Because the groundwater remedy is being constructed in phases, a modified SMP was needed to suit the as-built Phase 1 of the groundwater remedy. PG&E submitted the Groundwater Remedy Phase 1 Interim Monitoring Plan (Phase 1 Monitoring Plan; Arcadis 2021b) to the Agencies on October 1, 2021.

In accordance with the BOD SMP reporting requirements (CH2M Hill 2015a), this quarterly progress report provides a summary of the following elements for Fourth Quarter 2022 (October through December 2022; the reporting period):

- Overview of the groundwater remedy and RAOs;
- Communications Summary. Summary of remedy-related communications with the DTSC, DOI, PG&E, Tribes, and other project stakeholders, which have been distributed as part of community outreach efforts;

- Operations Summary. Description of routine and non-routine downtime, operational data, and process monitoring data; utilities and consumables used and waste handling/disposal; issues encountered with system operation; system optimizations and maintenance performed; and material deviations from design documents and the O&M Plan;
- Performance Summary. Description of the monitoring events performed during the current reporting period, the monitoring results and interpretation of results, evaluation of Cr6 plume control, interpretation of progress towards the RAOs, and material deviations from design documents and the O&M Plan;
- O&M Green Remediation Evaluation Matrix (GREM) Summary. PG&E develops a semiannual GREM summary report to document various sustainability metrics generated by PG&E including the TCS. The GREM summary reports data regarding greenhouse gas reductions, savings from use of renewable energy, reductions in liquid and solid waste, and local economy boost. The GREM summary is reported under separate cover and is not provided in this quarterly progress report.
- Recommendations and planned activities for the next reporting period.

1.1 Remedial Action Objectives

As stated in the Final BOD (CH2M Hill 2015a), the RAOs for the groundwater remedy are to:

1. Prevent ingestion of groundwater as a potable water source exhibiting Cr6 concentrations that exceed the regional background concentration of 32 micrograms per liter (µg/L).
2. Prevent or minimize migration of total dissolved chromium and Cr6 in groundwater to ensure that concentrations in surface water do not exceed water quality standards that support the designated beneficial uses of the Colorado River (11 µg/L Cr6; United States Environmental Protection Agency [USEPA] 2022).
3. Reduce the mass of total dissolved chromium and Cr6 in groundwater at the Site to achieve compliance with ARARs in groundwater. This RAO will be achieved by meeting the cleanup goal of the regional background concentration of 32 µg/L of Cr6.
4. Ensure that the geographic location of the target remediation area does not permanently expand following completion of the remedial action.

1.2 Phase 1 Remedy Overview

Per the C/RAWP, Phase 1 of the groundwater remedy comprises the creation of an IRZ along NTH using a line of injection and extraction wells to circulate groundwater and distribute an organic carbon source to promote reduction of soluble Cr6 to the insoluble form: trivalent chromium (Cr3). The groundwater remedy is being constructed in two phases in accordance with the C/RAWP (CH2M Hill 2015b).

The infrastructure for the Phase 1 remedial system consists of the following components (Figure 1.1):

- A line of remedial wells along the NTH that comprise the NTH IRZ (18 remediation wells in individual boreholes);
- A treatment system compound, situated on the MW-20 bench, that includes infrastructure for organic carbon amendment and system maintenance;
- A remedy-produced water conditioning (RPWC) system situated on the compressor station;

- Conveyance lines among the NTH IRZ remedials wells, the MW-20 bench treatment compound, and the RPWC system;
- A monitoring well network composed of monitoring wells that existed before the groundwater remedy (174 monitoring well screens) and monitoring wells constructed for Phase 1 of the groundwater remedy (69 newly constructed monitoring well screens; a total of 243 monitoring locations; see Section 3); and
- Riverbank Extraction Wells (four extraction wells in individual boreholes). The riverbank extraction wells are not currently plumbed into the remedial system, and were, therefore, not operated in Fourth Quarter 2022.

The NTH IRZ system is operated by extracting groundwater from the NTH IRZ extraction wells, amending the water with carbon substrate (ethanol), then injecting the amended water into the NTH IRZ injection wells. Figure 1.2 shows a process flow diagram of the treatment compound at the MW-20 bench including the carbon amendment infrastructure. The ethanol injections stimulate microbially mediated reduction of Cr6 to Cr3. The stimulated conditions may also reduce or release other constituents such as iron, manganese, sulfate, nitrate, and arsenic. These parameters are monitored in the Groundwater Remedy Phase 1 Monitoring Program (Phase 1 Monitoring Program) including the process control monitoring and remedy compliance monitoring programs (see Section 1.3). The groundwater and surface water monitoring data collected as part of the Phase 1 Monitoring Program are used to assess how biogeochemical conditions are changing in the subsurface in response to NTH IRZ system operations, inform system operational adjustments as needed, and evaluate overall remedy effectiveness.

During Phase 1, the NTH IRZ system is planned to operate for a period of time (nominally for 6 months) followed by a period of downtime (nominally 18 months) during which time residual reducing capacity generated during injections will continue to treat Cr6 in groundwater. Residual reducing capacity could potentially be stored during active injections as reduced iron from iron reduction, sulfide from sulfate reduction, or as biomass from microbial growth. Establishment and maintenance of an adequate reducing capacity within the treatment zone (i.e., at the dose response wells along the NTH IRZ) is evaluated by dissolved iron and Cr6 concentrations and other redox indicators such as nitrate and sulfate. If these parameters indicate establishment of reducing conditions (i.e., dissolved iron concentrations increasing to greater than baseline and Cr6 concentrations decreasing to less than 32 µg/L), then IRZ operations will be shut down, and monitoring of these parameters will continue. As the data indicate that reducing conditions are lost (e.g., through a decrease in dissolved iron concentrations, an increase in Cr6 concentrations, or an increase in other redox indicators such as nitrate), IRZ operations will resume.

Actual duration of the operational and rest periods will be determined based on the amount of active operation runtime each month and data collected in the process control monitoring program (see Section 1.3). Based on data collected in the first 6 months of operation in 2022, operations continued throughout 2022 and into 2023.

1.3 Phase 1 Monitoring Program Overview

The BOD SMP detailed monitoring programs for the groundwater remedy and developed Data Quality Objectives (DQOs) that guided the design of sampling locations, constituents, and frequencies and the methodology for evaluating the data to inform operations (Appendix L, Volume 2; CH2M Hill 2015a). The relevant programs from the BOD SMP, as described in the Phase 1 Monitoring Plan (Arcadis 2021b), include:

- *Process control monitoring*. This program assesses the extent to which the NTH IRZ is functioning as designed according to the NTH IRZ DQOs presented in the BOD SMP (CH2M Hill 2015a) and listed below. The DQOs guide data collection and establish decision rules that outline how the data collected will be used

to adjust system operations. The NTH IRZ decision rules and operational framework are provided on Figure 2.2-2 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a).

- The carbon substrate amendment system must be working to amend the organic carbon substrate into the recirculated groundwater (NTH IRZ DQO 1).
- The NTH IRZ must be complete and maintain Cr6 treatment over time (NTH IRZ DQO 2).
- In-situ byproduct (dissolved arsenic, dissolved manganese, dissolved iron, and dissolved barium) generation and migration from the NTH IRZ must be controlled (NTH IRZ DQO 3).
- Extraction on the north end of the NTH IRZ will be conducted to control Cr6 with the NTH and riverbank extraction systems (NTH IRZ DQO 4).
- Extraction will be conducted to minimize extraction of organic carbon and reduced metal byproducts (iron and manganese; NTH IRZ DQO 5).

The process control monitoring program consists of five components: dose response monitoring, downgradient well monitoring, northern NTH IRZ extraction monitoring, extraction well monitoring, and carbon amendment system monitoring. The process control monitoring network is shown on Figure 1.3. The carbon amendment monitoring locations are shown on Figure 1.2; these samples are collected from sampling ports located downstream of each in-line static mixer. Process control monitoring results are presented in Sections 2.2, 2.3, and 3.2.1.

- *Remedy compliance monitoring*. This program consists of surface water and groundwater sampling to evaluate achievement of RAOs 2, 3, and 4 as defined in Section 1.1. Note that RAO 1, which involves prevention of the ingestion of water with elevated Cr6 concentrations, requires no action within the remedy compliance monitoring program because institutional controls are being implemented to achieve this RAO. The remedy compliance groundwater monitoring and surface water monitoring network is shown on Figure 1.4. Results are presented in Section 3.2.2.
- *Constituent of potential concern (COPC) monitoring*. The DTSC and DOI consider selenium, molybdenum, and nitrate as COPCs potentially related to site activities and have directed monitoring of these constituents throughout remediation. The RAOs defined in Section 1.1 are not applicable to the COPCs. The COPC monitoring program consists of surface water and groundwater sampling to monitor COPC concentrations during Phase 1 of remedy startup. The COPC monitoring network is shown on Figure 1.5. Results are presented in Section 3.2.3.
- *Water level monitoring*. The purpose of this program is to assess changes in hydraulic gradients in the floodplain affected by system operations. The pressure transducer monitoring network is shown on Figure 1.6. Results are presented in Sections 2.1 and 3.2.
- *RPWC system monitoring*. The purpose of this program is to monitor the quality of water at the RPWC system. The primary objective is to evaluate effluent water quality as it affects the reuse options. During Phase 1, the planned reuse is re-injection to the NTH IRZ wells. Results are presented in Section 2.3.
- *Former IM-3 injection area monitoring*. The purpose of this program is to evaluate the change in conditions in the IM-3 injection area following the end of injection associated with IM-3 operations. The former IM-3 injection area monitoring network is shown on Figure 1.4. Results are presented in Section 3.2.4.

- *Domestic well sampling*. Per direction from the DTSC, domestic/private wells are sampled to evaluate the potential effects the remedy could impart to domestic wells chemically and hydraulically. The locations of the domestic wells are shown on Figure 1.7. Results are presented in Section 3.2.5.

The Phase 1 Monitoring Program is intended to evaluate the first 2 years of remedy operation; the monitoring program will be re-evaluated and updated (as needed) after 2 years of operation of Phase 1.

1.4 Fourth Quarter 2022 Communications

This section summarizes key PG&E communications in Fourth Quarter 2022 associated with Phase 1 of the groundwater remedy:

- On November 24, 2022, PG&E notified the DTSC and DOI about an unplanned outage for the remedy November 23 through 25, 2022. On the evening of November 23, water was observed coming out of the IRZ-23 vault near the MW-20 bench. The O&M team shut down the remedy system on November 23, 2022 and inspected the system for the cause of the leak on November 25, 2022 following the Thanksgiving holiday on November 24, 2022. A broken flange in IRZ-23 was identified as the cause, and the system was restarted on November 25, 2022. The down time was approximately 37 hours (PG&E 2022a).
- On December 9, 2022, PG&E submitted the Third Quarter 2022 Quarterly Progress Report (Arcadis 2022c) to the DTSC and DOI.
- On December 14, 2022, PG&E submitted the Third Quarter 2022 Well Performance Report (Arcadis 2022d) to the DTSC and DOI.
- On December 12, 2022, PG&E submitted an incident report for the IRZ-23 release that occurred on November 23, 2022 due to a broken flange (PG&E 2022b). In addition, PG&E revised the standard operating procedure for system startup to reduce the possibility of a similar operational error occurring in the future. The DTSC provided the incident report and updated standard operating procedure to stakeholders on December 29, 2022 (DTSC 2022).
- On January 4, 2023, PG&E notified the DTSC and DOI about a Fourth Quarter 2022 COPC exceedance for monitoring well MW-71-035. The well yielded selenium and nitrate/nitrite concentrations that exceeded the COPC Perimeter Assessment Plan (PAP) trigger levels set forth in the Fourth Quarter 2021 Progress Report (Arcadis 2022a). Monitoring well MW-71-035 was resampled in First Quarter 2023 for verification (Arcadis 2023).

2 Fourth Quarter 2022 Operations Summary

This section provides a summary of the O&M tasks performed at the Site in Fourth Quarter 2022.

At the start of Fourth Quarter 2022, operation of the IRZ system continued using generators. On November 1, 2022, operation transitioned to TCS power following testing of the 12-kilovolt switch seating. The seating was determined to be functional. The IRZ system continued operating using TCS power for the remainder of the quarter. System runtime, ethanol and recirculated groundwater injection volumes and flowrates, and average flowrates are summarized in Tables 2.1 and 2.2. An IRZ system operations and non-routine maintenance log is presented as Table 2.3.

Overall, system operations improved following system restart in September 2022, with an average systemwide uptime of 92 percent in Fourth Quarter 2022. The following notable events occurred in Fourth Quarter 2022:

- Sump pumps were installed in well vaults to prevent accumulation of water and equipment damage during storm events. Sump pump installation will be continued in First Quarter 2023.
- A remedy-produced water release occurred at extraction well IRZ-23 on November 23, 2022 due to a broken pipe flange fitting in the IRZ-23 vault. The system alarms and programming interlocks shut the system off as designed to prevent a release out of the vault when the flange broke, but the interlock was overridden by the lead system operator remotely disabling system communications to IRZ-23. When communications to IRZ-23 were disabled, the system was restarted using extraction wells IRZ-9, IRZ-13S, and IRZ-13D, and water began backflowing from the operating extraction wells into the IRZ-23 vault. Approximately 1,400 gallons of water overflowed the vault during the release before the system shut down. The incident was investigated, and PG&E submitted an incident report to the DTSC and DOI on December 12, 2022 (PG&E 2022b).
- The amount of ethanol dosed weekly was doubled starting on December 19, 2022 to enhance Cr6 treatment throughout the IRZ. Further details regarding the dosing increase are provided in Section 2.2.

2.1 Water Level Monitoring Results

Water levels were monitored at a subset of monitoring wells to assess hydraulic gradients in the floodplain affected by system operations. Pressure transducer data were downloaded on December 14, 2022. Therefore, September, October, and November 2022 data are analyzed in this quarterly progress report, and December 2022 data will be analyzed in the First Quarter 2023 quarterly progress report.

The groundwater monitoring intervals have been simplified into five hydrostratigraphic layers:

- Layer 1: Elevation Interval of 425 to 455 feet above mean sea level (ft amsl);
- Layer 2: Elevation Interval of 400 to 425 ft amsl;
- Layer 3: Elevation Interval of 350 to 400 ft amsl;
- Layer 4: Elevation Interval of 300 to 350 ft amsl; and
- Layer 5: Elevation Interval of 350 to 300 ft amsl.

These layers also correspond to the existing groundwater model layers. Figures 2.1a, 2.1b, and 2.1c show the average daily groundwater elevations for September, October, and November 2022 and the associated groundwater contours for Layers 1 and 2, Layer 3, and Layers 4 and 5.

Table 2.2 provides the active operation time for each IRZ extraction and injection well in September, October, and November 2022. The NTH IRZ extraction and injection wells were actively operating for the entire months of September, October, and November 2022 with 88 to 94 percent average run time, but operational times for individual wells varied.

The following observations were made based on the September, October, and November 2022 potentiometric surface maps:

- In September, October, and November 2022, the Colorado River stage was lower than in the previous quarter. The lower river stage resulted in lower groundwater elevations and river elevations than observed in the previous quarter.
- In the northern area of the Site, around extraction wells IRZ-13S and IRZ-13D, groundwater was drawn towards IRZ-13S (Layers 1 and 2), and a cone of depression formed around IRZ-13D (Layers 4 and 5) during active extraction.
- In Layer 3, a cone of depression formed around active extraction well IRZ-23. In Layers 1 and 2 and Layers 4 and 5, mounding was observed in this area of the Site near the actively operating injection wells.
- In the southern portion of the treatment area (Layers 1, 2, and 3 south of extraction well IRZ-23), mounding was observed near the actively operating injection wells.

2.2 Ethanol Injections and Carbon Amendment System Monitoring Results Results

In October, November, and December 2022, ethanol was injected into operational injection wells twice weekly while the system was operating. At the beginning of the quarter, the 4-hour pulses of an estimated 540 milligrams per liter (mg/L) total organic carbon (TOC) were used, for a time-weighted target average of 30 mg/L, which is 30 percent of the nominal dosing design in the Final BOD. On December 19, 2022, the amount of ethanol dosed weekly was doubled to a time-weighted target average of 60 mg/L, which is 60 percent of the nominal dosing design in the Final BOD, to enhance Cr6 treatment throughout the IRZ (see Section 3.2.1.1.1). Injection duration increased from 4 hours to 6 hours for each injection event, and the estimated concentration of TOC in the pulse was 720 mg/L. A total of 1,241 gallons of ethanol was injected in Fourth Quarter 2022. Volumes of ethanol injected per month and per individual well are provided in Tables 2.1 and 2.2.

In Fourth Quarter 2022, the carbon amendment system was monitored to verify that the carbon amendment system was injecting at the target dose (NTH IRZ DQO 1). The carbon substrate is fed into two forcemains: one conveying amended water to northern injection wells and one conveying amended water to the southern injection wells, each equipped with an in-line static mixer. Samples were collected from two sampling ports (CAB_MIXER_606 and CAB_MIXER_607) located immediately downstream of each in-line static mixer (Figure 1.2).

Samples analyzed for TOC and ethanol were collected on December 5, 2022 (see Table 2.4). Both TOC and ethanol were analyzed because the initial TOC results collected from January through April 2022 were very low compared to anticipated TOC concentrations (540 mg/L TOC in each injection pulse; Arcadis 2022b). In addition

to measuring ethanol, the TOC analytical method was evaluated by analyzing the carbon amendment system samples using TOC methods 5310C (listed in the PG&E Program Quality Assurance Project Plan [QAPP] CH2M Hill 2014; Critigen 2020) and 5310B (alternative TOC analytical method).

TOC analysis by both methods 5310C and 5310B yielded concentrations within the anticipated order of magnitude of the target dosing concentration of 570 mg/L. The data suggest that TOC method 5310C is providing representative TOC concentrations. Ethanol results corroborated the TOC analysis. The TOC and ethanol results indicate that the system is working properly. Moving forward, TOC and ethanol samples from the carbon amendment system will continue to be collected semi-annually, with the next scheduled event in Second Quarter 2023.

Table 2.4. Carbon Amendment System Monitoring Results

Location ID	Sample Date	TOC (mg/L) by SM 5310C	TOC (mg/L) by SM 5310B	Ethanol (µg/L) by SW 8260B	Ethanol-TOC Equivalent (mg/L)
CAB_MIXER_606	12/05/2022	490	470	710,000	370
CAB_MIXER_607	12/05/2022	620	720	870,000	450

2.3 Extracted Water and RPWC System Monitoring

The potential for extraction well fouling resulting from carbon injection is monitored during system operations (NTH IRZ DQO 5). This monitoring includes measuring TOC and metal byproduct concentrations at the extraction wells for conditions that may generate well fouling and specific capacity of the IRZ injection wells. The Fourth Quarter 2022 Well Performance Report (in progress), to be submitted under separate cover, provides an evaluation of overall well performance. However, the extraction well monitoring analytical results are provided herein.

Table 2.5 shows the baseline and monthly analytical results from extraction wells IRZ-9, IRZ-23, IRZ-13S, and IRZ-13D. The extraction wells are sampled monthly; however, IRZ-9 could not be sampled in December 2022 because the pump motor starter was removed and used to operate extraction well IRZ-23 at the time of sampling. A variable frequency drive (VFD) will be installed in IRZ-9 in First Quarter 2023. Extraction well IRZ-9 was not operated in October or December 2022 and was only operated for a limited time in November 2022. TOC (analyzed using Methods 5310C and 5310B in December 2022; see Section 3.2.1.1.1), total iron, dissolved iron, and dissolved manganese concentrations were generally lower than the reporting limits and baseline concentrations, with a few isolated exceptions. The isolated detections do not indicate a consistent trend that would be of concern for causing well fouling. Therefore, no adjustments to operations were needed in Fourth Quarter 2022.

The extraction wells will continue to be monitored monthly in First Quarter 2023, then will transition to quarterly monitoring in Second Quarter 2023.

Table 2.5. Baseline and Fourth Quarter 2022 TOC and Metal Byproduct Results

Extraction Well	Sample Date	Active Time Operating (percent)	TOC: Method 5310C (mg/L)	TOC: Method 5310B (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
IRZ-9	Baseline: January 2022	9	Less than 1	--	Less than 0.02	Less than 0.02	0.0027
IRZ-9	October 2022	0.20	Less than 1	--	Less than 0.02	Less than 0.02	0.00094 J
IRZ-9	November 2022	25	Less than 1	--	Less than 0.02	Less than 0.02	0.0017
IRZ-23	Baseline: December 2021	8	Less than 10	--	0.69	0.091 J	Less than 0.0005
IRZ-23	October 2022	94	Less than 1	--	0.11	Less than 0.02	Less than 0.0005 J
IRZ-23	November 2022	62	Less than 1	--	0.044	0.025	Less than 0.0005
IRZ-23	December 2022	87	Less than 1	1.8	1.20 J	Less than 0.02	Less than 0.0005
IRZ-13S	Baseline: March 2022	53	Less than 1	--	0.06	Less than 0.02	Less than 0.0005
IRZ-13S	October 2022	93	Less than 1	--	Less than 0.02	Less than 0.02	Less than 0.0005 J
IRZ-13S	November 2022	80	Less than 1	--	Less than 0.02	Less than 0.02	Less than 0.0005
IRZ-13S	December 2022	90	Less than 1	Less than 1	1.20 J	Less than 0.02	Less than 0.0005
IRZ-13D	Baseline: March 2022	53	Less than 50	--	Less than 0.02	0.059	0.062
IRZ-13D	October 2022	93	Less than 1	--	Less than 0.02	Less than 0.02	Less than 0.0005 J
IRZ-13D	November 2022	76	Less than 1	--	0.035	Less than 0.02	0.00099
IRZ-13D	December 2022	89	Less than 1	1.2	0.022 J	Less than 0.02	Less than 0.0005

Notes:
-- = not analyzed
mg/L = milligram per liter
J = estimated concentration

The IRZ injection wells were backwashed weekly when these wells were operating. The backwash water was stored in frac tanks at the MW-20 bench while the RPWC system was being finished. On November 14, 2022, the RPWC system at the compressor station was tested. Operators began processing remedy water through the RPWC system on November 18, 2022. Once the RPWC system was online, backwash water was pumped to the RPWC influent tanks and processed through filters before re-injection into IRZ injection wells. A diagram of the RPWC system is presented on Figure 2.2.

Before re-injection into the IRZ injection wells, the backwash water was monitored for field parameters and analyzed for select constituents (Cr6, total chromium, dissolved iron, and dissolved manganese). Before the RPWC system was online, field parameters and samples were collected from the frac tanks before the water was re-injected. Once the RPWC system was online, samples were collected from the influent sampling port, midpoint

sampling port (located after the bag filters and before the conditioned water storage tank), and effluent sampling port (located after the conditioned water storage tank; sample locations are shown on Figure 2.2), and continuous field parameter data (pH, specific conductivity, and turbidity) were collected using dataloggers. A summary of field parameters (through November 15, 2022) and analytical results (through December 28, 2022) from the backwash water is provided in Table 2.6. Figure 2.2 presents continuous pH data from the influent (tanks 1 and 2) and effluent dataloggers. As shown on Figure 2.2, the effluent pH data logger is located between the bag filters and the conditioned water holding tank that is part of the RPWC system at the TSC. Water from the conditioned water tank at the TCS is then conveyed to a holding tank at the MW-20 bench before re-injection. The BOD specifies a pH between 6.5 and 8.5 for re-injection to the IRZ. The Fourth Quarter 2022 effluent pH was above the 6.5 lower limit in the Fourth Quarter, with the exception of readings in late December. In late December 2022, pH of the effluent water dropped below 6.5. As shown on the top graph on Figure 2.2, conveyance of the water to the conditioned water tank stopped after the reading of 6.5 and remained off through the end of the quarter. The effluent pH data logger continued to read the pH of the water in the pipe of less than 6.5 for the rest of the quarter, but water was not being conveyed.

Chemical and mechanical well rehabilitation of IRZ injection wells began on December 19, 2022 and will continue in First Quarter 2023. Additional details regarding well rehabilitation are provided in Table 2.3 and the Fourth Quarter 2022 Well Performance Report.

2.4 Waste Management

In Fourth Quarter 2022, remedy produced water (e.g., water produced from IRZ backwashing, well rehabilitation, purging during well sampling, pumping of stormwater from vaults, and drilling) was stored in frac tanks at the MW-20 bench or the RPWC system. The water was filtered and used for re-injection into IRZ injection wells.

Spent filters from the bag filtration skid within the RPWC system were containerized and stored on site. Twenty-eight filters were used in 2022.

3 Fourth Quarter 2022 Monitoring Summary

This section describes the groundwater and surface water monitoring performed in Fourth Quarter 2022 and summarizes the Fourth Quarter 2022 monitoring results.

Table 3.1 provides a summary of the Phase 1 Monitoring Program including monitoring locations, monitoring frequencies, and constituents analyzed. Remediation well and monitoring well construction details are provided in Tables 3.2 and 3.3, respectively.

3.1 Summary of Fourth Quarter 2022 Monitoring Performed

Groundwater and surface water monitoring was performed in Fourth Quarter 2022 in accordance with the Phase 1 Monitoring Plan (Arcadis 2021b), Standard Operating Procedures (SOPs) presented in Appendix B of the Phase 1 Monitoring Plan, and the QAPP (CH2M Hill 2014; Critigen 2020). The elements of the Phase 1 Monitoring Program performed in Fourth Quarter 2022 are listed below:

- Process control monitoring;
- Remedy compliance monitoring;
- COPC monitoring;
- Water level monitoring;
- Former IM-3 injection area monitoring; and
- Domestic well sampling.

Monitoring wells included in each monitoring program vary by quarter. Table 3.1 and Figure 1.7 show the monitoring wells and surface water monitoring locations monitored in Fourth Quarter 2022.

The following wells were not sampled in Fourth Quarter 2022 for the reasons noted below:

- Extraction well IRZ-9: Unable to sample in December 2022 because the pump motor starter was removed and used to operate extraction well IRZ-23 at the time of sampling.
- Dose response monitoring well MW-21: Unable to sample in October 2022 due to construction.
- Domestic wells Marina 1, Topock-2, Topock-3, Sanders, Smith, and GSRV-2: Property owners did not provide access to sample the wells.

Field parameters (temperature, pH, specific conductivity, oxidation-reduction potential [ORP], turbidity, total dissolved solids [TDS], and salinity) were measured before groundwater and surface water sample collection. Samples collected from monitoring wells in California were sent to Asset Laboratories in Las Vegas, Nevada for laboratory analysis. Samples collected from monitoring wells in Arizona were sent to EMAX Laboratories, Inc. in Torrance, California. TOC analysis by Method 5310B and nitrate/nitrite analysis by Method 353.2 were performed at Enthalpy Analytical and Pace, respectively.

3.1.1 Modifications to the Phase 1 Monitoring Program

The following modifications were made to the Phase 1 Monitoring Program in Fourth Quarter 2022:

- Extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23 continued to be sampled monthly (see Section 2.3). Samples were analyzed for the constituents listed in Table 3.1 as well as sulfate and nitrate to determine the concentrations that are extracted at each well.
- Inactive injection wells IRZ-15, IRZ-21, and IRZ-25 were incorporated into the dose response monitoring program in Second Quarter 2022 to further evaluate the influence of active IRZ operations adjacent to extraction wells. The wells were not sampled in Fourth Quarter 2022 because the equipment at the wells was removed after March 29, 2022 storm damage. Equipment was reinstalled in Fourth Quarter 2022 and will continue in First Quarter 2023.
- Select downgradient monitoring wells (MW-30-050, MW-34-080, MW-36-090, MW-36-100, MW-39-040, MW-39-050, MW-39-060, MW-39-070, MW-39-080, MW-39-100, MW-44-115, MW-44-125, MW-45-095a, MW-77-046, MW-77-102, MW-77-158, MW-77-187, MW-81-043, MW-81-098, MW-82-046, MW-82-112, MW-82-168, and MW-82-198) continued to be sampled monthly to better evaluate changes in Cr6 concentrations over time in response to system operation. Samples collected from these wells were analyzed for the constituents listed in Table 3.1 as well as sulfate.
- Monitoring wells MW-167-185 and MW-168-180, located in the vicinity of the TCS, continued to be sampled monthly to evaluate changes in Cr6 concentrations over time.
- COPC PAP monitoring is conducted quarterly for PAP monitoring wells that are part of the dose response monitoring program and annually for the remaining PAP monitoring wells per the Phase 1 Monitoring Plan (Arcadis 2021b). Nitrate/nitrite by USEPA method 353.2 was added for COPC PAP monitoring in addition to nitrate by USEPA Method 300.0 until enough data are collected to establish baseline (i.e., trigger levels) for nitrate.

3.1.2 Data Validation and Completeness

Analytical results were validated in accordance with the QAPP (CH2M Hill 2014; Critigen 2020) using the criteria of precision, accuracy, representativeness, comparability, and completeness (PARCC) to demonstrate that a sufficient number of representative samples was collected. The resulting analytical data can be used to support the decision-making process as measured by the PARCC findings. The following summary highlights the PARCC findings:

- Precision of the data was verified through the review of the laboratory data quality indicators that include matrix spike/matrix spike duplicate (MS/MSD) and field duplicate relative percent differences. Precision for several analytes fell outside of performance indicators due to matrix interference; data validation qualifiers were applied for results that did not meet quality control criteria.
- Accuracy of the data was verified through the review of the calibration, laboratory control samples, MS/MSDs, as well as the evaluation of method/field blank data. Accuracy was acceptable for all analyses with some exceptions due to matrix interference; data validation qualifiers were applied for results that did not meet quality control criteria.
- Representativeness of the data was verified through the samples' collection, storage, and preservation procedures and the verification of holding-time compliance. The laboratory noted a few problems with the samples' collection, holding time, and storage. Chain-of-custody issues were minor and were resolved and documented in the data packages.

- Comparability of the data was ensured using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.
- Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared to planned measurements. Valid data are defined as all data that are not rejected for project use and flagged “R” for rejected during validation. All data are considered valid for project decision-making except for two dissolved arsenic results from December 2022 at monitoring wells MW-77-102 and MW-82-112, which were rejected due to low recovery. The completeness goal of 90 percent was met for all method/constituent combinations.

3.2 Summary of Fourth Quarter 2022 Monitoring Results

This section summarizes the Fourth Quarter 2022 process control monitoring, remedy compliance monitoring, COPC monitoring, former IM-3 injection area monitoring, and domestic wells sampling results. Field parameter monitoring results are presented in Appendix A. Analytical results for all monitoring wells and surface water monitoring locations in the Phase 1 Monitoring Program from January 2020 to December 2022 are provided in Appendix B. Laboratory reports from Fourth Quarter 2022 are provided in Appendix C.

3.2.1 Process Control Monitoring Results

This section summarizes the Fourth Quarter 2022 process control monitoring results and describes how the results are used to assess the NTH IRZ DQOs 2, 3, and 4 (Section 1.3). The Fourth Quarter 2022 process control monitoring results are presented in Table 3.4.

3.2.1.1 Dose Response and Downgradient Well Monitoring Results

Analytical results for Cr6 and in-situ byproducts from the dose response and downgradient monitoring wells are used to evaluate NTH IRZ treatment (NTH IRZ DQO 2) and if in-situ byproduct generation and migration from the NTH IRZ is controlled (NTH IRZ DQO 3). The decision rules and operational framework for evaluating IRZ effectiveness and in-situ byproduct generation and migration are provided on Figure 2.2-2 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a). The following sections provide a Fourth Quarter 2022 performance summary of the dose response and downgradient monitoring wells based on the decision rules outlined on Figure 2.2-2 of the BOD SMP.

3.2.1.1.1 NTH IRZ Treatment Results

For dose response monitoring wells, dose response monitoring results (including changes in TOC, Cr6, and/or dissolved iron concentrations) are used to determine establishment of the NTH IRZ and Cr6 treatment. Table 3.5 provides a performance summary for these parameters for the dose response wells in Fourth Quarter 2022. The performance summary is based on the decision rules and operational framework provided on Figure 2.2-2 of the BOD SMP. Criteria to identify wells with initial or continued Cr6 treatment are based on declining Cr6 concentrations and/or increasing dissolved iron concentrations.

As indicated in Table 3.5, initial or continued Cr6 treatment was observed at the following monitoring wells:

- MW-26;
- MW-31-060;
- MW-51;
- MW-76-181/-218;
- MW-78-070/-142;
- MW-79-058/-102;
- MW-80-057/-082;
- TW-02D; and
- TW-03D.

On June 15, 2022, flow to the southern IRZ injection wells (IRZ-27 [lower], IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37) was increased by approximately 50 percent to enhance hydraulic distribution from each injection well. To further enhance Cr6 treatment and generate reducing capacity, ethanol dosing at the IRZ injection wells was increased from once a week (targeted time-weighted TOC concentration of 15 mg/L or 15 percent of the nominal design dosing in the Final BOD) to two injections per week (targeted time-weighted TOC concentration of 30 mg/L or 30 percent of the nominal design dosing in the Final BOD) starting on September 26, 2022. The October through December 2022 analytical results indicate that the increased flow and increased dosing had a positive impact on Cr6 treatment. Cr6 concentrations at MW-78-070, MW-26, MW-80-082, and MW-31-060 decreased to less than 32 µg/L in Fourth Quarter 2022. Treatment was observed at new locations MW-76-181/MW-76-218, MW-78-142, MW-79-102, and MW-80-082, TW-02D, and TW-03D in Fourth Quarter 2022. The only dose response wells not exhibiting Cr6 treatment are those where Cr6 was less than 32 mg/L at baseline (MW-21, MW-31-135, MW-71-035, MW-76-156), MW-76-039 located near injection well IRZ-15 (which has not been operated), and the MW-20 cluster located east of the IRZ near extraction well IRZ-23 and injection well IRZ-25, which have not been operated.

TOC and dissolved iron concentrations are also evaluated at dose response wells to assess whether reducing capacity is being generated. TOC was sampled at the dose response wells, and concentrations were non-detect in October and November 2022. The lack of TOC detections could indicate that not enough ethanol was being injected to reach the dose response monitoring well locations, that samples were collected between injection pulses of ethanol, and/or that TOC analytical method 5310C (listed in the PG&E Program QAPP, CH2M Hill 2014; Critigen 2020) was not providing sensitive results. The limited sensitivity of method 5310C appears to be the main issue as detailed below.

Discussions with the laboratory indicated that dilution was often required to obtain sufficient recovery of the MS/MSD, resulting in elevated reporting limits from 10 mg/L to 50 mg/L and indicating that reporting limits of 1 mg/L for non-MS/MSD samples were not real. To evaluate the sensitivity of the TOC analytical method, samples collected from dose response wells MW-26, MW-51, and MW-31-060 in October 2022 were analyzed for TOC by methods 5310C and 5310B and ethanol by method 8260B. The results (Table 3.4) showed that method 5310B was able to measure TOC concentrations between 1 mg/L and 25 mg/L when the results were non-detect between 20 mg/L and 50 mg/L using method 5310C, indicating that method 5310B has better sensitivity. The ethanol results by method 8260 corroborated the method 5310B results. Accordingly, dose response samples collected in December 2022 were analyzed for TOC using methods 5310C and 5310B (Table 3.4). At most dose

response wells, method 5310B yielded detected TOC concentrations (ranging from 1.1 mg/L to 9.2 mg/L), whereas method 5310C yielded non-detect TOC concentrations at most dose response wells, with elevated reporting limits where MS/MSDs were conducted (MW-20-130 and MW-76-181). Overall, the October and December 5310B data showed TOC distribution at MW-31-060 (25 mg/L in October 2022) and MW-51 (9.2 mg/L in December 2022), and elevated TOC at MW-21 (7.1 mg/L in December 2022) and MW-71-035 (5.4 mg/L in December 2022) that may be natural given that IRZ-39 operation has been minimal to date. Given the better sensitivity of method 5310B in comparison to method 5310C, TOC analysis will transition to method 5310B for the dose response wells in First Quarter 2023.

Although the December 2022 TOC results indicate that TOC is being detected at most of the dose response wells, TOC concentrations are lower than the anticipated concentration ranges presented in Table 2.2-1 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a). In addition, dissolved iron concentrations at the dose response wells have generally been low compared to baseline values, and Cr6 concentrations at most dose response wells have not decreased to lower than 32 µg/L (see Table 3.5), indicating that sustained Cr6 reducing conditions may not have been established. Therefore, to further enhance Cr6 treatment and generate reducing capacity, ethanol dosing at the IRZ injection wells was further doubled from a time-weighted target average of 30 mg/L to a time-weighted target average of 60 mg/L starting on December 19, 2022. Although ethanol dosing was increased, it is still lower than the nominal dosing amount planned in the Final BOD (60 percent of the nominal design dosing in the BOD (CH2M Hill 2015a). The First Quarter 2023 results will be evaluated to determine whether the increased dosing improves reducing capacity.

3.2.1.1.2 Downgradient Hexavalent Chromium Results

In the floodplain (i.e., downgradient of the NTH IRZ), Cr6 concentrations in downgradient monitoring wells are anticipated to decrease to lower than 32 µg/L within 2 to 10 years based on the results of solute transport modeling (refer to Table 2.2-1 of the BOD SMP; Appendix L, Volume 2; CH2M Hill 2015a). Within the first 6 months to 1 year of system operation, Cr6 concentration trends are expected to vary: concentrations at some downgradient monitoring wells may increase, whereas concentrations at other wells may remain stable or decrease. Table 2.1-4 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a) describes the anticipated changes in Cr6 concentrations at specific monitoring wells during the first 6 months to 1 year of system operation.

Table 3.6 provides a performance summary of the downgradient monitoring wells in Fourth Quarter 2022 to evaluate Cr6 distribution and changes in Cr6 concentrations downgradient of the NTH IRZ. Figure 3.1 shows the distribution of Cr6 in downgradient monitoring wells in Fourth Quarter 2022 for wells monitoring Layers 1 through 5. Cr6 concentrations were lower than 32 µg/L at all monitoring wells, except at the following three wells:

- *MW-39-100*. Table 2.1-4 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a) indicates that Cr6 concentrations at this monitoring well may increase during the initial remedy operation. In Fourth Quarter 2022, Cr6 concentrations increased to 310 µg/L in October 2022 and decreased to 260 µg/L in November 2022 and 270 µg/L in December 2022. This fluctuation in Cr6 concentrations likely represents IRZ-23 extraction pulling the plume from east to west when the system is actively operating, as it was throughout Fourth Quarter 2022. This is supported by Figure 2.1b, which shows flow in this area towards extraction well IRZ-23 during operation. Although the Fourth Quarter 2022 Cr6 concentrations at MW-39-100 exceeded 32 µg/L, concentrations at monitoring wells further downgradient (MW-34-080, MW-34-100, MW-36-070, MW-36-090, MW-36-100, and MW-45-095a) were non-detect. Cr6 concentrations at MW-39-100 and downgradient wells will continue to be monitored monthly.

- *MW-77-187*. Cr6 concentrations at MW-77-187 increased after startup of remedy operations in December 2021. In September 2022, when the system was turned back on after approximately 1 month of being shut down, Cr6 concentrations increased to 40 µg/L, then decreased to 33 µg/L in October 2022, 6.2 µg/L in November 2022, and 10 µg/L in December 2022. These data indicate that treated water from the IRZ arrived at MW-77-187 in November and December 2022. The Cr6 concentration at monitoring well MW-46-175 located further downgradient of MW-77-187 remained lower than 32 µg/L in November 2022 (8.7 µg/L). Monitoring well MW-77-187, along with the rest of the wells in the MW-77, MW-81, and MW-82 monitoring well clusters, will continue to be sampled monthly to evaluate changes in Cr6 concentrations over time in response to system operation.
- *PT5D*. Table 2.1-4 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a) indicates that Cr6 concentrations at this monitoring well may increase during the initial remedy operation. In November 2022, Cr6 concentrations increased to 40 µg/L during active system operation. These data indicate that monitoring well PT5D is located on the edge of the Cr6 plume, which is likely stagnated when IRZ-23 is actively operating. Cr6 concentrations downgradient of PT5D (MW-34-080/-100, MW-36-070/-090/-100, MW-44-115/-125, and MW-45-095a) remained lower than 32 µg/L in Fourth Quarter 2022 (ranging from non-detect to 1.8 µg/L) as shown on Figure 3.1c. Cr6 concentrations at MW-34-080, MW-36-090, MW-44-115/-125, and MW-45-095a will continue to be monitored monthly.

3.2.1.1.3 In-Situ Byproduct Results

In-situ byproduct (dissolved arsenic, dissolved manganese, dissolved iron, and dissolved barium) generation and migration from the NTH IRZ are evaluated using results from the dose response and downgradient monitoring wells. The BOD SMP (CH2M Hill 2015a) provides anticipated maximum concentrations (i.e., action levels) for dissolved arsenic, dissolved manganese, and dissolved iron, which are presented in Tables 3.5 and 3.6. Barium is also monitored as part of the process control monitoring program, but action levels for barium are not specified in the BOD SMP; dissolved barium monitoring results from Fourth Quarter 2022 are presented in Table 3.4. If an individual monitoring well exhibits a natural baseline concentration greater than the given maximum, then the baseline concentration is used as the action level. Baseline concentrations for dissolved arsenic, dissolved iron, and dissolved manganese, presented in Tables 3.5 and 3.6, were established as follows:

- For monitoring wells installed before 2019, the maximum historical result was selected.
- For monitoring wells installed after 2019, the maximum result between January 2020 and December 2021 was selected, which did not include initial samples collected after well installation and allowed for water quality stabilization after installation.

If in-situ byproduct concentrations at a dose response or downgradient monitoring well are greater than the action levels, then a new sample is collected from the monitoring well within 45 days. If the re-sample confirms the exceedance, then the DTSC is notified, and operation of the remedial system will be adjusted as needed.

Figures 3.2 through 3.4 show the distribution of Fourth Quarter 2022 dissolved arsenic, dissolved iron, and dissolved manganese concentrations for the dose response and downgradient monitoring wells monitoring Layers 1 through 5. In Fourth Quarter 2022, in-situ byproduct concentrations at the dose response and downgradient monitoring wells were less than the action levels. In-situ byproduct concentrations have increased at some of the dose response wells due to remedy operations to concentrations within the anticipated ranges based on the results of solute transport modeling (refer to Table 2.2-1 of the BOD SMP; Appendix L, Volume 2; CH2M Hill 2015a).

In Third Quarter 2022, the dissolved iron concentration at downgradient monitoring well MW-53S (5.9 mg/L) was greater than the action level of 5.4 mg/L. The monitoring well is screened within the reducing rind with naturally occurring iron, and an elevated iron concentration of 5.4 mg/L was measured during the baseline period for this monitoring program. Monitoring well MW-53S was subsequently sampled in November 2022, and the dissolved iron concentration (5.1 mg/L) decreased to lower than the action level; therefore, no operational changes were warranted in Fourth Quarter 2022.

3.2.1.2 Northern NTH IRZ Extraction Monitoring Results

On the northern end of the NTH IRZ, the system is designed to control potential migration of Cr6 via groundwater extraction rather than the establishment of an IRZ. Figure 1.3 shows the area addressed by northern extraction, with the northern extraction monitoring wells identified in green. Multiple lines of evidence can be used to evaluate achievement of control of the Cr6 plume at the northern end of the NTH IRZ (NTH IRZ DQO 4) including interpreted water levels, concentration trends, and numerical modeling (CH2M Hill 2015a). In Fourth Quarter 2022, lines of evidence evaluated include Cr6 concentrations (Figures 3.1a and 3.1d), potentiometric surface maps (Figures 2.1a and 2.1c), and flow vector azimuth directions and gradients calculated from groundwater monitoring well triplets (Figures 3.5a and 3.5b and Table 3.7).

The Cr6 plume north of the northernmost operating IRZ injection well IRZ-16 is situated within a shallow lobe present in Layer 1 and a deep lobe present in Layers 4 and 5 (shown on the Cr6 plume maps by layer in the Figure 3.1 series of figures). In the deep zone, the Cr6 plume extends from IRZ-16 to monitoring well MW-97-202. MW-97-202 had yielded Cr6 concentrations lower than 32 μg/L from the time of installation through Third Quarter 2022 (Appendix B). In Fourth Quarter 2022, the Cr6 concentration increased to 230 μg/L. This Cr6 increase occurred as dissolved oxygen increased from 0.2 mg/L in Second Quarter 2022 (Arcadis 2022b) to 1.52 mg/L in Fourth Quarter 2022 (Appendix A), indicating that the well is equilibrating within the aquifer, explaining the new detections of Cr6.

Lines of evidence demonstrating control of the plume in the deep lobe include the low concentrations of Cr6 in monitoring wells east of the plume and the hydraulic influence of IRZ-13D operation that is creating inward gradients toward extraction well IRZ-13D across the extent of the deep lobe of the Cr6 plume. Cr6 concentrations remain lower than 32 μg/L in monitoring wells to the east including MW-33-150, MW-86-120, MW-86-140 in Layer 4 and MW-33-210 and MW-96-217 in Layer 5 (Figure 3.1d and Figure 3.1e). The flow direction, based on calculated azimuths from groundwater monitoring well triplets (Figure 3.5b) and the potentiometric surface map (Figure 2.1c), show that groundwater within the deep lobe of the plume is flowing toward IRZ-13D.

In the shallow zone, the Cr6 plume extends from IRZ-16 to monitoring well MW-75-033, which yielded a concentration of 45 μg/L in Fourth Quarter 2022, just above the plume contouring threshold of 32 μg/L (Figure 3.1a). Similar to monitoring well MW-97-202, monitoring well MW-97-042 yielded a Cr6 concentration of 140 μg/L, which was above 32 μg/L for the first time since installation (Appendix B). As with MW-97-202, the Cr6 concentration increase at MW-97-042 was accompanied by an increase in dissolved oxygen from 0.66 mg/L in Second Quarter 2022 (Arcadis 2022b) to 5.18 mg/L and 2.32 mg/L in Third and Fourth Quarter 2022, respectively (Arcadis 2022c, Appendix A).

Lines of evidence demonstrating control of the plume in the shallow lobe include low and stable Cr6 concentrations in monitoring wells to the east of the plume and flat hydraulic gradients with localized flow toward extraction well IRZ-13S when operating. Cr6 concentrations remain lower than 32 μg/L in monitoring wells to the east including MW-29, MW-33-040, and MW-96-045 (Figure 3.1a). The potentiometric surface maps show

generally flat hydraulic gradients (Figure 2.1a), with calculated gradients for the northern triplet MW-75-033/MW-96-045/MW-97-042 ranging from 0.0011 ft/ft to 0.0014 ft/ft and the southern triplet MW-76-039/MW-86-030/MW-97-042 ranging from 0.0006 ft/ft to 0.0007 ft/ft (see Figures 3.5a and 3.5b and Table 3.7). In the northern triplet, groundwater flow is calculated to be easterly, but coupled with the gradient, the data indicate very little movement of groundwater. In the southern triplet, groundwater flow was calculated toward IRZ-13S when it was operating throughout the months of October and November 2022. Localized flow towards IRZ-13S is corroborated by the potentiometric surface maps in those months (Figure 2.1a). In September 2022, IRZ-13S was operated for half of the month, as the system was restarted. The flow vector for September 2022 is southeasterly, rather than toward IRZ-13S, but the gradient was very flat at 0.0006 ft/ft, indicating very little movement of groundwater.

3.2.2 Remedy Compliance Monitoring Results

This section summarizes the Fourth Quarter 2022 remedy compliance monitoring results and provides a brief overview of progress towards achievement of RAOs 2, 3, and 4, as defined in Section 1.1, during remedy startup. RAO progress is anticipated to be evaluated during the remedy; data collected each quarter will contribute to the overall evaluation.

The Fourth Quarter 2022 remedy compliance monitoring results are presented in Table 3.8. Progress towards achievement of RAOs 2, 3, and 4 is summarized below.

- *RAO 2*. RAO 2 is evaluated by monitoring Cr6 concentrations in the Colorado River to verify that concentrations do not exceed the surface water quality standard (11 µg/L). In Fourth Quarter 2022, Cr6 concentrations at the 16 surface water monitoring locations were less than the water quality standard of 11 µg/L (USEPA 2022); all results were non-detect at the reporting limit.

  Although RAO 2 is specifically intended to address Cr6, IRZ in-situ byproducts dissolved arsenic and dissolved manganese are also monitored in the Colorado River to verify that concentrations do not exceed the surface water quality standards. In Fourth Quarter 2022, dissolved arsenic concentrations at the 16 surface water monitoring locations were lower than the National Recommended Water Quality Criteria (NRWQC) for aquatic life of 150 µg/L. There is no NRWQC for aquatic life for dissolved manganese (USEPA 2022). Dissolved arsenic and dissolved manganese concentrations were lower than the California primary and secondary maximum contaminant levels (MCLs) of 10 µg/L (primary MCL) and 0.05 mg/L (secondary MCL), respectively (State of California 2022), except for the dissolved manganese concentration at C-MAR-D (0.052 mg/L). Monitoring location C-MAR is on the Arizona side of the Colorado River, and results reflect naturally occurring conditions (Figure 1.4).

- *RAO 3*. RAO 3 is evaluated by monitoring changes in groundwater Cr6 concentrations inside the plume boundary (i.e., mass reduction) and assessing the lateral and vertical distributions of Cr6 concentrations across the plume. This RAO will be achieved by meeting the cleanup goal of 32 µg/L of Cr6.

  Changes in Cr6 concentrations inside the plume as a result of IRZ system operations are discussed in Section 3.2.1.1. In Fourth Quarter 2022, Cr6 treatment (i.e., decreasing Cr6 concentrations) was observed at 13 dose response monitoring wells. Figure 3.1 shows the distribution of Cr6 in groundwater across the Site in Fourth Quarter 2022 for wells monitoring Layers 1 through 5. As IRZ system operations continue, Cr6 data from monitoring wells located inside the plume will continue to be collected and assessed to evaluate progress towards this RAO.

- *RAO 4*. RAO 4 is evaluated by monitoring Cr6 and in-situ byproduct concentrations (dissolved arsenic and dissolved manganese) outside of the target remediation area (i.e., baseline Cr6 plume boundary) to verify that concentrations do not permanently increase following completion of the remedial action. Additional data collection over a longer period is needed to evaluate progress towards this RAO.

3.2.3 COPC Monitoring Results

This section summarizes the Fourth Quarter 2022 COPC monitoring results (dissolved selenium, dissolved molybdenum, and nitrate) and provides an evaluation of the results in accordance with the COPC PAP. The Fourth Quarter 2022 COPC monitoring results are presented in Table 3.9.

The COPC PAP was developed to notify the DTSC when COPC threshold concentrations (i.e., trigger levels) in select outer plume compliance groundwater monitoring wells (i.e., COPC PAP monitoring wells) are exceeded. Thirty-one monitoring wells are included in the COPC PAP. The trigger levels are based on Shewhart control limits calculated from the most recent eight sample results for each monitoring well. The method for calculating the trigger levels used in Fourth Quarter 2022 is provided in Appendix D of the Fourth Quarter 2021 Quarterly Progress Report (Arcadis 2022a). The COPC PAP decision tree, also provided in Appendix D of the Fourth Quarter 2021 Quarterly Progress Report (Arcadis 2022a), outlines notifications and actions to be taken when CO PC concentrations in a COPC PAP monitoring well exceed a trigger level.

In Fourth Quarter 2022, the COPC concentrations in the COPC PAP monitoring wells were lower than the trigger levels, except for the dissolved selenium (1.6 µg/L) and nitrate/nitrite (0.43 mg/L as nitrogen [N]) concentrations at monitoring well MW-71-035, which exceeded the trigger levels of 0.52 µg/L and 0.19 mg/L as N, respectively. In accordance with the procedures outlined in the Final BOD (CH2M Hill 2015a) and COPC PAP decision tree, PG&E submitted an exceedance notification to the DTSC and DOI on January 4, 2023 (Arcadis 2023), and monitoring well MW-71-035 will be resampled in First Quarter 2023 for verification.

The dissolved selenium and nitrate/nitrite trigger level exceedances at MW-71-035 are not likely due to remedy operations. Injection well IRZ-39, adjacent to dose response well MW-71-035, has not operated since April 2022. In addition, historical dissolved selenium and nitrate/nitrite concentrations at MW-71-035 have been higher than the concentrations observed in Fourth Quarter 2022. The average historical dissolved selenium concentration at MW-71-035 (based on data from 1997 through 2011) was 2.6 µg/L (see Figure 2.3-1 of the Final BOD [CH2M Hill 2015a]). Historical nitrate/nitrite concentrations from 2012 through 2021 ranged from non-detect at a reporting limit of 0.05 mg/L N to 2.89 mg/L N. The Final BOD specified the use of Shewhart control limits to set COPC PAP trigger levels. The most recent eight sample results are used for this analysis; therefore, the historical higher concentration data are not included in setting the trigger levels. Once the First Quarter 2023 verification sample results are received, the results will be assessed and relayed to the DTSC and DOI in accordance with the Final BOD notification requirements (CH2M Hill 2015a).

The COPC PAP trigger levels are updated annually. Appendix D describes the statistical methodology used to calculate the updated Shewhart control limits and presents the trigger levels that will be applied in 2023.

3.2.4 Former IM-3 Injection Area Monitoring Results

This section summarizes the Fourth Quarter 2022 former IM-3 injection area monitoring results and evaluates how conditions in the IM-3 injection area have changed following the end of injection associated with IM-3 operations.

During active operation of IM-3 from July 2005 to December 2021, treated water from the IM-3 system was pumped to an injection well field located on what is known as the East Mesa. The injection well field included two injection wells (IW-2 and IW-3), three observation well clusters (OW-01, OW-02, and OW-05) located between 50 and 100 feet from the injection wells, and four compliance well clusters (CW-01, CW-02, CW-03, and CW-04) located between 300 and 550 feet from the injection wells (see Figure 1.4). The observation and compliance wells were routinely sampled during active operation of IM-3 to ensure that the injection of treated groundwater did not adversely impact aquifer water quality. In addition, groundwater elevation data (manual water levels and continuous water levels) were collected to evaluate the groundwater potentiometric surface under injection conditions (Arcadis 2021a).

Following IM-3 system shutdown, the former IM-3 injection area monitoring wells are being sampled and gauged annually. In addition, continuous water levels at select wells (OW-01S, OW-02S, OW-05S/-M/-D) are being measured to assess relaxation of hydraulic gradients in the IM-3 injection area.

Analytical monitoring results from Fourth Quarter 2022 are presented in Table 3.10. The IM-3 system was shut down on December 21, 2021; therefore, analytical monitoring results from Fourth Quarter 2022 represent groundwater conditions after IM-3 system shutdown. During active IM-3 system operation, water chemistry in most of the observation and compliance wells shifted toward or was replaced by the chemistry of the injected treated water (Arcadis 2021a). Appendix E shows chloride, sulfate, and TDS concentrations in the shallow, middle, and deep aquifer zones from 2014 to December 2022. The data indicate that groundwater conditions in the former IM-3 injection area after IM-3 system shutdown have remained generally consistent with conditions during active IM-3 operation (based on one round of groundwater data after IM-3 system shutdown).

During active IM-3 system operation, potentiometric mounding with a magnitude of approximately 1 foot or less occurred primarily in the middle and deep aquifer zones in the immediate vicinity of the injection wells (observation wells OW-05M and OW-05D; see Figure 1.4), dissipating with distance from the injection wells (Arcadis 2021a). After IM-3 system shutdown, potentiometric mounding in the middle and deep aquifer zones (observation wells OW-5M and OW-05D) dissipated, as shown in Appendix E Figure E-4.

3.2.5 Domestic Well Sampling Results

This section summarizes the Fourth Quarter 2022 domestic well sampling results to evaluate the potential effects the remedy could impart to domestic wells chemically and hydraulically. Domestic well locations are shown in Figure 1.7. Domestic wells PM-03 and PM-04 (Moabi Regional Park wells) are located on the California side of the Colorado River to the northwest of the Site (Inset A), and domestic wells MTS-1 and MTS-2 (Kinder Morgan wells, Inset B), Marina-1 (Topock Marina well), Topock-2 and Topock-3 (Southwest Water wells, Inset B), Sanders, Smith, and GSRV-2 (Inset C) are located in Arizona to the east of the Site. Wells GSRV-2, Sanders, and Smith are included in the BOD SMP as part of the domestic well sampling program; however, PG&E has been unable to obtain permission from the owners to sample these wells. Additionally, the Smith well may have been disconnected at the ground surface (i.e., the connection pipe was severed; CH2M Hill 2015a). PG&E will continue to reach out to the owners of the GSRV-2, Sanders, and Smith wells for future sampling events.

Except for the Moabi Regional Park wells (which have historically been sampled annually during the IM-3 monitoring program), baseline sampling of domestic wells MTS-1, MTS-2, Marina-1, Topock-2, and Topock-3 was performed in September 2021 before remedy startup. The wells were sampled for the first time after remedy startup in Fourth Quarter 2022 and will subsequently be sampled biennially. Domestic wells Marina-1, Topock-2, and Topock-3 were not sampled in Fourth Quarter 2022 because the property owners did not provide access to

sample the wells. Analytical monitoring results for domestic wells PM-03, PM-04, MTS-1, and MTS-2 from Fourth Quarter 2022 are presented in Table 3.11. Data will continue to be collected from these wells biennially and will be evaluated during startup of Phase 2 of the remedy.

4 Recommendations and Planned Activities for Next Reporting Period

Phase 1 remedy operations and the Phase 1 Monitoring Program will continue to be performed in First Quarter 2023 (January to March 2023) in accordance with the O&M Plan (CH2M Hill 2015a) and Phase 1 Monitoring Plan (Arcadis 2021b). IRZ operations will continue to complete the Cr6 treatment that has begun and to establish reducing capacity (see Figure 2.2-2 of the BOD SMP [CH2M Hill 2015a]).

In addition to routine remedy operations and monitoring, the following activities are planned for First Quarter 2023:

- Continue to sample extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23 monthly when operational to evaluate the potential for well fouling. In addition, sulfate and nitrate will be analyzed to determine the concentrations that are extracted at each well. Starting in Second Quarter 2023, the extraction wells will be sampled quarterly.
- Continue to sample the dose response wells monthly.
- Transition TOC analysis to method 5310B given the better sensitivity of method 5310B in comparison to the QAPP-specified method of 5310C.
- Continue to sample select downgradient monitoring wells (MW-30-050, MW-34-080, MW-36-090, MW-36-100, MW-39-040, MW-39-050, MW-39-060, MW-39-070, MW-39-080, MW-39-100, MW-44-115, MW-44-125, MW-45-095a, MW-67-185, MW-68-180, MW-77-046, MW-77-102, MW-77-158, MW-77-187, MW-81-043, MW-81-098, MW-82-046, MW-82-112, MW-82-168, and MW-82-198) monthly to evaluate changes in Cr6 concentrations in response to system operation.
- Continue to analyze COPC PAP monitoring wells for nitrate by Method 300.0 and nitrate/nitrite by USEPA Method 353.2 quarterly to collect sufficient data to establish baseline (i.e., trigger levels) for nitrate.
- Continue construction of the Phase 2A remedy.

IRZ operations, monitoring, and monitoring results will be reported in a First Quarter 2023 Quarterly Progress Report. A First Quarter 2023 Well Performance Report will be submitted to document well performance tracking data from First Quarter 2023 in accordance with the O&M Plan (CH2M Hill 2015a).

5 References

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Tables

Table 2.1
NTH IRZ Operational Overview
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Month	Recirculated Groundwater Extraction Volume (gal)	Recirculated Groundwater Injection Volume (gal)	Average Injection Flow Rate, During Operation (gpm)	Average Extraction Flow Rate, During Operation (gpm)	Ethanol Injection Volume (gal)	Run Time (hours)[a]	Run Time (percent)[b]
November 2021	--	--	--	--	--	--	--
December 2021	307,610	312,416	93.0	91.6	84.0	56	8
January 2022	790,773	807,489	62.9	61.6	195	214	29
February 2022	615,500	634,662	63.0	61.1	136	168	25
March 2022	4,154,763	4,226,217	113	112	186	621	83
April 2022	2,732,956	2,834,615	84	81	74	561	78
May 2022	3,528,183	3,670,117	122	117	153	501	67
June 2022	4,985,560	5,141,918	134	130	121	640	89
July 2022	2,151,883	2,195,991	146	143	47	250	34
August 2022	175,420	178,017	80	79	24	37	5
September 2022	4,345,920	4,512,708	119	115	198	631	88
October 2022	5,500,913	5,422,240	130	132	342	696	94
November 2022	4,596,408	4,800,837	125	119	341	641	89
December 2022	5,085,254	5,311,392	127	121	558	699	94

Notes:

1. The difference between extraction and injection volume is a reflection of flow totalizer accuracy.

[a] Run time in hours is calculated from extraction well operating hours over the course of the month

[b] Percent run time is calculated from extraction operating well hours divided by the total hours in the month x 100%.

Abbreviations:

-- = not applicable
gal = gallon
gpm = gallon(s) per minute
IRZ = In-Situ Reactive Zone
NTH = National Trails Highway

Table 2.2
Summary of NTH IRZ System Discharges to Groundwater
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-15	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-15	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-15	Upper	Injection	Jan-22	--	--	--	--	--
IRZ-15	Upper	Injection	Feb-22	--	--	--	--	--
IRZ-15	Upper	Injection	Mar-22	--	--	--	--	--
IRZ-15	Upper	Injection	Apr-22	--	--	--	--	--
IRZ-15	Upper	Injection	May-22	--	--	--	--	--
IRZ-15	Upper	Injection	Jun-22	--	--	--	--	--
IRZ-15	Upper	Injection	Jul-22	--	--	--	--	--
IRZ-15	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-15	Upper	Injection	Sep-22	--	--	--	--	--
IRZ-15	Upper	Injection	Oct-22	--	--	--	--	--
IRZ-15	Upper	Injection	Nov-22	--	--	--	--	--
IRZ-15	Upper	Injection	Dec-22	--	--	--	--	--
IRZ-15	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-15	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-15	Lower	Injection	Jan-22	--	--	--	--	--
IRZ-15	Lower	Injection	Feb-22	--	--	--	--	--
IRZ-15	Lower	Injection	Mar-22	--	--	--	--	--
IRZ-15	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-15	Lower	Injection	May-22	--	--	--	--	--
IRZ-15	Lower	Injection	Jun-22	--	--	--	--	--
IRZ-15	Lower	Injection	Jul-22	--	--	--	--	--
IRZ-15	Lower	Injection	Aug-22	--	--	--	--	--
IRZ-15	Lower	Injection	Sep-22	--	--	--	--	--
IRZ-15	Lower	Injection	Oct-22	--	--	--	--	--
IRZ-15	Lower	Injection	Nov-22	--	--	--	--	--
IRZ-15	Lower	Injection	Dec-22	--	--	--	--	--
IRZ-16	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-16	Upper	Injection	Dec-21	18,090	5.1	55	7	5.5
IRZ-16	Upper	Injection	Jan-22	47,945	11	150	20	5.3
IRZ-16	Upper	Injection	Feb-22	3,011	--	10	1	5.0
IRZ-16	Upper	Injection	Mar-22	188,133	8.8	610	82	5.1
IRZ-16	Upper	Injection	Apr-22	201,577	6.0	521	72	6.4
IRZ-16	Upper	Injection	May-22	159,085	6.5	495	67	5.4
IRZ-16	Upper	Injection	Jun-22	204,790	5.3	634	88	5.4
IRZ-16	Upper	Injection	Jul-22	75,254	1.8	250	34	5.0
IRZ-16	Upper	Injection	Aug-22	12,202	1.6	37	5	5.5
IRZ-16	Upper	Injection	Sep-22	192,188	7.9	628	87	5.1

Table 2.2
Summary of NTH IRZ System Discharges to Groundwater
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-16	Upper	Injection	Oct-22	202,307	13	695	93	4.9
IRZ-16	Upper	Injection	Nov-22	188,414	14	600	83	5.2
IRZ-16	Upper	Injection	Dec-22	216,201	23	696	94	5.2
IRZ-16	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-16	Lower	Injection	Dec-21	37,913	10	56	8	11
IRZ-16	Lower	Injection	Jan-22	83,007	21	139	19	10
IRZ-16	Lower	Injection	Feb-22	5,621	--	10	1	9.4
IRZ-16	Lower	Injection	Mar-22	368,922	17	608	82	10
IRZ-16	Lower	Injection	Apr-22	344,997	11	521	72	11
IRZ-16	Lower	Injection	May-22	308,301	13	494	66	10
IRZ-16	Lower	Injection	Jun-22	415,866	10	633	88	11
IRZ-16	Lower	Injection	Jul-22	155,662	3.3	250	34	10
IRZ-16	Lower	Injection	Aug-22	22,502	3.0	37	5	10
IRZ-16	Lower	Injection	Sep-22	400,331	17	629	87	11
IRZ-16	Lower	Injection	Oct-22	444,263	28	695	93	11
IRZ-16	Lower	Injection	Nov-22	406,317	29	600	83	11
IRZ-16	Lower	Injection	Dec-22	386,647	46	593	80	11
IRZ-17	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-17	Upper	Injection	Dec-21	25,091	6.6	56	8	7.5
IRZ-17	Upper	Injection	Jan-22	61,929	15	153	21	6.7
IRZ-17	Upper	Injection	Feb-22	3,761	--	10	1	6.3
IRZ-17	Upper	Injection	Mar-22	253,824	12	636	85	6.7
IRZ-17	Upper	Injection	Apr-22	260,224	7.1	560	78	7.7
IRZ-17	Upper	Injection	May-22	206,311	8.7	484	65	7.1
IRZ-17	Upper	Injection	Jun-22	246,831	5.9	634	88	6.5
IRZ-17	Upper	Injection	Jul-22	95,763	2.0	250	34	6.4
IRZ-17	Upper	Injection	Aug-22	14,714	1.9	37	5	6.6
IRZ-17	Upper	Injection	Sep-22	248,873	10	630	88	6.6
IRZ-17	Upper	Injection	Oct-22	260,134	16	695	93	6.2
IRZ-17	Upper	Injection	Nov-22	253,938	18	603	84	7.0
IRZ-17	Upper	Injection	Dec-22	265,579	27	699	94	6.3
IRZ-17	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-17	Lower	Injection	Dec-21	48,210	13	56	8	14
IRZ-17	Lower	Injection	Jan-22	126,137	30	153	21	14
IRZ-17	Lower	Injection	Feb-22	7,626	--	10	1	13
IRZ-17	Lower	Injection	Mar-22	511,032	24	632	85	13
IRZ-17	Lower	Injection	Apr-22	450,449	12	558	78	13
IRZ-17	Lower	Injection	May-22	361,052	15	480	65	13

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Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-17	Lower	Injection	Jun-22	521,889	12	635	88	14
IRZ-17	Lower	Injection	Jul-22	202,016	4.5	250	34	13
IRZ-17	Lower	Injection	Aug-22	29,479	3.9	37	5	13
IRZ-17	Lower	Injection	Sep-22	519,697	22	629	87	14
IRZ-17	Lower	Injection	Oct-22	537,554	35	695	93	13
IRZ-17	Lower	Injection	Nov-22	414,384	29	583	81	12
IRZ-17	Lower	Injection	Dec-22	397,147	42	670	90	9.9
IRZ-18	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-18	Upper	Injection	Dec-21	23,330	6.5	56	8	6.9
IRZ-18	Upper	Injection	Jan-22	57,708	14	150	20	6.4
IRZ-18	Upper	Injection	Feb-22	3,581	--	10	1	6.0
IRZ-18	Upper	Injection	Mar-22	237,093	9.6	598	80	6.6
IRZ-18	Upper	Injection	Apr-22	134,493	2.9	221	31	10
IRZ-18	Upper	Injection	May-22	204,232	8.1	497	67	6.8
IRZ-18	Upper	Injection	Jun-22	222,597	5.6	635	88	5.8
IRZ-18	Upper	Injection	Jul-22	82,479	1.4	250	34	5.5
IRZ-18	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-18	Upper	Injection	Sep-22	250,454	11	619	86	6.7
IRZ-18	Upper	Injection	Oct-22	287,310	18	691	93	6.9
IRZ-18	Upper	Injection	Nov-22	231,786	16	621	86	6.2
IRZ-18	Upper	Injection	Dec-22	163,169	18	508	68	5.4
IRZ-18	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-18	Lower	Injection	Dec-21	46,126	13	56	8	14
IRZ-18	Lower	Injection	Jan-22	124,878	30	152	20	14
IRZ-18	Lower	Injection	Feb-22	7,496	--	10	1	12
IRZ-18	Lower	Injection	Mar-22	441,208	17	598	80	12
IRZ-18	Lower	Injection	Apr-22	133,829	3.6	221	31	10
IRZ-18	Lower	Injection	May-22	355,640	14	497	67	12
IRZ-18	Lower	Injection	Jun-22	500,638	12	636	88	13
IRZ-18	Lower	Injection	Jul-22	188,924	3.9	250	34	13
IRZ-18	Lower	Injection	Aug-22	--	--	--	--	--
IRZ-18	Lower	Injection	Sep-22	510,878	21	620	86	14
IRZ-18	Lower	Injection	Oct-22	535,482	34	696	94	13
IRZ-18	Lower	Injection	Nov-22	507,976	34	624	87	14
IRZ-18	Lower	Injection	Dec-22	423,143	47	517	69	14
IRZ-20	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-20	Upper	Injection	Dec-21	18,890	5.2	56	8	5.6
IRZ-20	Upper	Injection	Jan-22	48,376	12	151	20	5.3
IRZ-20	Upper	Injection	Feb-22	2,701	--	9	1	5.0

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Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-20	Upper	Injection	Mar-22	202,257	10	630	85	5.4
IRZ-20	Upper	Injection	Apr-22	253,197	6.9	560	78	7.5
IRZ-20	Upper	Injection	May-22	132,019	5.9	472	63	4.7
IRZ-20	Upper	Injection	Jun-22	197,493	5.0	632	88	5.2
IRZ-20	Upper	Injection	Jul-22	80,078	1.7	250	34	5.3
IRZ-20	Upper	Injection	Aug-22	12,232	1.6	37	5	5.5
IRZ-20	Upper	Injection	Sep-22	196,161	8.4	624	87	5.2
IRZ-20	Upper	Injection	Oct-22	250,695	16	695	93	6.0
IRZ-20	Upper	Injection	Nov-22	237,842	17	604	84	6.6
IRZ-20	Upper	Injection	Dec-22	257,431	27	675	91	6.4
IRZ-20	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-20	Lower	Injection	Dec-21	34,313	9.5	55	7	10
IRZ-20	Lower	Injection	Jan-22	93,639	22	152	20	10
IRZ-20	Lower	Injection	Feb-22	5,767	--	10	1	9.6
IRZ-20	Lower	Injection	Mar-22	388,733	19	631	85	10
IRZ-20	Lower	Injection	Apr-22	384,225	10	559	78	11
IRZ-20	Lower	Injection	May-22	288,041	12	477	64	10
IRZ-20	Lower	Injection	Jun-22	384,856	9.4	633	88	10
IRZ-20	Lower	Injection	Jul-22	160,316	3.4	250	34	11
IRZ-20	Lower	Injection	Aug-22	22,592	3.0	37	5	10
IRZ-20	Lower	Injection	Sep-22	388,169	16	625	87	10
IRZ-20	Lower	Injection	Oct-22	440,740	28	695	93	11
IRZ-20	Lower	Injection	Nov-22	413,854	29	604	84	11
IRZ-20	Lower	Injection	Dec-22	439,559	47	692	93	11
IRZ-21	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-21	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-21	Upper	Injection	Jan-22	--	--	--	--	--
IRZ-21	Upper	Injection	Feb-22	--	--	--	--	--
IRZ-21	Upper	Injection	Mar-22	--	--	--	--	--
IRZ-21	Upper	Injection	Apr-22	--	--	--	--	--
IRZ-21	Upper	Injection	May-22	--	--	--	--	--
IRZ-21	Upper	Injection	Jun-22	--	--	--	--	--
IRZ-21	Upper	Injection	Jul-22	--	--	--	--	--
IRZ-21	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-21	Upper	Injection	Sep-22	--	--	--	--	--
IRZ-21	Upper	Injection	Oct-22	--	--	--	--	--
IRZ-21	Upper	Injection	Nov-22	--	--	--	--	--
IRZ-21	Upper	Injection	Dec-22	--	--	--	--	--
IRZ-21	Lower	Injection	Nov-21	--	--	--	--	--

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Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-21	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-21	Lower	Injection	Jan-22	--	--	--	--	--
IRZ-21	Lower	Injection	Feb-22	--	--	--	--	--
IRZ-21	Lower	Injection	Mar-22	--	--	--	--	--
IRZ-21	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-21	Lower	Injection	May-22	--	--	--	--	--
IRZ-21	Lower	Injection	Jun-22	--	--	--	--	--
IRZ-21	Lower	Injection	Jul-22	--	--	--	--	--
IRZ-21	Lower	Injection	Aug-22	--	--	--	--	--
IRZ-21	Lower	Injection	Sep-22	--	--	--	--	--
IRZ-21	Lower	Injection	Oct-22	--	--	--	--	--
IRZ-21	Lower	Injection	Nov-22	--	--	--	--	--
IRZ-21	Lower	Injection	Dec-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Nov-21	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Dec-21	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Jan-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Feb-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Mar-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Apr-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	May-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Jun-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Jul-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Aug-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Sep-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Oct-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Nov-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Dec-22	--	--	--	--	--
IRZ-25	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-25	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-25	Lower	Injection	Jan-22	--	--	--	--	--
IRZ-25	Lower	Injection	Feb-22	--	--	--	--	--
IRZ-25	Lower	Injection	Mar-22	--	--	--	--	--
IRZ-25	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-25	Lower	Injection	May-22	--	--	--	--	--
IRZ-25	Lower	Injection	Jun-22	--	--	--	--	--
IRZ-25	Lower	Injection	Jul-22	--	--	--	--	--
IRZ-25	Lower	Injection	Aug-22	--	--	--	--	--
IRZ-25	Lower	Injection	Sep-22	--	--	--	--	--
IRZ-25	Lower	Injection	Oct-22	--	--	--	--	--

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Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-25	Lower	Injection	Nov-22	--	--	--	--	--
IRZ-25	Lower	Injection	Dec-22	--	--	--	--	--
IRZ-27	Upper / Upper Middle	Injection	Nov-21	--	--	--	--	--
IRZ-27	Upper / Upper Middle	Injection	Dec-21	36,743	7.3	56	8	11
IRZ-27	Upper / Upper Middle	Injection	Jan-22	103,663	27	154	21	11
IRZ-27	Upper / Upper Middle	Injection	Feb-22	113,867	25	169	25	11
IRZ-27	Upper / Upper Middle	Injection	Mar-22	395,578	15	594	80	11
IRZ-27	Upper / Upper Middle	Injection	Apr-22	160,844	3.6	232	32	12
IRZ-27	Upper / Upper Middle	Injection	May-22	336,518	14	495	67	11
IRZ-27	Upper / Upper Middle	Injection	Jun-22	425,095	9.5	633	88	11
IRZ-27	Upper / Upper Middle	Injection	Jul-22	164,460	3.4	250	34	11
IRZ-27	Upper / Upper Middle	Injection	Aug-22	--	--	--	--	--
IRZ-27	Upper / Upper Middle	Injection	Sep-22	304,227	14	410	57	12
IRZ-27	Upper / Upper Middle	Injection	Oct-22	473,082	30	695	93	11
IRZ-27	Upper / Upper Middle	Injection	Nov-22	401,552	30	595	83	11
IRZ-27	Upper / Upper Middle	Injection	Dec-22	439,279	44	661	89	11
IRZ-27	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-27	Lower	Injection	Dec-21	23,710	7.9	56	8	7.1
IRZ-27	Lower	Injection	Jan-22	47,797	12	154	21	5.2
IRZ-27	Lower	Injection	Feb-22	53,661	12	167	25	5.4
IRZ-27	Lower	Injection	Mar-22	190,998	7.1	594	80	5.4
IRZ-27	Lower	Injection	Apr-22	82,801	1.9	232	32	5.9
IRZ-27	Lower	Injection	May-22	152,496	6.2	495	67	5.1
IRZ-27	Lower	Injection	Jun-22	238,803	5.3	633	88	6.3
IRZ-27	Lower	Injection	Jul-22	109,216	2.3	250	34	7.3
IRZ-27	Lower	Injection	Aug-22	--	--	--	--	--
IRZ-27	Lower	Injection	Sep-22	183,269	8.9	409	57	7.5
IRZ-27	Lower	Injection	Oct-22	291,064	18	695	93	7.0
IRZ-27	Lower	Injection	Nov-22	258,032	19	595	83	7.2
IRZ-27	Lower	Injection	Dec-22	297,470	29	663	89	7.5
IRZ-29	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-29	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-29	Upper	Injection	Jan-22	740	--	3	0.40	4.1
IRZ-29	Upper	Injection	Feb-22	50,817	12	157	23	5.4
IRZ-29	Upper	Injection	Mar-22	121,397	5.2	388	52	5.2
IRZ-29	Upper	Injection	Apr-22	71,497	1.6	241	33	4.9
IRZ-29	Upper	Injection	May-22	155,773	6.6	475	64	5.5
IRZ-29	Upper	Injection	Jun-22	236,587	5.4	632	88	6.2
IRZ-29	Upper	Injection	Jul-22	112,028	2.5	249	33	7.5

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IRZ-29	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-29	Upper	Injection	Sep-22	--	--	--	--	--
IRZ-29	Upper	Injection	Oct-22	--	--	--	--	--
IRZ-29	Upper	Injection	Nov-22	--	--	--	--	--
IRZ-29	Upper	Injection	Dec-22	205,250	23	408	55	8.4
IRZ-29	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-29	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-29	Lower	Injection	Jan-22	3,450	--	5	1	12
IRZ-29	Lower	Injection	Feb-22	70,677	16	158	24	7.5
IRZ-29	Lower	Injection	Mar-22	167,369	7.4	389	52	7.2
IRZ-29	Lower	Injection	Apr-22	92,461	2.0	243	34	6.3
IRZ-29	Lower	Injection	May-22	200,840	7.9	497	67	6.7
IRZ-29	Lower	Injection	Jun-22	306,910	7.2	637	88	8.0
IRZ-29	Lower	Injection	Jul-22	145,421	3.1	250	34	9.7
IRZ-29	Lower	Injection	Aug-22	--	--	--	--	--
IRZ-29	Lower	Injection	Sep-22	--	--	--	--	--
IRZ-29	Lower	Injection	Oct-22	--	--	--	--	--
IRZ-29	Lower	Injection	Nov-22	--	--	--	--	--
IRZ-29	Lower	Injection	Dec-22	269,253	30	408	55	11
IRZ-31	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-31	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-31	Upper	Injection	Jan-22	2,620	--	4	1	11
IRZ-31	Upper	Injection	Feb-22	60,855	15	160	24	6.3
IRZ-31	Upper	Injection	Mar-22	141,661	6.2	389	52	6.1
IRZ-31	Upper	Injection	Apr-22	91,150	1.9	247	34	6.2
IRZ-31	Upper	Injection	May-22	180,400	7.6	476	64	6.3
IRZ-31	Upper	Injection	Jun-22	286,700	6.3	633	88	7.5
IRZ-31	Upper	Injection	Jul-22	128,465	3.0	250	34	8.6
IRZ-31	Upper	Injection	Aug-22	19,769	2.6	37	5.0	8.9
IRZ-31	Upper	Injection	Sep-22	313,406	14	586	81	8.9
IRZ-31	Upper	Injection	Oct-22	367,228	23	695	93	8.8
IRZ-31	Upper	Injection	Nov-22	287,841	22	543	75	8.8
IRZ-31	Upper	Injection	Dec-22	373,064	38	691	93	9.0
IRZ-31	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-31	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-31	Lower	Injection	Jan-22	3,380	--	5	0.67	11
IRZ-31	Lower	Injection	Feb-22	60,795	14	161	24	6.3
IRZ-31	Lower	Injection	Mar-22	144,199	6.4	389	52	6.2
IRZ-31	Lower	Injection	Apr-22	90,213	1.9	247	34	6.1

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IRZ-31	Lower	Injection	May-22	172,157	7.4	474	64	6.1
IRZ-31	Lower	Injection	Jun-22	283,737	6.1	632	88	7.5
IRZ-31	Lower	Injection	Jul-22	137,303	2.9	250	34	9.2
IRZ-31	Lower	Injection	Aug-22	20,210	2.6	37	5.0	9.1
IRZ-31	Lower	Injection	Sep-22	316,969	14	586	81	9.0
IRZ-31	Lower	Injection	Oct-22	357,619	23	695	93	8.6
IRZ-31	Lower	Injection	Nov-22	282,636	21	546	76	8.6
IRZ-31	Lower	Injection	Dec-22	375,126	38	691	93	9.0
IRZ-33	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-33	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-33	Upper	Injection	Jan-22	560	--	2	0.27	4.7
IRZ-33	Upper	Injection	Feb-22	42,259	10	158	24	4.5
IRZ-33	Upper	Injection	Mar-22	97,704	4.2	389	52	4.2
IRZ-33	Upper	Injection	Apr-22	--	--	--	--	--
IRZ-33	Upper	Injection	May-22	92,191	3.1	160	22	9.6
IRZ-33	Upper	Injection	Jun-22	199,182	4.2	634	88	5.2
IRZ-33	Upper	Injection	Jul-22	86,053	1.8	250	34	5.7
IRZ-33	Upper	Injection	Aug-22	12,923	1.7	37	5.0	5.8
IRZ-33	Upper	Injection	Sep-22	202,884	9.0	590	82	5.7
IRZ-33	Upper	Injection	Oct-22	237,922	15	695	93	5.7
IRZ-33	Upper	Injection	Nov-22	219,324	15	632	88	5.8
IRZ-33	Upper	Injection	Dec-22	141,118	15	398	53	5.9
IRZ-33	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-33	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-33	Lower	Injection	Jan-22	480	--	2	0.27	4.0
IRZ-33	Lower	Injection	Feb-22	41,839	9.8	158	24	4.4
IRZ-33	Lower	Injection	Mar-22	97,074	4.2	389	52	4.2
IRZ-33	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-33	Lower	Injection	May-22	119,857	6.1	395	53	5.1
IRZ-33	Lower	Injection	Jun-22	198,892	4.2	633	88	5.2
IRZ-33	Lower	Injection	Jul-22	95,088	1.9	250	34	6.3
IRZ-33	Lower	Injection	Aug-22	11,394	1.7	33	4.4	5.8
IRZ-33	Lower	Injection	Sep-22	218,254	9.5	590	82	6.2
IRZ-33	Lower	Injection	Oct-22	262,987	16	695	93	6.3
IRZ-33	Lower	Injection	Nov-22	235,350	16	634	88	6.2
IRZ-33	Lower	Injection	Dec-22	145,332	15	398	53	6.1
IRZ-35	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-35	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-35	Upper	Injection	Jan-22	800	--	2	0.27	6.7

Table 2.2
Summary of NTH IRZ System Discharges to Groundwater
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-35	Upper	Injection	Feb-22	51,887	12	158	24	5.5
IRZ-35	Upper	Injection	Mar-22	118,638	5.1	387	52	5.1
IRZ-35	Upper	Injection	Apr-22	76,787	1.7	190	26	6.7
IRZ-35	Upper	Injection	May-22	156,513	6.4	327	44	8.0
IRZ-35	Upper	Injection	Jun-22	170,729	5.5	427	59	6.7
IRZ-35	Upper	Injection	Jul-22	114,697	2.4	249	33	7.7
IRZ-35	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-35	Upper	Injection	Sep-22	167,806	9.6	366	51	7.6
IRZ-35	Upper	Injection	Oct-22	299,152	18	695	93	7.2
IRZ-35	Upper	Injection	Nov-22	295,939	20	638	89	7.7
IRZ-35	Upper	Injection	Dec-22	326,679	31	679	91	8.0
IRZ-37	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-37	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-37	Upper	Injection	Jan-22	380	--	2	0.27	3.2
IRZ-37	Upper	Injection	Feb-22	31,301	7.0	153	23	3.4
IRZ-37	Upper	Injection	Mar-22	76,904	3.4	383	51	3.3
IRZ-37	Upper	Injection	Apr-22	60	--	0.3	0.04	3.3
IRZ-37	Upper	Injection	May-22	88,691	4.4	405	54	3.6
IRZ-37	Upper	Injection	Jun-22	100,323	1.3	425	59	3.9
IRZ-37	Upper	Injection	Jul-22	62,768	1.3	249	33	4.2
IRZ-37	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-37	Upper	Injection	Sep-22	99,142	5.6	366	51	4.5
IRZ-37	Upper	Injection	Oct-22	174,701	11	695	93	4.2
IRZ-37	Upper	Injection	Nov-22	165,652	12	638	89	4.3
IRZ-37	Upper	Injection	Dec-22	189,945	18	674	91	4.7
IRZ-39	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-39	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-39	Upper	Injection	Jan-22	--	--	--	--	--
IRZ-39	Upper	Injection	Feb-22	17,140	2.9	72	11	4.0
IRZ-39	Upper	Injection	Mar-22	83,493	4.0	384	52	3.6
IRZ-39	Upper	Injection	Apr-22	5,811	0.15	37	5.1	2.6
IRZ-39	Upper	Injection	May-22	--	--	--	--	--
IRZ-39	Upper	Injection	Jun-22	--	--	--	--	--
IRZ-39	Upper	Injection	Jul-22	--	--	--	--	--
IRZ-39	Upper	Injection	Aug-22	--	--	--	--	--
IRZ-39	Upper	Injection	Sep-22	--	--	--	--	--
IRZ-39	Upper	Injection	Oct-22	--	--	--	--	--
IRZ-39	Upper	Injection	Nov-22	--	--	--	--	--
IRZ-39	Upper	Injection	Dec-22	--	--	--	--	--

Table 2.2
Summary of NTH IRZ System Discharges to Groundwater
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-9	Upper	Extraction	Nov-21	--	--	--	--	--
IRZ-9	Upper	Extraction	Dec-21	--	--	--	--	--
IRZ-9	Upper	Extraction	Jan-22	207,010	--	66	8.9	52
IRZ-9	Upper	Extraction	Feb-22	--	--	--	--	--
IRZ-9	Upper	Extraction	Mar-22	612	--	1	0.13	10
IRZ-9	Upper	Extraction	Apr-22	420	--	0.2	0.02	44
IRZ-9	Upper	Extraction	May-22	1,189	--	0.3	0.04	66
IRZ-9	Upper	Extraction	Jun-22	2,649	--	1.0	0.14	44
IRZ-9	Upper	Extraction	Jul-22	--	--	--	--	--
IRZ-9	Upper	Extraction	Aug-22	--	--	--	--	--
IRZ-9	Upper	Extraction	Sep-22	5,087	--	1.5	0.21	57
IRZ-9	Upper	Extraction	Oct-22	3,928	--	1.5	0.20	44
IRZ-9	Upper	Extraction	Nov-22	620,626	--	182	25	57
IRZ-9	Upper	Extraction	Dec-22	--	--	--	--	--
IRZ-13D	Lower	Extraction	Nov-21	--	--	--	--	--
IRZ-13D	Lower	Extraction	Dec-21	--	--	--	--	--
IRZ-13D	Lower	Extraction	Jan-22	--	--	--	--	--
IRZ-13D	Lower	Extraction	Feb-22	--	--	--	--	--
IRZ-13D	Lower	Extraction	Mar-22	937,033	--	391	53	40
IRZ-13D	Lower	Extraction	Apr-22	353,835	--	220	31	27
IRZ-13D	Lower	Extraction	May-22	728,432	--	472	63	26
IRZ-13D	Lower	Extraction	Jun-22	1,071,385	--	630	88	28
IRZ-13D	Lower	Extraction	Jul-22	469,048	--	250	34	31
IRZ-13D	Lower	Extraction	Aug-22	16,196	--	15	2.0	18
IRZ-13D	Lower	Extraction	Sep-22	1,107,871	--	616	86	30
IRZ-13D	Lower	Extraction	Oct-22	1,416,084	--	695	93	34
IRZ-13D	Lower	Extraction	Nov-22	1,055,303	--	544	76	32
IRZ-13D	Lower	Extraction	Dec-22	1,389,277	--	661	89	35
IRZ-13S	Upper	Extraction	Nov-21	--	--	--	--	--
IRZ-13S	Upper	Extraction	Dec-21	--	--	--	--	--
IRZ-13S	Upper	Extraction	Jan-22	--	--	--	--	--
IRZ-13S	Upper	Extraction	Feb-22	--	--	--	--	--
IRZ-13S	Upper	Extraction	Mar-22	674,317	--	391	53	29
IRZ-13S	Upper	Extraction	Apr-22	491,289	--	241	33	34
IRZ-13S	Upper	Extraction	May-22	1,115,829	--	470	63	40
IRZ-13S	Upper	Extraction	Jun-22	1,594,436	--	629	87	42
IRZ-13S	Upper	Extraction	Jul-22	697,982	--	250	34	47
IRZ-13S	Upper	Extraction	Aug-22	220	--	0.2	0.027	18
IRZ-13S	Upper	Extraction	Sep-22	891,370	--	364	51	41

Table 2.2
Summary of NTH IRZ System Discharges to Groundwater
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-13S	Upper	Extraction	Oct-22	1,745,715	--	695	93	42
IRZ-13S	Upper	Extraction	Nov-22	1,329,795	--	577	80	38
IRZ-13S	Upper	Extraction	Dec-22	1,405,225	--	672	90	35
IRZ-23	Lower	Extraction	Nov-21	--	--	--	--	--
IRZ-23	Lower	Extraction	Dec-21	307,610	--	56	7.5	92
IRZ-23	Lower	Extraction	Jan-22	583,763	--	148	20	66
IRZ-23	Lower	Extraction	Feb-22	615,500	--	168	25	61
IRZ-23	Lower	Extraction	Mar-22	2,542,801	--	621	83	68
IRZ-23	Lower	Extraction	Apr-22	1,887,412	--	543	75	58
IRZ-23	Lower	Extraction	May-22	1,682,733	--	476	64	59
IRZ-23	Lower	Extraction	Jun-22	2,317,090	--	634	88	61
IRZ-23	Lower	Extraction	Jul-22	984,853	--	250	34	66
IRZ-23	Lower	Extraction	Aug-22	159,004	--	37	5.0	72
IRZ-23	Lower	Extraction	Sep-22	2,341,592	--	627	87	62
IRZ-23	Lower	Extraction	Oct-22	2,335,186	--	696	94	56
IRZ-23	Lower	Extraction	Nov-22	1,590,684	--	449	62	59
IRZ-23	Lower	Extraction	Dec-22	2,290,752	--	649	87	59

Abbreviations:
-- = not applicable
gal = gallon
gpm = gallons per minute
ID = identification
IRZ = In-Situ Reactive Zone
NTH = National Trails Highway

Table 2.3
NTH IRZ System Operations and Non-Routine Maintenance Log
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Date	Approximate IRZ Systemwide Down Time (days)	Approximate IRZ Systemwide Down Time (hours)	Operations and Maintenance Log	Notes
10/4/2022	--	--	Ethanol dosing occurred.	--
10/5/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31 (lower), IRZ-33, IRZ-35, and IRZ-37.	--
10/5/2022 through 10/6/2022	--	--	Reinjected conditioned water into injection wells.	--
10/6/2022	--	--	Backwashed injection well IRZ-31 (upper).	--
10/6/2022	--	--	Ethanol dosing occurred.	--
10/7/2022	--	--	Adjusted flowrate for IRZ-17 (lower) from 14.5 gpm to 13.5 gpm due to high depth to water, which was causing the flow control valve to open and shut, thus not maintaining steady flow.	--
10/10/2022	--	--	Ethanol dosing occurred.	--
10/11/2022	--	--	Collected samples from extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23.	--
10/12/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
10/13/2022	--	--	Ethanol dosing occurred.	--
10/14/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18 (upper), and IRZ-20 (lower). Reduced backwash duration to 13 minutes per well for all injection wells moving forward.	Backwashing frequency increased to twice weekly for injection wells operating below 90 percent of baseline specific capacity.
10/15/2022 through 10/17/2022	2.0	48.0	IRZ system offline.	Rain caused high level alarm in IRZ-35 and IRZ-37 vault.
10/17/2022	--	--	Ethanol dosing occurred.	--
10/18/2022	--	--	Reinjected conditioned water into injection wells.	--
10/19/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17,and IRZ-20.	--
10/20/2022	--	--	Backwashed injection wells IRZ-18, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
10/20/2022	--	--	Ethanol dosing occurred.	--
10/21/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18 (upper), and IRZ-20 (lower).	--
10/24/2022	--	--	Ethanol dosing occurred.	--
10/26/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
10/31/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18 (upper), and IRZ-20 (lower).	--
11/1/2022	0.1	2.2	IRZ system offline.	Transferred from generators to station power.
11/1/2022	--	--	Ethanol dosing occurred.	--
11/2/2022 through 11/3/2022	--	--	Reinjected conditioned water into injection wells.	--
11/3/2022 through 11/4/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
11/4/2022	--	--	Ethanol dosing occurred.	--

Table 2.3
NTH IRZ System Operations and Non-Routine Maintenance Log
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Date	Approximate IRZ Systemwide Down Time (days)	Approximate IRZ Systemwide Down Time (hours)	Operations and Maintenance Log	Notes
11/7/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18, IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), IRZ-33 (upper), and IRZ-37.	--
11/7/2022	--	--	Ethanol dosing occurred.	--
11/9/2022	0.3	8.0	IRZ system offline.	Thunderstorms caused rain to enter vaults. High level alarms in vaults caused system shutdown. System remained offline to complete Phase 2A 12 kilovolt work.
11/10/2022	--	--	Reinjected conditioned water into injection wells.	--
11/10/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
11/11/2022	--	--	Ethanol dosing occurred.	--
11/11/2022 through 11/14/2022	--	--	IRZ-31 offline for 64 hours.	Testing conducted on instrumentation and controls within well vault.
11/14/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18, IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), IRZ-33 (upper), and IRZ-37.	--
11/14/2022	--	--	Ethanol dosing occurred.	--
11/15/2022	--	--	Reinjected conditioned water into injection wells.	--
11/15/2022	--	--	Samples collected from extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23.	--
11/16/2022 through 11/17/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
11/17/2022 through 11/18/2022	--	--	Extraction well IRZ-9 resumed operation while conducting instrumentation and controls testing on extraction wells IRZ-13S and IRZ-13D.	--
11/17/2022	--	--	Ethanol dosing occurred.	--
11/18/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18, IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), IRZ-33 (upper), and IRZ-37.	--
11/18/2022	--	--	Remedy Produced Water Conditioning (RPWC) system at the compressor station testing completed. Began processing and filtering backwash water through RPWC system at the compressor station prior to reinjection.	--
11/20/2022 through 11/21/2022	1.3	32.0	IRZ system offline around due to high water level alarm in IRZ-17 well vault. High water level caused by water coming out of the well casing. System resumed operation 11/21.	--
11/21/2022	--	--	Ethanol dosing occurred.	--

Table 2.3
NTH IRZ System Operations and Non-Routine Maintenance Log
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Date	Approximate IRZ Systemwide Down Time (days)	Approximate IRZ Systemwide Down Time (hours)	Operations and Maintenance Log	Notes
11/21/2022 through 11/22/2022	--	--	Extraction well IRZ-9 resumed operation while conducting instrumentation and controls testing on extraction well IRZ-23.	--
11/23/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
11/23/2022 through 11/25/2022	1.5	36.5	IRZ system offline.	System shut down following observed vault leak at IRZ-23. Vault leak resulted from broken flange at IRZ-23.
11/25/2022 through 11/30/2022		--	Extraction well IRZ-9 resumed operation while inspecting equipment for water damage at IRZ-23 following well leak. IRZ-23 remained offline.	--
11/28/2022	--	--	Ethanol dosing occurred.	--
11/29/2022 through 11/30/2022	--	--	Reinjected conditioned water into injection wells.	--
11/30/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
12/1/2022	--	--	Extraction well IRZ-23 resumed operation.	--
12/1/2022	--	--	Reinjected conditioned water into injection wells.	--
12/2/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18, IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), IRZ-33 (upper), and IRZ-37.	--
12/2/2022	--	--	Ethanol dosing occurred.	--
12/5/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18, IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), IRZ-33 (upper), and IRZ-37.	--
12/5/2022	--	--	Ethanol dosing occurred.	--
12/6/2022	--	--	Samples collected from extraction wells IRZ-13S, IRZ-13D, and IRZ-23.	--
12/7/2022	--	--	Reinjected conditioned water into injection wells.	--
12/7/2022 through 12/8/2022	0.5	13.0	IRZ system offline.	High level alarm in IRZ-17 vault.
12/7/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
12/8/2022	--	--	Ethanol dosing occurred.	--
12/9/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-18, IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), IRZ-33 (upper), and IRZ-37.	--
12/11/2022 through 12/12/2022	1.4	32.4	IRZ system offline.	High water level alarm from IRZ-35/37 vault.
12/12/2022	--	--	Ethanol dosing occurred.	--
12/12/2022 through 12/19/2022	--	--	IRZ-18 offline for well rehabilitation.	--
12/13/2022 through 12/27/2022	--	--	IRZ-33 offline for well rehabilitation.	--
12/14/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-20, IRZ-27, IRZ-31, IRZ-35, and IRZ-37.	--

Table 2.3
NTH IRZ System Operations and Non-Routine Maintenance Log
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Date	Approximate IRZ Systemwide Down Time (days)	Approximate IRZ Systemwide Down Time (hours)	Operations and Maintenance Log	Notes
12/14/2022	--	--	IRZ-29 resumed operation.	Sump pump installation and electrical equipment replacement complete.
12/14/2022 through 12/16/2022	--	--	Reinjected conditioned water into injection wells.	--
12/16/2022	--	--	Samples collected from extraction wells IRZ-13S, IRZ-13D, and IRZ-23.	--
12/19/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), and IRZ-37.	--
12/19/2022	--	--	Ethanol dosing occurred. The amount of ethanol injected per dosing event was doubled from 30 milligrams per liter (mg/L) to 60 mg/L total organic carbon (TOC) time-weighted average.	--
12/20/2022 through 12/21/2022	--	--	Reinjected conditioned water into injection wells.	--
12/21/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-35, and IRZ-37.	--
12/22/2022	--	--	Ethanol dosing occurred.	--
12/27/2022	--	--	Backwashed injection wells IRZ-17 (lower), IRZ-20 (lower), IRZ-27 (upper/middle), IRZ-31 (lower), and IRZ-37.	--
12/27/2022	--	--	Ethanol dosing occurred.	--
12/29/2022	--	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-35, and IRZ-37.	--
12/30/2022	--	--	Ethanol dosing occurred.	--
12/30/2022 through 12/31/2022	--	--	Reinjected conditioned water into injection wells.	--

Abbreviations:
-- = not applicable
IRZ = In-Situ Reactive Zone
mg/L = milligrams per liter
NTH = National Trails Highway
TCS = Topock Compressor Station
TOC = total organic carbon
VFD = variable frequency drive

Table 2.6
Backwash Water Field Parameters and Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Sample Description	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Chromium (µg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Temperature (deg C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)	Turbidity (NTU)
Backwash Pre-filter	10/3/2022	N	< 1	360	0.072	0.260	29.3	2.07	12,720	7.77	-84.8	1.4
Backwash Post-filter	10/3/2022	N	< 1	260	0.110	0.250	30	1.7	12,856	7.75	-109.7	1.1
Backwash Pre-filter	10/11/2022	N	450	460	< 0.020	0.036	26.1	4.33	6,075	8.13	20.5	-13.3a
Backwash Post-filter	10/11/2022	N	440	440	< 0.020	0.040	26.1	4.33	6,008	8.17	67.9	-14.2a
Backwash Pre-filter	10/18/2022	N	310	310	< 0.020	0.042	22	1.32	9,884	7.74	62.9	2.3
Backwash Post-filter	10/18/2022	N	300	420	< 0.020	0.044	22.5	0.96	9,889	7.61	55.9	2.5
Backwash Pre-filter	10/25/2022	N	300	400	0.082	0.047	20.2	2.49	9,540	7.7	125.4	2.3
Backwash Post-filter	10/25/2022	N	300	370	< 0.020	0.048	20.8	3.36	9,652	7.62	111.3	2.7
Backwash Pre-filter	11/2/2022	N	270	340	< 0.020	0.055	19.5	2.15	9,710	7.96	51.6	2
Backwash Post-filter	11/2/2022	N	280	310	0.110	0.056	19.6	1.65	9,679	7.86	50.7	0.8
Backwash Pre-filter	11/8/2022	N	280	370	0.048	0.041	19.4	2.97	9,773	8	50.2	2.3
Backwash Post-filter	11/8/2022	N	280	340	< 0.020	0.040	19.6	3.65	9,767	7.95	50	2
Backwash Pre-filter	11/15/2022	N	280	330	0.022	0.049	14.7	3.79	8,720	7.74	47	4.4
Backwash Post-filter	11/15/2022	N	280	380	< 0.020	0.045	14.3	3.46	8,651	7.34	47.5	2.6
RPWC_INF	11/18/2022	N	410	440	< 0.020	0.027	--	--	--	--	--	--
RPWC_MID	11/18/2022	N	380	400	< 0.020	0.026	--	--	--	--	--	--
RPWC_EFF	11/18/2022	N	410	520	< 0.020	0.031	--	--	--	--	--	--
RPWC_INF	11/29/2022	N	640	680	< 0.020	0.097	--	--	--	--	--	--
RPWC_MID	11/29/2022	N	520	710	0.021	0.120	--	--	--	--	--	--
RPWC_EFF	11/29/2022	N	580	700	< 0.020	0.098	--	--	--	--	--	--
RPWC_INF	12/6/2022	N	410	640	0.058	0.051	--	--	--	--	--	--
RPWC_MID	12/6/2022	N	250	330	< 0.020	0.046	--	--	--	--	--	--
RPWC_EFF	12/6/2022	N	450	410	< 0.020	0.053	--	--	--	--	--	--
RPWC_INF	12/13/2022	N	490	600	0.044	0.043	--	--	--	--	--	--
RPWC_MID	12/13/2022	N	330	390	< 0.020	0.097	--	--	--	--	--	--
RPWC_EFF	12/13/2022	N	460	500	< 0.020	0.065	--	--	--	--	--	--
RPWC_INF	12/20/2022	N	380	560	< 0.020	0.035	--	--	--	--	--	--
RPWC_MID	12/20/2022	N	350	360	0.062	0.061	--	--	--	--	--	--
RPWC_EFF	12/20/2022	N	370	410	< 0.020	0.036	--	--	--	--	--	--
RPWC_INF	12/28/2022	N	40	230	0.047	1.200	--	--	--	--	--	--
RPWC_MID	12/28/2022	N	21	170	0.130	0.980	--	--	--	--	--	--
RPWC_EFF	12/28/2022	N	40	200	0.040	1.200	--	--	--	--	--	--

Notes:
1. The remedy-produced water conditioning system was brought online on November 18, 2022. At that time, continuous field parameter data (pH, specific conductivity, and turbidity) were collected using dataloggers and are not provided in this table.
[a] This value is likely a fault result due to instrument error.

Abbreviations:
-- = not available
< = not detected at the reporting limit, as shown
deg C = degrees Celsius
J = estimated concentration
mg/L = milligram(s) per liter
mV = millivolts
N = primary sample
NTU = nephelometric turbidity units
ORP = oxidation-reduction potential
RPWC_EFF = remedy-produced water conditioning system effluent sampling port
RPWC_INF = remedy-produced water conditioning system influent sampling por
RPWC_MID = remedy-produced water conditioning system midpoint sampling port
µg/L = microgram(s) per liter
µS/cm = microSiemens per centimeter

Table 3.1
Groundwater Remedy Phase 1 Monitoring Program Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Domestic Well Sampling	Hexavalent Chromium	Total Dissolved Chromium	Total Organic Carbon	Dissolved Arsenic	Dissolved Manganese	Dissolved Iron	Total Iron	Dissolved Barium	Nitrate	Nitrite and Ammonium [1]	Ammonia as N	Nitrate/ Nitrite as N	Sulfate	Dissolved Molybdenum	Dissolved Selenium	Other Dissolved Metals [2]	Total Dissolved Solids	Alkalinity	Cations/ Anions
C-BNS			X								X		Q	SA		Q	Q				A					A	A				
C-CON			X								X		Q	SA		Q	Q				A					A	A				
C-I-3			X					M(Q), Q			X		Q	SA		Q	Q				A					A	A				
C-MAR			X								X		Q	SA		Q	Q				A					A	A				
C-NR1			X								X		Q	SA		Q	Q				A					A	A				
C-NR3			X								X		Q	SA		Q	Q				A					A	A				
C-NR4			X								X		Q	SA		Q	Q				A					A	A				
C-R22A			X								X		Q	SA		Q	Q				A					A	A				
C-R27			X								X		Q	SA		Q	Q				A					A	A				
C-TAZ			X								X		Q	SA		Q	Q				A					A	A				
CW-01D										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-01M										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-02D										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-02M										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-03D										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-03M										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-04D										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
CW-04M										X			A	A		A	A			A				A	A	A	A	A	A	A [3]
IRZ-13S							X						M(Q), Q		M(Q), Q		M(Q), Q	M(Q), Q	M(Q), Q												
IRZ-13D							X						M(Q), Q		M(Q), Q		M(Q), Q	M(Q), Q	M(Q), Q												
IRZ-23							X						M(Q), Q		M(Q), Q		M(Q), Q	M(Q), Q	M(Q), Q												
IRZ-9							X						M(Q), Q		M(Q), Q		M(Q), Q	M(Q), Q	M(Q), Q												
MW-09		X									X		SA	SA		A	A				SA					SA	SA				
MW-10		X									X		SA	SA		A	A				SA					SA	SA				
MW-10D		X									X		SA	SA		A	A				SA					SA	SA				
MW-11		X											SA	SA		A	A														
MW-11D		X											SA	SA		A	A														
MW-12		X									X		SA	SA		A	A				SA					SA	SA				
MW-13	X										X		SA	SA		A	A				A					A	A				
MW-14	X										X		SA	SA		A	A				A					A	A				
MW-15	X												SA	SA		A	A														
MW-19		X											SA	SA		A	A														
MW-20-070		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-20-100		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-20-130		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-21	X			X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-22	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-23-060		X									X		SA	SA		A	A				A					A	A				
MW-23-080	X										X		SA	SA		A	A				A					A	A				
MW-24A		X									X		SA	SA		A	A				SA					SA	SA				
MW-24B		X									X		SA	SA		A	A				SA					SA	SA				
MW-24BR	X												SA	SA		A	A														
MW-25		X									X		SA	SA		A	A				A					A	A				
MW-26		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-27-020	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-27-060	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-27-085	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-28-025	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-28-090	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-29	X						X						Q	SA																	
MW-30-030	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-30-050	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-31-060		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-31-135	X			X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-32-020	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-32-035	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-33-040	X						X	M(Q), Q			X		Q	SA							A					A	A				
MW-33-090	X						X	M(Q), Q			X		Q	SA							A					A	A				
MW-33-150	X						X	M(Q), Q			X		Q	SA							A					A	A				
MW-33-210	X						X						Q	SA																	
MW-34-055	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-34-080	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-34-100	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-35-060	X						X	M(Q), Q			X		Q	SA							A					A	A				
MW-35-135	X						X	M(Q), Q			X		Q	SA							A					A	A				
MW-36-020	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-36-040	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-36-050	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-36-070	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-36-090	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-36-100	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-37D	X										X		SA	SA		A	A				A					A	A				
MW-37S	X										X		SA	SA		A	A				A					A	A				
MW-38D		X									X		Q	Q		A	A				Q					Q	Q				
MW-38S		X									X		Q	Q		A	A				Q					Q	Q				
MW-39-040	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-39-050	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-39-060	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-39-070	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-39-080	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-39-100		X			X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-40D		X									X		SA	SA		A	A				A					A	A				
MW-40S	X										X		SA	SA		A	A				A					A	A				
MW-41D	X										X		SA	SA		A	A				A					A	A				
MW-41M	X										X		SA	SA		A	A				A					A	A				
MW-41S	X										X		SA	SA		A	A				A					A	A				
MW-42-030	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-42-055	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				

Table 3.1
Groundwater Remedy Phase 1 Monitoring Program Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Domestic Well Sampling	Hexavalent Chromium	Total Dissolved Chromium	Total Organic Carbon	Dissolved Arsenic	Dissolved Manganese	Dissolved Iron	Total Iron	Dissolved Barium	Nitrate	Nitrite and Ammonium [1]	Ammonia as N	Nitrate/ Nitrite as N	Sulfate	Dissolved Molybdenum	Dissolved Selenium	Other Dissolved Metals [2]	Total Dissolved Solids	Alkalinity	Cations/ Anions
MW-42-065	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-43-025	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-43-075	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-43-090	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-44-070	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-44-115	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-44-125	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-45-095a	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-46-175	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-46-205	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-47-055	X						X						Q	SA																	
MW-47-115	X						X	M(Q), Q					Q	SA																	
MW-48	X										X		SA	SA		A	A				SA					SA	SA				
MW-49-135	X						X	M(Q), Q					Q	SA																	
MW-49-275	X						X						Q	SA																	
MW-49-365	X						X						Q	SA																	
MW-50-095	X							M(Q), Q					SA	SA		A	A														
MW-50-200		X									X		SA	SA		A	A				A					A	A				
MW-51		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-52D	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-52M	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-52S	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-53D	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-53M	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-53S	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-54-085	X							M(Q), Q			X		SA	SA		A	A				A					A	A				
MW-54-140	X							M(Q), Q			X		SA	SA		A	A				A					A	A				
MW-54-195	X							M(Q), Q			X		SA	SA		A	A				A					A	A				
MW-55-045	X												SA	SA		A	A														
MW-55-120	X												SA	SA		A	A														
MW-56D	X										X		SA	SA		A	A				A					A	A				
MW-56M	X										X		SA	SA		A	A				A					A	A				
MW-56S	X										X		SA	SA		A	A				A					A	A				
MW-57-050		X											SA	SA		A	A														
MW-57-070		X									X		SA	SA		A	A				A					A	A				
MW-57-185	X										X		SA	SA		A	A				A					A	A				
MW-58-065	X										X		SA	SA		A	A				A					A	A				
MW-58-115	X										X		SA	SA		A	A				A					A	A				
MW-58-205	X										X		SA	SA		A	A				A					A	A				
MW-58BR	X										X		SA	SA		A	A				A					A	A				
MW-59-100		X									X		SA	SA		A	A				A					A	A				
MW-60-125		X									X		SA	SA		A	A				A					A	A				
MW-60BR-245	X												SA	SA		A	A														
MW-61-110		X									X		SA	SA		A	A				A					A	A				
MW-62-065		X									X		SA	SA		A	A				A					A	A				
MW-62-110		X									X		SA	SA		A	A				A					A	A				
MW-62-190	X										X		SA	SA		A	A				A					A	A				
MW-63-065	X										X		SA	SA		A	A				A					A	A				
MW-64-150	X												SA	SA		A	A														
MW-64-205	X												SA	SA		A	A														
MW-64-260	X												SA	SA		A	A														
MW-64BR	X										X		SA	SA		A	A				A					A	A				
MW-65-160		X									X		Q	Q		A	A				Q					Q	Q				
MW-65-225		X									X		Q	Q		A	A				Q					Q	Q				
MW-66-165		X									X		SA	SA		A	A				SA					SA	SA				
MW-66-230		X									X		SA	SA		A	A				SA					SA	SA				
MW-66BR-270	X												SA	SA		A	A														
MW-67-185		X									X		SA	SA		A	A				SA					SA	SA				
MW-67-225		X									X		SA	SA		A	A				SA					SA	SA				
MW-67-260		X									X		SA	SA		A	A				SA					SA	SA				
MW-68-180		X									X		Q	Q		A	A				Q					Q	Q				
MW-68-240		X									X		SA	SA		A	A				SA					SA	SA				
MW-68BR-280	X												SA	SA		A	A														
MW-69-195		X									X		Q	Q		A	A				Q					Q	Q				
MW-70-105		X									X		SA	SA		A	A				SA					SA	SA				
MW-70BR-225		X									X		SA	SA		A	A				SA					SA	SA				
MW-70BR-287		X											SA	SA		A	A														
MW-71-035	X			X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-72-080		X									X		SA	SA		A	A				A					A	A				
MW-72BR-200	X												SA	SA		A	A														
MW-73-080		X									X		SA	SA		A	A				A					A	A				
MW-74-240	X										X		SA	SA		A	A				A					A	A				
MW-75-033		X					X	M(Q), Q					Q	SA																	
MW-75-117	X						X	M(Q), Q					Q	SA																	
MW-75-202	X						X	M(Q), Q					Q	SA																	
MW-75-267	X						X	M(Q), Q					Q	SA																	
MW-75-337	X						X	M(Q), Q					Q	SA																	
MW-76-039		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-76-156		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-76-181		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-76-218		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-77-046	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-77-102	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-77-158	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-77-187	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-78-070		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-78-142		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-79-058		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-79-102		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed

Table 3.1
Groundwater Remedy Phase 1 Monitoring Program Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Domestic Well Sampling	Hexavalent Chromium	Total Dissolved Chromium	Total Organic Carbon	Dissolved Arsenic	Dissolved Manganese	Dissolved Iron	Total Iron	Dissolved Barium	Nitrate	Nitrite and Ammonium [1]	Ammonia as N	Nitrate/ Nitrite as N	Sulfate	Dissolved Molybdenum	Dissolved Selenium	Other Dissolved Metals [2]	Total Dissolved Solids	Alkalinity	Cations/ Anions
MW-80-057		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-80-082		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
MW-81-043	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-81-098	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-82-046	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-82-112	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-82-168	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-82-198	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-83-090		X									X		SA	SA		A	A				A					A	A				
MW-83-180	X										X		SA	SA		A	A				A					A	A				
MW-83-225		X									X		SA	SA		A	A				A					A	A				
MW-83-245		X									X		SA	SA		A	A				A					A	A				
MW-84-057		X									X		SA	SA		A	A				A					A	A				
MW-84-095	X										X		SA	SA		A	A				A					A	A				
MW-84-132	X										X		SA	SA		A	A				A					A	A				
MW-84-193		X									X		SA	SA		A	A				A					A	A				
MW-85-129		X									X		SA	SA		A	A				A					A	A				
MW-85-217		X									X		SA	SA		A	A				A					A	A				
MW-85-237		X									X		SA	SA		A	A				A					A	A				
MW-86-030	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-86-066	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-86-120	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-86-140	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-87-109	X										X		SA	SA		A	A				A					A	A				
MW-87-139	X										X		SA	SA		A	A				A					A	A				
MW-87-192	X										X		SA	SA		A	A				A					A	A				
MW-87-275	X										X		SA	SA		A	A				A					A	A				
MW-88-107		X											SA	SA		A	A														
MW-89-183	X										X		SA	SA		A	A				A					A	A				
MW-89-273	X										X		SA	SA		A	A				A					A	A				
MW-90-031	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
MW-91-045	X										X		SA	SA		A	A				A					A	A				
MW-91-120	X										X		SA	SA		A	A				A					A	A				
MW-91-170	X										X		SA	SA		A	A				A					A	A				
MW-91-320	X										X		SA	SA		A	A				A					A	A				
MW-92-037	X										X		SA	SA		A	A				A					A	A				
MW-92-072	X										X		SA	SA		A	A				A					A	A				
MW-92-102	X										X		SA	SA		A	A				A					A	A				
MW-92-122	X										X		SA	SA		A	A				A					A	A				
MW-93-050	X												SA	SA		A	A														
MW-93-213	X												SA	SA		A	A														
MW-95-113	X										X		SA	SA		A	A				A					A	A				
MW-95-157	X										X		SA	SA		A	A				A					A	A				
MW-96-045	X						X	M(Q), Q					Q	SA																		
MW-96-217	X						X	M(Q), Q					Q	SA																		
MW-97-042							X	M(Q), Q					Q	SA																		
MW-97-202							X	M(Q), Q					Q	SA																		
MW-98-055		X											SA	SA		A	A														
MW-98-077		X											SA	SA		A	A														
OW-01D										X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-01M										X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-01S								M(Q), Q		X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-02D										X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-02M										X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-02S								M(Q), Q		X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-05D								M(Q), Q		X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-05M								M(Q), Q		X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
OW-05S								M(Q), Q		X			A	A		A	A			A				A	A	A	A	A	A	A	A [3]
PGE-07BR	X												SA	SA		A	A														
PGE-08	X												SA	SA		A	A														
PT5D		X			X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
PT5M	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
PT5S	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A				
PT8D		X											SA	SA		A	A														
PT9D		X									X		SA	SA		A	A				A					A	A				
PT9M		X									X		SA	SA		A	A				A					A	A				
PT9S		X									X		SA	SA		A	A				A					A	A				
R-19			X								X		Q	SA		Q	Q				A					A	A				
R-28			X								X		Q	SA		Q	Q				A					A	A				
R-63			X								X		Q	SA		Q	Q				A					A	A				
RRB			X					M(Q), Q			X		Q	SA		Q	Q				A					A	A				
SW1			X								X		Q	SA		Q	Q				A					A	A				
SW2			X								X		Q	SA		Q	Q				A					A	A				
TW-01		X									X		SA	SA		A	A				SA					SA	SA				
TW-02D		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
TW-02S		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
TW-03D		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed	As needed
TW-04	X						X						Q	SA																		
TW-05	X												SA	SA		A	A														
PM-03												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
PM-04												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
Marina-1												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
MTS-1												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
MTS-2												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
Topock-2												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
Topock-3												X	B	B		B	B	B			B		B		B	B	B		B	B	B [4]
CAB_MIXER_606									X						M(Q), SA [5]																
CAB_MIXER_607									X						M(Q), SA [5]																

Table 3.1
Groundwater Remedy Phase 1 Monitoring Program Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Domestic Well Sampling	Hexavalent Chromium	Total Dissolved Chromium	Total Organic Carbon	Dissolved Arsenic	Dissolved Manganese	Dissolved Iron	Total Iron	Dissolved Barium	Nitrate	Nitrite and Ammonium [1]	Ammonia as N	Nitrate/ Nitrite as N	Sulfate	Dissolved Molybdenum	Dissolved Selenium	Other Dissolved Metals [2]	Total Dissolved Solids	Alkalinity	Cations/ Anions
Notes:																															
1. The monitoring program will be re-evaluated after 2 years of operation.																															
2. MW-58-115, MW-58-205, MW-64-150, MW-64-205, MW-64-260: FLUTe™ equipment was removed from the wells and these depth intervals are no longer sampled. MW-54BR and MW-64 are currently sampled as part of the Phase 1 Monitoring Program.																															
[1] Ammonium and nitrite will be monitored for the first year. If not detected within the first year of monitoring, sampling for these analytes will be discontinued. If increases in ammonium or nitrite concentrations are detected in dose response wells, recommendations for continued sampling and potential expansion of the monitoring network for these analytes will be provided.																															
[2] Other dissolved metals: boron, calcium, magnesium, potassium, sodium, and vanadium																															
[3] Chloride and fluoride																															
[4] Dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, chloride, fluoride																															
[5] Samples are collected biweekly (1 time every 2 weeks) until the system operations are verified. The sampling frequency is reduced to semi-annual thereafter.																															
X(X): Frequency for the first year (yr) or quarter (Q); frequency reduction to be considered thereafter																															
A = Annually																															
B = biennially (every 2 years)																															
COPC = constituent of potential concern																															
ID = identification																															
IM-3 = Interim Measure 3																															
IRZ = In-site Reactive Zone																															
M = Monthly																															
NTH = National Trails Highway																															
Q = Quarterly																															
SA = Semi-annually																															

Table 3.2
Remedy Well Construction Details
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Well Type	Easting (NAD83)	Northing (NAD83)	Drilling Method	Completion Date	Boring Depth (feet bgs)	Screen Type	Upper Screen Interval 1 (feet bgs) Start	Upper Screen Interval 1 (feet bgs) End	Upper Middle Screen Interval 2 (feet bgs) Start	Upper Middle Screen Interval 2 (feet bgs) End	Lower Screen Interval 4 (feet bgs) Start	Lower Screen Interval 4 (feet bgs) End	Sump Interval (feet bgs) Start	Sump Interval (feet bgs) End	Boring Diameter (inches; range if variable)
IRZ-9	Extraction	7615565.51	2103560.78	Dual Rotary	9/2/2020	107.6	Single	55.0	99.8	--	--	--	--	99.8	105.4	15.625 - 18
IRZ-13S	Extraction	7615711.28	2103302.8	Dual Rotary	7/24/2020	103.6	Single	53.0	95.8	--	--	--	--	95.8	101.6	18
IRZ-13D	Extraction	7615707.68	2103310.2	Dual Rotary	7/11/2020	227.7	Single	--	--	--	--	160.4	210.2	210.2	215.8	15.625 - 18
IRZ-23	Extraction	7615826.01	2102535.62	Dual Rotary	6/30/2019	150.4	Single	--	--	--	--	92.1	142.0	142.0	147.4	17.5 - 24
IRZ-15	Injection	7615772.94	2103152.1	Dual Rotary	1/16/2020	232.6	Dual	30.0	55.3	--	--	150.3	200.2	200.2	205.9	15.5 - 18
IRZ-16	Injection	7615823.34	2103042.34	Dual Rotary	12/11/2019	194.5	Dual	27.0	54.9	--	--	155.0	186.8	186.8	192.5	16 - 18
IRZ-17	Injection	7615870.94	2103001.18	Dual Rotary	11/19/2019	192.0	Dual	36.2	57.1	--	--	137.2	167.1	167.1	172.8	16 - 18
IRZ-18	Injection	7615808.45	2102885.15	Dual Rotary	8/11/2020	193.9	Dual	41.7	59.6	--	--	155.0	181.8	181.8	187.4	16 - 18
IRZ-20	Injection	7615813.89	2102761.96	Dual Rotary	4/23/2019	188.1	Dual	49	71	--	--	136.0	155	155.0	160.0	18 - 24
IRZ-21	Injection	7615817.31	2102689.08	Dual Rotary	6/15/2019	166.5	Dual	47.4	65.4	--	--	140.4	157.3	157.3	163.0	18 - 24
IRZ-25	Injection	7615824.68	2102414.88	Dual Rotary	5/29/2019	174.0	Triple[a]	50.1	67.1	77.1	100	135.0	166	166.0	171.6	15.5 - 18
IRZ-27	Injection	7615803.46	2102237.25	Dual Rotary	2/7/2020	144.3	Triple[a]	52	67	77	99.9	114.9	136.8	136.8	142.3	16 - 18
IRZ-29	Injection	7615788.78	2102085.65	Dual Rotary	2/22/2020	128.5	Dual	48.2	77	--	--	92.1	120.9	120.9	126.3	15.5 - 18
IRZ-31	Injection	7615789.12	2101940.52	Dual Rotary	3/7/2020	128.8	Dual	48.2	77.1	--	--	92.1	121	121.0	126.8	16 - 18
IRZ-33	Injection	7615828.03	2101792.54	Dual Rotary	3/22/2020	119.5	Dual[b]	51.4	77.3	--	--	87.2	111	111.0	116.6	16 - 18
IRZ-35	Injection	7615918.00	2101643.44	Dual Rotary	3/29/2020	97.0	Single	53.1	88.0	--	--	--	--	88.0	93.8	18
IRZ-37	Injection	7616004.52	2101556.06	Dual Rotary	2/4/2020	82.0	Single	49.0	74.0	--	--	--	--	74.0	79.8	12
IRZ-39	Injection	7616112.16	2101376.07	Dual Rotary	10/23/2019	47.0	Single	28.0	39.0	--	--	--	--	39.0	44.7	8 - 12

Notes:

a. At triple-screened wells IRZ-25 and IRZ-27, well intervals can only be packed off to operate as two discrete intervals (e.g., by combining the upper and middle screens, by combining the middle and lower screens).

b. At IRZ-33, the dual screens were separated by only filter pack and no bentonite.

Abbreviations:

-- = not applicable
bgs = below ground surface
NAD83 = North American Datum of 1983

Table 3.2
Remedy Well Construction Details
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Well Type	Easting (NAD83)	Northing (NAD83)	Drilling Method	Well Casing Diameter (inches)	Well Casing Material	Screen Material	Upper Bentonite Seal Depth (range; feet bgs)	Upper Well Screen Slot Size (inches)	Upper Sand Pack Material	Upper Middle Bentonite Seal Depth (range; feet bgs)	Upper Middle Well Screen Slot Size (inches)
IRZ-9	Extraction	7615565.51	2103560.78	Dual Rotary	10	SDR17 PVC	316L SS Wire	41.7 - 44	0.05	#6	--	--
IRZ-13S	Extraction	7615711.28	2103302.8	Dual Rotary	10	SDR17 PVC	316L SS Wire	40.4 - 42.1	0.05	#6	--	--
IRZ-13D	Extraction	7615707.68	2103310.2	Dual Rotary	10	SDR17 PVC	316L SS Wire	146.7 - 148.8	0.01	#0/30	--	--
IRZ-23	Extraction	7615826.01	2102535.62	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	--	--	--	--
IRZ-15	Injection	7615772.94	2103152.1	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.025	#2/16	--	--
IRZ-16	Injection	7615823.34	2103042.34	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.02	#1	--	--
IRZ-17	Injection	7615870.94	2103001.18	Dual Rotary	10	SDR17 PVC	316L SS Wire	25.5 - 26.9	0.50	#8	--	--
IRZ-18	Injection	7615808.45	2102885.15	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30	--	--
IRZ-20	Injection	7615813.89	2102761.96	Dual Rotary	10	SDR17 PVC	316L SS Wire	34.5 - 37.2	0.02	#1	--	--
IRZ-21	Injection	7615817.31	2102689.08	Dual Rotary	10	SDR17 PVC	316L SS Wire	35.2 - 36.7	0.025	#2/16	--	--
IRZ-25	Injection	7615824.68	2102414.88	Dual Rotary	10	SDR17 PVC	316L SS Wire	31.1 - 35.1	0.01	#0/30	69 - 74	0.03
IRZ-27	Injection	7615803.46	2102237.25	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30	69.1 - 72.9	0.02
IRZ-29	Injection	7615788.78	2102085.65	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30	--	--
IRZ-31	Injection	7615789.12	2101940.52	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30	--	--
IRZ-33	Injection	7615828.03	2101792.54	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30	--	--
IRZ-35	Injection	7615918.00	2101643.44	Dual Rotary	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30	--	--
IRZ-37	Injection	7616004.52	2101556.06	Dual Rotary	8	SDR17 PVC	316L SS Wire	--	0.01	#0/60	--	--
IRZ-39	Injection	7616112.16	2101376.07	Dual Rotary	8	SDR17 PVC	316L SS Wire	--	0.008	#0/60	--	--

Notes:

a. At triple-screened wells IRZ-25 and IRZ-27, well intervals can only be packed off to operate as two discrete intervals (e.g., by combining the upper and middle screens, by combining the middle and lower screens).

b. At IRZ-33, the dual screens were separated by only filter pack and no bentonite.

Abbreviations:

-- = not applicable
bgs = below ground surface
NAD83 = North American Datum of 1983

Table 3.2
Remedy Well Construction Details
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Well Type	Easting (NAD83)	Northing (NAD83)	Drilling Method	Upper Middle Sand Pack Material	Lower Bentonite Seal Depth (range; feet bgs)	Lower Well Screen Slot Size (inches)	Lower Sand Pack Material
IRZ-9	Extraction	7615565.51	2103560.78	Dual Rotary	--	--	--	--
IRZ-13S	Extraction	7615711.28	2103302.8	Dual Rotary	--	--	--	--
IRZ-13D	Extraction	7615707.68	2103310.2	Dual Rotary	--	--	--	--
IRZ-23	Extraction	7615826.01	2102535.62	Dual Rotary	--	66.5 - 68.6	0.01	#0/30
IRZ-15	Injection	7615772.94	2103152.1	Dual Rotary	--	59.8 - 140.9	0.030	#2/12
IRZ-16	Injection	7615823.34	2103042.34	Dual Rotary	--	59.0 - 146.0	0.015	#1/20
IRZ-17	Injection	7615870.94	2103001.18	Dual Rotary	--	61.3 - 128.2	0.015	#1/20
IRZ-18	Injection	7615808.45	2102885.15	Dual Rotary	--	63.9 - 133.8	0.018	#1/20
IRZ-20	Injection	7615813.89	2102761.96	Dual Rotary	--	75.4 - 125.6	0.02	#1
IRZ-21	Injection	7615817.31	2102689.08	Dual Rotary	--	70.2 - 132.1	0.015	#1/20
IRZ-25	Injection	7615824.68	2102414.88	Dual Rotary	#3	103.8 - 126	0.01	#0/30
IRZ-27	Injection	7615803.46	2102237.25	Dual Rotary	#2/16	104 - 108.3	0.008	#0/60
IRZ-29	Injection	7615788.78	2102085.65	Dual Rotary	--	80.4 - 85.9	0.01	#0/30
IRZ-31	Injection	7615789.12	2101940.52	Dual Rotary	--	79.9 - 85.5	0.008	#0/60
IRZ-33	Injection	7615828.03	2101792.54	Dual Rotary	--	--	0.01	#0/30
IRZ-35	Injection	7615918.00	2101643.44	Dual Rotary	--	--	--	--
IRZ-37	Injection	7616004.52	2101556.06	Dual Rotary	--	--	--	--
IRZ-39	Injection	7616112.16	2101376.07	Dual Rotary	--	--	--	--

Notes:

a. At triple-screened wells IRZ-25 and IRZ-27, well intervals can only be packed off to operate as two discrete intervals (e.g., by combining the upper and middle screens, by combining the middle and lower screens).

b. At IRZ-33, the dual screens were separated by only filter pack and no bentonite.

Abbreviations:

-- = not applicable
bgs = below ground surface
NAD83 = North American Datum of 1983

Table 3.3
Monitoring Well Construction Details
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
C-BNS	SW	--	--	--	--	--	--	--	--	--	--	--
C-CON	SW	--	--	--	--	--	--	--	--	--	--	--
C-I-3	SW	--	--	--	--	--	--	--	--	--	--	--
C-MAR	SW	--	--	--	--	--	--	--	--	--	--	--
C-NR1	SW	--	--	--	--	--	--	--	--	--	--	--
C-NR3	SW	--	--	--	--	--	--	--	--	--	--	--
C-NR4	SW	--	--	--	--	--	--	--	--	--	--	--
C-R22A	SW	--	--	--	--	--	--	--	--	--	--	--
C-R27	SW	--	--	--	--	--	--	--	--	--	--	--
C-TAZ	SW	--	--	--	--	--	--	--	--	--	--	--
R-19	SW	--	--	--	--	--	--	--	--	--	--	--
R-28	SW	--	--	--	--	--	--	--	--	--	--	--
R63	SW	--	--	--	--	--	--	--	--	--	--	--
RRB	SW	--	--	--	--	--	--	--	--	--	--	--
SW1	SW	--	--	--	--	--	--	--	--	--	--	--
SW2	SW	--	--	--	--	--	--	--	--	--	--	--
TW-01	EW	X	X	X	--	--	--	620.55	271.0	169.0	269.0	5
TW-02D	EW	--	--	X	X	--	--	493.29	150.0	113.0	148.0	6
TW-02S	EW	X	X	--	--	--	--	499.05	97.5	42.5	92.5	6
TW-03D	EW	--	--	X	X	--	--	498.09	156.0	111.0	156.0	8
TW-04	EW	--	--	--	--	X	Layer 6	484.11	255.0	210.0	250.0	4
TW-05	EW	--	--	X	X	--	--	496.30	155.0	110.0	150.0	4
CW-01D	MW	--	--	--	X	X	--	566.46	300.2	250.0	300.0	2
CW-01M	MW	--	X	X	--	--	--	566.07	190.0	140.0	190.0	2
CW-02D	MW	--	--	--	--	X	Layer 6	549.43	355.0	285.0	335.0	2
CW-02M	MW	--	--	X	X	--	--	549.45	208.3	152.0	202.0	2
CW-03D	MW	--	--	--	--	X	Layer 6	534.14	340.0	270.0	320.0	2
CW-03M	MW	--	--	X	X	--	--	534.10	222.0	172.0	222.0	2
CW-04D	MW	--	--	--	--	X	Layer 6	518.55	303.0	233.0	283.0	2
CW-04M	MW	--	--	X	X	--	--	518.55	169.8	119.5	169.5	2
HNWR-1A	MW	--	X	X	X	--	--	467.69	400.0	63.0	133.0	--
MW-09	MW	X	--	--	--	--	--	536.56	89.4	77.0	87.0	4
MW-10	MW	X	--	--	--	--	--	530.65	96.9	74.0	94.0	4
MW-10D	MW	--	X	--	--	--	--	531.54	125.5	108.1	123.1	2
MW-11	MW	X	--	--	--	--	--	522.61	86.1	62.5	82.5	4
MW-11D	MW	--	X	X	--	--	--	522.59	132.4	110.0	130.0	2
MW-12	MW	X	--	--	--	--	--	484.01	50.4	27.5	47.5	4
MW-13	MW	X	--	--	--	--	--	486.67	52.0	28.5	48.5	4
MW-14	MW	X	--	--	--	--	--	570.99	133.8	111.0	131.0	4
MW-15	MW	X	--	--	--	--	--	641.52	203.0	180.5	200.5	4

Table 3.3
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Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-19	MW	X	--	--	--	--	--	499.92	65.8	46.0	66.0	4
MW-20-070	MW	X	--	--	--	--	--	499.04	69.6	50.0	70.0	4
MW-20-100	MW	--	X	--	--	--	--	498.39	101.4	89.5	99.5	4
MW-20-130	MW	--	--	X	--	--	--	498.57	132.3	121.0	131.0	4
MW-21	MW	X	--	--	--	--	--	505.55	58.5	39.0	59.0	4
MW-22	MW	X	--	--	--	--	--	458.97	12.4	5.5	10.5	2
MW-23-060	MW	X	--	--	--	--	--	504.08	60.2	50.0	60.0	2
MW-23-080	MW	X	X	--	--	--	--	504.13	80.8	75.0	80.0	2
MW-24A	MW	X	--	--	--	--	--	567.16	127.5	104.0	124.0	4
MW-24B	MW	--	--	X	--	--	--	564.76	214.8	193.0	213.0	4
MW-24BR	MW	--	--	--	--	--	Layers 7, 8	563.95	441.0	378.0	437.0	4
MW-25	MW	X	--	--	--	--	--	542.90	106.5	84.5	104.5	4
MW-26	MW	X	--	--	--	--	--	502.22	70.1	51.5	71.5	2
MW-27-020	MW	X	--	--	--	--	--	460.56	14.4	7.0	17.0	2
MW-27-060	MW	--	X	--	--	--	--	461.38	59.0	47.3	57.3	2
MW-27-085	MW	--	--	X	--	--	--	460.99	92.0	77.5	87.5	2
MW-28-025	MW	X	--	--	--	--	--	466.77	21.1	13.0	23.0	2
MW-28-090	MW	--	--	X	--	--	--	467.53	98.4	70.0	90.0	2
MW-29	MW	X	--	--	--	--	--	485.21	41.5	29.5	39.5	2
MW-30-030	MW	X	--	--	--	--	--	468.12	26.9	12.0	32.0	2
MW-30-050	MW	X	X	--	--	--	--	468.81	52.6	40.0	50.0	4
MW-31-060	MW	X	--	--	--	--	--	496.81	64.0	41.5	61.5	4
MW-31-135	MW	--	--	X	--	--	--	495.33	135.5	113.0	133.0	2
MW-32-020	MW	X	--	--	--	--	--	461.51	19.6	10.0	20.0	2
MW-32-035	MW	X	--	--	--	--	--	461.63	37.2	27.5	35.0	4
MW-33-040	MW	X	--	--	--	--	--	487.38	41.8	29.0	39.0	2
MW-33-090	MW	--	X	X	--	--	--	487.55	88.3	69.0	89.0	4
MW-33-150	MW	--	--	X	X	--	--	487.77	155.4	132.0	152.0	2
MW-33-210	MW	--	--	--	--	X	--	487.25	223.0	190.0	210.0	2
MW-34-055	MW	--	X	--	--	--	--	460.95	56.6	45.0	55.0	4
MW-34-080	MW	--	--	X	--	--	--	461.20	84.3	73.0	83.0	4
MW-34-100	MW	--	--	X	--	--	--	460.97	117.0	89.5	99.5	2
MW-35-060	MW	X	X	--	--	--	--	482.06	56.8	41.0	61.0	2
MW-35-135	MW	--	--	X	X	--	--	481.72	158.7	116.0	136.0	2
MW-36-020	MW	X	--	--	--	--	--	469.33	20.3	10.0	20.0	1
MW-36-040	MW	X	--	--	--	--	--	469.59	40.3	30.0	40.0	1
MW-36-050	MW	--	X	--	--	--	--	469.62	108.0	46.0	51.0	1
MW-36-070	MW	--	X	X	--	--	--	469.27	70.3	60.0	70.0	1
MW-36-090	MW	--	--	X	--	--	--	469.64	90.3	80.0	90.0	1
MW-36-100	MW	--	--	X	--	--	--	469.65	108.0	88.0	98.0	2

Table 3.3
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Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-37D	MW	--	--	--	X	X	--	486.19	226.7	180.0	200.0	2
MW-37S	MW	--	X	--	--	--	--	485.97	85.0	64.0	84.0	2
MW-38D	MW	--	--	X	X	--	--	525.31	190.9	163.0	183.0	2
MW-38S	MW	X	--	--	--	--	--	525.51	98.1	75.0	95.0	2
MW-39-040	MW	X	--	--	--	--	--	468.02	42.1	30.0	40.0	1
MW-39-050	MW	--	X	--	--	--	--	467.93	54.6	47.0	52.0	1
MW-39-060	MW	--	X	--	--	--	--	468.00	66.3	49.0	59.0	1
MW-39-070	MW	--	X	X	--	--	--	468.02	71.7	60.0	70.0	1
MW-39-080	MW	--	--	X	--	--	--	467.92	82.6	70.0	80.0	1
MW-39-100	MW	--	--	X	--	--	--	468.01	117.7	80.0	100.0	2
MW-40D	MW	--	--	--	X	--	--	566.08	266.0	240.0	260.0	2
MW-40S	MW	X	--	--	--	--	--	566.04	134.0	115.0	135.0	2
MW-41D	MW	--	--	--	--	--	Layer 6	479.42	311.5	271.0	291.0	2
MW-41M	MW	--	--	--	X	X	--	479.84	190.0	170.0	190.0	2
MW-41S	MW	X	X	--	--	--	--	480.07	60.0	40.0	60.0	2
MW-42-030	MW	X	--	--	--	--	--	463.74	30.1	9.8	29.8	2
MW-42-055	MW	--	X	--	--	--	--	463.85	52.8	42.5	52.5	2
MW-42-065	MW	--	X	X	--	--	--	463.37	80.0	56.2	66.2	2
MW-43-025	MW	X	--	--	--	--	--	462.54	25.0	15.0	25.0	2
MW-43-075	MW	--	--	X	--	--	--	462.71	75.0	65.0	75.0	2
MW-43-090	MW	--	--	X	--	--	--	462.76	97.0	80.0	90.0	2
MW-44-070	MW	--	X	--	--	--	--	471.90	70.0	61.0	71.0	2
MW-44-115	MW	--	--	X	--	--	--	472.01	113.5	105.0	115.0	2
MW-44-125	MW	--	--	X	X	--	--	472.04	128.8	116.0	125.0	2
MW-45-095a	MW	--	--	X	--	--	--	468.27	97.0	83.0	93.0	2
MW-46-175	MW	--	--	--	X	--	--	482.16	175.5	165.0	175.0	2
MW-46-205	MW	--	--	--	--	X	--	482.23	206.5	196.5	206.5	2
MW-47-055	MW	X	--	--	--	--	--	483.89	55.0	45.0	55.0	2
MW-47-115	MW	--	--	X	--	--	--	484.10	115.0	105.0	115.0	2
MW-48	MW	--	--	X	--	--	--	486.22	138.0	124.0	134.0	2
MW-49-135	MW	--	--	X	--	--	--	484.02	135.0	125.0	135.0	1.5
MW-49-275	MW	--	--	--	--	--	Layer 6	483.95	274.7	255.0	275.0	2
MW-49-365	MW	--	--	--	--	--	Layer 8	484.01	367.4	346.0	366.0	2
MW-50-095	MW	--	X	--	--	--	--	496.49	95.0	85.0	95.0	2
MW-50-200	MW	--	--	--	X	X	--	496.35	204.5	190.0	200.0	2
MW-51	MW	--	X	X	--	--	--	501.56	113.3	97.0	112.0	4
MW-52D	MW	--	--	X	--	--	--	462.16	89.5	85.0	87.0	0.75
MW-52M	MW	--	--	X	--	--	--	462.16	70.5	66.0	68.0	0.75
MW-52S	MW	--	X	--	--	--	--	462.16	51.5	47.0	49.0	0.75
MW-53D	MW	--	--	--	X	--	--	461.32	125.0	123.5	125.0	0.75

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Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-53M	MW	--	--	X	--	--	--	461.32	125.0	98.5	100.0	0.75
MW-53S	MW	X	--	--	--	--	--	461.32	125.0	28.5	30.0	0.75
MW-54-085	MW	--	--	X	--	--	--	466.10	93.2	77.0	87.0	2
MW-54-140	MW	--	--	--	X	--	--	465.98	138.0	128.0	138.0	2
MW-54-195	MW	--	--	--	--	X	--	466.32	195.0	185.0	195.0	2
MW-55-045	MW	X	X	--	--	--	--	465.66	54.1	37.0	47.0	2
MW-55-120	MW	--	--	X	X	--	--	465.46	120.3	108.0	118.0	2
MW-56D	MW	--	--	X	--	--	--	461.36	105.5	103.5	105.5	0.75
MW-56M	MW	--	--	X	--	--	--	461.36	105.5	73.5	75.5	0.75
MW-56S	MW	X	--	--	--	--	--	461.36	105.5	33.5	35.5	0.75
MW-57-050	MW	X	--	--	--	--	--	508.76	50.0	40.0	50.0	2
MW-57-070	MW	X	--	--	--	--	--	509.37	70.0	55.0	70.0	2
MW-57-185	MW	X	X	X	X	--	--	508.97	184.7	70.0	184.0	4
MW-58-065	MW	X	--	--	--	--	--	523.26	66.0	54.0	64.0	2
MW-58-115	MW	X	X	--	--	--	--	524.44	115.0	95.0	115.0	0
MW-58-205	MW	--	--	X	X	--	--	524.42	206.0	160.0	206.0	0
MW-59-100	MW	X	--	--	--	--	--	541.61	101.0	86.0	101.0	2
MW-60-125	MW	X	--	--	--	--	--	555.47	122.5	103.0	123.0	2
MW-61-110	MW	X	--	--	--	--	--	544.03	112.5	92.0	112.0	2
MW-62-065	MW	X	--	--	--	--	--	503.56	67.4	44.5	64.5	2
MW-62-110	MW	--	X	X	--	--	--	504.05	110.0	85.0	110.0	0
MW-62-190	MW	--	--	--	X	--	--	504.05	190.0	155.0	192.0	0
MW-63-065	MW	X	--	--	--	--	--	504.42	65.6	46.0	66.0	2
MW-64-150	MW	X	--	--	--	--	--	575.90	150.0	120.0	150.0	0
MW-64-205	MW	--	--	X	--	--	--	575.92	205.0	175.0	205.0	0
MW-64-260	MW	--	--	--	X	--	--	575.90	260.0	230.0	260.0	0
MW-65-160	MW	X	--	--	--	--	--	596.59	160.1	150.0	160.0	2
MW-65-225	MW	--	--	X	--	--	--	596.58	225.1	215.0	225.0	2
MW-66-165	MW	X	X	--	--	--	--	586.16	162.1	142.0	162.0	2
MW-66-230	MW	--	--	X	--	--	--	586.22	228.1	218.0	228.0	2
MW-67-185	MW	X	--	--	--	--	--	625.91	186.7	177.0	187.0	2
MW-67-225	MW	--	X	--	--	--	--	625.83	225.0	210.0	225.0	2
MW-67-260	MW	--	--	X	--	--	--	625.81	260.0	250.0	260.0	2
MW-68-180	MW	X	--	--	--	--	--	621.17	180.1	165.0	180.0	2
MW-68-240	MW	--	X	X	--	--	--	621.17	240.1	220.0	240.0	2
MW-69-195	MW	X	--	--	--	--	--	631.36	195.5	176.0	196.0	2
MW-70-105	MW	X	--	--	--	--	--	541.47	107.8	85.0	105.0	2
MW-70BR-287	MW	--	--	--	--	X	--	538.28	287.0	240.0	287.0	5.5
MW-71-035	MW	X	--	--	--	--	--	483.69	36.2	26.0	36.0	2
MW-72-080	MW	X	--	--	--	--	--	513.32	80.1	60.0	80.0	2

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Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-73-080	MW	X	--	--	--	--	--	505.84	79.9	60.2	80.2	2
MW-74-240	MW	X	--	--	--	--	--	672.34	239.7	220.0	240.0	2
MW-75-033	MW	X	--	--	--	--	--	473.31	35.4	18.0	33.0	2
MW-75-117	MW	--	--	X	--	--	--	473.37	119.3	97.0	117.0	2
MW-75-202	MW	--	--	--	--	X	--	473.01	204.0	182.0	202.0	2
MW-75-267	MW	--	--	--	--	--	Layer 6	472.88	269.3	247.0	267.0	2
MW-75-337	MW	--	--	--	--	--	Layers 7, 8	473.79	339.3	317.0	337.0	2
MW-76-039	MW	X	--	--	--	--	--	481.24	39.5	24.0	39.0	2
MW-76-156	MW	--	--	--	X	--	--	481.35	158.3	136.0	156.0	2
MW-76-181	MW	--	--	--	X	--	--	481.43	183.3	171.0	181.0	2
MW-76-218	MW	--	--	--	--	X	--	481.36	220.3	198.0	218.0	2
MW-77-046	MW	X	--	--	--	--	--	478.81	48.3	26.0	46.0	2
MW-77-102	MW	--	--	X	--	--	--	478.65	104.3	82.0	102.0	2
MW-77-158	MW	--	--	--	X	--	--	478.70	160.4	137.9	158.0	2
MW-77-187	MW	--	--	--	X	--	--	478.67	189.4	167.0	187.1	2
MW-78-070	MW	X	--	--	--	--	--	500.97	72.3	50.0	70.0	2
MW-78-142	MW	--	--	X	--	--	--	500.88	142.3	122.0	142.0	2
MW-79-058	MW	X	--	--	--	--	--	501.21	60.5	48.0	58.0	2
MW-79-102	MW	--	X	--	--	--	--	501.09	104.5	92.0	102.0	2
MW-80-057	MW	X	--	--	--	--	--	503.80	59.9	47.4	57.4	2
MW-80-082	MW	X	--	--	--	--	--	503.74	84.5	67.0	82.0	2
MW-81-043	MW	X	--	--	--	--	--	478.02	45.1	22.8	42.8	2
MW-81-098	MW	--	--	X	--	--	--	477.91	100.3	78.0	98.0	2
MW-82-046	MW	X	--	--	--	--	--	484.46	48.3	26.0	46.0	2
MW-82-112	MW	--	--	X	--	--	--	484.36	114.3	92.0	112.0	2
MW-82-168	MW	--	--	--	X	--	--	483.75	170.3	148.0	168.0	2
MW-82-198	MW	--	--	--	X	X	--	483.66	200.3	178.0	198.0	2
MW-83-090	MW	X	--	--	--	--	--	529.24	92.3	70.0	90.0	2
MW-83-180	MW	--	--	X	X	--	--	529.13	182.0	160.0	180.0	2
MW-83-225	MW	--	--	--	X	--	--	529.80	227.4	205.0	225.0	2
MW-83-245	MW	--	--	--	--	X	--	529.65	257.4	235.0	245.0	2
MW-84-057	MW	X	--	--	--	--	--	500.70	59.4	42.0	57.0	2
MW-84-095	MW	X	X	--	--	--	--	500.64	97.4	75.0	95.0	2
MW-84-132	MW	--	--	X	--	--	--	501.26	134.4	112.0	132.0	2
MW-84-193	MW	--	--	--	X	--	--	501.18	195.5	173.2	193.2	2
MW-85-129	MW	X	--	--	--	--	--	569.93	131.3	113.8	129.0	2
MW-85-217	MW	--	--	X	--	--	--	569.36	219.0	196.7	216.7	2
MW-85-237	MW	--	--	--	X	--	--	569.50	239.0	226.7	236.7	2
MW-86-030	MW	X	--	--	--	--	--	468.02	32.3	10.0	30.0	2
MW-86-066	MW	--	X	--	--	--	--	467.91	68.3	46.0	66.0	2

Table 3.3
Monitoring Well Construction Details
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-86-120	MW	--	--	X	X	--	--	468.33	122.3	100.0	120.0	2
MW-86-140	MW	--	--	--	X	--	--	468.18	142.3	130.0	140.0	2
MW-87-109	MW	X	--	--	--	--	--	546.94	111.3	89.0	109.0	2
MW-87-139	MW	X	X	--	--	--	--	546.94	141.4	119.0	139.0	2
MW-87-192	MW	--	--	X	--	--	--	547.26	194.3	172.0	192.0	2
MW-87-275	MW	--	--	--	--	X	--	547.11	277.3	255.0	275.0	2
MW-88-107	MW	X	--	--	--	--	--	546.53	109.3	87.0	107.0	2
MW-89-183	MW	--	X	--	--	--	--	587.52	185.6	163.2	183.2	2
MW-89-273	MW	--	--	--	X	--	--	587.66	275.6	253.2	273.2	2
MW-90-031	MW	X	--	--	--	--	--	459.27	33.8	21.5	31.5	2
MW-91-045	MW	X	X	--	--	--	--	465.48	46.5	24.2	44.2	2
MW-91-120	MW	--	--	X	X	--	--	465.37	122.1	99.8	119.8	2
MW-91-170	MW	--	--	--	X	X	--	465.37	173.2	150.8	170.8	2
MW-91-320	MW	--	--	--	--	--	Layers 7, 8	465.28	323.2	300.8	320.8	2
MW-92-037	MW	X	X	--	--	--	--	462.00	39.4	17.0	37.0	2
MW-92-072	MW	--	X	X	--	--	--	461.97	74.4	52.0	72.0	2
MW-92-102	MW	--	--	X	--	--	--	462.38	104.3	82.0	102.0	2
MW-92-122	MW	--	--	X	X	--	--	462.30	124.3	112.0	122.0	2
MW-93-050	MW	X	--	--	--	--	--	486.41	52.3	30.0	50.0	2
MW-93-213	MW	--	--	--	--	X	--	486.33	215.3	193.0	213.0	2
MW-94-030	MW	X	--	--	--	--	--	468.39	32.2	10.0	30.0	2
MW-94-100	MW	--	--	X	--	--	--	468.41	102.3	70.0	100.0	2
MW-95-113	MW	X	--	--	--	--	--	553.64	115.3	93.0	113.0	2
MW-95-157	MW	--	X	X	--	--	--	553.60	159.3	137.0	157.0	2
MW-96-045	MW	X	--	--	--	--	--	483.84	47.3	25.0	45.0	2
MW-96-217	MW	--	--	--	--	X	--	483.61	219.3	197.0	217.0	2
MW-97-042	MW	X	--	--	--	--	--	481.81	42.8	22.3	42.3	2
MW-97-202	MW	--	--	--	--	X	--	481.648	201.8	191.3	201.3	2
MW-98-055	MW	X	--	--	--	--	--	502.12	57.3	39.9	55.0	2
MW-98-077	MW	X	--	--	--	--	--	502.02	79.3	67.0	77.0	2
MW-99-060	MW	X	--	--	--	--	--	500.61	62.3	40.0	60.0	2
MW-99-140	MW	--	--	X	--	--	--	500.55	142.3	120.0	140.0	2
OW-01D	MW	--	--	--	--	X	--	550.37	277.3	257.0	277.0	2
OW-01M	MW	--	--	X	--	--	--	550.36	185.8	165.0	185.0	2
OW-01S	MW	X	--	--	--	--	--	550.21	113.5	83.5	113.5	2
OW-02D	MW	--	--	--	--	--	Layer 6	549.01	340.0	310.0	330.0	2
OW-02M	MW	--	--	X	X	--	--	548.52	210.3	190.0	210.0	2
OW-02S	MW	X	--	--	--	--	--	548.88	103.6	71.0	101.0	2
OW-05D	MW	--	--	--	--	--	Layer 6	552.41	350.0	300.0	320.0	2
OW-05M	MW	--	--	--	X	--	--	551.81	250.3	210.0	250.0	2

Table 3.3
Monitoring Well Construction Details
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
OW-05S	MW	X	--	--	--	--	--	551.83	110.3	70.0	110.0	2
PGE-07BR	MW	--	--	--	--	--	Layer 9	--	300.0	249.0	300.0	7
PGE-08	MW	--	--	--	--	--	Layers 7, 8, 9	596.01	564.0	405.0	554.0	6.75
PT5D	MW	--	--	X	--	--	--	473.49	105.0	95.0	105.0	2
PT5M	MW	--	X	--	--	--	--	473.49	70.0	60.0	70.0	2
PT5S	MW	X	--	--	--	--	--	473.47	45.0	35.0	45.0	2
PT8D	MW	--	--	X	--	--	--	562.03	212.5	190.0	210.0	2
PT9D	MW	--	--	X	X	--	--	559.11	212.5	190.0	210.0	2
PT9M	MW	--	--	X	--	--	--	559.14	187.0	162.0	182.0	2
PT9S	MW	X	X	--	--	--	--	559.27	153.0	128.0	148.0	2
MW-58BR	MWBR	--	--	--	--	--	Layer 9	524.91	206.00	160.00	206.00	--
MW-60BR-245	MWBR	--	X	X	X	--	--	554.95	244.1	136.0	245.0	5
MW-64BR	MWBR	X	X	X	X	--	--	575.60	260.0	2.0	258.0	3
MW-66BR-270	MWBR	--	--	--	X	--	--	586.15	270.6	248.0	271.0	5
MW-68BR-280	MWBR	--	--	X	X	--	--	620.64	278.2	257.0	279.0	5
MW-70BR-225	MWBR	--	--	--	X	--	--	539.84	229.3	120.0	227.0	5
MW-72BR-200	MWBR	--	X	X	X	--	--	513.79	200.0	107.0	200.0	--

Abbreviations:
-- = not available or not applicable
bgs = below ground surface
EW = Extraction Well
ft = feet
ID = identification
MW = Monitoring Well
MWBR = Bedrock Monitoring Well
NAD83 = North American Datum of 1983
NGVD88 = National Geodetic Vertical Datum of 1988
SW = Surface Water
Layer 1 = greater than 425 feet NGVD88
Layer 2 = 400 – 425 feet NGVD88
Layer 3 = 350 – 400 feet NGVD88
Layer 4 = 300 – 350 feet NGVD88
Layer 5 = 250 – 300 feet NGVD88
Layer 6 = 200 – 250 feet NGVD88
Layer 7 = 150 – 200 ft NGVD88
Layer 8 = 100 – 150 ft NGVD88
Layer 9 = -200 – 100 ft NGVD88
Layer 10 = less than -200 ft NGVD88

Table 3.4
Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)
MW-20-070	Dose Response	10/12/2022	N	890	--	0.92	43 J	--	<0.02	<0.0005 J	--	31	--	550	--	<1	--
MW-20-070	Dose Response	11/09/2022	N	1,200	1,200	1.4	42	--	<0.02	<0.0005	<0.44 J	30	<10	580	--	<1	--
MW-20-070	Dose Response	11/09/2022	FD	1,200	1,300	1.2	39	--	<0.02	<0.0005	<0.44 J	32	<5	560	--	<1	--
MW-20-070	Dose Response	12/08/2022	N	850	--	1.2	42	--	<0.02	<0.0005	--	30	--	600	1.5	<1	--
MW-20-100	Dose Response	10/12/2022	N	1,700	--	<0.1	67 J	--	<0.02	<0.0005 J	--	8.2	--	660	--	<1	--
MW-20-100	Dose Response	11/09/2022	N	1,700	1,900	0.55	45	--	<0.02	<0.0005	<0.44 J	8.5	<5	600	--	<10	--
MW-20-100	Dose Response	12/08/2022	N	1,700	--	0.64	31	--	<0.02	<0.0005	--	8.4	--	510	2.2	<1	--
MW-20-130	Dose Response	10/12/2022	N	1,800	--	<0.1	28 J	--	<0.02	0.0040 J	--	7.6	--	1,200	--	<1	--
MW-20-130	Dose Response	11/09/2022	N	3,500	3,600	0.41	54	--	<0.02	0.0078	<0.44 J	14	<5	1,000	--	<1	--
MW-20-130	Dose Response	12/08/2022	N	2,900	--	1.1	24	--	<0.02	<0.0005	--	10	--	910	2.5	<20	--
MW-21	Dose Response	11/15/2022	N	<0.2	2.2	14 J	22 J	--	0.12	0.17	0.48 J	<0.5	<5	1,300	--	<10	--
MW-21	Dose Response	11/15/2022	FD	<0.2	2.3	14 J	23 J	--	0.13	0.17	<0.43 J	<0.5	<5	1,300	--	<1	--
MW-21	Dose Response	12/07/2022	N	0.36	--	10 J	21	--	0.33 J	0.14	--	<0.5	--	1,400	7.1	<1	--
MW-26	Dose Response	10/13/2022	N	7.0	--	<0.1	80 J	--	<0.02 J	0.22	--	<0.5	--	510	2.4 J	2.4	<0.2
MW-26	Dose Response	11/11/2022	N	28	28	<0.1	81 J	--	<0.02	0.14	0.63 J	<0.5	<5	470	--	<1	--
MW-26	Dose Response	12/08/2022	N	14	--	<0.1	74	--	<0.02	0.044	--	<0.5	--	460	1.6	<1	--
MW-31-060	Dose Response	10/12/2022	N	<1	--	<0.1	91 J	--	0.079	0.69 J	--	<0.5	--	520	25	<50	23
MW-31-060	Dose Response	11/09/2022	N	<1	5.5	1.3	160	--	<0.02 J	1.70	0.75 J	<0.5	<5	420	--	<1	--
MW-31-060	Dose Response	11/09/2022	FD	<1	5.3	1.4	160	--	0.060 J	1.70	0.47 J	<0.5	<5	440	--	<1	--
MW-31-060	Dose Response	12/07/2022	N	<1	--	<0.1	220	--	0.063 J	2.50	--	<0.5	--	490	2.0	<1	--
MW-31-135	Dose Response	10/12/2022	N	17	--	<0.1	40 J	--	<0.02	0.0035 J	--	0.79	--	640	--	<1	--
MW-31-135	Dose Response	11/09/2022	N	<1	1.5	<0.1	58	--	0.53	0.16	<0.43 J	<0.5	<5	530	--	<1	--
MW-31-135	Dose Response	12/07/2022	N	<1	--	1.3	35	--	<0.02	0.0055	--	0.70	--	580	1.1	<1	--
MW-51	Dose Response	10/13/2022	N	720	--	1.3 J	91 J	--	0.040 J	0.040 J	--	2.2	--	460	<1 J	<20	<0.2
MW-51	Dose Response	10/13/2022	FD	720	--	3.5 J	84 J	--	0.021 J	0.029 J	--	2.1	--	500	4.6 J	<1	<0.2
MW-51	Dose Response	11/11/2022	N	580	740	1.5	150 J	--	0.023	0.11	0.57 J	1.8	<5	390	--	<1	--
MW-51	Dose Response	12/08/2022	N	280	--	1.6	130	--	0.020 J	0.048	--	1.4	--	300	8.9	1.1	--
MW-51	Dose Response	12/08/2022	FD	290	--	1.7	140	--	0.10 J	0.042	--	1.4	--	300	9.2	1.1	--
MW-71-035	Dose Response	10/12/2022	N	<1	--	<0.1	50 J	--	<0.02	0.12 J	--	0.50	--	1,200	--	<1	--
MW-71-035	Dose Response	11/10/2022	N	<1	<1	<0.1	43	--	0.058	0.35	<0.43 J	<0.5	<5	1,100	--	<1	--
MW-71-035	Dose Response	11/10/2022	FD	<1	<1	<0.1	42	--	0.055	0.32	<0.43 J	0.61	<5	1,100	--	<1	--
MW-71-035	Dose Response	12/07/2022	N	<1	--	<0.1 J	42	--	0.070 J	0.23	--	0.60	--	1,000	5.3	<1	--
MW-71-035	Dose Response	12/07/2022	FD	<1	--	<0.1 J	43	--	0.077 J	0.26	--	0.54	--	1,000	5.4	<1	--
MW-76-039	Dose Response	10/10/2022	N	180	--	<0.1	54	--	<0.02	<0.0005 J	--	3.2	--	220	--	<1	--
MW-76-039	Dose Response	11/07/2022	N	200	200 J	0.42	47 J	--	<0.02	0.0016 J	<0.43 J	3.6	<5	220	--	<10	--
MW-76-039	Dose Response	12/06/2022	N	220	--	0.65	51	--	<0.02	<0.0005 J	--	3.3	--	220	1.7	<1	--
MW-76-156	Dose Response	10/10/2022	N	<1	--	<0.1	98	--	0.24	1.30 J	--	<0.5	--	660	--	<1	--
MW-76-156	Dose Response	11/07/2022	N	18	19 J	<0.1	38 J	--	<0.02	0.016 J	0.44 J	2.3	<5	760	--	<1	--
MW-76-156	Dose Response	12/06/2022	N	17	--	<0.1	37	--	<0.02	0.011 J	--	2.2	--	720	<1	<1	--
MW-76-181	Dose Response	10/10/2022	N	1,100	--	<0.1	56	--	<0.02	0.049 J	--	1.5	--	940	--	<1	--
MW-76-181	Dose Response	11/07/2022	N	720	700 J	<0.1	38 J	--	<0.02	0.024 J	0.44 J	1.7	<5	920	--	<1	--

Table 3.4
Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)
MW-76-181	Dose Response	11/07/2022	FD	760	730 J	<0.1	39 J	--	<0.02	0.026 J	<0.43 J	1.9	<5	920	--	<1	--
MW-76-181	Dose Response	12/06/2022	N	610	--	<0.1	42	--	<0.02	0.029 J	--	1.2	--	820	<1	<50	--
MW-76-181	Dose Response	12/06/2022	FD	610	--	<0.1	42	--	<0.02	0.029 J	--	1.1	--	810	1.6	<1	--
MW-76-218	Dose Response	10/10/2022	N	<1	--	<0.1	78	--	<0.02	0.47 J	--	<0.5	--	650	--	<1	--
MW-76-218	Dose Response	11/07/2022	N	<1	<1 J	<0.1	69 J	--	<0.02	0.43 J	<0.43 J	<0.5	<5	640	--	<1	--
MW-76-218	Dose Response	12/06/2022	N	<1	--	<0.1	82	--	<0.02	0.5 J	--	<0.5	--	620	1.9	<1	--
MW-78-070	Dose Response	10/13/2022	N	14	--	<0.1	160 J	--	<0.02 J	0.62	--	<0.5	--	530	--	<1	--
MW-78-070	Dose Response	11/09/2022	N	9.9	13	<0.1	160	--	<0.02	0.78	<0.43 J	<0.5	<5	510	--	<1	--
MW-78-070	Dose Response	12/07/2022	N	63	--	<0.1	170	--	<0.02	0.17	--	<0.5	--	480	2.2	<1	--
MW-78-142	Dose Response	10/13/2022	N	4,500	--	4.2	30 J	--	<0.02 J	0.0014	--	6.0	--	760	--	<1	--
MW-78-142	Dose Response	11/09/2022	N	2,300	2,600	2.7	24	--	<0.02	0.0012	<0.44 J	4.4	<5	710	--	<1	--
MW-78-142	Dose Response	11/09/2022	FD	2,300	2,500	2.8	24	--	<0.02	0.00097	<0.44 J	4.5	<5	700	--	<1	--
MW-78-142	Dose Response	12/07/2022	N	2,700	--	2.7	30	--	<0.02	0.0033	--	4.5	--	710	1.1	<1	--
MW-79-058	Dose Response	10/13/2022	N	350	--	<0.1	280 J	--	<0.02 J	<0.0005	--	0.73	--	560	--	<1	--
MW-79-058	Dose Response	11/11/2022	N	200	170	<0.1	290 J	--	<0.02	<0.0005	<0.44 J	0.54	<5	540	--	<20	--
MW-79-058	Dose Response	12/08/2022	N	290	--	<0.1	180	--	0.023 J	<0.0005	--	1.1	--	530	<1	<1	--
MW-79-102	Dose Response	10/13/2022	N	170	--	1.0	45 J	--	<0.02 J	0.0030	--	<0.5	--	550	--	<1	--
MW-79-102	Dose Response	11/11/2022	N	330	330	1.9	43 J	--	<0.02	0.0069	<0.44 J	0.53	<5	580	--	<1	--
MW-79-102	Dose Response	11/11/2022	FD	330	360	2.0	44 J	--	<0.02	0.0074	<0.44 J	<0.5	<5	580	--	<1	--
MW-79-102	Dose Response	12/08/2022	N	78	--	1.2	42	--	0.15 J	0.0085	--	<0.5	--	500	<1	<1	--
MW-80-057	Dose Response	10/13/2022	N	640	--	<0.1	83 J	--	<0.02 J	0.010	--	6.3	--	510	--	<1	--
MW-80-057	Dose Response	11/10/2022	N	600	780	0.71	94	--	<0.02	0.0043	<0.43 J	7.5	<5	530	--	<1	--
MW-80-057	Dose Response	12/07/2022	N	690	--	0.65	77	--	<0.02	0.00052	--	7.2	--	500	1.6	<1	--
MW-80-082	Dose Response	10/13/2022	N	20	--	2.5	46 J	--	<0.02 J	0.00097	--	<0.5	--	530	--	<1	--
MW-80-082	Dose Response	10/13/2022	FD	20	--	2.6	44 J	--	<0.02 J	0.00093	--	<0.5	--	540	--	<1	--
MW-80-082	Dose Response	11/10/2022	N	11	12	2.8	46	--	<0.02	0.014	<0.43 J	<0.5	<5	520	--	<1	--
MW-80-082	Dose Response	12/07/2022	N	8.3	--	1.9	56	--	<0.02	0.28	--	<0.5	--	540	1.1	<1	--
TW-02D	Dose Response	10/12/2022	N	100	--	2.3	22 J	--	<0.02	0.0052 J	--	<0.5	--	690	--	<1	--
TW-02D	Dose Response	11/09/2022	N	120	130	6.3	15	--	<0.02	0.027	<0.43 J	<0.5	<5	630	--	<1	--
TW-02D	Dose Response	11/09/2022	FD	120	130	6.3	16	--	0.021	0.028	<0.43 J	0.29 J	<2.5	630	--	<1	--
TW-02D	Dose Response	12/07/2022	N	54	--	6.1 J	14	--	0.038 J	0.0071	--	<0.5	--	640	<1	<1	--
TW-02S	Dose Response	10/12/2022	N	130	--	0.49	160 J	--	<0.02	<0.0005 J	--	1.7	--	300	--	<1	--
TW-02S	Dose Response	11/09/2022	N	120	130	0.62	190	--	<0.02	<0.0005	<0.43 J	1.3 J	<5	370	--	<20	--
TW-02S	Dose Response	12/07/2022	N	140	--	0.62 J	210	--	0.061 J	<0.0005	--	1.1	--	400	<1	<1	--
TW-03D	Dose Response	10/12/2022	N	370	--	3.3	25 J	--	<0.02	0.041 J	--	0.55	--	710	--	<1	--
TW-03D	Dose Response	11/09/2022	N	260	270	4.1	21	--	<0.02	0.053	<0.43 J	<0.5	<5	700	--	<1	--
TW-03D	Dose Response	12/07/2022	N	170	--	4.3 J	21	--	<0.02 J	0.029	--	<0.5	--	630	1.2	<1	--
MW-22	Downgradient	11/16/2022	N	<1	<1	16	130	--	17	3.80 J	--	<0.5	--	--	--	1.3	--
MW-27-020	Downgradient	11/09/2022	N	<0.2	<1	0.75	63	--	<0.02	0.075	--	<0.25	--	--	--	<1	--
MW-27-060	Downgradient	11/09/2022	N	<0.2	<1	7.6	66	--	0.38	0.24	--	<0.25	--	--	--	1.2	--
MW-27-085	Downgradient	11/09/2022	N	<1	<1	<0.1	50	--	0.29	0.30	--	<0.25	--	--	--	<1	--

Table 3.4
Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)
MW-28-025	Downgradient	11/16/2022	N	<0.2	<1	0.54	69	--	<0.02	0.012 J	--	<0.25	--	--	--	<1	--
MW-28-090	Downgradient	11/16/2022	N	<0.2	<1	0.69	32	--	1.30	0.44 J	--	<0.5	--	--	--	<1	--
MW-30-030	Downgradient	11/08/2022	N	<0.2	<1	0.64	310	--	0.57 J	0.17 J	--	<0.25	--	--	--	3.2	--
MW-30-050	Downgradient	10/11/2022	N	<0.2	--	2.5 J	16 J	--	0.027 J	0.37 J	--	<0.25	--	200	--	<1	--
MW-30-050	Downgradient	11/08/2022	N	<0.2	<1	3.0	19	--	0.067 J	0.42 J	--	<0.25	--	200	--	<1	--
MW-30-050	Downgradient	12/06/2022	N	0.76	--	3.6	18	--	0.03	0.36 J	--	<0.25	--	200	--	<1	--
MW-32-020	Downgradient	11/10/2022	N	<1	<5	<0.5	110	--	5.40	0.30	--	<0.5	--	--	--	3.7	--
MW-32-035	Downgradient	11/10/2022	N	<0.2	<1	20	380	--	13	0.83	--	<0.5	--	--	--	1.8	--
MW-34-055	Downgradient	11/09/2022	N	<0.2	<1	3.7	28	--	0.052	0.11	--	<0.25	--	--	--	<1	--
MW-34-080	Downgradient	10/12/2022	N	<1	--	<0.1	39 J	--	0.41	0.15 J	--	<0.5	--	640	--	<1	--
MW-34-080	Downgradient	11/09/2022	N	<1	<1	<0.1	39	--	0.35	0.20	--	<0.5	--	670	--	<1	--
MW-34-080	Downgradient	12/07/2022	N	<0.2	--	<0.1 J	40	--	0.26 J	0.16	--	<0.5	--	680	--	<1	--
MW-34-100	Downgradient	11/09/2022	N	<1	<1	<0.1	20	--	<0.02	0.085	--	<0.25	--	--	--	<1	--
MW-36-020	Downgradient	11/10/2022	N	<0.2	<1	0.56	170	--	3.30	0.45	--	<0.25	--	--	--	1.7	--
MW-36-040	Downgradient	11/10/2022	N	<0.2	<1	6.2	49	--	0.41	0.15	--	<0.25	--	--	--	2.3	--
MW-36-050	Downgradient	11/10/2022	N	<0.2	<1	4.8	26	--	0.20	0.23	--	<0.25	--	--	--	1.2	--
MW-36-070	Downgradient	11/10/2022	N	<0.2	<1	2.2	39	--	0.048	0.32	--	<0.25	--	--	--	<1	--
MW-36-090	Downgradient	10/12/2022	N	<0.2	--	1.3	48 J	--	0.14	0.16 J	--	<0.5	--	290	--	<1	--
MW-36-090	Downgradient	11/10/2022	N	<0.2	<1	2.1	41	--	0.052	0.13	--	<0.5	--	250	--	<1	--
MW-36-090	Downgradient	12/07/2022	N	<0.2	--	2.4	47	--	0.052 J	0.13	--	<0.5	--	240	--	<1	--
MW-36-100	Downgradient	10/12/2022	N	<0.2	--	3.4	61 J	--	0.71	0.59 J	--	<0.5	--	400	--	<1	--
MW-36-100	Downgradient	11/10/2022	N	<0.2	<1	3.9	54	--	0.79	0.51	--	<0.5	--	390	--	<1	--
MW-36-100	Downgradient	12/07/2022	N	<0.2	--	4.5	65	--	0.71 J	0.59	--	<0.5	--	390	--	<1	--
MW-39-040	Downgradient	10/11/2022	N	<0.2	--	14 J	61 J	--	0.22 J	0.10 J	--	<0.25	--	120	--	2.9	--
MW-39-040	Downgradient	11/08/2022	N	<0.2	<1	13	63	--	0.26 J	0.087 J	--	<0.25	--	120	--	3.1	--
MW-39-040	Downgradient	12/06/2022	N	<0.2	--	12	61	--	0.23	0.088 J	--	<0.25	--	120	--	2.8	--
MW-39-050	Downgradient	10/11/2022	N	<0.2	--	1.6 J	42 J	--	<0.02	0.22 J	--	<0.25	--	190	--	<1	--
MW-39-050	Downgradient	11/08/2022	N	<0.2	<1	1.7	46	--	0.034 J	0.27 J	--	<0.25	--	190	--	<1	--
MW-39-050	Downgradient	12/06/2022	N	<0.2	--	1.9	47	--	<0.02	0.25 J	--	<0.25	--	190	--	<1	--
MW-39-050	Downgradient	12/06/2022	FD	<0.2	--	1.9	43	--	<0.02	0.22 J	--	<0.25	--	190	--	<1	--
MW-39-060	Downgradient	10/11/2022	N	<0.2	--	1.5 J	38 J	--	0.032 J	0.25 J	--	<0.5	--	210	--	<1	--
MW-39-060	Downgradient	11/08/2022	N	<0.2	<1	1.5	41	--	0.041 J	0.24 J	--	<0.5	--	220	--	<1	--
MW-39-060	Downgradient	12/06/2022	N	<0.2	--	1.3	43	--	0.23	0.22 J	--	<0.5	--	220	--	<1	--
MW-39-070	Downgradient	10/11/2022	N	<0.2	--	0.97 J	45 J	--	<0.02 J	0.018 J	--	<0.5	--	280	--	<1	--
MW-39-070	Downgradient	10/11/2022	FD	<0.2	--	1.1 J	45 J	--	0.19 J	0.019 J	--	<0.5	--	280	--	<1	--
MW-39-070	Downgradient	11/08/2022	N	<0.2	<1	1.2	47	--	<0.02 J	0.017 J	--	<0.5	--	300	--	<1	--
MW-39-070	Downgradient	12/06/2022	N	<0.2	--	1.2	46	--	<0.02	0.023 J	--	<0.5	--	290	--	<1	--
MW-39-080	Downgradient	10/11/2022	N	13	--	<0.1 J	27 J	--	<0.02	0.0058 J	--	<0.5	--	590	--	<1	--
MW-39-080	Downgradient	11/08/2022	N	23	21	0.69	26	--	<0.02 J	0.0059 J	--	<0.5	--	590	--	<1	--
MW-39-080	Downgradient	12/06/2022	N	1.4	--	1.0	24	--	<0.02	0.0079 J	--	<0.5	--	470	--	<1	--
MW-39-100	Downgradient	10/11/2022	N	310	--	<0.1 J	35 J	--	<0.02	0.012 J	--	<0.5	--	1,000	--	<1	--

Table 3.4
Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)
MW-39-100	Downgradient	11/08/2022	N	260	300	<0.1	30	--	<0.02 J	0.013 J	--	<0.5	--	1,000	--	<1	--
MW-39-100	Downgradient	12/06/2022	N	270	--	<0.1	31	--	<0.02 J	0.012	--	<0.5	--	940	--	<1	--
MW-42-030	Downgradient	11/10/2022	N	<0.2	<1	1.6	130	--	0.59	0.11	--	<0.25	--	--	--	2.0	--
MW-42-055	Downgradient	11/10/2022	N	<0.2	<1	12	150	--	0.21	0.24	--	<0.25	--	--	--	<1	--
MW-42-065	Downgradient	11/10/2022	N	<0.2	<1	4.0	140	--	0.81	2.70	--	<0.25	--	--	--	<1	--
MW-43-025	Downgradient	11/17/2022	N	<0.2	<1	32	83	--	5.20	0.44	--	<0.5	--	--	--	1.9	--
MW-43-075	Downgradient	11/17/2022	N	<1	<1	8.5 J	55	--	3.0 J	0.6 J	--	<0.5	--	--	--	<1	--
MW-43-090	Downgradient	11/17/2022	N	<0.2	<1	<0.1 J	52	--	0.94 J	0.69 J	--	<0.5	--	--	--	<1	--
MW-44-070	Downgradient	11/08/2022	N	<0.2	<1	3.2	38	--	0.89 J	0.32 J	--	<0.5	--	--	--	<1	--
MW-44-115	Downgradient	10/11/2022	N	1.1	--	1.5 J	21 J	--	<0.02	0.017 J	--	<0.5	--	1,000	--	<1	--
MW-44-115	Downgradient	11/08/2022	N	1.0	1.5	2.0	19	--	<0.02 J	0.022 J	--	<0.5	--	1,100	--	<1	--
MW-44-115	Downgradient	12/06/2022	N	1.8	--	1.9	20	--	<0.02	0.013 J	--	<0.5	--	1,000	--	<1	--
MW-44-115	Downgradient	12/06/2022	FD	1.7	--	1.7	20	--	<0.02	0.013 J	--	<0.5	--	1,000	--	<1	--
MW-44-125	Downgradient	10/11/2022	N	<1	--	1.7 J	48 J	--	0.4 J	0.55 J	--	<0.5	--	1,100	--	<1	--
MW-44-125	Downgradient	11/08/2022	N	<1	<1	2.5	44	--	0.37 J	0.53 J	--	<0.5	--	1,200	--	<1	--
MW-44-125	Downgradient	12/06/2022	N	<1	--	2.1	45	--	0.37	0.59 J	--	<0.5	--	1,100	--	<1	--
MW-45-095A	Downgradient	10/12/2022	N	<1	--	<0.1	31 J	--	<0.02	0.36 J	--	<0.5	--	430	--	<1	--
MW-45-095A	Downgradient	11/09/2022	N	<1	<1	0.94	34	--	<0.02	0.41	--	<0.5	--	400	--	<1	--
MW-45-095A	Downgradient	12/07/2022	N	<0.2	--	1.1 J	42	--	0.045 J	0.53	--	<0.5	--	360	--	<1	--
MW-46-175	Downgradient	11/17/2022	N	8.7	8.1	<0.1	26	--	<0.02	0.013	--	0.97	--	--	--	<1	--
MW-46-205	Downgradient	11/17/2022	N	<1	<1	<0.1	32	--	<0.02	0.049	--	0.83	--	--	--	<1	--
MW-52D	Downgradient	11/17/2022	N	<1	<1	<0.1 J	34	--	0.69 J	0.25 J	--	<0.5	--	--	--	<1	--
MW-52M	Downgradient	11/17/2022	N	<1	<1	<0.1 J	58	--	1.10 J	0.18 J	--	<0.5	--	--	--	<1	--
MW-52S	Downgradient	11/17/2022	N	<1	<1	<0.1 J	400	--	19 J	1.10 J	--	<0.5	--	--	--	2.1	--
MW-53D	Downgradient	11/17/2022	N	<1	<1	<0.1 J	44	--	0.18 J	0.65 J	--	<0.5	--	--	--	<1	--
MW-53M	Downgradient	11/17/2022	N	<1	<1	<0.1 J	71	--	1.10 J	0.59 J	--	<0.5	--	--	--	<20	--
MW-53S	Downgradient	11/17/2022	N	<0.2	<1	<0.1 J	210	--	5.10 J	1.10 J	--	<0.5	--	--	--	1.3	--
MW-77-046	Downgradient	10/10/2022	N	<0.2	--	2.5	56	--	<0.02	0.6 J	--	<0.5	--	420	--	<1	--
MW-77-046	Downgradient	11/07/2022	N	<1	<1 J	3.1	60 J	--	<0.02	0.5 J	--	<0.5	--	510	--	<1	--
MW-77-046	Downgradient	12/05/2022	N	<0.2	--	5.6 J	97	--	0.034	0.67	--	<0.5	--	990	--	<1	--
MW-77-102	Downgradient	10/10/2022	N	<1	--	<0.1	56	--	<0.02	0.10 J	--	1.1	--	710	--	<1	--
MW-77-102	Downgradient	11/07/2022	N	<1	1.1 J	<0.1	64 J	--	<0.02	0.12 J	--	1.2	--	770	--	<1	--
MW-77-102	Downgradient	12/05/2022	N	<1	--	R	75	--	<0.02	0.12	--	0.89 J	--	680	--	<1	--
MW-77-158	Downgradient	10/10/2022	N	<0.2	--	0.65	30	--	0.023	0.027 J	--	<0.5	--	550	--	<1	--
MW-77-158	Downgradient	11/07/2022	N	<1	<1 J	1.6	30 J	--	0.026	0.028 J	--	<0.5	--	540	--	<1	--
MW-77-158	Downgradient	12/05/2022	N	<1	--	2.3 J	30	--	0.033	0.028	--	<0.5	--	470	--	<1	--
MW-77-187	Downgradient	10/10/2022	N	33	--	2.2	24	--	<0.02	0.009 J	--	0.57	--	740	--	<1	--
MW-77-187	Downgradient	11/07/2022	N	6.1	19 J	3.9	22 J	--	<0.02	0.013 J	--	<0.5	--	640	--	<1	--
MW-77-187	Downgradient	11/07/2022	FD	6.2	20 J	4.1	22 J	--	<0.02	0.013 J	--	<0.5	--	630	--	<1	--
MW-77-187	Downgradient	12/05/2022	N	10	--	5.0 J	22	--	<0.02	0.015	--	<0.5	--	580	--	<1	--
MW-81-043	Downgradient	10/11/2022	N	13	--	3.3 J	76 J	--	0.046 J	0.041 J	--	1.3	--	300	--	<1	--

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Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)
MW-81-043	Downgradient	11/08/2022	N	14	15	4.6	72	--	0.056 J	0.049 J	--	1.7 J	--	290	--	<1	--
MW-81-043	Downgradient	12/06/2022	N	17	--	5.0	81	--	0.029	0.048 J	--	1.2	--	300	--	<1	--
MW-81-098	Downgradient	10/11/2022	N	1.5	--	<0.1 J	59 J	--	0.043 J	0.16 J	--	0.81	--	740	--	<1	--
MW-81-098	Downgradient	11/08/2022	N	1.7	2.7	<0.1	58	--	0.027 J	0.14 J	--	1.1 J	--	730	--	<1	--
MW-81-098	Downgradient	12/06/2022	N	3.6	--	<0.1	56	--	<0.02	0.13 J	--	0.81	--	720	--	<1	--
MW-82-046	Downgradient	10/11/2022	N	<1	--	21 J	59 J	--	6.10 J	0.24 J	--	<0.5	--	1,500	--	1.9	--
MW-82-046	Downgradient	11/08/2022	N	<1	<1	20	55	--	6.30 J	0.26 J	--	<0.5	--	1,600	--	2.0	--
MW-82-046	Downgradient	12/05/2022	N	<1	--	17 J	55	--	5.40	0.24	--	<0.5	--	1,600	--	<20	--
MW-82-046	Downgradient	12/05/2022	FD	<1	--	19 J	60	--	5.70	0.26	--	<0.5	--	1,600	--	1.6	--
MW-82-112	Downgradient	10/11/2022	N	<1	--	<0.1 J	59 J	--	<0.02	0.15 J	--	1.0	--	740	--	<1	--
MW-82-112	Downgradient	10/11/2022	FD	<1	--	<0.1 J	61 J	--	<0.02	0.15 J	--	1.1	--	730	--	<1	--
MW-82-112	Downgradient	11/08/2022	N	<1	<1	<0.1	59	--	<0.02 J	0.19 J	--	1.8 J	--	740	--	<20	--
MW-82-112	Downgradient	12/05/2022	N	<1	--	R	63	--	<0.02	0.18	--	1.1 J	--	740	--	<1	--
MW-82-168	Downgradient	10/11/2022	N	<1	--	<0.1 J	35 J	--	0.049 J	0.038 J	--	<0.5	--	560	--	<1	--
MW-82-168	Downgradient	10/11/2022	FD	<1	--	<0.1 J	31 J	--	0.043 J	0.033 J	--	<0.5	--	540	--	<1	--
MW-82-168	Downgradient	11/08/2022	N	<1	<1	1.2	33	--	0.043 J	0.038 J	--	<0.5	--	540	--	<1	--
MW-82-168	Downgradient	11/08/2022	FD	<1	<1	1.3	34	--	0.042 J	0.039 J	--	<0.5	--	520	--	<1	--
MW-82-168	Downgradient	12/05/2022	N	<0.2	--	1.0 J	30	--	0.048	0.037	--	<0.5	--	500	--	<1	--
MW-82-198	Downgradient	10/11/2022	N	2.6	--	<0.1 J	36 J	--	0.020 J	0.067 J	--	1.2	--	890	--	<1	--
MW-82-198	Downgradient	11/08/2022	N	1.6	1.7	0.96	32	--	<0.02 J	0.074 J	--	<0.5	--	680	--	<1	--
MW-82-198	Downgradient	12/05/2022	N	<1	--	1.5 J	34	--	0.053	0.063	--	<0.5	--	690	--	<1	--
MW-86-030	Downgradient	11/16/2022	N	<0.2	<1	5.0	90	--	0.12	0.26 J	--	<0.25	--	--	--	2.5	--
MW-86-066	Downgradient	11/16/2022	N	<0.2	<1	<0.1	80	--	<0.02	0.56 J	--	0.76	--	--	--	<1	--
MW-86-120	Downgradient	11/16/2022	N	<1	<1	<0.1	40	--	<0.02	0.49 J	--	<0.5	--	--	--	<20	--
MW-86-140	Downgradient	11/16/2022	N	<1	<1	<0.1	70	--	0.18	0.96 J	--	<0.5	--	--	--	<1	--
MW-90-031	Downgradient	11/16/2022	N	<1	<1	1.2	140	--	7.70	0.42 J	--	<0.5	--	--	--	2.1	--
PT5D	Downgradient	11/16/2022	N	40	39	2.5	34	--	0.022	0.022 J	--	1.0 J	--	--	--	<1	--
PT5M	Downgradient	11/16/2022	N	<0.2	<1	0.95	52	--	0.035	0.64 J	--	<0.5	--	--	--	<1	--
PT5S	Downgradient	11/16/2022	N	<0.2	<1	13	92	--	0.97	0.22 J	--	<0.25	--	--	--	2.5	--
IRZ-09-100	Extraction Wells	10/11/2022	N	17	--	--	--	<0.02	<0.02	0.00094 J	--	1.6	--	480	--	<1	--
IRZ-09-100	Extraction Wells	11/15/2022	N	17	--	--	--	<0.02	<0.02	0.0017	--	1.7	--	430	--	<1	--
IRZ-13D-210	Extraction Wells	10/11/2022	N	410	--	--	--	<0.02	<0.02	<0.0005 J	--	1.8	--	910	--	<1	--
IRZ-13D-210	Extraction Wells	11/15/2022	N	410	--	--	--	0.035	<0.02	0.00099	--	1.9	--	860	--	<1	--
IRZ-13D-210	Extraction Wells	12/06/2022	N	380	--	--	--	<0.02	<0.02	<0.0005 J	--	1.5	--	900	1.2	<1	--
IRZ-13D-210	Extraction Wells	12/16/2022	N	360	410	--	--	0.022 J	<0.02	<0.0005	--	1.7 J	<5	900	--	<50	--
IRZ-13S-095	Extraction Wells	10/11/2022	N	29	--	--	--	<0.02	<0.02	<0.0005 J	--	1.8	--	460	--	<1	--
IRZ-13S-095	Extraction Wells	11/15/2022	N	32	--	--	--	<0.02	<0.02	<0.0005	--	1.8	--	410	--	<1	--
IRZ-13S-095	Extraction Wells	12/06/2022	N	35	--	--	--	<0.02	<0.02	<0.0005 J	--	1.6	--	460	<1	<1	--
IRZ-13S-095	Extraction Wells	12/16/2022	N	34	34	--	--	1.20 J	<0.02	<0.0005	--	1.8 J	<5	450	--	<1	--
IRZ-23-143	Extraction Wells	10/11/2022	N	650	--	--	--	0.11	<0.02	<0.0005 J	--	4.0	--	470	--	<1	--
IRZ-23-143	Extraction Wells	11/15/2022	N	660	--	--	--	0.044	0.025	<0.0005	--	4.1	--	440	--	<1	--

Table 3.4
Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)
IRZ-23-143	Extraction Wells	12/06/2022	N	650	--	--	--	0.22	<0.02	<0.0005 J	--	3.8	--	490	1.8	<1	--
IRZ-23-143	Extraction Wells	12/16/2022	N	640	620	--	--	1.20 J	<0.02	<0.0005	--	3.9 J	<5	490	--	<1	--
MW-29	Northern Extraction	11/16/2022	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	Northern Extraction	11/17/2022	N	<1	<1	--	--	--	--	--	--	0.38	--	--	--	--	--
MW-33-090	Northern Extraction	11/17/2022	N	5.4	5.0	--	--	--	--	--	--	0.98	--	--	--	--	--
MW-33-150	Northern Extraction	11/17/2022	N	5.2	6.9	--	--	--	--	--	--	1.7	--	--	--	--	--
MW-33-210	Northern Extraction	11/17/2022	N	12	11	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	Northern Extraction	11/17/2022	N	20	19	--	--	--	--	--	--	2.1	--	--	--	--	--
MW-35-135	Northern Extraction	11/17/2022	N	0.51	2.6	--	--	--	--	--	--	2.3	--	--	--	--	--
MW-47-055	Northern Extraction	11/14/2022	N	17	16	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	Northern Extraction	11/14/2022	N	18	17	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	Northern Extraction	11/16/2022	N	2.8	2.9	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	Northern Extraction	11/16/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	Northern Extraction	11/16/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	Northern Extraction	11/11/2022	N	45	40	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	Northern Extraction	11/11/2022	N	19	18	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	Northern Extraction	11/11/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	Northern Extraction	11/11/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	Northern Extraction	11/11/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	Northern Extraction	11/17/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	Northern Extraction	11/17/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	Northern Extraction	11/14/2022	N	140	130	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	Northern Extraction	11/14/2022	N	230	240	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	Northern Extraction	11/14/2022	N	13	13	--	--	--	--	--	--	--	--	--	--	--	--

Table 3.4
Process Control Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon Method 5310B (mg/L)	Total Organic Carbon Method 5310C (mg/L)	Ethanol Method 8260B (mg/L)

Abbreviations:
-- = not applicable or not available
< = not detected at reporting limit, as shown
FD = field duplicate
ID = identification
J = estimated concentration
mg/L= milligram(s) per liter
N = primary sample
R = The data are not unusable. The result has been rejected
µg/L = microgram(s) per liter

Table 3.5
NTH IRZ Dose Response Monitoring Wells Performance Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	IRZ Injection Well ID	Sample Date	TOC				Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Evidence of Treated Groundwater at Well[g]	Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[h]
			TOC Baseline[a] (mg/L)	TOC (Method 5310C) (mg/L)	TOC (Method 5310B) (mg/L)	Is TOC within the Target Range of 15 - 50 mg/L[b]?	Cr6 Baseline[c] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration (%)[d]	Are Cr6 Concentrations Decreasing Compared to the Baseline Concentration?	Is Cr6 < 32 µg/L?	Dissolved Iron Baseline[f] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[e]? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[f] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[e]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[f] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[e]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?			
MW-20-070	IRZ-25	10/12/2022	<1	<1	--	N	2500	890	-1,610	-64%	Y	N	0.0624	<0.02	N	Y	2.70	0.92	Y	0.0077	<0.0005 J	Y	N	Y	IRZ injection well not operating
MW-20-070	IRZ-25	11/09/2022	<1	<1	--	N	2500	1,200	-1,300	-52%	Y	N	0.0624	<0.02	N	Y	2.70	1.4	Y	0.0077	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-070	IRZ-25	12/08/2022	<1	<1	1.5	N	2500	850	-1,650	-66%	Y	N	0.0624	<0.02	N	Y	2.70	1.2	Y	0.0077	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-100	IRZ-25	10/12/2022	<1	<1	--	N	750	1,700	950	127%	N	N	0.390	<0.02	N	Y	2.9	<0.1	Y	0.056	<0.0005 J	Y	N	Y	IRZ injection well not operating
MW-20-100	IRZ-25	11/09/2022	<1	<10	--	N*	750	1,700	950	127%	N	N	0.390	<0.02	N	Y	2.9	0.55	Y	0.056	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-100	IRZ-25	12/08/2022	<1	<1	2.2	N	750	1,700	950	127%	N	N	0.390	<0.02	N	Y	2.9	0.64	Y	0.056	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-130	IRZ-25	10/12/2022	<1	<1	--	N	5900	1,800	-4,100	-69%	Y	N	0.092	<0.02	N	Y	7.42	<0.1	Y	0.0036	0.0040 J	Y	N	Y	IRZ injection well not operating
MW-20-130	IRZ-25	11/09/2022	<1	<1	--	N	5900	3,500	-2,400	-41%	Y	N	0.092	<0.02	N	Y	7.42	0.41	Y	0.0036	0.0078	Y	N	Y	IRZ injection well not operating
MW-20-130	IRZ-25	12/08/2022	<1	<20	2.5	N	5900	2,900	-3,000	-51%	Y	N	0.092	<0.02	N	Y	7.42	1.1	Y	0.0036	<0.0005	Y	N	Y	IRZ injection well not operating
MW-21	IRZ-37; IRZ-39	11/15/2022	<1	<10	--	N*	4.6	<0.2	-4	-96%	Y	Y	0.170	0.13	N	Y	4.47	14 J	Y	1.04	0.17	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-21	IRZ-37; IRZ-39	12/07/2022	<1	<1	7.1	N	4.6	0.36	-4	-92%	Y	Y	0.170	0.33 J	Y	Y	4.47	10 J	Y	1.04	0.14	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-26	IRZ-31	10/13/2022	<1	<20	2.4	N	2300	7.0	-2,293	-100%	Y	Y	0.110	<0.02 J	N	Y	2.2	<0.1	Y	0.12	0.22	Y	Y	Y	Cr6 concentrations decreased below 32 µg/L
MW-26	IRZ-31	11/11/2022	<1	<1	--	N	2300	28	-2,272	-99%	Y	Y	0.110	<0.02	N	Y	2.2	<0.1	Y	0.12	0.14	Y	Y	Y	Cr6 concentrations decreased below 32 µg/L
MW-26	IRZ-31	12/08/2022	<1	<1	1.6	N	2300	14	-2,286	-99%	Y	Y	0.110	<0.02	N	Y	2.2	<0.1	Y	0.12	0.044	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-31-060	IRZ-18	10/12/2022	<1	<50	25	Y	410	<1	-409	-100%	Y	Y	0.110	0.079	N	Y	1.96	<0.1	Y	0.0066	0.69 J	Y	Y	Y	Cr6 concentrations decreased below 32 µg/L
MW-31-060	IRZ-18	11/09/2022	<1	<1	--	N	410	<1	-409	-100%	Y	Y	0.110	0.060 J	N	Y	1.96	1.4	Y	0.0066	1.7	Y	Y	Y	Cr6 concentrations decreased below 32 µg/L
MW-31-060	IRZ-18	12/07/2022	<1	<1	2.0	N	410	<1	-409	-100%	Y	Y	0.110	0.063 J	N	Y	1.96	<0.1	Y	0.0066	2.5	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-31-135	IRZ-18	10/12/2022	<1	<1	--	N	15	17	2	13%	N	Y	0.0610	<0.02	N	Y	4.64	<0.1	Y	0.13	0.0035 J	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-31-135	IRZ-18	11/09/2022	<1	<1	--	N	15	<1	-14	-93%	Y	Y	0.0610	0.53	Y	Y	4.64	<0.1	Y	0.13	0.16	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-31-135	IRZ-18	12/07/2022	<1	<1	1.1	N	15	<1	-14	-93%	Y	Y	0.0610	<0.02	N	Y	4.64	1.3	Y	0.13	0.0055	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-51	IRZ-31	10/13/2022	<1	<1 J	4.6	N	3300	720	-2,580	-78%	Y	N	0.081	0.040 J	N	Y	4.9	3.5 J	Y	0.0045	0.040 J	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-51	IRZ-31	11/11/2022	<1	<1	--	N	3300	580	-2,720	-82%	Y	N	0.081	0.023	N	Y	4.9	1.5	Y	0.0045	0.11	Y	Y	Y	No operational changes made
MW-51	IRZ-31	12/08/2022	<1	1.1	9.2	N	3300	290	-3,010	-91%	Y	N	0.081	0.10 J	Y	Y	4.9	1.7	Y	0.0045	0.048	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-71-035	IRZ-39	10/12/2022	<1	<1	--	N	<1.0	<1	0	0%	Y	Y	13	<0.02	N	Y	10	<0.1	Y	5.2	0.12 J	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-71-035	IRZ-39	11/10/2022	<1	<1	--	N	<1.0	<1	0	0%	Y	Y	13	0.058	N	Y	10	<0.1	Y	5.2	0.35	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-71-035	IRZ-39	12/07/2022	<1	<1	5.4	N	<1.0	<1	0	0%	Y	Y	13	0.077 J	N	Y	10	<0.1 J	Y	5.2	0.26	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-76-039	IRZ-15	10/10/2022	<1	<1	--	N	130	180	50	38%	N	N	2.0	<0.02	N	Y	1.3	<0.1	Y	0.22	<0.0005 J	Y	N	Y	IRZ injection well not operating
MW-76-039	IRZ-15	11/07/2022	<1	<10	--	N*	130	200	70	54%	N	N	2.0	<0.02	N	Y	1.3	0.42	Y	0.22	0.0016 J	Y	N	Y	IRZ injection well not operating
MW-76-039	IRZ-15	12/06/2022	<1	<1	1.7	N	130	220	90	69%	N	N	2.0	<0.02	N	Y	1.3	0.65	Y	0.22	<0.0005 J	Y	N	Y	IRZ injection well not operating
MW-76-156	IRZ-15	10/10/2022	<1	<1	--	N	4.2	<1	-3	-76%	Y	Y	0.170	0.24	Y	Y	2.5	<0.1	Y	0.28	1.3 J	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-76-156	IRZ-15	11/07/2022	<1	<1	--	N	4.2	18	14	329%	N	Y	0.170	<0.02	N	Y	2.5	<0.1	Y	0.28	0.016 J	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-76-156	IRZ-15	12/06/2022	<1	<1	<1	N	4.2	17	13	305%	N	Y	0.170	<0.02	N	Y	2.5	<0.1	Y	0.28	0.011 J	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-76-181	IRZ-15	10/10/2022	<1	<1	--	N	1500	1,100	-400	-27%	Y	N	0.080	<0.02	N	Y	1.7	<0.1	Y	0.93	0.049 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
MW-76-181	IRZ-15	11/07/2022	<1	<1	--	N	1500	760	-740	-49%	Y	N	0.080	<0.02	N	Y	1.7	<0.1	Y	0.93	0.026 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
MW-76-181	IRZ-15	12/06/2022	<1	<1	1.6	N	1500	610	-890	-59%	Y	N	0.080	<0.02	N	Y	1.7	<0.1	Y	0.93	0.029 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
MW-76-218	IRZ-15	10/10/2022	<1	<1	--	N	320	<1	-319	-100%	Y	Y	0.180	<0.02	N	Y	5.1	<0.1	Y	0.39	0.47 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations decreased below 32 µg/L

Table 3.5
NTH IRZ Dose Response Monitoring Wells Performance Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	IRZ Injection Well ID	Sample Date	TOC				Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Evidence of Treated Groundwater at Well[g]	Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[h]
			TOC Baseline[a] (mg/L)	TOC (Method 5310C) (mg/L)	TOC (Method 5310B) (mg/L)	Is TOC within the Target Range of 15 - 50 mg/L[b]?	Cr6 Baseline[c] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration (%)[d]	Are Cr6 Concentrations Decreasing Compared to the Baseline Concentration?	Is Cr6 < 32 µg/L?	Dissolved Iron Baseline[f] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[e]? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[f] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[e]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[f] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[e]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?			
MW-76-218	IRZ-15	11/07/2022	<1	<1	--	N	320	<1	-319	-100%	Y	Y	0.180	<0.02	N	Y	5.1	<0.1	Y	0.39	0.43 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations decreased below 32 µg/L
MW-76-218	IRZ-15	12/06/2022	<1	<1	1.9	N	320	<1	-319	-100%	Y	Y	0.180	<0.02	N	Y	5.1	<0.1	Y	0.39	0.5 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations decreased below 32 µg/L
MW-78-070	IRZ-25; IRZ-27	10/13/2022	<1	<1	--	N	4400	14	-4,386	-100%	Y	Y	0.100	<0.02 J	N	Y	1.40	<0.1	Y	0.0054	0.62	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-78-070	IRZ-25; IRZ-27	11/09/2022	<1	<1	--	N	4400	9.9	-4,390	-100%	Y	Y	0.100	<0.02	N	Y	1.40	<0.1	Y	0.0054	0.78	Y	Y	Y	No operational changes made
MW-78-070	IRZ-25; IRZ-27	12/07/2022	<1	<1	2.2	N	4400	63	-4,337	-99%	Y	N	0.100	<0.02	N	Y	1.40	<0.1	Y	0.0054	0.17	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-78-142	IRZ-25; IRZ-27	10/13/2022	<1	<1	--	N	6800	4,500	-2,300	-34%	Y	N	0.130	<0.02 J	N	Y	4.3	4.2	Y	0.025	0.0014	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-78-142	IRZ-25; IRZ-27	11/09/2022	<1	<1	--	N	6800	2,300	-4,500	-66%	Y	N	0.130	<0.02	N	Y	4.3	2.8	Y	0.025	0.0012	Y	Y	Y	No operational changes made
MW-78-142	IRZ-25; IRZ-27	12/07/2022	<1	<1	1.1	N	6800	2,700	-4,100	-60%	Y	N	0.130	<0.02	N	Y	4.3	2.7	Y	0.025	0.0033	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-79-058	IRZ-29; IRZ-31	10/13/2022	<1	<1	--	N	3200	350	-2,850	-89%	Y	N	2.6	<0.02 J	N	Y	2.5	<0.1	Y	0.47	<0.0005	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-79-058	IRZ-29; IRZ-31	11/11/2022	<1	<20	--	N*	3200	200	-3,000	-94%	Y	N	2.6	<0.02	N	Y	2.5	<0.1	Y	0.47	<0.0005	Y	Y	Y	No operational changes made
MW-79-058	IRZ-29; IRZ-31	12/08/2022	<1	<1	<1	N	3200	290	-2,910	-91%	Y	N	2.6	0.023 J	N	Y	2.5	<0.1	Y	0.47	<0.0005	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-79-102	IRZ-29; IRZ-31	10/13/2022	<1	<1	--	N	3500 J	170	-3,330	-95%	Y	N	0.065	<0.02 J	N	Y	4.8	1.0	Y	0.054	0.0030	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-79-102	IRZ-29; IRZ-31	11/11/2022	<1	<1	--	N	3500 J	330	-3,170	-91%	Y	N	0.065	<0.02	N	Y	4.8	2.0	Y	0.054	0.0074	Y	Y	Y	No operational changes made
MW-79-102	IRZ-29; IRZ-31	12/08/2022	<1	<1	<1	N	3500 J	78	-3,422	-98%	Y	N	0.065	0.15 J	Y	Y	4.8	1.2	Y	0.054	0.0085	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-80-057	IRZ-35	10/13/2022	<1	<1	--	N	840 J	640	-200	-24%	Y	N	0.110	<0.02 J	N	Y	3.3	<0.1	Y	0.080	0.010	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-80-057	IRZ-35	11/10/2022	<1	<1	--	N	840 J	600	-240	-29%	Y	N	0.110	<0.02	N	Y	3.3	0.71	Y	0.080	0.0043	Y	Y	Y	No operational changes made
MW-80-057	IRZ-35	12/07/2022	<1	<1	1.6	N	840 J	690	-150	-18%	Y	N	0.110	<0.02	N	Y	3.3	0.65	Y	0.080	0.00052	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
MW-80-082	IRZ-35	10/13/2022	<1	<1	--	N	2100 J	20	-2,080	-99%	Y	Y	0.059	<0.02 J	N	Y	4.2	2.6	Y	0.010	0.00097	Y	Y	Y	No operational changes made; Making observations based on 9/26/2022 dosing increase
MW-80-082	IRZ-35	11/10/2022	<1	<1	--	N	2100 J	11	-2,089	-99%	Y	Y	0.059	<0.02	N	Y	4.2	2.8	Y	0.010	0.014	Y	Y	Y	No operational changes made
MW-80-082	IRZ-35	12/07/2022	<1	<1	1.1	N	2100 J	8.3	-2,092	-100%	Y	Y	0.059	<0.02	N	Y	4.2	1.9	Y	0.010	0.28	Y	Y	Y	Increased dosing systemwide on 12/19/2022 to enhance Cr6 treatment
TW-02D	IRZ-21	10/12/2022	<1	<1	--	N	740	100	-640	-86%	Y	N	0.770	<0.02	N	Y	4.53	2.3	Y	0.21	0.0052 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
TW-02D	IRZ-21	11/09/2022	<1	<1	--	N	740	120	-620	-84%	Y	N	0.770	0.021	N	Y	4.53	6.3	Y	0.21	0.028	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
TW-02D	IRZ-21	12/07/2022	<1	<1	<1	N	740	54	-686	-93%	Y	N	0.770	0.038 J	N	Y	4.53	6.1 J	Y	0.21	0.0071	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
TW-02S	IRZ-21	10/12/2022	<1	<1	--	N	81	130	49	60%	N	N	0.180	<0.02	N	Y	<10	0.49	Y	0.090	<0.0005 J	Y	N	Y	IRZ injection well not operating
TW-02S	IRZ-21	11/09/2022	<1	<20	--	N*	81	120	39	48%	N	N	0.180	<0.02	N	Y	<10	0.62	Y	0.090	<0.0005	Y	N	Y	IRZ injection well not operating
TW-02S	IRZ-21	12/07/2022	<1	<1	<1	N	81	140	59	73%	N	N	0.180	0.061 J	N	Y	<10	0.62 J	Y	0.090	<0.0005	Y	N	Y	IRZ injection well not operating
TW-03D	IRZ-21	10/12/2022	<1	<1	--	N	470	370	-100	-21%	Y	N	0.180	<0.02	N	Y	<5.0	3.3	Y	0.034	0.041 J	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing
TW-03D	IRZ-21	11/09/2022	<1	<1	--	N	470	260	-210	-45%	Y	N	0.180	<0.02	N	Y	<5.0	4.1	Y	0.034	0.053	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing

Table 3.5
NTH IRZ Dose Response Monitoring Wells Performance Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company Topock Compressor Station, Needles, California

Monitoring Well ID	IRZ Injection Well ID	Sample Date	TOC				Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Evidence of Treated Groundwater at Well[g]	Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[h]
			TOC Baseline[a] (mg/L)	TOC (Method 5310C) (mg/L)	TOC (Method 5310B) (mg/L)	Is TOC within the Target Range of 15 - 50 mg/L[b]?	Cr6 Baseline[c] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration (%)[d]	Are Cr6 Concentrations Decreasing Compared to the Baseline Concentration?	Is Cr6 < 32 µg/L?	Dissolved Iron Baseline[f] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[e]? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[f] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[e]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[f] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[e]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?			
TW-03D	IRZ-21	12/07/2022	<1	<1	1.2	N	470	170	-300	-64%	Y	N	0.180	<0.02 J	N	Y	<5.0	4.3 J	Y	0.034	0.029	Y	Y	Y	IRZ injection well not operating; Cr6 concentrations are decreasing

Notes:

1. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

a. Baseline TOC concentrations are defined by the most recent sampling result prior to IRZ system startup. Note that if a result was non-detect at an elevated reporting limit, previous sampling events were considered to develop a more conservative baseline concentration.

b. Anticipated target ranges were set forth in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).

c. Baseline Cr6 concentrations represent the maximum concentration observed at each monitoring well between January 2020 and December 2021.

d. In comparison to the baseline concentration, a negative value indicates a decrease in concentration and a positive value indicates an increase in concentration.

e. Anticipated comparison values were set forth in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).

f. Baseline dissolved iron, dissolved arsenic, and dissolved manganese concentrations represent the maximum historical concentration observed at each monitoring well. For wells installed after 2019, baseline concentrations represent the maximum concentration observed at each monitoring well between January 2020 and December 2021.

g. Evidence of treated groundwater at the monitoring well is determined by changes in TOC, Cr6, and/or in-situ byproduct (dissolved iron, dissolved arsenic and dissolved manganese) concentrations, as outlined in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015). Additional information, including changes in nitrate and sulfate concentrations, is also used to support evidence of treated groundwater.

h. The need for an operational response is determined based on evidence of treated groundwater at the monitoring well and control of in-situ byproducts, as outlined in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).

Abbreviations:

<x = not detected at the reporting limit
< = less than
Cr6 = hexavalent chromium
ID = identification
IRZ = in-situ reactive zone
J = estimated concentration
mg/L= milligram(s) per liter
N = no
N* = No, the result is not detected at the reporting limit, and as such is not considered within the target range or above baseline.
NTH = National Trails Highway
TOC = total organic carbon
Y = yes
µg/L = microgram(s) per liter

Reference:

CH2M Hill. 2015. Basis of Design Report / Final (100%) Design Submittal for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California. November.

Table 3.6
NTH IRZ Downgradient Response Monitoring Wells Performance Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration[b] (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations[c]	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[d] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[d] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[d] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		
MW-22	11/16/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	21.0	17	N	Y	28	16	Y	7.2	3.8 J	Y	Y	No operational changes made
MW-27-020	11/09/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.9	<0.02	N	Y	4.8	0.75	Y	0.360	0.075	Y	Y	No operational changes made
MW-27-060	11/09/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.6	0.38	N	Y	13	7.6	Y	0.350	0.24	Y	Y	No operational changes made
MW-27-085	11/09/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	1.9	0.29	N	Y	14	<0.1	Y	0.964	0.30	Y	Y	No operational changes made
MW-28-025	11/16/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.063	<0.02	N	Y	2.4	0.54	Y	0.410	0.012 J	Y	Y	No operational changes made
MW-28-090	11/16/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.0	1.3	Y	Y	7.7	0.69	Y	0.664	0.44 J	Y	Y	No operational changes made
MW-30-030	11/08/2022	<1.0	<0.2	0	0%	Remains below 32 µg/L	Y	5.37	0.57 J	N	Y	19	0.64	Y	1.3	0.17 J	Y	Y	No operational changes made
MW-30-050	10/11/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.027 J	N	Y	9.7	2.5 J	Y	0.260	0.37 J	Y	Y	No operational changes made
MW-30-050	11/08/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.067 J	N	Y	9.7	3.0	Y	0.260	0.42 J	Y	Y	No operational changes made
MW-30-050	12/06/2022	<0.2	0.76	1	280%	Remains below 32 µg/L	Y	0.12	0.030	N	Y	9.7	3.6	Y	0.260	0.36 J	Y	Y	No operational changes made
MW-32-020	11/10/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	21.0	5.4	N	Y	65	<0.5	Y	2.85	0.30	Y	Y	No operational changes made
MW-32-035	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	24.1	13	N	Y	53	20	Y	4.30	0.83	Y	Y	No operational changes made
MW-34-055	11/09/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.505	0.052	N	Y	4.83	3.7	Y	0.290	0.11	Y	Y	No operational changes made
MW-34-080	10/12/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	0.35	0.41	Y	Y	7.3	<0.1	Y	0.300	0.15 J	Y	Y	No operational changes made
MW-34-080	11/09/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	0.35	0.35	N	Y	7.3	<0.1	Y	0.300	0.20	Y	Y	No operational changes made
MW-34-080	12/07/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.35	0.26 J	N	Y	7.3	<0.1 J	Y	0.300	0.16	Y	Y	No operational changes made
MW-34-100	11/09/2022	<1.0	<1	0	0%	Steady	Y	0.47	<0.02	N	Y	16	<0.1	Y	0.230	0.085	Y	Y	No operational changes made
MW-36-020	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.75	3.3	Y	Y	3.3	0.56	Y	0.642	0.45	Y	Y	No operational changes made
MW-36-040	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	3.92	0.41	N	Y	7.7	6.2	Y	0.699	0.15	Y	Y	No operational changes made
MW-36-050	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.57	0.200	N	Y	5.6	4.8	Y	0.517	0.23	Y	Y	No operational changes made
MW-36-070	11/10/2022	0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.57	0.048	N	Y	10	2.2	Y	1.60	0.32	Y	Y	No operational changes made
MW-36-090	10/12/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.13	0.14	Y	Y	25	1.3	Y	0.170	0.16 J	Y	Y	No operational changes made
MW-36-090	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.13	0.052	N	Y	25	2.1	Y	0.170	0.13	Y	Y	No operational changes made
MW-36-090	12/07/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.13	0.052 J	N	Y	25	2.4	Y	0.170	0.13	Y	Y	No operational changes made
MW-36-100	10/12/2022	36	<0.2	-36	-99%	Increasing	Y	0.26	0.71	Y	Y	14	3.4	Y	0.390	0.59 J	Y	Y	No operational changes made
MW-36-100	11/10/2022	36	<0.2	-36	-99%	Increasing	Y	0.26	0.79	Y	Y	14	3.9	Y	0.390	0.51	Y	Y	No operational changes made
MW-36-100	12/07/2022	36	<0.2	-36	-99%	Increasing	Y	0.26	0.71 J	Y	Y	14	4.5	Y	0.390	0.59	Y	Y	No operational changes made
MW-39-040	10/11/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	12.4	0.22 J	N	Y	21	14 J	Y	1.59	0.10 J	Y	Y	No operational changes made
MW-39-040	11/08/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	12.4	0.26 J	N	Y	21	13	Y	1.59	0.087 J	Y	Y	No operational changes made
MW-39-040	12/06/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	12.4	0.23	N	Y	21	12	Y	1.59	0.088 J	Y	Y	No operational changes made
MW-39-050	10/11/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.15	<0.02	N	Y	16	1.6 J	Y	0.190	0.22 J	Y	Y	No operational changes made
MW-39-050	11/08/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.15	0.034 J	N	Y	16	1.7	Y	0.190	0.27 J	Y	Y	No operational changes made
MW-39-050	12/06/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.15	<0.02	N	Y	16	1.9	Y	0.190	0.25 J	Y	Y	No operational changes made
MW-39-060	10/11/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.032 J	N	Y	7.6	1.5 J	Y	0.110	0.25 J	Y	Y	No operational changes made
MW-39-060	11/08/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.041 J	N	Y	7.6	1.5	Y	0.110	0.24 J	Y	Y	No operational changes made
MW-39-060	12/06/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.23	Y	Y	7.6	1.3	Y	0.110	0.22 J	Y	Y	No operational changes made
MW-39-070	10/11/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.22	0.19 J	N	Y	16	1.1 J	Y	0.12	0.019 J	Y	Y	No operational changes made
MW-39-070	11/08/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.22	<0.02 J	N	Y	16	1.2	Y	0.12	0.017 J	Y	Y	No operational changes made
MW-39-070	12/06/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.22	<0.02	N	Y	16	1.2	Y	0.12	0.023 J	Y	Y	No operational changes made

Table 3.6
NTH IRZ Downgradient Response Monitoring Wells Performance Summary
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration[b] (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations[c]	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[d] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[d] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[d] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		
MW-39-080	10/11/2022	0.47	13	13	2666%	Remains below 32 µg/L	Y	0.12	<0.02	N	Y	16	<0.1 J	Y	0.12	0.0058 J	Y	Y	No operational changes made
MW-39-080	11/08/2022	0.47	23	23	4794%	Remains below 32 µg/L	Y	0.12	<0.02 J	N	Y	16	0.69	Y	0.12	0.0059 J	Y	Y	No operational changes made
MW-39-080	12/06/2022	0.47	1.4	1	198%	Remains below 32 µg/L	Y	0.12	<0.02	N	Y	16	1.0	Y	0.12	0.0079 J	Y	Y	No operational changes made
MW-39-100	10/11/2022	120	310	190	158%	Increasing	Y	0.056	<0.02	N	Y	4.1	<0.1 J	Y	0.031	0.012 J	Y	Y	No operational changes made; monitoring closely
MW-39-100	11/08/2022	120	260	140	117%	Increasing	Y	0.056	<0.02 J	N	Y	4.1	<0.1	Y	0.031	0.013 J	Y	Y	No operational changes made; monitoring closely
MW-39-100	12/06/2022	120	270	150	125%	Increasing	Y	0.056	<0.02 J	N	Y	4.1	<0.1	Y	0.031	0.012	Y	Y	No operational changes made; monitoring closely
MW-42-030	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	5.39	0.59	N	Y	6.5	1.6	Y	0.737	0.11	Y	Y	No operational changes made
MW-42-055	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.24	0.21	N	Y	29	12	Y	1.02	0.24	Y	Y	No operational changes made
MW-42-065	11/10/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.36	0.81	N	Y	14	4.0	Y	2.37	2.7	Y	Y	No operational changes made
MW-43-025	11/17/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	5.4	5.2	N	Y	32	32	Y	0.360	0.44	Y	Y	No operational changes made
MW-43-075	11/17/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	5.5	3.0 J	N	Y	17	8.5 J	Y	0.930	0.60 J	Y	Y	No operational changes made
MW-43-090	11/17/2022	<1.0	<0.2	0	-80%	Remains below 32 µg/L	Y	9.26	0.94 J	N	Y	25	<0.1 J	Y	1.26	0.69 J	Y	Y	No operational changes made
MW-44-070	11/08/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.656	0.89 J	Y	Y	6.6	3.2	Y	0.316	0.32 J	Y	Y	No operational changes made
MW-44-115	10/11/2022	4.8	1.1	-4	-77%	Increasing	Y	0.25	<0.02	N	Y	6.93	1.5 J	Y	0.0917	0.017 J	Y	Y	No operational changes made
MW-44-115	11/08/2022	4.8	1.0	-4	-79%	Increasing	Y	0.25	<0.02 J	N	Y	6.93	2.0	Y	0.0917	0.022 J	Y	Y	No operational changes made
MW-44-115	12/06/2022	4.8	1.8	-3	-63%	Increasing	Y	0.25	<0.02	N	Y	6.93	1.9	Y	0.0917	0.013 J	Y	Y	No operational changes made
MW-44-125	10/11/2022	<1.0	<1	0	0%	Increasing	Y	0.7	0.4 J	N	Y	5.9	1.7 J	Y	0.777	0.55 J	Y	Y	No operational changes made
MW-44-125	11/08/2022	<1.0	<1	0	0%	Increasing	Y	0.7	0.37 J	N	Y	5.9	2.5	Y	0.777	0.53 J	Y	Y	No operational changes made
MW-44-125	12/06/2022	<1.0	<1	0	0%	Increasing	Y	0.7	0.37	N	Y	5.9	2.1	Y	0.777	0.59 J	Y	Y	No operational changes made
MW-45-095A	10/12/2022	<0.2	<1	0	0%	Increasing	Y	0.0129	<0.02	N	Y	10	<0.1	Y	0.260	0.36 J	Y	Y	No operational changes made
MW-45-095A	11/09/2022	<0.2	<1	0	0%	Increasing	Y	0.0129	<0.02	N	Y	10	0.94	Y	0.260	0.41	Y	Y	No operational changes made
MW-45-095A	12/07/2022	<0.2	<0.2	0	0%	Increasing	Y	0.0129	0.045 J	N	Y	10	1.1 J	Y	0.260	0.53	Y	Y	No operational changes made
MW-46-175	11/17/2022	6.6	8.7	2	32%	Remains below 32 µg/L	Y	0.20	<0.02	N	Y	2.9	<0.1	Y	0.025	0.013	Y	Y	No operational changes made
MW-46-205	11/17/2022	1.6	<1	-1	-38%	Remains below 32 µg/L	Y	0.068	<0.02	N	Y	<0.1	<0.1	Y	0.053	0.049	Y	Y	No operational changes made
MW-52D	11/17/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	5.40	0.69 J	N	Y	27	<0.1 J	Y	0.319	0.25 J	Y	Y	No operational changes made
MW-52M	11/17/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	2.0	1.1 J	N	Y	21	<0.1 J	Y	0.316	0.18 J	Y	Y	No operational changes made
MW-52S	11/17/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	27	19 J	N	Y	12	<0.1 J	Y	2.10	1.1 J	Y	Y	No operational changes made
MW-53D	11/17/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	0.54	0.18 J	N	Y	32	<0.1 J	Y	2.20	0.65 J	Y	Y	No operational changes made
MW-53M	11/17/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	0.55	1.1 J	Y	Y	25	<0.1 J	Y	0.630	0.59 J	Y	Y	No operational changes made
MW-53S	11/17/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	5.40	5.1 J	N	Y	<0.1	<0.1 J	Y	1.20	1.1 J	Y	Y	No operational changes made
MW-77-046	10/10/2022	1.1	<0.2	-1	-82%	Remains below 32 µg/L	Y	0.94	<0.02	N	Y	3.6	2.5	Y	0.460	0.60 J	Y	Y	No operational changes made
MW-77-046	11/07/2022	1.1	<1	-0	-9%	Remains below 32 µg/L	Y	0.94	<0.02	N	Y	3.6	3.1	Y	0.460	0.50 J	Y	Y	No operational changes made
MW-77-046	12/05/2022	1.1	<0.2	-1	-82%	Remains below 32 µg/L	Y	0.94	0.034	N	Y	3.6	5.6 J	Y	0.460	0.67	Y	Y	No operational changes made
MW-77-102	10/10/2022	1.6	<1	-1	-38%	Remains below 32 µg/L	Y	0.082	<0.02	N	Y	1.3	<0.1	Y	0.064	0.10 J	Y	Y	No operational changes made
MW-77-102	11/07/2022	1.6	<1	-1	-38%	Remains below 32 µg/L	Y	0.082	<0.02	N	Y	1.3	<0.1	Y	0.064	0.12 J	Y	Y	No operational changes made
MW-77-102	12/05/2022	1.6	<1	-1	-38%	Remains below 32 µg/L	Y	0.082	<0.02	N	Y	1.3	R	--	0.064	0.12	Y	Y	No operational changes made
MW-77-158	10/10/2022	10 J	<0.2	-10	-98%	Remains below 32 µg/L	Y	0.048	0.023	N	Y	3.2	0.65	Y	0.087	0.027 J	Y	Y	No operational changes made
MW-77-158	11/07/2022	10 J	<1	-9	-90%	Remains below 32 µg/L	Y	0.048	0.026	N	Y	3.2	1.6	Y	0.087	0.028 J	Y	Y	No operational changes made
MW-77-158	12/05/2022	10 J	<1	-9	-90%	Remains below 32 µg/L	Y	0.048	0.033	N	Y	3.2	2.3 J	Y	0.087	0.028	Y	Y	No operational changes made

Table 3.6
NTH IRZ Downgradient Response Monitoring Wells Performance Summary
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration[b] (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations[c]	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[d] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[d] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[d] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		
MW-77-187	10/10/2022	4.1	33	29	705%	Remains below 32 µg/L	N	0.050	<0.02	N	Y	4.4	2.2	Y	0.110	0.009 J	Y	Y	No operational changes made; monitoring closely
MW-77-187	11/07/2022	4.1	6.2	2	51%	Remains below 32 µg/L	Y	0.050	<0.02	N	Y	4.4	4.1	Y	0.110	0.013 J	Y	Y	No operational changes made
MW-77-187	12/05/2022	4.1	10	6	144%	Remains below 32 µg/L	Y	0.050	<0.02	N	Y	4.4	5 J	Y	0.110	0.015	Y	Y	No operational changes made
MW-81-043	10/11/2022	13	13	0	0%	Remains below 32 µg/L	Y	0.38	0.046 J	N	Y	3.4	3.3 J	Y	0.360	0.041 J	Y	Y	No operational changes made
MW-81-043	11/08/2022	13	14	1	8%	Remains below 32 µg/L	Y	0.38	0.056 J	N	Y	3.4	4.6	Y	0.360	0.049 J	Y	Y	No operational changes made
MW-81-043	12/06/2022	13	17	4	31%	Remains below 32 µg/L	Y	0.38	0.029	N	Y	3.4	5.0	Y	0.360	0.048 J	Y	Y	No operational changes made
MW-81-098	10/11/2022	2.0 J	1.5	-1	-25%	Remains below 32 µg/L	Y	0.15	0.043 J	N	Y	1.0	<0.1 J	Y	0.28	0.16 J	Y	Y	No operational changes made
MW-81-098	11/08/2022	2.0 J	1.7	-0	-15%	Remains below 32 µg/L	Y	0.15	0.027 J	N	Y	1.0	<0.1	Y	0.28	0.14 J	Y	Y	No operational changes made
MW-81-098	12/06/2022	2.0 J	3.6	2	80%	Remains below 32 µg/L	Y	0.15	<0.02	N	Y	1.0	<0.1	Y	0.28	0.13 J	Y	Y	No operational changes made
MW-82-046	10/11/2022	<0.2	<1	0	0%	Increasing before decreasing below 32 µg/L	Y	6.60	6.1 J	N	Y	32	21 J	Y	0.480	0.24 J	Y	Y	No operational changes made
MW-82-046	11/08/2022	<0.2	<1	0	0%	Increasing before decreasing below 32 µg/L	Y	6.60	6.3 J	N	Y	32	20	Y	0.480	0.26 J	Y	Y	No operational changes made
MW-82-046	12/05/2022	<0.2	<1	0	0%	Increasing before decreasing below 32 µg/L	Y	6.60	5.7	N	Y	32	19 J	Y	0.480	0.26	Y	Y	No operational changes made
MW-82-112	10/11/2022	0.88	<1	0	14%	Increasing before decreasing below 32 µg/L	Y	0.11	<0.02	N	Y	2.0	<0.1 J	Y	0.072	0.15 J	Y	Y	No operational changes made
MW-82-112	11/08/2022	0.88	<1	0	14%	Increasing before decreasing below 32 µg/L	Y	0.11	<0.02 J	N	Y	2.0	<0.1	Y	0.072	0.19 J	Y	Y	No operational changes made
MW-82-112	12/05/2022	0.88	<1	0	14%	Increasing before decreasing below 32 µg/L	Y	0.11	<0.02	N	Y	2.0	R	--	0.072	0.18	Y	Y	No operational changes made
MW-82-168	10/11/2022	7	<1	-6	-86%	Increasing before decreasing below 32 µg/L	Y	0.094	0.049 J	N	Y	1.9	<0.1 J	Y	0.320	0.038 J	Y	Y	No operational changes made
MW-82-168	11/08/2022	7	<1	-6	-86%	Increasing before decreasing below 32 µg/L	Y	0.094	0.043 J	N	Y	1.9	1.3	Y	0.320	0.039 J	Y	Y	No operational changes made
MW-82-168	12/05/2022	7	<0.2	-7	-97%	Increasing before decreasing below 32 µg/L	Y	0.094	0.048	N	Y	1.9	1.0 J	Y	0.320	0.037	Y	Y	No operational changes made
MW-82-198	10/11/2022	<1.0	2.6	2	160%	Increasing before decreasing below 32 µg/L	Y	0.27	0.020 J	N	Y	3.9	<0.1 J	Y	0.230	0.067 J	Y	Y	No operational changes made
MW-82-198	11/08/2022	<1.0	1.6	1	60%	Increasing before decreasing below 32 µg/L	Y	0.27	<0.02 J	N	Y	3.9	0.96	Y	0.230	0.074 J	Y	Y	No operational changes made
MW-82-198	12/05/2022	<1.0	<1	0	0%	Increasing before decreasing below 32 µg/L	Y	0.27	0.053	N	Y	3.9	1.5 J	Y	0.230	0.063	Y	Y	No operational changes made
MW-86-030	11/16/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.40	0.12	N	Y	7.8	5.0	Y	0.44	0.26 J	Y	Y	No operational changes made
MW-86-066	11/16/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.42	<0.02	N	Y	2.0	<0.1	Y	1.1	0.56 J	Y	Y	No operational changes made
MW-86-120	11/16/2022	1.1 J	<1	-0.1	-9%	Remains below 32 µg/L	Y	0.69	<0.02	N	Y	3.1	<0.1	Y	0.980	0.49 J	Y	Y	No operational changes made
MW-86-140	11/16/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	0.53	0.18	N	Y	1.4	<0.1	Y	1.5	0.96 J	Y	Y	No operational changes made
MW-90-031	11/16/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	9.80	7.7	N	Y	3.7	1.2	Y	0.350	0.42 J	Y	Y	No operational changes made
PT5D	11/16/2022	31	40	9	29%	May increase before decreasing	Y	2.2	0.022	N	Y	11.5	2.5	Y	1.7	0.022 J	Y	Y	No operational changes made; monitoring closely
PT5M	11/16/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.82	0.035	N	Y	11.1	0.95	Y	1.77	0.64 J	Y	Y	No operational changes made
PT5S	11/16/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.03	0.97	N	Y	13	13	Y	2.44	0.22 J	Y	Y	No operational changes made

Notes:

1. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

a. Baseline Cr6 concentrations represent the maximum concentration observed at each monitoring well between January 2020 and December 2021.

b. In comparison to the baseline concentration, a negative value indicates a decrease in concentration and a positive value indicates an increase in concentration.

c. Anticipated change in Cr6 concentrations and comparison values were determined from the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).

d. Baseline dissolved iron, dissolved arsenic, and dissolved manganese concentrations represent the maximum historical concentration observed at each monitoring well. For wells installed after 2019, baseline concentrations represent the maximum concentration observed at each monitoring well between January 2020 and December 2021.

e. The need for an operational response is determined based on anticipated changes in Cr6 concentrations and control of in-situ byproducts, as outlined in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).

Table 3.6
NTH IRZ Downgradient Response Monitoring Wells Performance Summary
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration[b] (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations[c]	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[d] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[d] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[d] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		

Abbreviations:
-- = not applicable
<x = not detected at the reporting limit
Cr6 = hexavalent chromium
ID = identification
IRZ = in-situ reactive zone
J = estimated value
mg/L= milligram(s) per liter
N = no
NTH = National Trails Highway
R = The data are not unusable. The result has been rejected.
Y = yes
µg/L = microgram(s) per liter

Reference:
CH2M Hill. 2015. Basis of Design Report / Final (100%) Design Submittal for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California. November.

Table 3.7
Calculated Flow Vector Azimuth Directions
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Month	Layer	Location 1	Location 1 Elevation (ft NGVD88)	Location 2	Location 2 Elevation (ft NGVD88)	Location 3	Location 3 Elevation (ft NGVD88)	Gradient (ft/ft)	Azimuth (0 to 360)
September	Layers 1 and 2	MW-76-039	454.75	MW-86-030	454.60	MW-97-042	454.88	0.0006	126
October	Layers 1 and 2	MW-76-039	454.41	MW-86-030	454.41	MW-97-042	454.56	0.0007	163
November	Layers 1 and 2	MW-76-039	453.97	MW-86-030	454.01	MW-97-042	454.10	0.0006	174
September	Layers 1 and 2	MW-75-033	454.87	MW-96-045	454.64	MW-97-042	454.88	0.0012	71
October	Layers 1 and 2	MW-75-033	454.60	MW-96-045	454.29	MW-97-042	454.56	0.0014	80
November	Layers 1 and 2	MW-75-033	454.16	MW-96-045	453.90	MW-97-042	454.10	0.0011	86
September	Layers 4 and 5	MW-75-202	455.59	MW-49-135	454.81	MW-76-181	454.42	0.0026	127
October	Layers 4 and 5	MW-75-202	455.36	MW-49-135	454.48	MW-76-181	453.92	0.0030	132
November	Layers 4 and 5	MW-75-202	455.09	MW-49-135	454.20	MW-76-181	453.91	0.0028	121
September	Layers 4 and 5	MW-76-181	454.42	MW-86-120	454.84	MW-77-158	456.80	0.0066	334
October	Layers 4 and 5	MW-76-181	453.92	MW-86-120	454.53	MW-77-158	456.68	0.0076	332
November	Layers 4 and 5	MW-76-181	453.91	MW-86-120	454.24	MW-77-158	456.20	0.0064	336
September	Layers 4 and 5	MW-76-181	454.42	MW-86-140	455.04	MW-77-187	456.52	0.0058	327
October	Layers 4 and 5	MW-76-181	453.92	MW-86-140	454.74	MW-77-187	456.18	0.0062	324
November	Layers 4 and 5	MW-76-181	453.91	MW-86-140	454.43	MW-77-187	455.43	0.0042	325

Abbreviations:
ft = feet
ft/ft = foot per foot
NGVD88 = National Geodetic Vertical Datum of 1988
Layer 1 = greater than 425 feet NGVD88
Layer 2 = 400 – 425 feet NGVD88
Layer 4 = 300 – 350 feet NGVD88
Layer 5 = 250 – 300 feet NGVD88

Table 3.8
Remedy Compliance Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-09	Inside Plume	12/01/2022	N	0.23	<1	17	2.50 J
MW-09	Inside Plume	12/01/2022	FD	<0.2	<1	18	2.60 J
MW-10	Inside Plume	11/28/2022	N	3,400	3,500 J	8.2	0.027 J
MW-10D	Inside Plume	11/28/2022	N	230	260 J	0.86	0.00063 J
MW-11	Inside Plume	11/30/2022	N	710	720 J	1.4	0.00086
MW-11D	Inside Plume	11/30/2022	N	160	150 J	0.35	<0.0005
MW-12	Inside Plume	11/30/2022	N	2,600	2,800	34	<0.0005
MW-19	Inside Plume	12/02/2022	N	29	30 J	0.43	<0.0005
MW-20-070	Inside Plume	10/12/2022	N	890	--	0.92	<0.0005 J
MW-20-070	Inside Plume	11/09/2022	N	1,200	1,200	1.4	<0.0005
MW-20-070	Inside Plume	11/09/2022	FD	1,200	1,300	1.2	<0.0005
MW-20-070	Inside Plume	12/08/2022	N	850	--	1.2	<0.0005
MW-20-100	Inside Plume	10/12/2022	N	1,700	--	<0.1	<0.0005 J
MW-20-100	Inside Plume	11/09/2022	N	1,700	1,900	0.55	<0.0005
MW-20-100	Inside Plume	12/08/2022	N	1,700	--	0.64	<0.0005
MW-20-130	Inside Plume	10/12/2022	N	1,800	--	<0.1	0.004 J
MW-20-130	Inside Plume	11/09/2022	N	3,500	3,600	0.41	0.0078
MW-20-130	Inside Plume	12/08/2022	N	2,900	--	1.1	<0.0005
MW-23-060	Inside Plume	11/18/2022	N	40	38	1.0	0.0023
MW-24A	Inside Plume	12/01/2022	N	<0.2	<1	0.27	0.14 J
MW-24B	Inside Plume	12/01/2022	N	270	270	<0.1	0.029 J
MW-25	Inside Plume	12/02/2022	N	60	67 J	0.90	<0.0005
MW-26	Inside Plume	10/13/2022	N	7.0	--	<0.1	0.22
MW-26	Inside Plume	11/11/2022	N	28	28	<0.1	0.14
MW-26	Inside Plume	12/08/2022	N	14	--	<0.1	0.044
MW-31-060	Inside Plume	10/12/2022	N	<1	--	<0.1	0.69 J
MW-31-060	Inside Plume	11/09/2022	N	<1	5.5	1.3	1.7
MW-31-060	Inside Plume	11/09/2022	FD	<1	5.3	1.4	1.7
MW-31-060	Inside Plume	12/07/2022	N	<1	--	<0.1	2.5
MW-38D	Inside Plume	11/28/2022	N	24	22 J	<0.1	0.065 J
MW-38S	Inside Plume	11/28/2022	N	37	44 J	3.6	0.24 J
MW-39-100	Inside Plume	10/11/2022	N	310	--	<0.1 J	0.012 J
MW-39-100	Inside Plume	11/08/2022	N	260	300	<0.1	0.013 J
MW-39-100	Inside Plume	12/06/2022	N	270	--	<0.1	0.012
MW-40D	Inside Plume	12/01/2022	N	46	37	1.6	0.0014 J
MW-50-200	Inside Plume	11/30/2022	N	1,400	1,700 J	<0.1	0.0052
MW-51	Inside Plume	10/13/2022	N	720	--	1.3 J	0.04 J
MW-51	Inside Plume	10/13/2022	FD	720	--	3.5 J	0.029 J
MW-51	Inside Plume	11/11/2022	N	580	740	1.5	0.11
MW-51	Inside Plume	12/08/2022	N	280	--	1.6	0.048
MW-51	Inside Plume	12/08/2022	FD	290	--	1.7	0.042
MW-57-070	Inside Plume	11/18/2022	N	280	310	1.9	0.11
MW-59-100	Inside Plume	11/30/2022	N	2,300	2,600 J	0.71 J	0.00058
MW-59-100	Inside Plume	11/30/2022	FD	2,300	2,500 J	0.41 J	0.00078
MW-60-125	Inside Plume	11/29/2022	N	36 J	70	<0.1	0.013 J
MW-61-110	Inside Plume	11/29/2022	N	63	66 J	2.9	0.57 J
MW-61-110	Inside Plume	11/29/2022	FD	61	87 J	3.2	0.63 J
MW-62-065	Inside Plume	11/28/2022	N	580	590 J	0.92	0.0022 J
MW-62-110	Inside Plume	11/29/2022	N	<1	2.2 J	6.5	0.45 J
MW-65-160	Inside Plume	11/30/2022	N	280	260 J	0.23	0.0096
MW-65-225	Inside Plume	11/30/2022	N	440	510 J	0.94	0.0016
MW-66-165	Inside Plume	11/29/2022	N	420	670 J	1.9	0.024 J
MW-66-230	Inside Plume	11/29/2022	N	7,000	6,500 J	13	0.024 J
MW-66-230	Inside Plume	11/29/2022	FD	7,000	7,000 J	12	0.019 J
MW-67-185	Inside Plume	10/13/2022	N	150	180 J	--	1.40
MW-67-185	Inside Plume	11/10/2022	N	<80	120	<0.5	1.20
MW-67-185	Inside Plume	12/07/2022	N	<80	<5 J	--	1.20
MW-67-225	Inside Plume	11/30/2022	N	4,300	4,600 J	0.64	0.0050
MW-67-260	Inside Plume	11/30/2022	N	620	750 J	3.2	<0.0005
MW-68-180	Inside Plume	10/13/2022	N	39,000	40,000 J	--	--
MW-68-180	Inside Plume	11/10/2022	N	19,000	19,000	2.1	<0.0025
MW-68-180	Inside Plume	12/07/2022	N	21,000	21,000 J	--	--
MW-68-240	Inside Plume	11/30/2022	N	1,800	2,000 J	<0.1	0.035
MW-69-195	Inside Plume	11/30/2022	N	140	110 J	1.9	0.012
MW-70-105	Inside Plume	11/28/2022	N	180	170 J	2.5	0.0020 J
MW-70BR-225	Inside Plume	11/28/2022	N	1,400	1,500 J	<0.1	0.0071 J
MW-70BR-287	Inside Plume	11/28/2022	N	360	520 J	<0.1	0.00098 J
MW-72-080	Inside Plume	11/29/2022	N	77	73 J	12	0.064 J

Table 3.8
Remedy Compliance Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-73-080	Inside Plume	11/29/2022	N	14 J	14 J	1.3	0.024 J
MW-75-033	Inside Plume	11/11/2022	N	45	40	--	--
MW-76-039	Inside Plume	10/10/2022	N	180	--	<0.1	<0.0005 J
MW-76-039	Inside Plume	11/07/2022	N	200	200 J	0.42	0.0016 J
MW-76-039	Inside Plume	12/06/2022	N	220	--	0.65	<0.0005 J
MW-76-156	Inside Plume	10/10/2022	N	<1	--	<0.1	1.30 J
MW-76-156	Inside Plume	11/07/2022	N	18	19 J	<0.1	0.016 J
MW-76-156	Inside Plume	12/06/2022	N	17	--	<0.1	0.011 J
MW-76-181	Inside Plume	10/10/2022	N	1,100	--	<0.1	0.049 J
MW-76-181	Inside Plume	11/07/2022	N	720	700 J	<0.1	0.024 J
MW-76-181	Inside Plume	11/07/2022	FD	760	730 J	<0.1	0.026 J
MW-76-181	Inside Plume	12/06/2022	N	610	--	<0.1	0.029 J
MW-76-181	Inside Plume	12/06/2022	FD	610	--	<0.1	0.029 J
MW-76-218	Inside Plume	10/10/2022	N	<1	--	<0.1	0.47 J
MW-76-218	Inside Plume	11/07/2022	N	<1	<1 J	<0.1	0.43 J
MW-76-218	Inside Plume	12/06/2022	N	<1	--	<0.1	0.50 J
MW-78-070	Inside Plume	10/13/2022	N	14	--	<0.1	0.62
MW-78-070	Inside Plume	11/09/2022	N	9.9	13	<0.1	0.78
MW-78-070	Inside Plume	12/07/2022	N	63	--	<0.1	0.17
MW-78-142	Inside Plume	10/13/2022	N	4,500	--	4.2	0.0014
MW-78-142	Inside Plume	11/09/2022	N	2,300	2,600	2.7	0.0012
MW-78-142	Inside Plume	11/09/2022	FD	2,300	2,500	2.8	0.00097
MW-78-142	Inside Plume	12/07/2022	N	2,700	--	2.7	0.0033
MW-79-058	Inside Plume	10/13/2022	N	350	--	<0.1	<0.0005
MW-79-058	Inside Plume	11/11/2022	N	200	170	<0.1	<0.0005
MW-79-058	Inside Plume	12/08/2022	N	290	--	<0.1	<0.0005
MW-79-102	Inside Plume	10/13/2022	N	170	--	1.0	0.0030
MW-79-102	Inside Plume	11/11/2022	N	330	330	1.9	0.0069
MW-79-102	Inside Plume	11/11/2022	FD	330	360	2.0	0.0074
MW-79-102	Inside Plume	12/08/2022	N	78	--	1.2	0.0085
MW-80-057	Inside Plume	10/13/2022	N	640	--	<0.1	0.010
MW-80-057	Inside Plume	11/10/2022	N	600	780	0.71	0.0043
MW-80-057	Inside Plume	12/07/2022	N	690	--	0.65	0.00052
MW-80-082	Inside Plume	10/13/2022	N	20	--	2.5	0.00097
MW-80-082	Inside Plume	10/13/2022	FD	20	--	2.6	0.00093
MW-80-082	Inside Plume	11/10/2022	N	11	12	2.8	0.014
MW-80-082	Inside Plume	12/07/2022	N	8.3	--	1.9	0.28
MW-83-090	Inside Plume	11/30/2022	N	38	38	0.20	0.067
MW-83-225	Inside Plume	11/30/2022	N	12	12	1.1	0.0014
MW-83-245	Inside Plume	11/30/2022	N	3,100	3,000	1.3	0.027
MW-84-057	Inside Plume	11/29/2022	N	31 J	39 J	1.7	<0.0005 J
MW-84-193	Inside Plume	11/29/2022	N	3.3 J	3.3 J	4.8	<0.0005 J
MW-85-129	Inside Plume	12/01/2022	N	190	180	0.86	0.00096 J
MW-85-217	Inside Plume	12/01/2022	N	570	480	3.4	0.0027 J
MW-85-237	Inside Plume	12/01/2022	N	84	75	2.0	0.071 J
MW-88-107	Inside Plume	11/30/2022	N	120	130 J	1.9	0.0020
MW-98-055	Inside Plume	11/30/2022	N	440	650 J	1.8	0.015
MW-98-077	Inside Plume	11/30/2022	N	300	360 J	4.6	0.0024
PT5D	Inside Plume	11/16/2022	N	40	39	2.5	0.022 J
PT8D	Inside Plume	12/01/2022	N	130	110	0.67	0.90 J
PT9D	Inside Plume	12/01/2022	N	4,000	4,400	1.1	0.024 J
PT9M	Inside Plume	12/01/2022	N	590	760	<0.1	0.051 J
PT9M	Inside Plume	12/01/2022	FD	600	550	<0.1	0.048 J
PT9S	Inside Plume	12/01/2022	N	94	86	0.98	0.66 J
TW-01	Inside Plume	12/15/2022	N	3,300	3,200	<0.1	0.019
TW-02D	Inside Plume	10/12/2022	N	100	--	2.3	0.0052 J
TW-02D	Inside Plume	11/09/2022	N	120	130	6.3	0.027
TW-02D	Inside Plume	11/09/2022	FD	120	130	6.3	0.028
TW-02D	Inside Plume	12/07/2022	N	54	--	6.1 J	0.0071
TW-02S	Inside Plume	10/12/2022	N	130	--	0.49	<0.0005 J
TW-02S	Inside Plume	11/09/2022	N	120	130	0.62	<0.0005
TW-02S	Inside Plume	12/07/2022	N	140	--	0.62 J	<0.0005
TW-03D	Inside Plume	10/12/2022	N	370	--	3.3	0.041 J
TW-03D	Inside Plume	11/09/2022	N	260	270	4.1	0.053
TW-03D	Inside Plume	12/07/2022	N	170	--	4.3 J	0.029
MW-13	Outside Plume	11/30/2022	N	26	25 J	1.2	<0.0005
MW-14	Outside Plume	12/02/2022	N	11	12 J	<0.1	<0.0005
MW-15	Outside Plume	11/29/2022	N	12	12 J	1.5	<0.0005 J

Table 3.8
Remedy Compliance Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-21	Outside Plume	11/15/2022	N	<0.2	2.2	14 J	0.17
MW-21	Outside Plume	11/15/2022	FD	<0.2	2.3	14 J	0.17
MW-21	Outside Plume	12/07/2022	N	0.36	--	10 J	0.14
MW-22	Outside Plume	11/16/2022	N	<1	<1	16	3.80 J
MW-23-080	Outside Plume	11/18/2022	N	<1	<1	1.5	0.00084
MW-24BR	Outside Plume	12/02/2022	N	<1	<1 J	<0.1	0.064
MW-27-020	Outside Plume	11/09/2022	N	<0.2	<1	0.75	0.075
MW-27-060	Outside Plume	11/09/2022	N	<0.2	<1	7.6	0.24
MW-27-085	Outside Plume	11/09/2022	N	<1	<1	<0.1	0.30
MW-28-025	Outside Plume	11/16/2022	N	<0.2	<1	0.54	0.012 J
MW-28-090	Outside Plume	11/16/2022	N	<0.2	<1	0.69	0.44 J
MW-29	Outside Plume	11/16/2022	N	<0.2	<1	--	--
MW-30-030	Outside Plume	11/08/2022	N	<0.2	<1	0.64	0.17 J
MW-30-050	Outside Plume	10/11/2022	N	<0.2	--	2.5 J	0.37 J
MW-30-050	Outside Plume	11/08/2022	N	<0.2	<1	3.0	0.42 J
MW-30-050	Outside Plume	12/06/2022	N	0.76	--	3.6	0.36 J
MW-31-135	Outside Plume	10/12/2022	N	17	--	<0.1	0.0035 J
MW-31-135	Outside Plume	11/09/2022	N	<1	1.5	<0.1	0.16
MW-31-135	Outside Plume	12/07/2022	N	<1	--	1.3	0.0055
MW-32-020	Outside Plume	11/10/2022	N	<1	<5	<0.5	0.30
MW-32-035	Outside Plume	11/10/2022	N	<0.2	<1	20	0.83
MW-33-040	Outside Plume	11/17/2022	N	<1	<1	--	--
MW-33-090	Outside Plume	11/17/2022	N	5.4	5.0	--	--
MW-33-150	Outside Plume	11/17/2022	N	5.2	6.9	--	--
MW-33-210	Outside Plume	11/17/2022	N	12	11	--	--
MW-34-055	Outside Plume	11/09/2022	N	<0.2	<1	3.7	0.11
MW-34-080	Outside Plume	10/12/2022	N	<1	--	<0.1	0.15 J
MW-34-080	Outside Plume	11/09/2022	N	<1	<1	<0.1	0.20
MW-34-080	Outside Plume	12/07/2022	N	<0.2	--	<0.1 J	0.16
MW-34-100	Outside Plume	11/09/2022	N	<1	<1	<0.1	0.085
MW-35-060	Outside Plume	11/17/2022	N	20	19	--	--
MW-35-135	Outside Plume	11/17/2022	N	0.51	2.6	--	--
MW-36-020	Outside Plume	11/10/2022	N	<0.2	<1	0.56	0.45
MW-36-040	Outside Plume	11/10/2022	N	<0.2	<1	6.2	0.15
MW-36-050	Outside Plume	11/10/2022	N	<0.2	<1	4.8	0.23
MW-36-070	Outside Plume	11/10/2022	N	<0.2	<1	2.2	0.32
MW-36-090	Outside Plume	10/12/2022	N	<0.2	--	1.3	0.16 J
MW-36-090	Outside Plume	11/10/2022	N	<0.2	<1	2.1	0.13
MW-36-090	Outside Plume	12/07/2022	N	<0.2	--	2.4	0.13
MW-36-100	Outside Plume	10/12/2022	N	<0.2	--	3.4	0.59 J
MW-36-100	Outside Plume	11/10/2022	N	<0.2	<1	3.9	0.51
MW-36-100	Outside Plume	12/07/2022	N	<0.2	--	4.5	0.59
MW-37D	Outside Plume	12/01/2022	N	3.8	4.2	2.2	<0.0005 J
MW-37S	Outside Plume	12/01/2022	N	11	12	0.57	<0.0005 J
MW-39-040	Outside Plume	10/11/2022	N	<0.2	--	14 J	0.10 J
MW-39-040	Outside Plume	11/08/2022	N	<0.2	<1	13	0.087 J
MW-39-040	Outside Plume	12/06/2022	N	<0.2	--	12	0.088 J
MW-39-050	Outside Plume	10/11/2022	N	<0.2	--	1.6 J	0.22 J
MW-39-050	Outside Plume	11/08/2022	N	<0.2	<1	1.7	0.27 J
MW-39-050	Outside Plume	12/06/2022	N	<0.2	--	1.9	0.25 J
MW-39-050	Outside Plume	12/06/2022	FD	<0.2	--	1.9	0.22 J
MW-39-060	Outside Plume	10/11/2022	N	<0.2	--	1.5 J	0.25 J
MW-39-060	Outside Plume	11/08/2022	N	<0.2	<1	1.5	0.24 J
MW-39-060	Outside Plume	12/06/2022	N	<0.2	--	1.3	0.22 J
MW-39-070	Outside Plume	10/11/2022	N	<0.2	--	0.97 J	0.018 J
MW-39-070	Outside Plume	10/11/2022	FD	<0.2	--	1.1 J	0.019 J
MW-39-070	Outside Plume	11/08/2022	N	<0.2	<1	1.2	0.017 J
MW-39-070	Outside Plume	12/06/2022	N	<0.2	--	1.2	0.024 J
MW-39-080	Outside Plume	10/11/2022	N	13	--	<0.1 J	0.0058 J
MW-39-080	Outside Plume	11/08/2022	N	23	21	0.69	0.0059 J
MW-39-080	Outside Plume	12/06/2022	N	1.4	--	1.0	0.0079 J
MW-40S	Outside Plume	12/01/2022	N	8.6	9.3	1.2	<0.0005 J
MW-41D	Outside Plume	11/30/2022	N	<1	<1 J	<0.1	0.11
MW-41M	Outside Plume	11/30/2022	N	9.5	9.8 J	<0.1	0.0011
MW-41S	Outside Plume	11/30/2022	N	5.1	5.6 J	0.30	0.0013
MW-42-030	Outside Plume	11/10/2022	N	<0.2	<1	1.6	0.11
MW-42-055	Outside Plume	11/10/2022	N	<0.2	<1	12	0.24
MW-42-065	Outside Plume	11/10/2022	N	<0.2	<1	4.0	2.70

Table 3.8
Remedy Compliance Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-43-025	Outside Plume	11/17/2022	N	<0.2	<1	32	0.44
MW-43-075	Outside Plume	11/17/2022	N	<1	<1	8.5 J	0.60 J
MW-43-090	Outside Plume	11/17/2022	N	<0.2	<1	<0.1 J	0.69 J
MW-44-070	Outside Plume	11/08/2022	N	<0.2	<1	3.2	0.32 J
MW-44-115	Outside Plume	10/11/2022	N	1.1	--	1.5 J	0.017 J
MW-44-115	Outside Plume	11/08/2022	N	1.0	1.5	2.0	0.022 J
MW-44-115	Outside Plume	12/06/2022	N	1.8	--	1.9	0.013 J
MW-44-115	Outside Plume	12/06/2022	FD	1.7	--	1.7	0.012 J
MW-44-125	Outside Plume	10/11/2022	N	<1	--	1.7 J	0.55 J
MW-44-125	Outside Plume	11/08/2022	N	<1	<1	2.5	0.53 J
MW-44-125	Outside Plume	12/06/2022	N	<1	--	2.1	0.59 J
MW-45-095A	Outside Plume	10/12/2022	N	<1	--	<0.1	0.36 J
MW-45-095A	Outside Plume	11/09/2022	N	<1	<1	0.94	0.41
MW-45-095A	Outside Plume	12/07/2022	N	<0.2	--	1.1 J	0.53
MW-46-175	Outside Plume	11/17/2022	N	8.7	8.1	<0.1	0.013
MW-46-205	Outside Plume	11/17/2022	N	<1	<1	<0.1	0.049
MW-47-055	Outside Plume	11/14/2022	N	17	16	--	--
MW-47-115	Outside Plume	11/14/2022	N	18	17	--	--
MW-48	Outside Plume	12/02/2022	N	1.1	1.5 J	<0.1	0.024
MW-49-135	Outside Plume	11/16/2022	N	2.8	2.9	--	--
MW-49-275	Outside Plume	11/16/2022	N	<1	<1	--	--
MW-49-365	Outside Plume	11/16/2022	N	<1	<1	--	--
MW-50-095	Outside Plume	11/30/2022	N	14	15 J	1.0	<0.0005
MW-52D	Outside Plume	11/17/2022	N	<1	<1	<0.1 J	0.25 J
MW-52M	Outside Plume	11/17/2022	N	<1	<1	<0.1 J	0.18 J
MW-52S	Outside Plume	11/17/2022	N	<1	<1	<0.1 J	1.10 J
MW-53D	Outside Plume	11/17/2022	N	<1	<1	<0.1 J	0.65 J
MW-53M	Outside Plume	11/17/2022	N	<1	<1	<0.1 J	0.59 J
MW-53S	Outside Plume	11/17/2022	N	<0.2	<1	<0.1 J	1.10 J
MW-54-085	Outside Plume	12/15/2022	N	<0.2	<1	3.32	0.698
MW-54-140	Outside Plume	12/15/2022	N	<0.2	<1	2.4	0.0576
MW-54-195	Outside Plume	12/15/2022	N	<0.2	<1	<1	0.366
MW-55-045	Outside Plume	12/13/2022	N	<0.2	5.6	6.11	0.57
MW-55-120	Outside Plume	12/13/2022	N	8.5	8.9	6.68	<0.05
MW-56D	Outside Plume	12/14/2022	N	<0.2	<5	<5	0.749
MW-56M	Outside Plume	12/14/2022	N	<0.2	<5	<5	0.787
MW-56S	Outside Plume	12/14/2022	N	<0.2	<5	<5	0.746
MW-56S	Outside Plume	12/14/2022	FD	<0.2	<5	<5	0.802
MW-57-185	Outside Plume	11/18/2022	N	<1	<1	4.9	0.0018
MW-58BR	Outside Plume	12/08/2022	N	0.82	1.1	0.46	0.46
MW-60BR-245	Outside Plume	11/29/2022	N	14 J	13	<0.1	<0.0005 J
MW-62-190	Outside Plume	11/29/2022	N	<1	<1 J	4.0	0.48 J
MW-63-065	Outside Plume	11/29/2022	N	1.5	1.5 J	1.4	0.0018 J
MW-64BR	Outside Plume	11/29/2022	N	<1	<1 J	<0.1 J	1.60 J
MW-64BR	Outside Plume	11/29/2022	FD	<1	<1 J	0.92 J	1.40 J
MW-66BR-270	Outside Plume	12/13/2022	N	<1	<1	<0.1	1.30
MW-68BR-280	Outside Plume	11/30/2022	N	<1	<1 J	<0.1	0.053
MW-71-035	Outside Plume	10/12/2022	N	<1	--	<0.1	0.12 J
MW-71-035	Outside Plume	11/10/2022	N	<1	<1	<0.1	0.35
MW-71-035	Outside Plume	11/10/2022	FD	<1	<1	<0.1	0.32
MW-71-035	Outside Plume	12/07/2022	N	<1	--	<0.1 J	0.23
MW-71-035	Outside Plume	12/07/2022	FD	<1	--	<0.1 J	0.26
MW-72BR-200	Outside Plume	11/29/2022	N	<1	<1 J	8.2	0.33 J
MW-74-240	Outside Plume	11/30/2022	N	<0.2	<1	7.5	0.0081
MW-75-117	Outside Plume	11/11/2022	N	19	18	--	--
MW-75-202	Outside Plume	11/11/2022	N	<1	<1	--	--
MW-75-267	Outside Plume	11/11/2022	N	<1	<1	--	--
MW-75-337	Outside Plume	11/11/2022	N	<1	<1	--	--
MW-77-046	Outside Plume	10/10/2022	N	<0.2	--	2.5	0.60 J
MW-77-046	Outside Plume	11/07/2022	N	<1	<1 J	3.1	0.50 J
MW-77-046	Outside Plume	12/05/2022	N	<0.2	--	5.6 J	0.67
MW-77-102	Outside Plume	10/10/2022	N	<1	--	<0.1	0.10 J
MW-77-102	Outside Plume	11/07/2022	N	<1	1.1 J	<0.1	0.12 J
MW-77-102	Outside Plume	12/05/2022	N	<1	--	R	0.12
MW-77-158	Outside Plume	10/10/2022	N	<0.2	--	0.65	0.027 J
MW-77-158	Outside Plume	11/07/2022	N	<1	<1 J	1.6	0.028 J
MW-77-158	Outside Plume	12/05/2022	N	<1	--	2.3 J	0.028
MW-77-187	Outside Plume	10/10/2022	N	33	--	2.2	0.009 J

Table 3.8
Remedy Compliance Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-77-187	Outside Plume	11/07/2022	N	6.1	19 J	3.9	0.013 J
MW-77-187	Outside Plume	11/07/2022	FD	6.2	20 J	4.1	0.013 J
MW-77-187	Outside Plume	12/05/2022	N	10	--	5.0 J	0.015
MW-81-043	Outside Plume	10/11/2022	N	13	--	3.3 J	0.041 J
MW-81-043	Outside Plume	11/08/2022	N	14	15	4.6	0.049 J
MW-81-043	Outside Plume	12/06/2022	N	17	--	5.0	0.050 J
MW-81-098	Outside Plume	10/11/2022	N	1.5	--	<0.1 J	0.16 J
MW-81-098	Outside Plume	11/08/2022	N	1.7	2.7	<0.1	0.14 J
MW-81-098	Outside Plume	12/06/2022	N	3.6	--	<0.1	0.13 J
MW-82-046	Outside Plume	10/11/2022	N	<1	--	21 J	0.24 J
MW-82-046	Outside Plume	11/08/2022	N	<1	<1	20	0.26 J
MW-82-046	Outside Plume	12/05/2022	N	<1	--	17 J	0.24
MW-82-046	Outside Plume	12/05/2022	FD	<1	--	19 J	0.26
MW-82-112	Outside Plume	10/11/2022	N	<1	--	<0.1 J	0.15 J
MW-82-112	Outside Plume	10/11/2022	FD	<1	--	<0.1 J	0.15 J
MW-82-112	Outside Plume	11/08/2022	N	<1	<1	<0.1	0.19 J
MW-82-112	Outside Plume	12/05/2022	N	<1	--	R	0.18
MW-82-168	Outside Plume	10/11/2022	N	<1	--	<0.1 J	0.038 J
MW-82-168	Outside Plume	10/11/2022	FD	<1	--	<0.1 J	0.033 J
MW-82-168	Outside Plume	11/08/2022	N	<1	<1	1.2	0.038 J
MW-82-168	Outside Plume	11/08/2022	FD	<1	<1	1.3	0.039 J
MW-82-168	Outside Plume	12/05/2022	N	<0.2	--	1.0 J	0.037
MW-82-198	Outside Plume	10/11/2022	N	2.6	--	<0.1 J	0.067 J
MW-82-198	Outside Plume	11/08/2022	N	1.6	1.7	0.96	0.074 J
MW-82-198	Outside Plume	12/05/2022	N	<1	--	1.5 J	0.063
MW-83-180	Outside Plume	11/30/2022	N	7.9	8.3	2.2	<0.0005
MW-84-095	Outside Plume	11/29/2022	N	2.8 J	1.6 J	0.29	0.00068 J
MW-84-132	Outside Plume	11/29/2022	N	2.6	2.5 J	1.5	0.0021 J
MW-86-030	Outside Plume	11/16/2022	N	<0.2	<1	5.0	0.26 J
MW-86-066	Outside Plume	11/16/2022	N	<0.2	<1	<0.1	0.56 J
MW-86-120	Outside Plume	11/16/2022	N	<1	<1	<0.1	0.49 J
MW-86-140	Outside Plume	11/16/2022	N	<1	<1	<0.1	0.96 J
MW-87-109	Outside Plume	11/18/2022	N	22	20	0.63	0.055
MW-87-139	Outside Plume	11/18/2022	N	8.0	7.6	<0.1	0.0026
MW-87-192	Outside Plume	11/18/2022	N	1.4	1.4	<0.1	<0.0005
MW-87-275	Outside Plume	11/18/2022	N	<1	1.3	1.6	<0.0005
MW-89-183	Outside Plume	12/01/2022	N	1.0	1.3	<0.1	<0.0005 J
MW-89-183	Outside Plume	12/01/2022	FD	1.1	1.2	<0.1	<0.0005 J
MW-89-273	Outside Plume	12/01/2022	N	0.63	<1	4.6	<0.0005 J
MW-90-031	Outside Plume	11/16/2022	N	<1	<1	1.2	0.42 J
MW-91-045	Outside Plume	12/15/2022	N	<0.2	<1	7.96	0.125
MW-91-120	Outside Plume	12/15/2022	N	16.7	17.9	<1	0.0875
MW-91-170	Outside Plume	12/15/2022	N	2.3	3.41	2.83	0.194
MW-91-320	Outside Plume	12/15/2022	N	<0.2	<1	9.7	1.35
MW-92-037	Outside Plume	12/15/2022	N	<0.2	<1	23.8	0.0586
MW-92-037	Outside Plume	12/15/2022	FD	<0.2	<1	24.1	0.0586
MW-92-072	Outside Plume	12/15/2022	N	<0.2	<1	17.5	0.022
MW-92-102	Outside Plume	12/15/2022	N	5.16	5.99	20.4	<0.01
MW-92-122	Outside Plume	12/15/2022	N	<0.2	<1	10.9	0.184
MW-93-050	Outside Plume	11/29/2022	N	24 J	23 J	1.3	<0.0005 J
MW-93-213	Outside Plume	11/29/2022	N	<1	<1 J	<0.1	0.10 J
MW-95-113	Outside Plume	12/08/2022	N	1.2	1.8 J	1.3	0.050 J
MW-95-113	Outside Plume	12/08/2022	FD	1.2	1.3 J	1.2	0.071 J
MW-95-157	Outside Plume	12/08/2022	N	6.5	6.7 J	0.21	0.00091
MW-96-045	Outside Plume	11/17/2022	N	<1	<1	--	--
MW-96-217	Outside Plume	11/17/2022	N	<1	<1	--	--
PGE-07BR	Outside Plume	12/01/2022	N	<1	<1	<0.1	0.33 J
PGE-08	Outside Plume	12/02/2022	N	<1	<1 J	<0.1	0.78
PT5M	Outside Plume	11/16/2022	N	<0.2	<1	0.95	0.64 J
PT5S	Outside Plume	11/16/2022	N	<0.2	<1	13	0.22 J
TW-04	Outside Plume	11/14/2022	N	13	13	--	--
TW-05	Outside Plume	11/28/2022	N	13	12 J	1.5	<0.0005 J
C-BNS	Surface Water	11/15/2022	N	<0.2	<1	2.5 J	0.00067
C-CON-D	Surface Water	11/16/2022	N	<0.2	<1	2.6	0.00087
C-CON-S	Surface Water	11/16/2022	N	<0.2	<1	2.6	0.00086
C-I-3-D	Surface Water	11/15/2022	N	<0.2	<1	2.6 J	<0.0005
C-I-3-S	Surface Water	11/15/2022	N	<0.2	<1	2.5 J	<0.0005
C-MAR-D	Surface Water	11/16/2022	N	<0.2	<1	2.4	0.052

Table 3.8
Remedy Compliance Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
C-MAR-S	Surface Water	11/16/2022	N	<0.2	<1	2.3	0.047
C-NR1-D	Surface Water	11/16/2022	N	<0.2	<1	2.3	0.00067
C-NR1-S	Surface Water	11/16/2022	N	<0.2	<1	2.6	0.00070
C-NR3-D	Surface Water	11/16/2022	N	<0.2	<1	2.4	0.00061
C-NR3-S	Surface Water	11/16/2022	N	<0.2	<1	2.3	0.00064
C-NR4-D	Surface Water	11/16/2022	N	<0.2	<1	2.3	0.00074
C-NR4-S	Surface Water	11/16/2022	N	<0.2	<1	2.3	0.00070
C-NR4-S	Surface Water	11/16/2022	FD	<0.2	<1	2.5	0.00071
C-R22A-D	Surface Water	11/15/2022	N	<0.2	<1	2.6 J	0.00097
C-R22A-S	Surface Water	11/15/2022	N	<0.2	<1	2.5 J	0.0012
C-R27-D	Surface Water	11/15/2022	N	<0.2	<1	2.7 J	0.0021
C-R27-S	Surface Water	11/15/2022	N	<0.2	<1	2.7 J	0.00060
C-TAZ-D	Surface Water	11/15/2022	N	<0.2	<1	2.5 J	0.00062
C-TAZ-S	Surface Water	11/15/2022	N	<0.2	<1	2.7 J	0.00061
C-TAZ-S	Surface Water	11/15/2022	FD	<0.2	<1	2.5 J	0.00052
R-19	Surface Water	11/16/2022	N	<0.2	<1	2.5	0.00098
R-28	Surface Water	11/15/2022	N	<0.2	<1	2.4 J	0.0010
R-63	Surface Water	11/15/2022	N	<0.2	<1	2.6 J	0.0030
RRB	Surface Water	11/16/2022	N	<0.2	<1	2.7	0.0077
SW1	Surface Water	11/15/2022	N	<0.2	<1	2.1 J	0.0010
SW1	Surface Water	11/15/2022	FD	<0.2	<1	1.8 J	0.00072
SW2	Surface Water	11/15/2022	N	<0.2	<1	1.5 J	0.0083

Abbreviations:

-- = not applicable or not available
< = not detected at reporting limit, as shown
FD = field duplicate
ID = identification
J = estimated concentration
mg/L= milligram(s) per liter
N = primary sample
µg/L = microgram(s) per liter

Table 3.9
COPC Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)	Nitrate/Nitrite as Nitrogen (mg/L)
C-BNS	--	11/15/22	N	4.7	1.2	0.27	--
C-CON-D	--	11/16/22	N	4.7	1.5	0.28	--
C-CON-S	--	11/16/22	N	4.7	1.6	0.29	--
C-I-3-D	--	11/15/22	N	4.7	1.6	0.26	--
C-I-3-S	--	11/15/22	N	4.5	1.5	0.27	--
C-MAR-D	--	11/16/22	N	4.8	1.2	0.25	--
C-MAR-S	--	11/16/22	N	4.7	1.4	0.23	--
C-NR1-D	--	11/16/22	N	4.3	1.4	0.26	--
C-NR1-S	--	11/16/22	N	4.8	1.6	0.26	--
C-NR3-D	--	11/16/22	N	4.5	1.4	0.28	--
C-NR3-S	--	11/16/22	N	4.4	1.5	0.28	--
C-NR4-D	--	11/16/22	N	4.3	1.4	0.32	--
C-NR4-S	--	11/16/22	N	4.4	1.4	0.30	--
C-NR4-S	--	11/16/22	FD	4.8	1.4	0.28	--
C-R22A-D	--	11/15/22	N	4.9	1.5	0.28 J	--
C-R22A-S	--	11/15/22	N	4.5	1.4	0.28 J	--
C-R27-D	--	11/15/22	N	5.3	1.5	0.27 J	--
C-R27-S	--	11/15/22	N	4.8	1.7	0.26 J	--
C-TAZ-D	--	11/15/22	N	4.6	1.7	0.28 J	--
C-TAZ-S	--	11/15/22	N	4.9	1.5	0.26 J	--
C-TAZ-S	--	11/15/22	FD	4.7	1.3	0.27 J	--
MW-09	--	12/01/22	N	23 J	<0.5	1.3	--
MW-09	--	12/01/22	FD	23 J	<0.5	1.2	--
MW-10	--	11/28/22	N	160	1.7 J	11	--
MW-10D	--	11/28/22	N	1.2	6.6 J	12	--
MW-12	--	11/30/22	N	15 J	12	13	--
MW-13	--	11/30/22	N	9.3	3.0	5.2	--
MW-14	X	12/02/22	N	8.4	1.9	2.7	2.8 J
MW-20-070	--	11/09/22	N	18	28	30	--
MW-20-070	--	11/09/22	FD	17	27	32	--
MW-20-100	--	11/09/22	N	1.9	15	8.5	--
MW-20-130	--	11/09/22	N	18	44	14	--
MW-21	--	11/15/22	N	100	5.9	<0.5	--
MW-21	--	11/15/22	FD	100	5.8	<0.5	--
MW-22	X	11/16/22	N	36	<0.5	<0.5	0.070
MW-23-060	X	11/18/22	N	23	4.7	5.1	4.85
MW-23-080	X	11/18/22	N	48	5.0	0.95	4.0
MW-24A	--	12/01/22	N	73 J	<0.5	0.66	--
MW-24B	--	12/01/22	N	32 J	2.2	2.7	--
MW-25	--	12/02/22	N	5.1	6.6	11	--
MW-26	--	11/11/22	N	4.5	<0.5	<0.5	--
MW-27-020	--	11/09/22	N	5.1	<0.5	<0.25	--
MW-27-060	X	11/09/22	N	4.0	<0.5	<0.25	<0.05
MW-27-085	X	11/09/22	N	25	<0.5	<0.25	<0.05
MW-28-025	--	11/16/22	N	5.1	1.4	<0.25	--
MW-28-090	--	11/16/22	N	23	<0.5	<0.5	--
MW-30-030	--	11/08/22	N	40 J	0.63	<0.25	--
MW-30-050	--	11/08/22	N	5.6 J	<0.5	<0.25	--
MW-31-060	--	11/09/22	N	1.2	<0.5	<0.5	--
MW-31-060	--	11/09/22	FD	1.1	<0.5	<0.5	--
MW-31-135	--	11/09/22	N	45	<0.5	<0.5	--
MW-32-020	--	11/10/22	N	120	<2.5	<0.5	--
MW-32-035	X	11/10/22	N	13	<0.5	<0.5	0.020 J
MW-33-040	X	11/17/22	N	340	1.8	0.38	0.45
MW-33-090	X	11/17/22	N	8.8	<0.5	0.98	1.12
MW-33-150	X	11/17/22	N	37	0.73	1.7	1.89
MW-34-055	X	11/09/22	N	4.1	<0.5	<0.25	<0.05
MW-34-080	--	11/09/22	N	16	<0.5	<0.5	--
MW-34-100	X	11/09/22	N	47	<0.5	<0.25	<0.05
MW-35-060	X	11/17/22	N	9.2	0.98	2.1	2.35
MW-35-135	X	11/17/22	N	9.2	<0.5	2.3	2.45
MW-36-020	--	11/10/22	N	14	<0.5	<0.25	--
MW-36-040	X	11/10/22	N	4.5	<0.5	<0.25	<0.05
MW-36-050	--	11/10/22	N	4.2	<0.5	<0.25	--
MW-36-070	--	11/10/22	N	5.2	<0.5	<0.25	--
MW-36-090	--	11/10/22	N	5.3	<0.5	<0.5	--
MW-36-100	X	11/10/22	N	13	<0.5	<0.5	<0.05
MW-37D	--	12/01/22	N	74 J	1.8	2.6	--

Table 3.9
COPC Monitoring Analytical Results
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)	Nitrate/Nitrite as Nitrogen (mg/L)
MW-37S	X	12/01/22	N	13 J	0.87	1.8	1.2 J
MW-38D	--	11/28/22	N	32	0.55 J	3.3	--
MW-38S	--	11/28/22	N	6.9	3.7 J	3.6	--
MW-39-040	--	11/08/22	N	8.9 J	<0.5	<0.25	--
MW-39-050	--	11/08/22	N	4.9 J	<0.5	<0.25	--
MW-39-060	--	11/08/22	N	6.6 J	<0.5	<0.5	--
MW-39-070	--	11/08/22	N	9.2 J	<0.5	<0.5	--
MW-39-080	--	11/08/22	N	14 J	<0.5	<0.5	--
MW-39-100	--	11/08/22	N	9.1 J	<0.5	<0.5	--
MW-40D	X	12/01/22	N	33 J	0.84	3.5	0.29 J
MW-40S	X	12/01/22	N	6.7 J	2.0	4.5	3.5 J
MW-41D	--	11/30/22	N	80	0.55	0.55	--
MW-41M	X	11/30/22	N	26	0.53	0.51	0.55 J
MW-41S	X	11/30/22	N	12	2.3	2.4	2.7 J
MW-42-030	X	11/10/22	N	6.3	<0.5	<0.25	<0.05
MW-42-055	--	11/10/22	N	5.0	<0.5	<0.25	--
MW-42-065	--	11/10/22	N	11	<0.5	<0.25	--
MW-43-025	--	11/17/22	N	6.4	<0.5	<0.5	--
MW-43-075	--	11/17/22	N	16	<0.5	<0.5	--
MW-43-090	--	11/17/22	N	28	<0.5	<0.5	--
MW-44-070	X	11/08/22	N	11 J	<0.5	<0.5	<0.05
MW-44-115	--	11/08/22	N	46 J	<0.5	<0.5	--
MW-44-125	X	11/08/22	N	120 J	<0.5	<0.5	<0.05
MW-45-095A	--	11/09/22	N	20	<0.5	<0.5	--
MW-46-175	X	11/17/22	N	160	0.51	0.97	1.23
MW-46-205	--	11/17/22	N	360	0.79	0.83	--
MW-48	--	12/02/22	N	8.6	<0.5	<0.5	--
MW-50-200	--	11/30/22	N	35	1.1	1.4	--
MW-51	--	11/11/22	N	33	10	1.8	--
MW-52D	--	11/17/22	N	56	<0.5	<0.5	--
MW-52M	--	11/17/22	N	31	<0.5	<0.5	--
MW-52S	--	11/17/22	N	22	0.80	<0.5	--
MW-53D	--	11/17/22	N	130	<0.5	<0.5	--
MW-53M	--	11/17/22	N	46	<0.5	<0.5	--
MW-53S	--	11/17/22	N	3.1	<0.5	<0.5	--
MW-54-085	--	12/15/22	N	49.7	<10	0.291	--
MW-54-140	--	12/15/22	N	55.7	<10	0.631	--
MW-54-195	--	12/15/22	N	111	<10	<0.5	--
MW-56D	--	12/14/22	N	<50	<50	<1	--
MW-56M	--	12/14/22	N	<50	<50	2.25	--
MW-56S	--	12/14/22	N	<50	<50	<0.1	--
MW-56S	--	12/14/22	FD	<50	<50	1.99 J	--
MW-57-070	--	11/18/22	N	3.3	2.7	3.5	--
MW-57-185	--	11/18/22	N	65	<0.5	<0.25	--
MW-58BR	--	12/08/22	N	25	1.5	<0.25	--
MW-59-100	--	11/30/22	N	4.4	3.4	2.8	--
MW-59-100	--	11/30/22	FD	4.1	3.1	2.6	--
MW-60-125	--	11/29/22	N	16	5.0	2.6 J	--
MW-61-110	--	11/29/22	N	20	0.87	0.40 J	--
MW-61-110	--	11/29/22	FD	21	0.97	0.46 J	--
MW-62-065	--	11/28/22	N	16	3.7 J	5.0	--
MW-62-110	--	11/29/22	N	50	0.86	<0.5 J	--
MW-62-190	--	11/29/22	N	35	<0.5	<0.25 J	--
MW-63-065	--	11/29/22	N	14	1.0	1.4 J	--
MW-64BR	--	11/29/22	N	31	<0.5	<0.25 J	--
MW-64BR	--	11/29/22	FD	28	<0.5	<0.25 J	--
MW-65-160	--	11/30/22	N	22	9.8	13	--
MW-65-225	--	11/30/22	N	24	7.4	9.3	--
MW-66-165	--	11/29/22	N	4.5	13	10 J	--
MW-66-230	--	11/29/22	N	93 J	15	7.3 J	--
MW-66-230	--	11/29/22	FD	73 J	12	17 J	--
MW-67-185	--	11/10/22	N	23	140	26	--
MW-67-225	--	11/30/22	N	58	62	15	--
MW-67-260	--	11/30/22	N	76	1.5	0.27	--
MW-68-180	--	11/10/22	N	56	20	25	--
MW-68-240	--	11/30/22	N	20	4.0	3.7	--
MW-69-195	--	11/30/22	N	57	5.7	8.6	--
MW-70-105	--	11/28/22	N	49	4.7 J	5.3 J	--

Table 3.9
COPC Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)	Nitrate/Nitrite as Nitrogen (mg/L)
MW-70BR-225	--	11/28/22	N	19	2.4 J	3.7	--
MW-71-035	X	11/10/22	N	16	1.5	<0.5	0.42
MW-71-035	X	11/10/22	FD	16	1.6	0.61	0.43
MW-72-080	--	11/29/22	N	82	1.7	1.3 J	--
MW-73-080	--	11/29/22	N	47	2.2	1.4 J	--
MW-74-240	--	11/30/22	N	55 J	<0.5	<0.5	--
MW-76-039	--	11/07/22	N	24 J	4.3	3.6	--
MW-76-156	--	11/07/22	N	29 J	1.1	2.3	--
MW-76-181	--	11/07/22	N	32 J	1.2	1.7	--
MW-76-181	--	11/07/22	FD	33 J	<2.5	1.9	--
MW-76-218	--	11/07/22	N	26 J	<0.5	<0.5	--
MW-77-046	--	11/07/22	N	81 J	2.2	<0.5	--
MW-77-102	--	11/07/22	N	26 J	<2.5	1.2	--
MW-77-158	--	11/07/22	N	34 J	<0.5	<0.5	--
MW-77-187	--	11/07/22	N	150 J	<2.5	<0.5	--
MW-77-187	--	11/07/22	FD	160 J	<2.5	<0.5	--
MW-78-070	--	11/09/22	N	5.4	<0.5	<0.5	--
MW-78-142	--	11/09/22	N	21	18	4.4	--
MW-78-142	--	11/09/22	FD	22	19	4.5	--
MW-79-058	--	11/11/22	N	4.9	0.75	0.54	--
MW-79-102	--	11/11/22	N	28	2.6	0.53	--
MW-79-102	--	11/11/22	FD	29	3.0	<0.5	--
MW-80-057	--	11/10/22	N	21	13	7.5	--
MW-80-082	--	11/10/22	N	61	<0.5	<0.5	--
MW-81-043	--	11/08/22	N	22 J	1.5	1.7 J	--
MW-81-098	--	11/08/22	N	25 J	0.65	1.1 J	--
MW-82-046	--	11/08/22	N	26 J	<0.5	<0.5	--
MW-82-112	--	11/08/22	N	23 J	<0.5	1.8 J	--
MW-82-168	--	11/08/22	N	36 J	<0.5	<0.5	--
MW-82-168	--	11/08/22	FD	38 J	<0.5	<0.5	--
MW-82-198	--	11/08/22	N	40 J	<0.5	<0.5	--
MW-83-090	--	11/30/22	N	3.1 J	3.7	4.5	--
MW-83-180	--	11/30/22	N	31 J	0.72	0.63	--
MW-83-225	--	11/30/22	N	48 J	<0.5	<0.5	--
MW-83-245	--	11/30/22	N	56 J	2.8	2.2	--
MW-84-057	--	11/29/22	N	22	4.6	6.8 J	--
MW-84-095	--	11/29/22	N	16	1.0	1.6 J	--
MW-84-132	--	11/29/22	N	9.3	1.4	1.5 J	--
MW-84-193	--	11/29/22	N	48	1.5	1.4 J	--
MW-85-129	--	12/01/22	N	2.6 J	9.8	20	--
MW-85-217	--	12/01/22	N	47 J	4.2	8.9	--
MW-85-237	--	12/01/22	N	81 J	1.2	1.6	--
MW-86-030	--	11/16/22	N	7.0	<0.5	<0.25	--
MW-86-066	--	11/16/22	N	14	<0.5	0.76	--
MW-86-120	--	11/16/22	N	36	<0.5	<0.5	--
MW-86-140	--	11/16/22	N	1.6	<0.5	<0.5	--
MW-87-109	--	11/18/22	N	8.5	3.5	7.1	--
MW-87-139	--	11/18/22	N	4.5	1.0	1.6	--
MW-87-192	--	11/18/22	N	27	1.1	1.1	--
MW-87-275	--	11/18/22	N	41	1.0	1.1	--
MW-89-183	X	12/01/22	N	6.7 J	2.6	3.9	2.8 J
MW-89-183	X	12/01/22	FD	6.4 J	2.7	4.4	2.8 J
MW-89-273	X	12/01/22	N	35 J	3.6	4.0	2.8 J
MW-90-031	X	11/16/22	N	15	<0.5	<0.5	0.030 J
MW-91-045	--	12/15/22	N	<10	<10	0.632	--
MW-91-120	--	12/15/22	N	11.7	<10	1.77	--
MW-91-170	--	12/15/22	N	157	<10	1.33	--
MW-91-320	--	12/15/22	N	48.8	<10	<1	--
MW-92-037	--	12/15/22	N	13.5	<10	<0.1	--
MW-92-037	--	12/15/22	FD	13.3	<10	<0.1	--
MW-92-072	--	12/15/22	N	20.3	<10	0.418	--
MW-92-102	--	12/15/22	N	37	<10	1.0	--
MW-92-122	--	12/15/22	N	195	<10	<0.2	--
MW-95-113	X	12/08/22	N	4.2	5.1	4.9	6.0 J
MW-95-113	X	12/08/22	FD	4.3	5.2	4.9	6.6 J
MW-95-157	X	12/08/22	N	10	5.9	5.6	5.8 J
PT5D	--	11/16/22	N	130	<0.5	1 J	--
PT5M	--	11/16/22	N	7.3	<0.5	<0.5	--

Table 3.9
COPC Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)	Nitrate/Nitrite as Nitrogen (mg/L)
PT5S	--	11/16/22	N	7.1	<0.5	<0.25	--
PT9D	--	12/01/22	N	29 J	6.1	8.0	--
PT9M	--	12/01/22	N	5.2 J	5.7	7.4	--
PT9M	--	12/01/22	FD	4.8 J	5.8	7.6	--
PT9S	--	12/01/22	N	12 J	1.5	2.8	--
R-19	--	11/16/22	N	4.6	1.4	0.30	--
R-28	--	11/15/22	N	4.7	1.4	0.26 J	--
R63	--	11/15/22	N	4.8	1.6	0.28	--
RRB	--	11/16/22	N	5.2	1.5	0.20	--
SW1	--	11/15/22	N	9.0	0.97	<0.05	--
SW1	--	11/15/22	FD	8.5	0.89	<0.05	--
SW2	--	11/15/22	N	4.5	<0.5	<0.05	--
TW-01	--	12/15/22	N	13	24	8.6	--
TW-02D	--	11/09/22	N	110	<0.5	<0.5	--
TW-02D	--	11/09/22	FD	120	<0.5	0.29 J	--
TW-02S	--	11/09/22	N	5.3	1.1	1.3 J	--
TW-03D	--	11/09/22	N	110	<0.5	<0.5	--

Abbreviations:
-- = not applicable or not available
< = not detected at reporting limit, as shown
COPC = constituent of potential concern
FD = field duplicate
ID = identification
J = estimated concentration
mg/L= milligram(s) per liter
N = primary sample
µg/L = microgram(s) per liter

Table 3.10
Former IM-3 Injection Area Monitoring Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Chloride (mg/L)	Flouride (mg/L)	Nitrate/ Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
CW-01D	11/29/22	N	<1	1.8	<0.1	23	1.8	160	17	0.018	23	12	7.5	1,300	3.2	79	1,900	2.3	8.2 J	510	4,300
CW-01M	11/29/22	N	<1	<1	<0.1	80	1.8	200	13	0.0011	16	11	3.8	1,500	3.0	78	2,100	2.1	2.8 J	510	5,500
CW-02D	12/02/22	N	0.40	<1	1.4	15 J	1.3	85 J	5.5 J	<0.0005	14	12 J	4.1	1,700 J	4.7	70	2,100	1.8	2.8 J	490	4,400
CW-02M	12/02/22	N	1.1	1.5	0.46	84 J	1.2	120 J	11 J	0.00054	13	11 J	4.1	1,500 J	4.5	67	2,100	2.8	2.7 J	600	4,400
CW-03D	12/02/22	N	0.60	<1	<0.1	18 J	1.2	73 J	6.3 J	<0.0005	13	12 J	3.6	1,600 J	2.7	65	2,100	2.3	2.9 J	610	4,500
CW-03M	12/02/22	N	2.4	2.5	<0.1	37 J	1.4	140 J	13 J	<0.0005	33	20 J	2.7	1,500 J	3.6	54	2,100	3.9	2.8 J	620	4,400
CW-04D	12/01/22	N	<1	1.0	1.5	21 J	1.4	160	8.0 J	<0.0005	32 J	13 J	3.4	1,500 J	3.7	54	2,200	4.0	2.7 J	510	4,500
CW-04M	12/01/22	N	1.1	1.3	0.68	85 J	1.2	230	15 J	<0.0005	9.1 J	13 J	3.3	1,400 J	3.8	59	2,000	2.0	2.9 J	490	4,200
OW-01D	11/28/22	N	<1	1.0	<0.1	31	1.9	180	24 J	<0.0005 J	24	13	7.8 J	1,400 J	3.7	83	1,900	2.5	6.8 J	510	4,500 J
OW-01M	11/28/22	N	1.3	1.4	<0.1	66	1.9	190	27 J	<0.0005 J	21	13	6 J	1,400 J	3.4	120	2,000	2.2	5.8 J	510	4,700
OW-01S	11/28/22	N	7.7	7.3	<0.1	67 J	1.5	410 J	59 J	0.0062 J	5.2	15	3 J	830 J	2.4	250	1,700	1.2	3.1 J	380	4,400
OW-01S	11/28/22	FD	7.7	7.6	<0.1	110 J	1.5	590 J	68 J	0.0072 J	5.3	17	3.2 J	920 J	2.4	230	1,700	1.2	3 J	380	4,800
OW-02D	12/01/22	N	0.34	<1	0.41	24 J	1.3	210	31 J	<0.0005	23 J	18 J	9.4	1,300 J	1.9	87	2,000	2.6	7.4 J	510	4,100
OW-02M	12/01/22	N	1.6	1.8	<0.1	40 J	1.2	170	24 J	<0.0005	22 J	19 J	9.3	1,300 J	3.3	110	1,900	2.4	7.6 J	510	4,400
OW-02M	12/01/22	FD	1.7	1.8	<0.1	38 J	1.2	170	25 J	<0.0005	21 J	15 J	9	1,400 J	3.1	110	1,900	2.3	7.3 J	510	4,200
OW-02S	12/01/22	N	21	22	0.73	96 J	0.67	110	12 J	<0.0005	25 J	15 J	2.9	350 J	4.5	72	860	3.0	4.3 J	170	1,800
OW-05D	12/01/22	N	0.88	1.3	1.3	31 J	1.2	180	27 J	<0.0005	26 J	17 J	8.8	1,200 J	2.9	82	1,900	2.6	6.7 J	510	4,200
OW-05M	12/01/22	N	0.63	<1	<0.1	33 J	1.3	170	25 J	<0.0005	24 J	20 J	9.7	1,300 J	2.4	84	1,900	2.4	8.4 J	510	4,200
OW-05S	12/01/22	N	13	13	<0.1	120 J	0.41	430	59 J	<0.0005	7.7 J	18 J	2.3	580 J	2.7	54	1,400	1.4	3.1 J	310	3,100

Abbreviations:

< = not detected at reporting limit, as shown
FD = field duplicate
ID = identification
IM-3 = Interim Measure No. 3
J = estimated concentration
mg/L= milligram(s) per liter
N = primary sample
µg/L = microgram(s) per liter

Table 3.11
Domestic Well Sampling Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Calcium (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (mg/L)	Dissolved Sodium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Flouride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MTS-1	12/13/22	N	6.45	8.28	13.7	67,400	<0.5	4,080	<0.05	14.4	6,820	<5	316,000	94.5	<0.1	514 J	4.83	2.06	115 J	1.15
MTS-1	12/13/22	FD	6.46	8.22	14.1	68,600	<0.5	4,140	<0.05	14.5	6,910	<5	319,000	85.6	<0.1	529 J	4.82	1.89	138 J	985 J
MTS-2	12/13/22	N	11.1	12.6	17.5	95,000	<0.5	3,180	<0.05	18.4	7,830	<5	404,000	74.1	<0.1	711 J	5.13	1.94	153 J	1.43
PM-03	12/12/22	N	8.9	8.9 J	0.86	90	<0.02	19 J	0.001	5.6	9.7 J	1.7	200	89	<0.23	310	2	3.2	63	780
PM-04	12/12/22	N	15	17 J	0.2	150	<0.02	41 J	<0.0005	5.5	15 J	1.4	560	74	<0.23	820	1.2	1.9	260	1,800

Abbreviations:

-- = not applicable or not available
< = not detected at reporting limit, as shown
FD = field duplicate
ID = identification
J = estimated concentration
mg/L= milligram(s) per liter
N = primary sample
µg/L = microgram(s) per liter

Figures



LEGEND

- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (NOT PLUMBED INTO SYSTEM CURRENTLY)
- BAT CAVE WASH
- PIPELINE
- REMEDY STRUCTURE

Notes:
1. NTH = National Trails Highway
2. IRZ = In Situ Reactive Zone

N

0 625 1,250

Feet

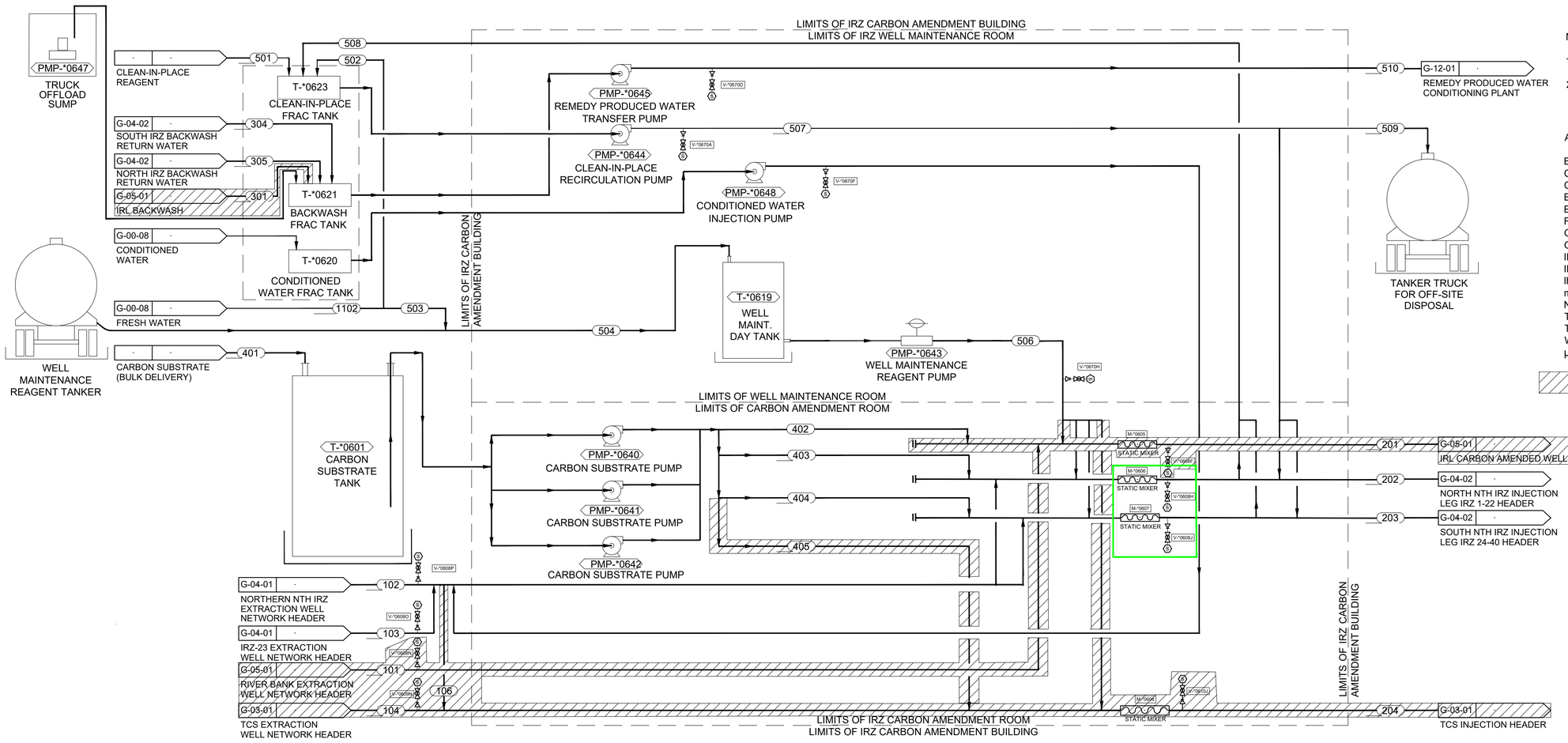
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

PARTIAL REMEDY SYSTEM LAYOUT

ARCADIS

FIGURE
1.1

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE1.1_PARTIAL REMEDY SYSTEM LAYOUT.MXD 01/04/2023 10:49:24 AM



NOTES:

1. SPARE HEADERS AND FUTURE PROVISIONAL WELLS ARE NOT SHOWN.
2. CARBON AMENDMENT SYSTEM MONITORING LOCATIONS ARE SHOWN IN GREEN BOX.

ABBREVIATIONS:

BWGW:	BACKWASH GROUNDWATER
CAGW:	CARBON AMENDED GROUNDWATER
CIPR:	CLEAN IN PLACE REAGENT
ETOH:	ETHANOL
EXGW:	EXTRACTED GROUNDWATER FRESH
FW:	WATER
GPD:	GALLONS PER DAY
GPM:	GALLONS PER MINUTE
IRL:	INNER RECIRCULATION LOOP
IRZ:	IN-SITU REACTIVE ZONE
lbs/day	POUNDS PER DAY
mg/L:	MILLIGRAMS PER LITER
NTH:	NATIONAL TRAIL HIGHWAY
TOC:	TOTAL ORGANIC CARBON TREATED
TW:	WATER
WMR:	WELL MAINTENANCE REAGENT
µg/L:	MICROGRAMS PER LITER

TO BE COMPLETED DURING PHASE 2.

ARCADIS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY

REVISIONS

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	CHKD	SUPV	APVD BY

REVISIONS

APPROVED BY

SO
SUPV
DSGN
DWN
CHKD
OK
DATE
SCALES

TOPOCK GROUNDWATER REMEDIATION PROJECT

MW-20 BENCH PROCESS FLOW DIAGRAM

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

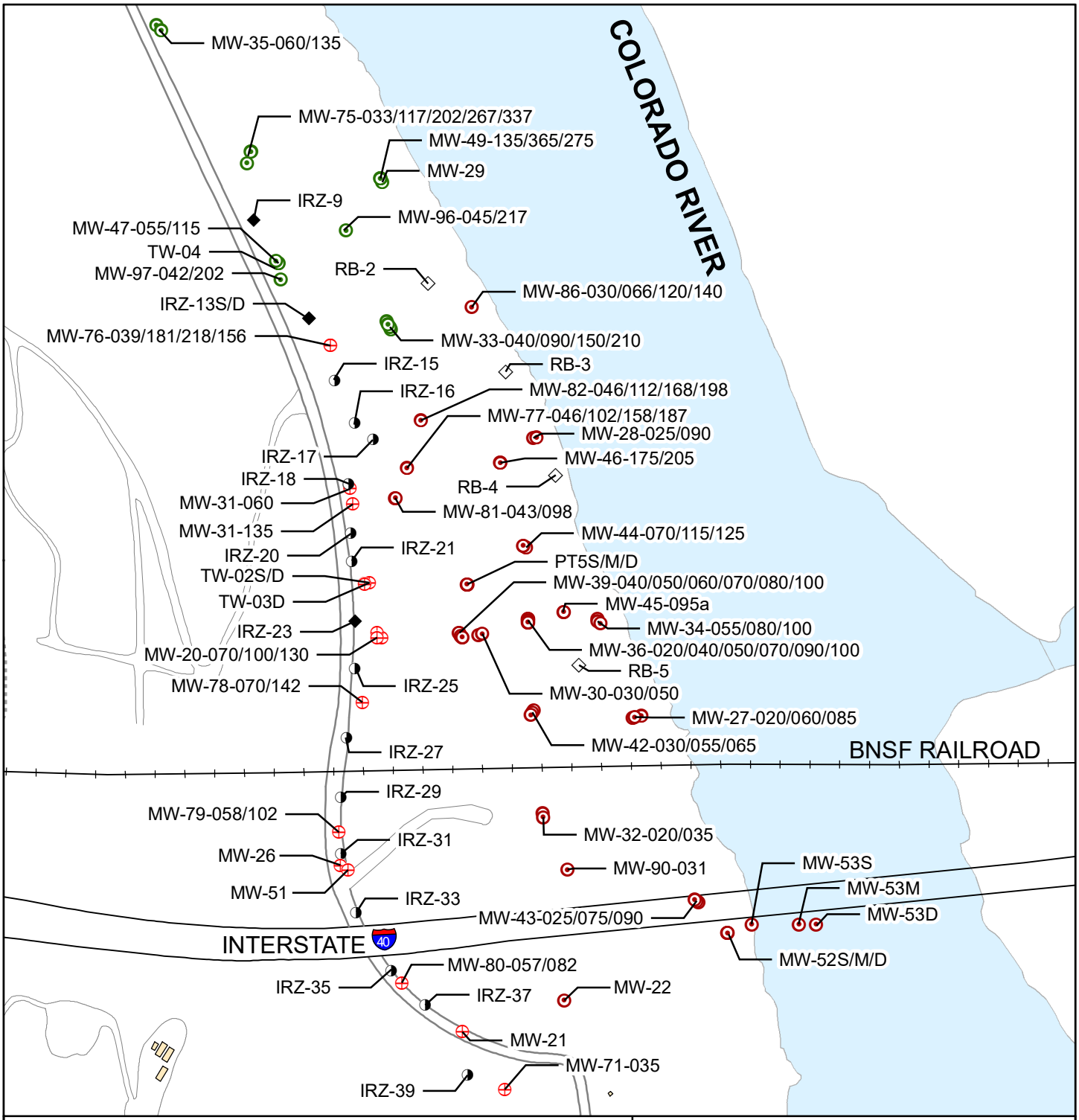
MICROFILM
BILL OF MATL
DWG LIST
SUPSDS
SUPSD BY
SHEET NO. of SHEETS

FIGURE 1.2

REV

N1808

12/02/2022, 15:42, C:\Users\vmoraski\ACCDocs\Arcadis\ANA - 30019125 – RC000753.0050 - Needles CA - Topock Construction & Closeout DOR Svcs\Project Files\0_WIP\G-General\G-06-01-Startup Figure.dwg, Tab: G-05-01 -Startup Figure



LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (NOT PLUMBED INTO SYSTEM CURRENTLY)

Notes:
1. NTH = National Trails Highway
2. IRZ = In Situ Reactive Zone

0 365 730
Feet

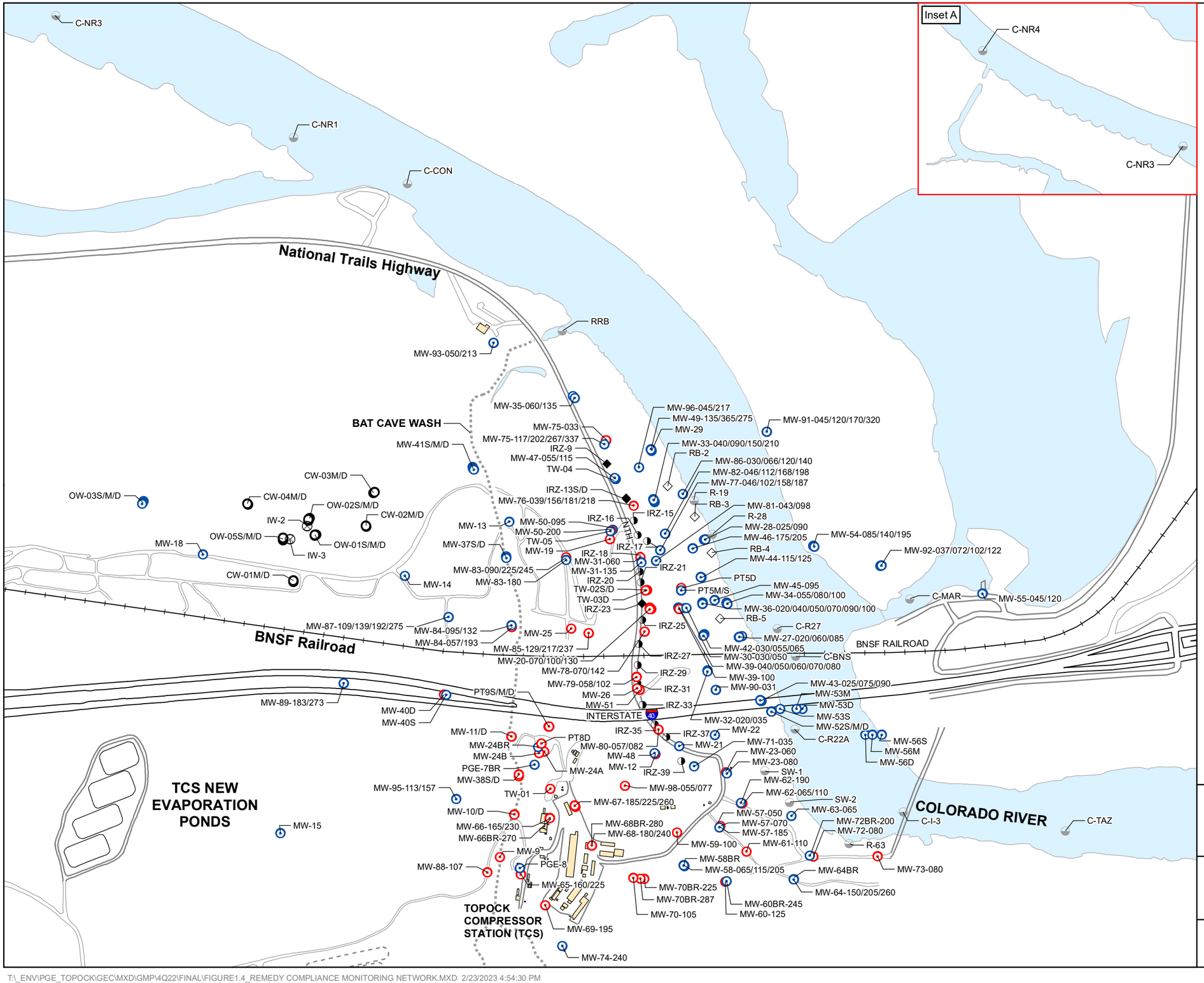
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

PROCESS CONTROL MONITORING NETWORK

ARCADIS

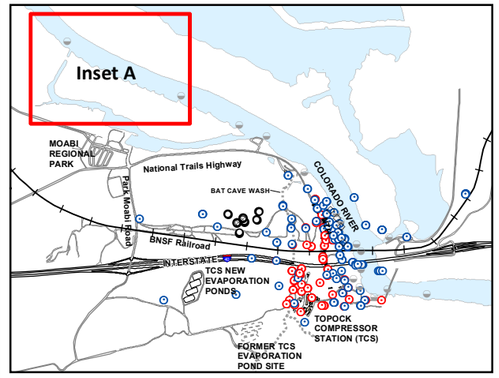
FIGURE
1.3

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE1.3_TOPOCK PROCESS CONTROL MONITORING WELLS.MXD 01/04/2023 10:52:08 AM



LEGEND

- REMEDIATION (INJECTION)
- REMEDIATION (EXTRACTION)
- REMEDIATION WELL (NOT PLUMBED INTO SYSTEM CURRENTLY)
- COMPLIANCE GROUNDWATER MONITORING WELL (INSIDE PLUME)
- COMPLIANCE GROUNDWATER MONITORING WELL (OUTSIDE PLUME)
- FORMER IM-3 MONITORING WELLS
- SURFACE WATER MONITORING LOCATION (INCLUDED IN REMEDY COMPLIANCE MONITORING PROGRAM)
- FORMER IM-3 INJECTION WELLS (NOT INCLUDED IN FORMER IM-3 INJECTION AREA MONITORING PROGRAM)
- BAT CAVE WASH



Notes:
1. NTH = National Trail Highway
2. IRZ = In Situ Reactive Zone
3. IM-3 = Interim Measure 3

0 700 1,400

Feet

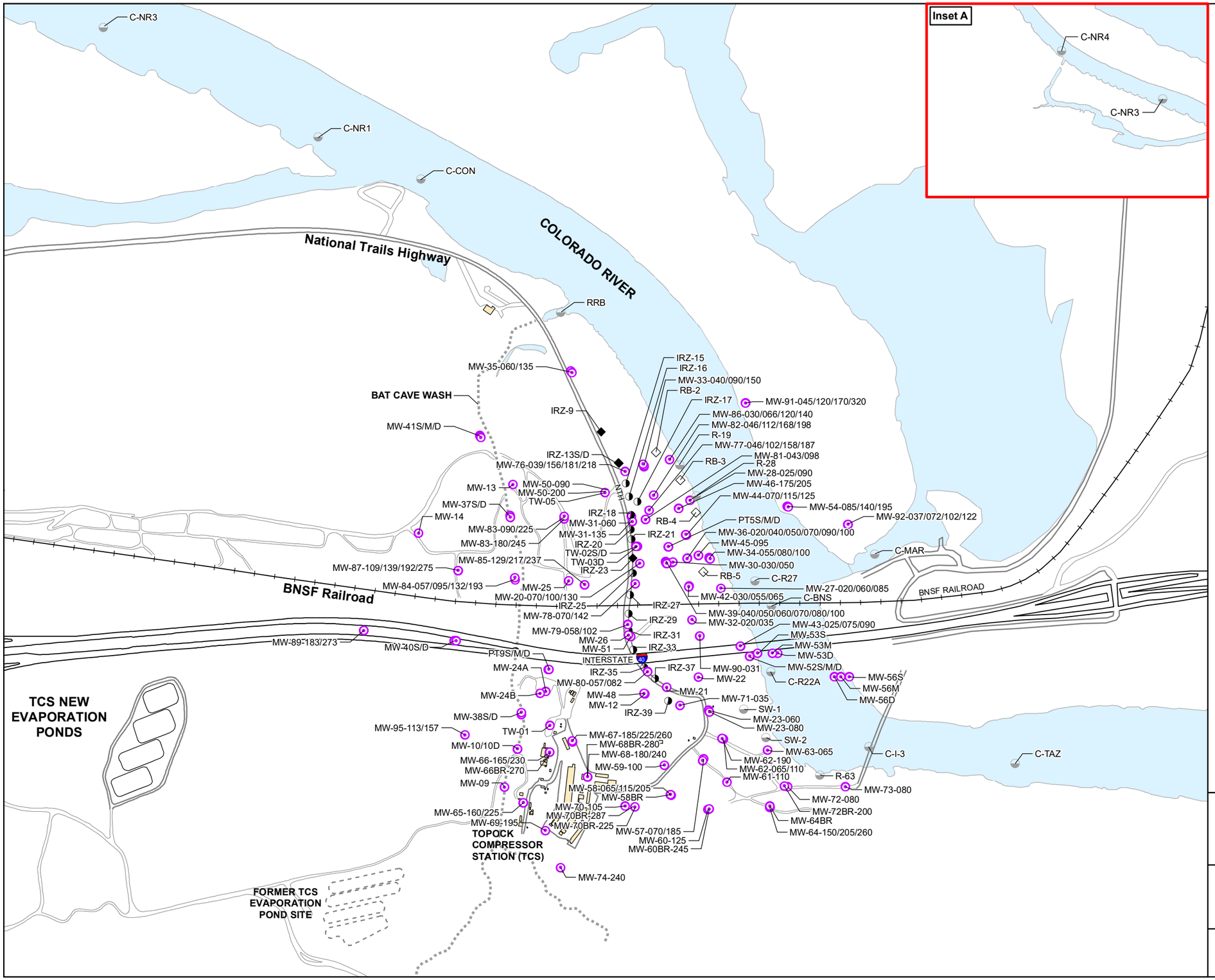
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

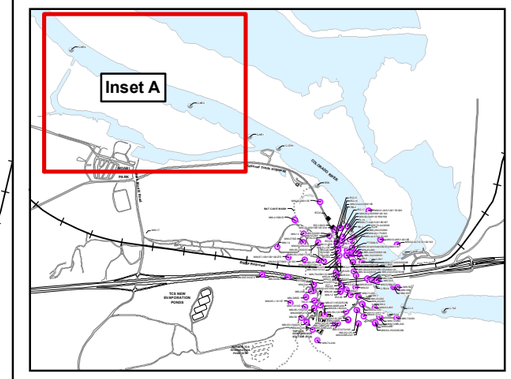
REMEDY COMPLIANCE MONITORING NETWORK

ARCADIS

FIGURE
1.4

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE1.4_REMEDY COMPLIANCE MONITORING NETWORK.MXD 2/23/2023 4:54:30 PM





LEGEND

- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (NOT PLUMBED INTO SYSTEM CURRENTLY)
- SURFACE WATER MONITORING LOCATION (INCLUDED IN COPC MONITORING PROGRAM)
- COPC MONITORING WELL
- BAT CAVE WASH

Notes:
1. NTH = National Trails Highway
2. IRZ = In Situ Reactive Zone
3. COPC = Constituent of Potential Concern

0 500 1,000
Feet

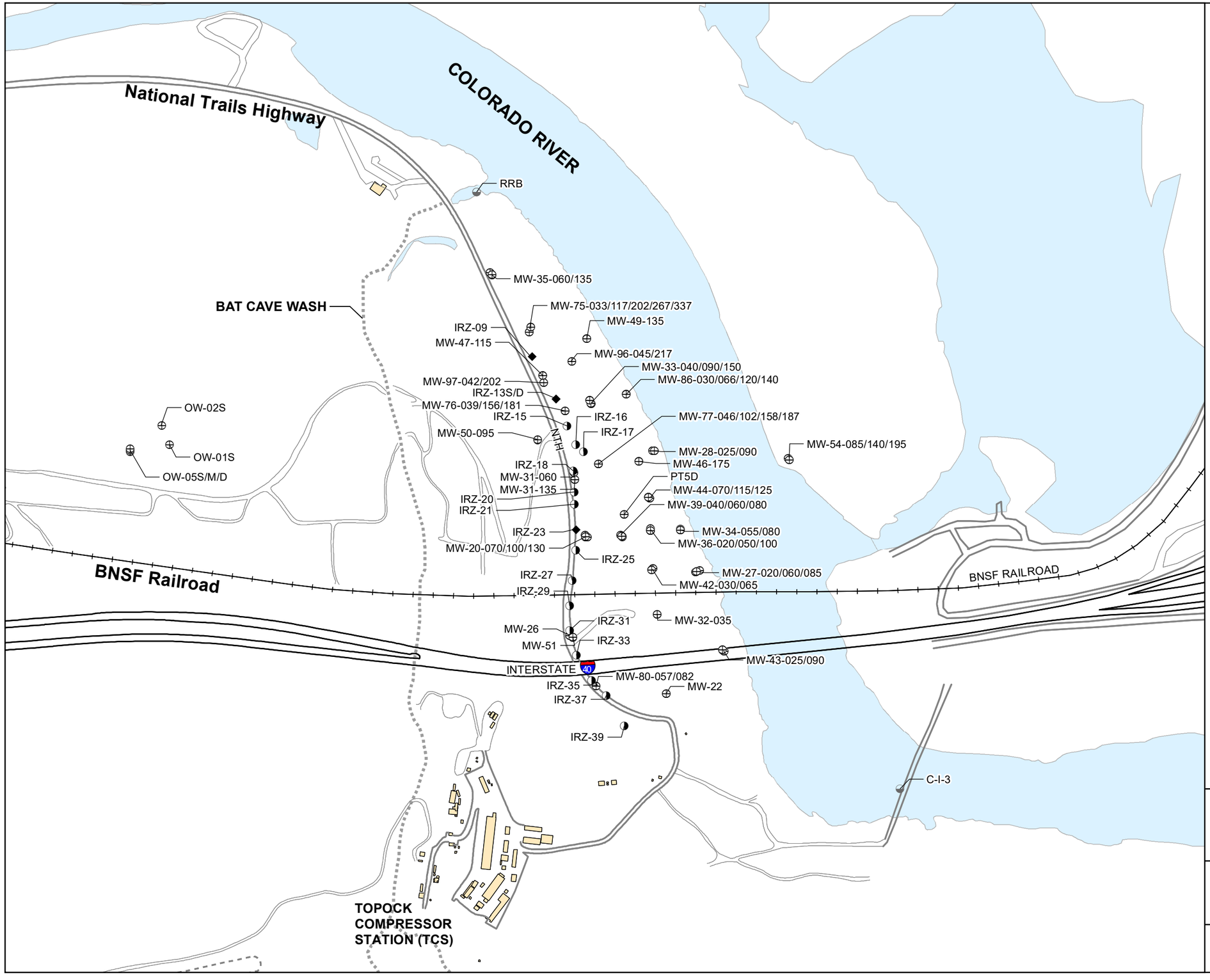
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

COPC MONITORING NETWORK

ARCADIS

FIGURE
1.5

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE1.5_COPC MONITORING NETWORK.MXD 3/7/2023 2:08:46 PM



LEGEND

- GROUNDWATER MONITORING WELL WITH PRESSURE TRANSDUCER
- SURFACE WATER MONITORING LOCATION
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- BAT CAVE WASH

0 500 1,000

Feet

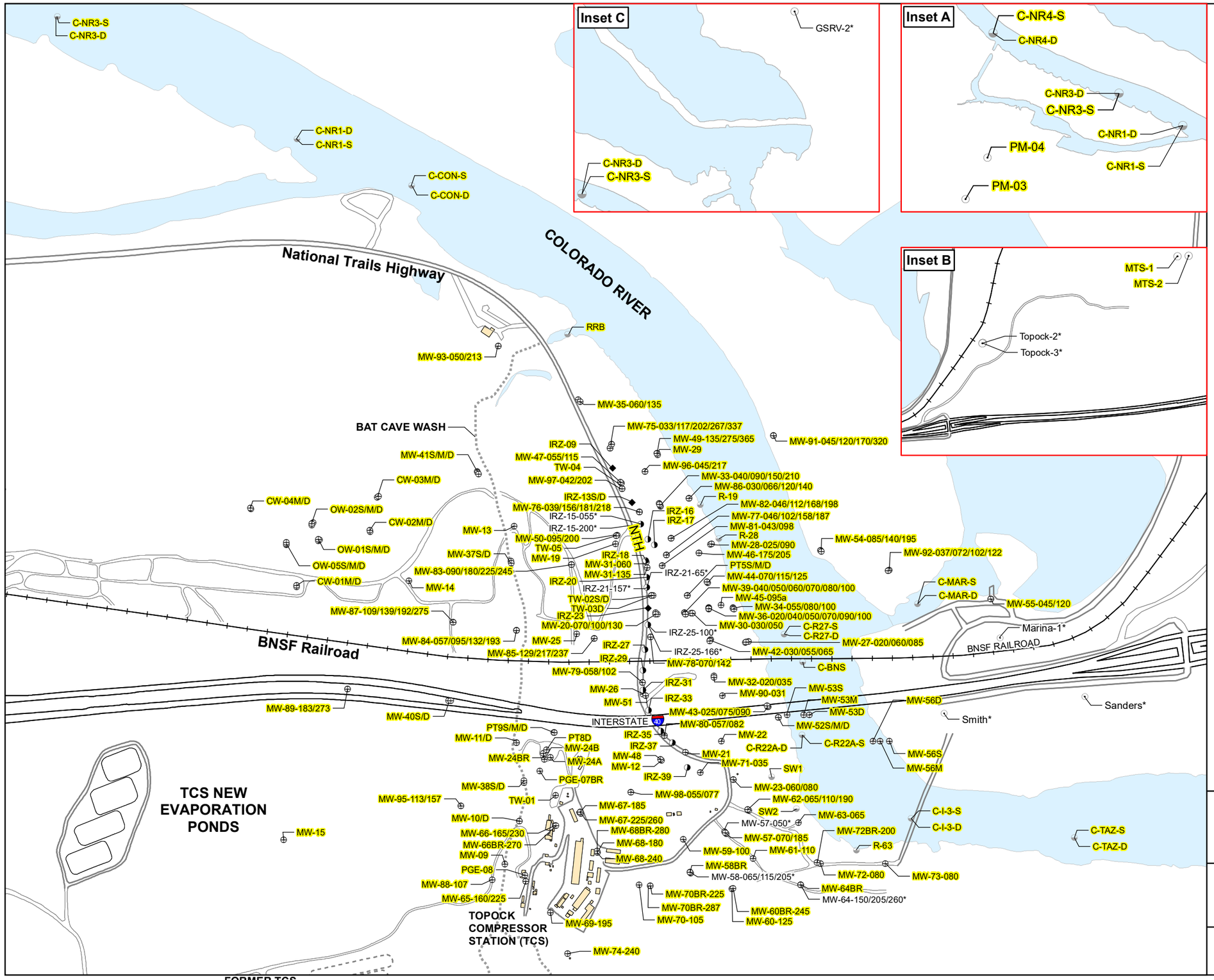
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

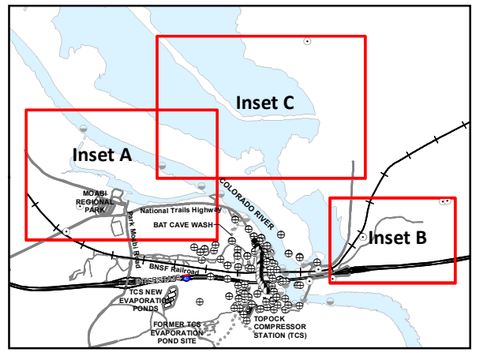
PRESSURE TRANSDUCER MONITORING NETWORK

ARCADIS

FIGURE
1.6

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE1.6_PRESSURE TRANSDUCER MONITORING NETWORK.MXD 1/4/2023 10:57:04 AM





LEGEND

- ⊕ GROUNDWATER MONITORING WELL
- ◒ SURFACE MONITORING WELL LOCATION
- ◑ REMEDIATION WELL (INJECTION)
- ◆ REMEDIATION WELL (EXTRACTION)
- ⊙ DOMESTIC WELL LOCATION
- BAT CAVE WASH

MW-69-195 = Location sampled in Fourth Quarter 2022
MW-57-050 = Location not sampled in Fourth Quarter 2022
* = Location was supposed to be sampled in Fourth Quarter 2022, but a sample could not be collected

0 500 1,000
Feet

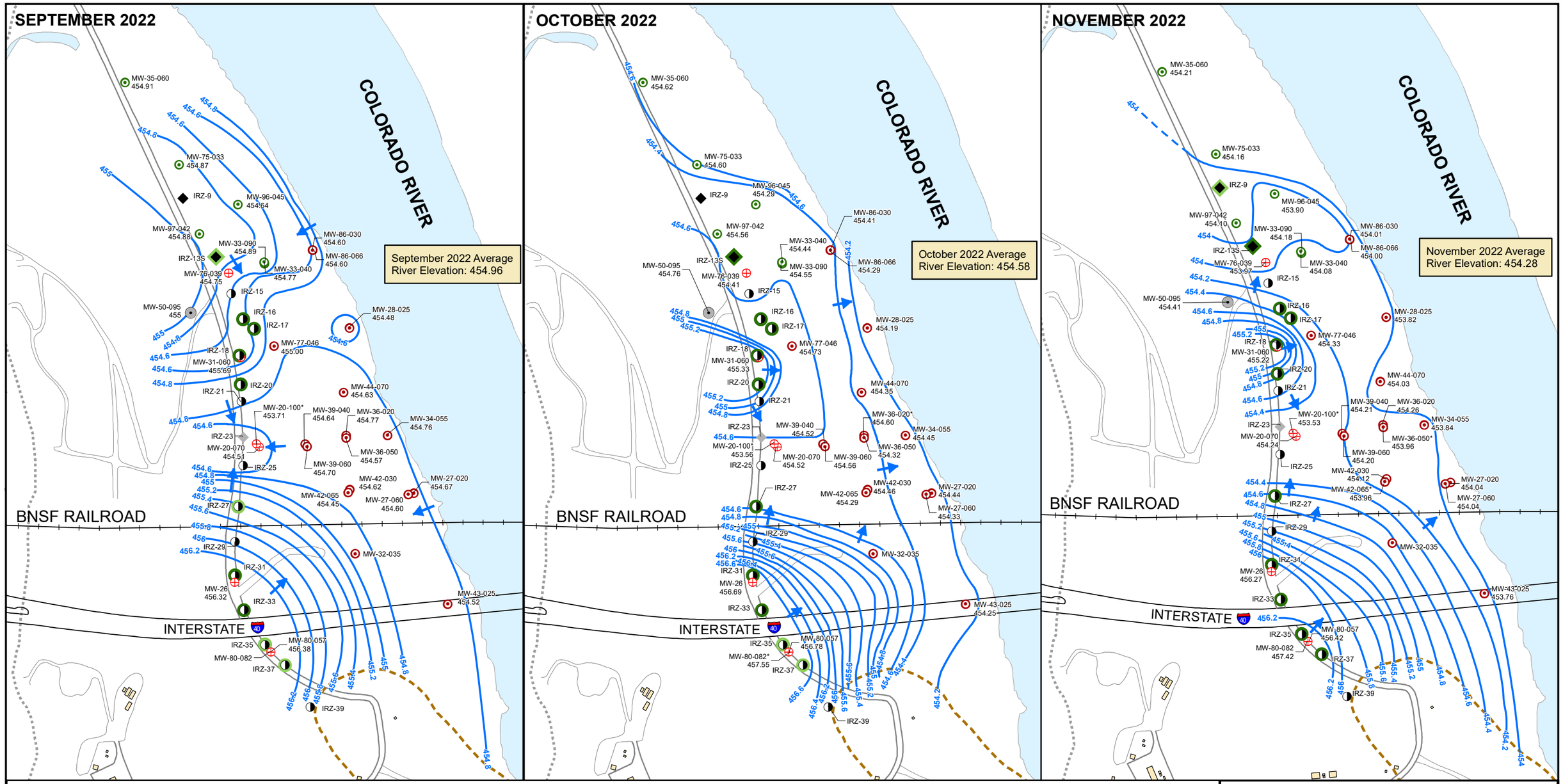
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

PHASE 1 MONITORING PROGRAM: FOURTH QUARTER 2022

ARCADIS

FIGURE
1.7

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE1.7_PHASE1 MONITORING PROGRAM FOURTH QUARTER 2022.MXD 2/23/2023 4:38:56 PM



LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (EXTRACTION) NOT SCREENED IN THIS INTERVAL
- REMEDIATION WELL (INJECTION) OPERATING 75 - 94% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 51 - 62% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 80 - 93% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 25 - 51% UPTIME
- GROUNDWATER FLOW DIRECTION
- BAT CAVE WASH
- GROUNDWATER ELEVATION CONTOUR 0.2 FT (DASHED WHERE INFERRED)
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)

Notes:
1. IRZ = In Situ Reactive Zone
2. NTH = National Trails Highway
3. Water elevation is in feet above mean sea level (ft amsl).
4. Asterisk* indicates well was not used for contouring.

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

LAYER 1 (425 – 455) & LAYER 2 (400 – 425) AVERAGE POTENTIOMETRIC SURFACE: SEPTEMBER, OCTOBER, & NOVEMBER 2022

ARCADIS

FIGURE
2.1a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\Plume Assessment Figures\4Q22\Figure2.1a_Average Potentiometric Surface_Layer1and2_September_October_November_2022.mxd 2/20/2023 6:59:18 PM

SEPTEMBER 2022

September 2022 Average River Elevation: 454.96

COLORADO RIVER

BNSF RAILROAD

INTERSTATE 40

MW-35-135
454.8
MW-75-117 454.99
MW-49-135 454.81
IRZ-9
MW-47-115 454.96
IRZ-13S
MW-33-150 454.96
MW-86-120 454.84
MW-33-090 454.89
MW-28-090 454.67
MW-54-085 454.78
MW-31-135 455.10
MW-77-102 454.89
IRZ-20
IRZ-21
MW-44-125 455.06
MW-44-115 454.90
PT5D 455.17
MW-36-100 454.87
MW-34-080 454.98
MW-20-130 453.76
IRZ-23
IRZ-25
MW-39-080 454.57
MW-42-065 454.45
MW-27-085 454.62
IRZ-27
IRZ-29
IRZ-31
MW-51 456.30
IRZ-33
MW-43-090 454.50

OCTOBER 2022

October 2022 Average River Elevation: 454.58

COLORADO RIVER

BNSF RAILROAD

INTERSTATE 40

MW-35-135
MW-75-117 454.70
MW-49-135 454.48
IRZ-9
MW-47-115 454.60
IRZ-13S
MW-33-150 454.63
MW-86-120 454.53
MW-33-090 454.55
MW-28-090 454.37
MW-54-085 454.51
MW-77-102 454.67
MW-31-135 454.82
IRZ-20
IRZ-21
MW-44-125 454.73
MW-44-115 454.67
PT5D 455.02
MW-36-100 454.84
MW-34-080 454.57
MW-20-130 453.76
IRZ-23
IRZ-25
MW-39-080 454.43
MW-42-065 454.29
MW-27-085 454.36
IRZ-27
IRZ-29
IRZ-31
MW-51 456.67
IRZ-33
MW-43-090 454.22

NOVEMBER 2022

November 2022 Average River Elevation: 454.28

COLORADO RIVER

BNSF RAILROAD

INTERSTATE 40

MW-35-135
MW-75-117 454.21
MW-49-135 454.2
IRZ-9
MW-47-115 454.14
IRZ-13S
MW-33-150 454.39
MW-86-120 454.24
MW-33-090 454.18
MW-28-090 454.05
MW-54-085 454.18
MW-77-102 454.36
MW-31-135 454.60
IRZ-20
IRZ-21
MW-44-125 454.38
MW-44-115 454.37
PT5D 454.7
MW-36-100
MW-34-080 454.37
IRZ-23
MW-20-130 453.98
IRZ-25
MW-39-080 454.22
MW-42-065 453.96
MW-27-085 453.97
IRZ-27
IRZ-29
IRZ-31
MW-51 456.20
IRZ-33
MW-43-090 453.93

LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 81 - 93% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 57 - 75% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 80 - 94% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 25 - 62% UPTIME
- GROUNDWATER FLOW DIRECTION
- BAT CAVE WASH
- GROUNDWATER ELEVATION CONTOUR 0.2 FT (DASHED WHERE INFERRED)
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)

Notes:
1. IRZ = In Situ Reactive Zone
2. NTH = National Trails Highway
3. Water elevation is in feet above mean sea level (ft amsl).
4. Asterisk* indicates well was not used for contouring.

0 300 600
Feet

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

**LAYER 3 (350 - 400)
AVERAGE POTENTIOMETRIC SURFACE:
SEPTEMBER, OCTOBER, & NOVEMBER 2022**

ARCADIS

FIGURE
2.1b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\Plume Assessment Figures\4Q22\Figure2.1b_Average Potentiometric Surface_Layer3_September_October_November_2022.mxd 2/20/2023 2:19:13 PM

SEPTEMBER 2022

COLORADO RIVER

September 2022 Average River Elevation: 454.96

MW-35-135
MW-75-202 455.59
MW-49-135 454.81
MW-96-217 455.03
MW-97-202 454.54
MW-86-120 454.84
MW-86-140* 455.04
MW-33-150 454.96
IRZ-13D
MW-76-181* 454.42
MW-76-156 454.20
IRZ-15
IRZ-16
IRZ-17
MW-77-158* 456.80
MW-77-187 456.52
IRZ-18
MW-46-175 455.27
IRZ-20
IRZ-21
MW-44-125 455.06
IRZ-23
IRZ-25
MW-54-140 454.77
MW-54-195 455.00

BNSF RAILROAD

OCTOBER 2022

COLORADO RIVER

October 2022 Average River Elevation: 454.58

MW-35-135
MW-75-202 455.36
MW-49-135 454.48
MW-96-217 454.71
MW-97-202 454.14
MW-86-120 454.53
MW-86-140 454.74
MW-33-150 454.63
IRZ-13D
MW-76-156 453.73
MW-76-181 453.92
IRZ-15
IRZ-16
IRZ-17
MW-77-158 456.68
MW-77-187 456.18
IRZ-18
MW-46-175 455.02
IRZ-20
IRZ-21
MW-44-125 454.73
IRZ-23
IRZ-25
MW-54-140 454.57
MW-54-195 454.84

BNSF RAILROAD

NOVEMBER 2022

COLORADO RIVER

November 2022 Average River Elevation: 454.28

MW-35-135
MW-75-202 455.09
MW-49-135 454.20
MW-96-217 454.49
MW-97-202 454.08
MW-86-120 454.24
MW-86-140 454.43
MW-33-150 454.39
IRZ-13D
MW-76-181 453.91
MW-76-156 453.67
IRZ-15
IRZ-16
IRZ-17
MW-77-158 456.20
MW-77-187 455.43
IRZ-18
MW-46-175 454.70
IRZ-20
IRZ-21
MW-44-125 454.38
IRZ-23
IRZ-25
MW-54-140 454.36
MW-54-195 454.59

BNSF RAILROAD

LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 83 - 94% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 76 - 94% UPTIME
- GROUNDWATER FLOW DIRECTION
- BAT CAVE WASH
- GROUNDWATER ELEVATION CONTOUR 0.2 FT (DASHED WHERE INFERRED)
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)

Notes:
1. IRZ = In Situ Reactive Zone
2. NTH = National Trails Highway
3. Water elevation is in feet above mean sea level (ft amsl).
4. Asterisk* indicates well was not used for contouring.

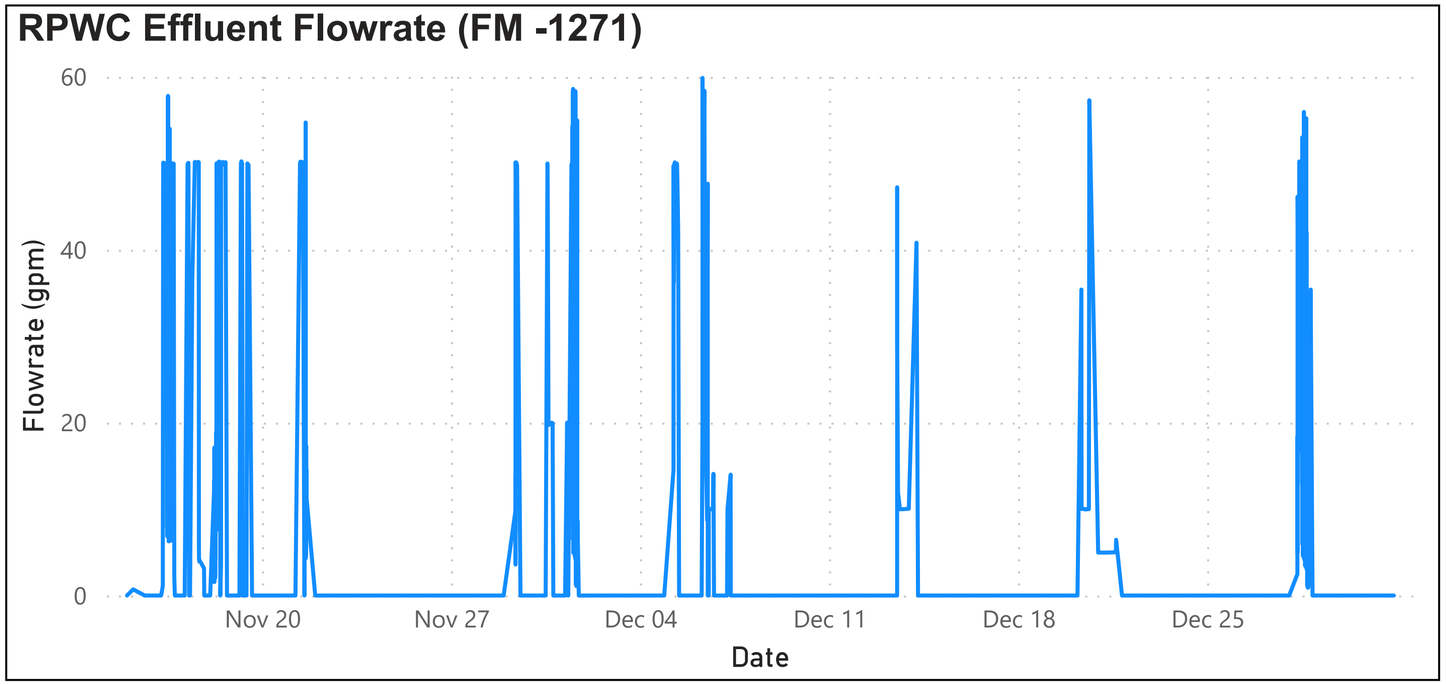
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

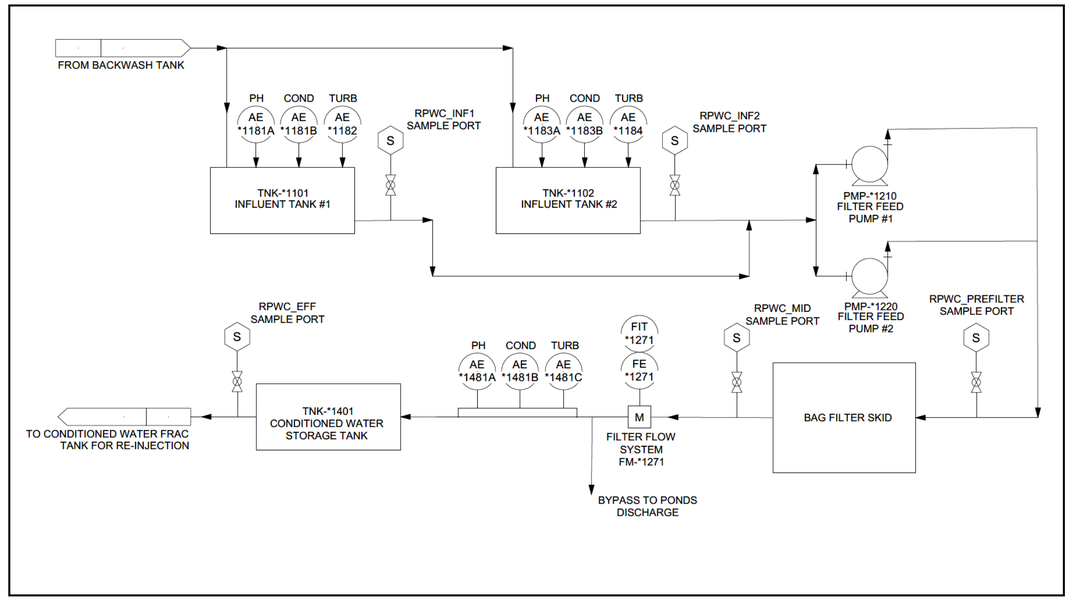
LAYER 4 (300 – 350) & LAYER 5 (250 – 300) AVERAGE POTENTIOMETRIC SURFACE: SEPTEMBER, OCTOBER, & NOVEMBER 2022

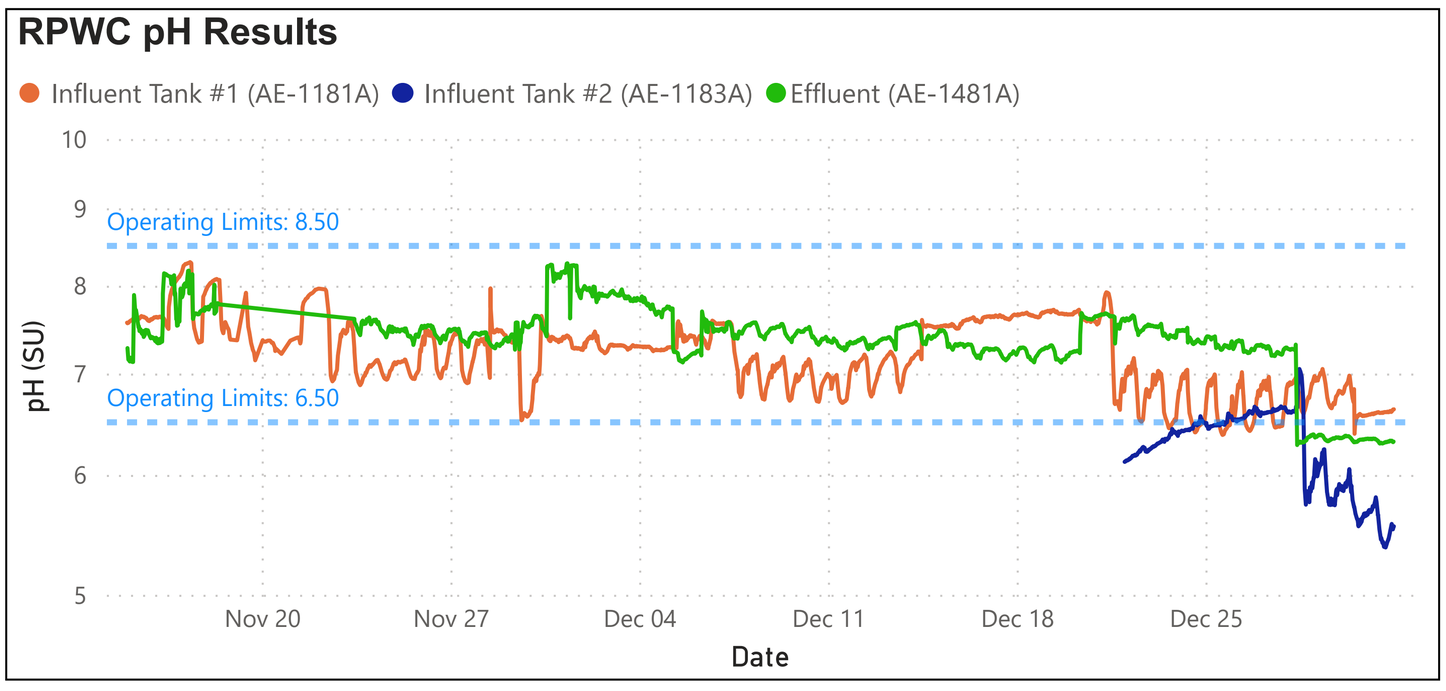
ARCADIS

FIGURE **2.1c**

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\Plume Assessment Figures\4Q22\Figure2.1c_Average Potentiometric Surface_Layer4and5_S







LEGEND:

	PRIMARY PROCESS LINE		BALL VALVE
AE *1481A	SENSOR		PUMP
	TANK	M	FLOW METER
S	SAMPLE PORT	◄	DIRECTION OF FLOW

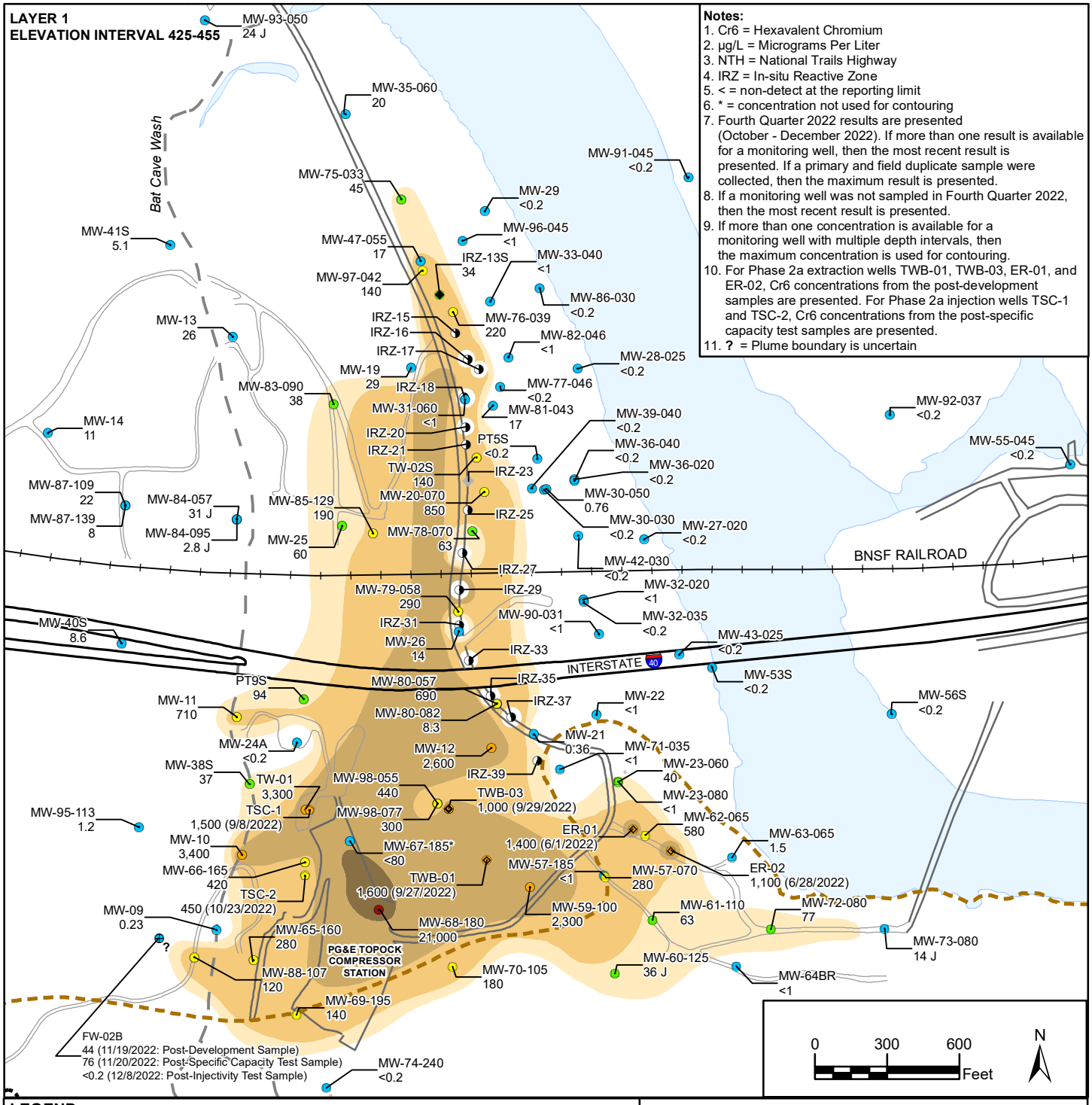
RPWC = Remedy-Produced Water Conditioning
RPWC_EFF = Remedy-Produced Water Conditioning Effluent Sampling Port
RPWC_INF1 = Remedy-Produced Water Conditioning Influent Tank #1 Sampling Port
RPWC_INF2 = Remedy-Produced Water Conditioning Influent Tank #2 Sampling Port
SU = standard units

PG&E TOPOCK COMPRESSOR STATION NEEDLES, CALIFORNIA

Remedy-Produced Water Conditioning System pH Results

ARCADIS Design & Consultancy for natural and built assets

FIGURE **2.2**



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Phase 2a Injection Well
- Phase 2a Extraction Well
- Phase 2a Freshwater Injection Well
- Remediation Well (Extraction) not Screened in this Interval
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)
- MW-60-125 — Well ID
- 36 — Cr6 concentration in µg/L

Cr6 Concentrations

- ≤ 32 µg/L (or not detected)
- 32 - 100 µg/L
- 100 - 1,000 µg/L
- 1,000 - 10,000 µg/L
- > 10,000 µg/L

Cr6 contours

- 32 µg/L
- 100 µg/L
- 1,000 µg/L
- 10,000 µg/L

FOURTH QUARTER 2022 QUARTERLY PROGRESS REPORT

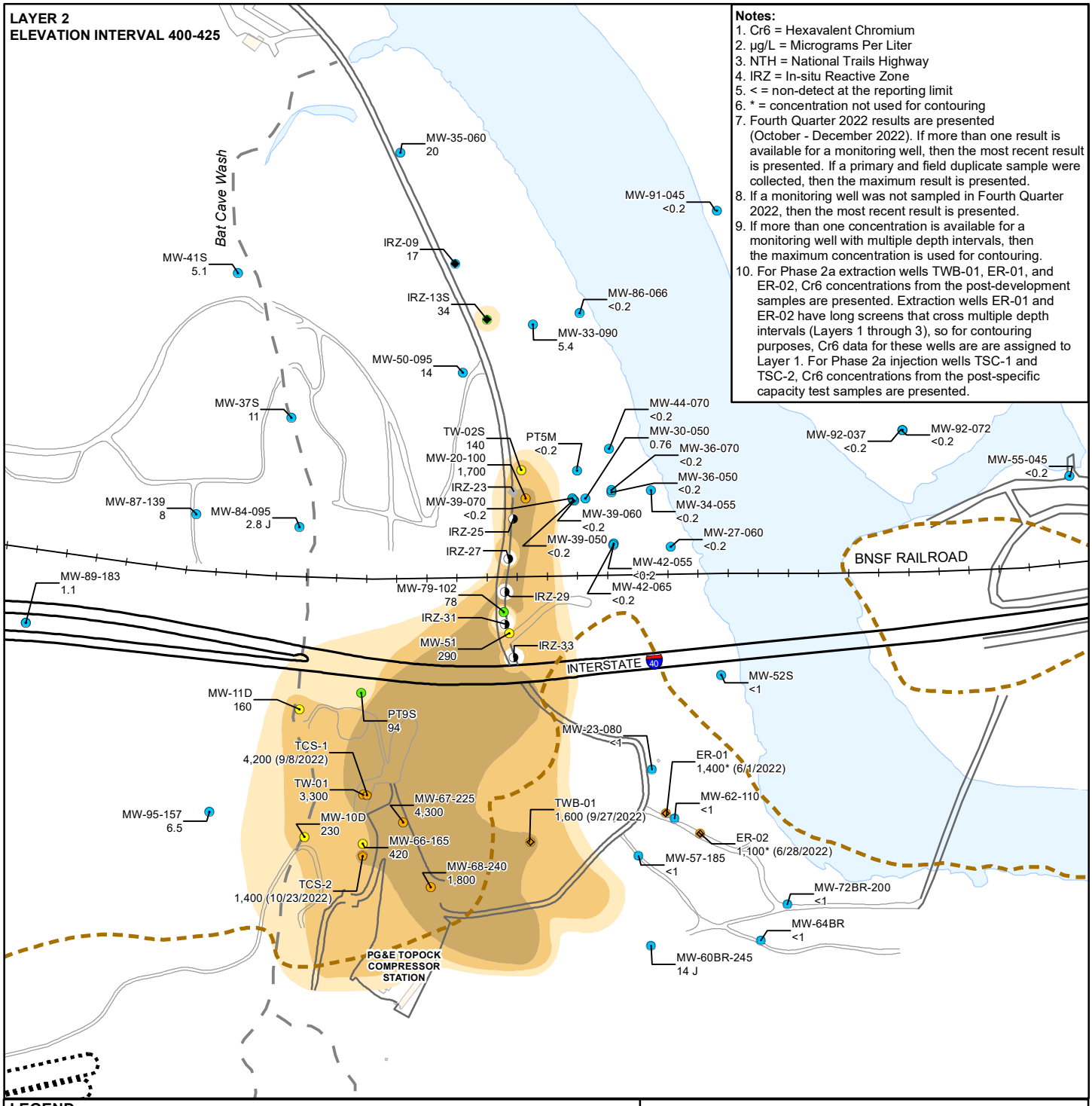
PG&E TOPOCK COMPRESSOR STATION NEEDLES, CALIFORNIA

CR6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYER 1

ARCADIS

FIGURE **3.1a**

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE3.1A_CR6 CONCENTRATIONS_LAYER1_A4.MXD 3/9/2023 2:35:50 PM



FOURTH QUARTER 2022 QUARTERLY PROGRESS REPORT

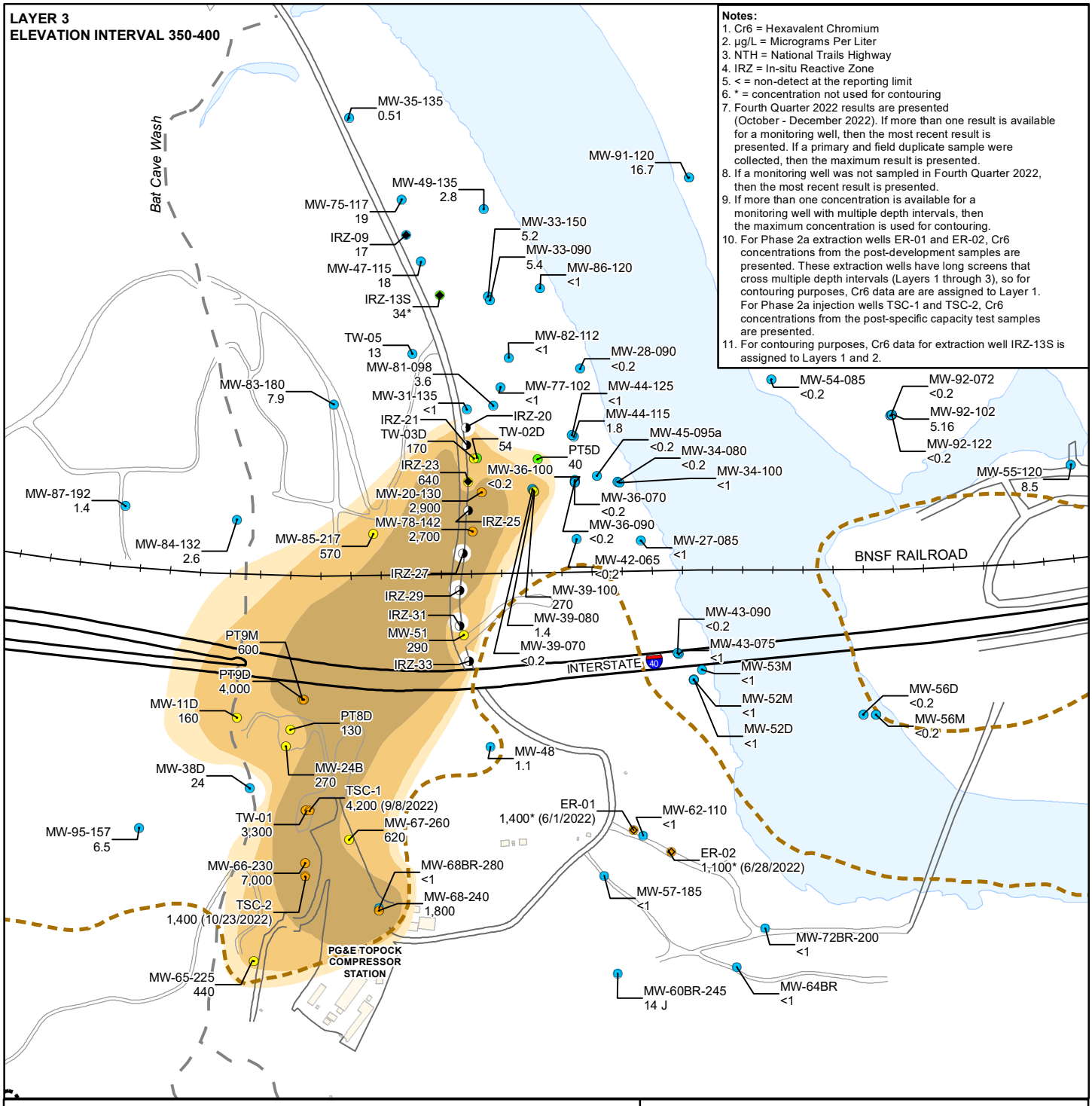
PG&E TOPOCK COMPRESSOR STATION NEEDLES, CALIFORNIA

CR6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYER 2

ARCADIS

FIGURE **3.1b**

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE3.1B_CR6 CONCENTRATIONS_LAYER2_A4.MXD 3/9/2023 2:41:37 PM



FOURTH QUARTER 2022 QUARTERLY PROGRESS REPORT

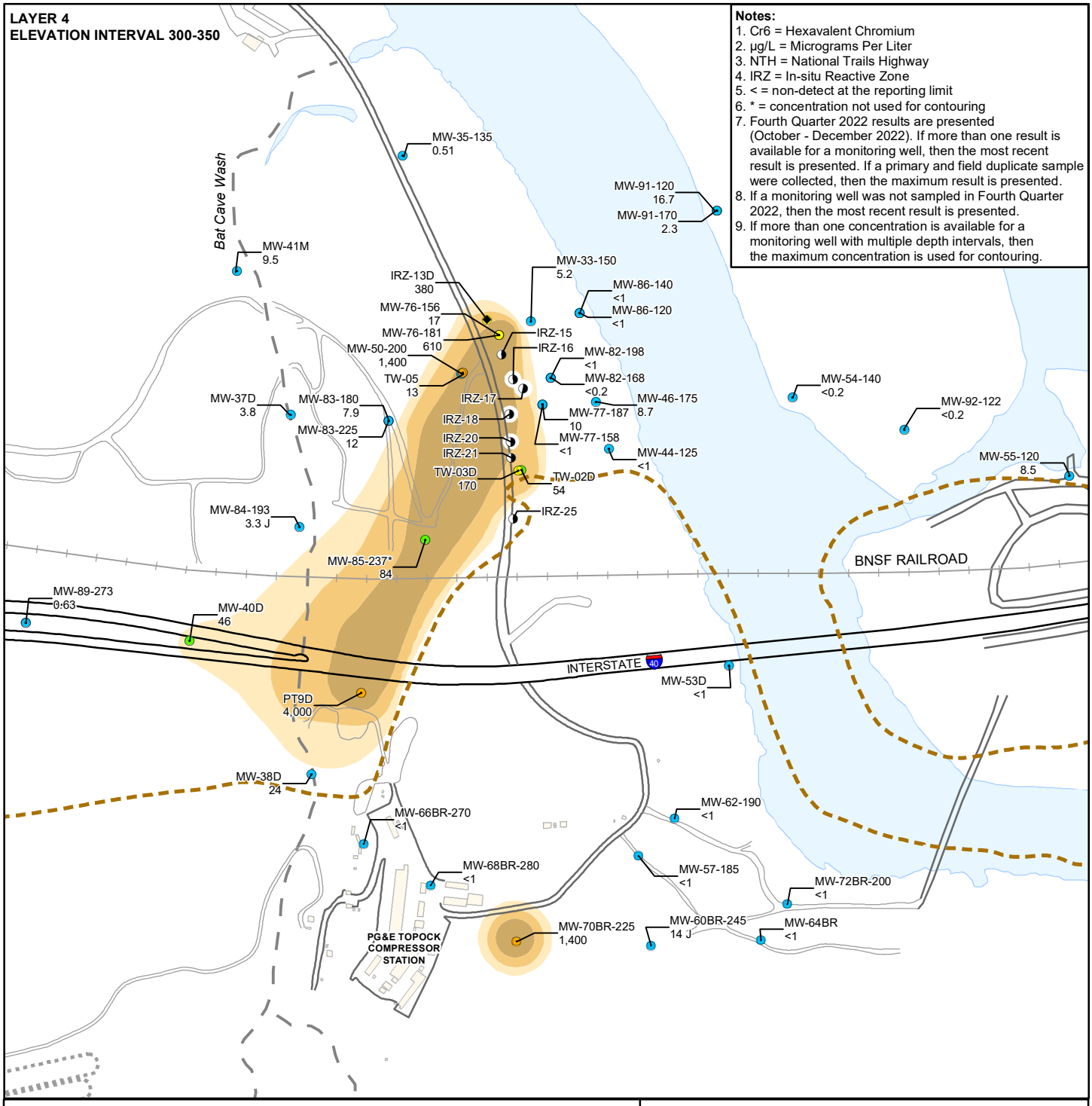
PG&E TOPOCK COMPRESSOR STATION NEEDLES, CALIFORNIA

CR6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYER 3

ARCADIS

FIGURE 3.1c

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE3.1C_CR6 CONCENTRATIONS_LAYER3_A4.MXD 3/9/2023 2:48:44 PM



FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT

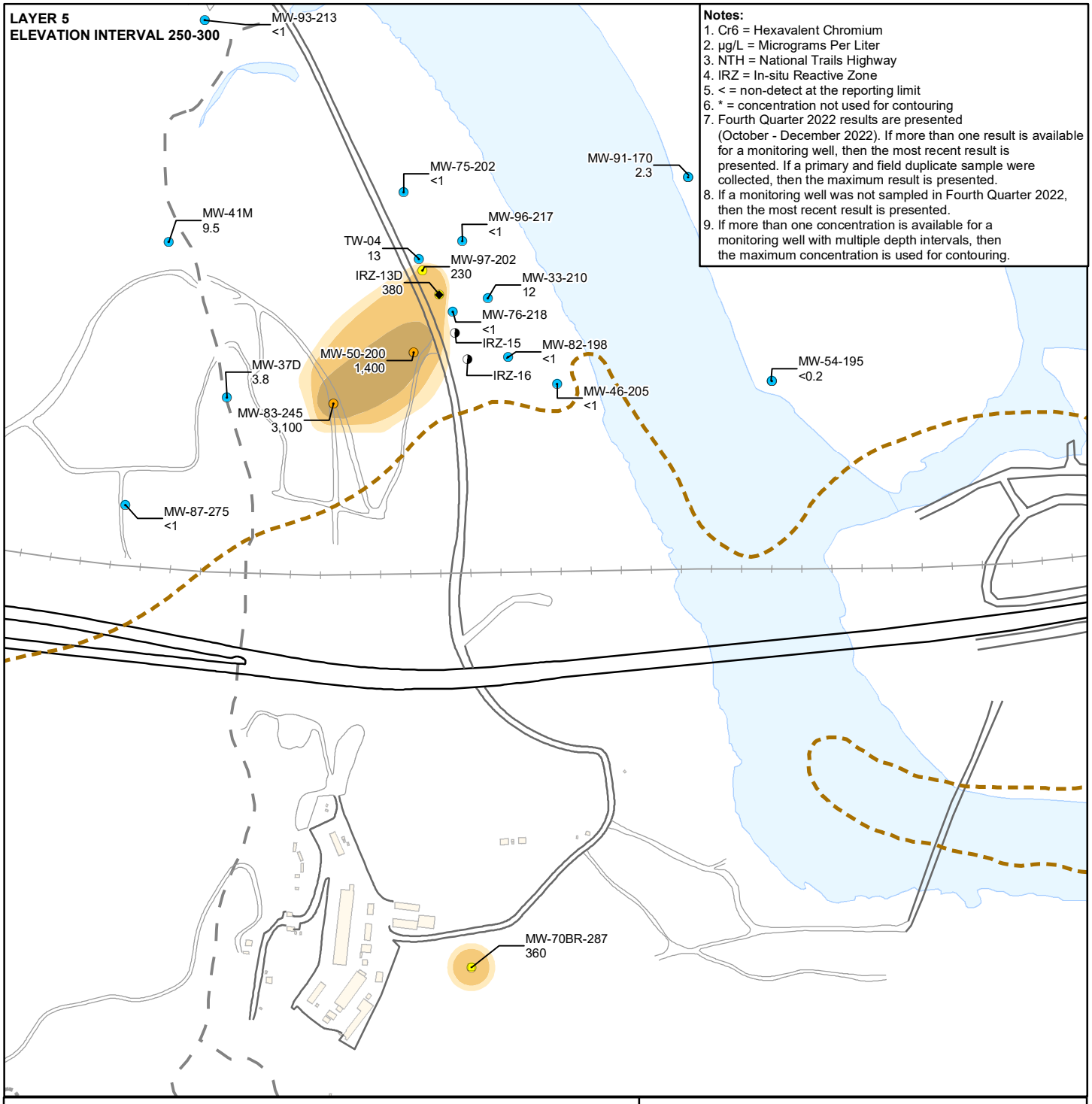
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CR6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYER 4

ARCADIS

FIGURE
3.1d

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE3.1D_CR6 CONCENTRATIONS_LAYER4.MXD 3/9/2023 1:36:20 PM



Notes:
1. Cr6 = Hexavalent Chromium
2. µg/L = Micrograms Per Liter
3. NTH = National Trails Highway
4. IRZ = In-situ Reactive Zone
5. < = non-detect at the reporting limit
6. * = concentration not used for contouring
7. Fourth Quarter 2022 results are presented (October - December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary and field duplicate sample were collected, then the maximum result is presented.
8. If a monitoring well was not sampled in Fourth Quarter 2022, then the most recent result is presented.
9. If more than one concentration is available for a monitoring well with multiple depth intervals, then the maximum concentration is used for contouring.

LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

0 300 600 Feet

N

MW-33-210 — Well ID
12 — Cr6 concentration in µg/L

Cr6 Concentrations

- ≤ 32 µg/L (or not detected)
- 32 - 100 µg/L
- 100 - 1,000 µg/L
- 1,000 - 10,000 µg/L
- > 10,000 µg/L

Cr6 contours

- 32 µg/L
- 100 µg/L
- 1,000 µg/L
- 10,000 µg/L

FOURTH QUARTER 2022 QUARTERLY PROGRESS REPORT

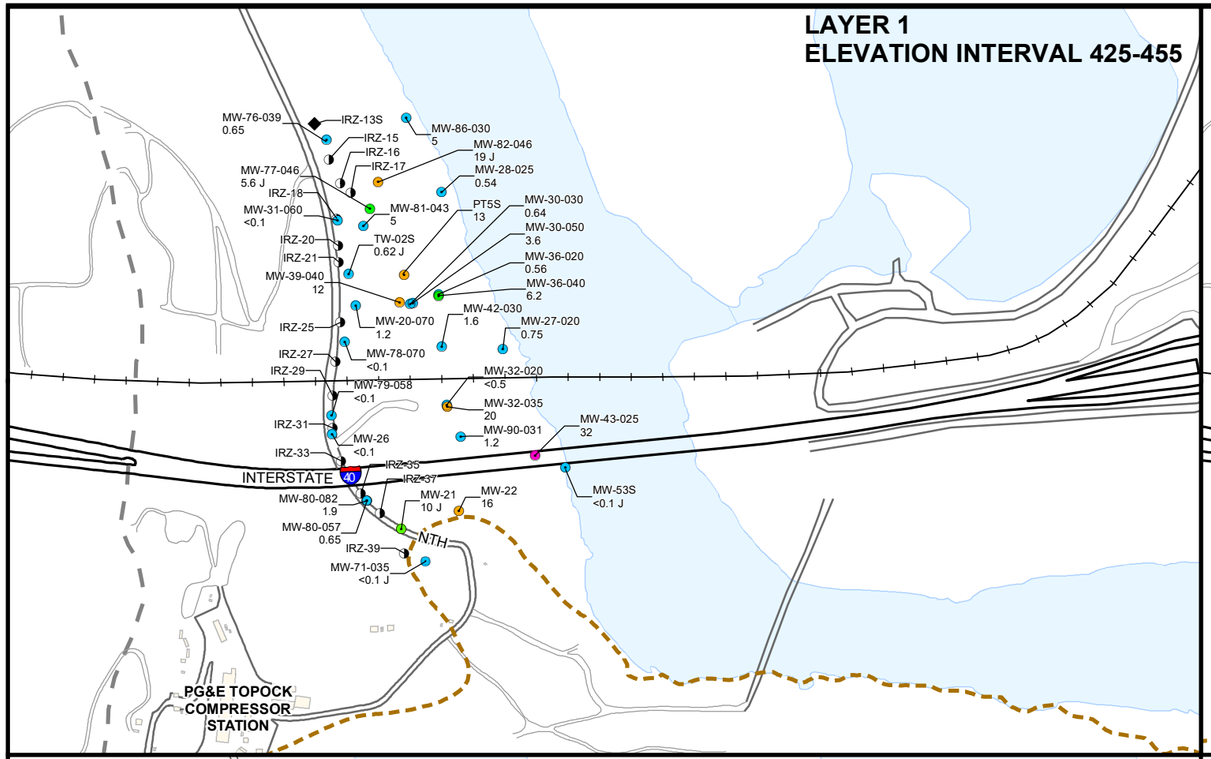
PG&E TOPOCK COMPRESSOR STATION NEEDLES, CALIFORNIA

CR6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYER 5

ARCADIS

FIGURE **3.1e**

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\4Q22\FINAL\FIGURE3.1E_CR6 CONCENTRATIONS_LAYER5_A4.MXD 3/9/2023 1:39:29 PM



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Arsenic Concentrations

- 5 µg/L
- 10 µg/L (ARAR)
- 24.3 µg/L (Background UTL)

MW-39-070 — Well ID
2.2 — Dissolved arsenic concentration in µg/L

N

0 400 800 Feet

Notes:

1. µg/L = micrograms per liter
2. NTH = National Trails Highway
3. IRZ = in-situ reactive zone
4. < = non-detect at the reporting limit
5. Arsenic Background Study Upper Tolerance Limit (UTL) = 24.3 µg/L
6. Arsenic applicable or relevant and appropriate requirement (ARAR) = 10.0 µg/L
7. J = concentration estimated by laboratory or data validation
8. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

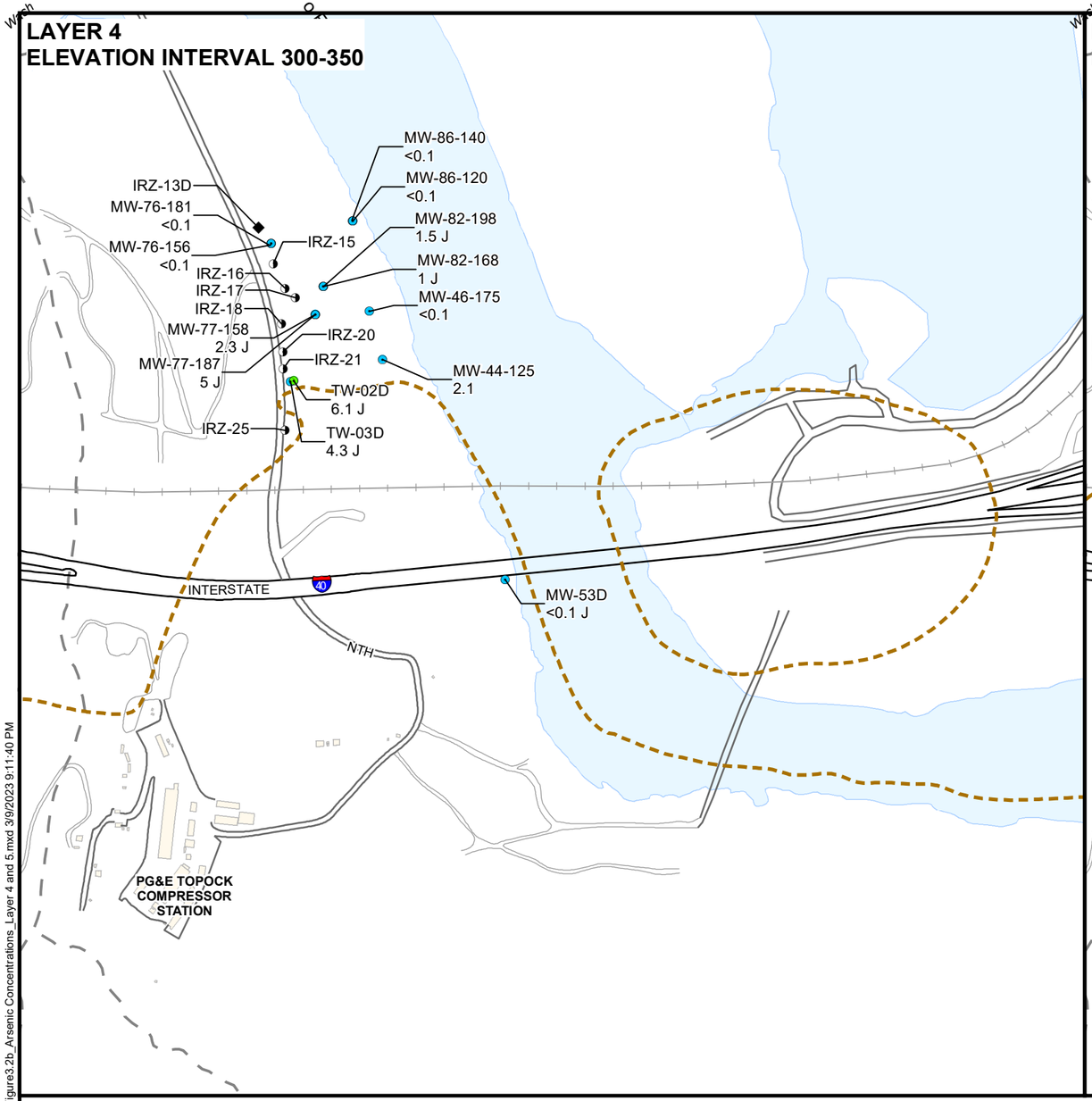
DISSOLVED ARSENIC CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 1, 2, AND 3

ARCADIS

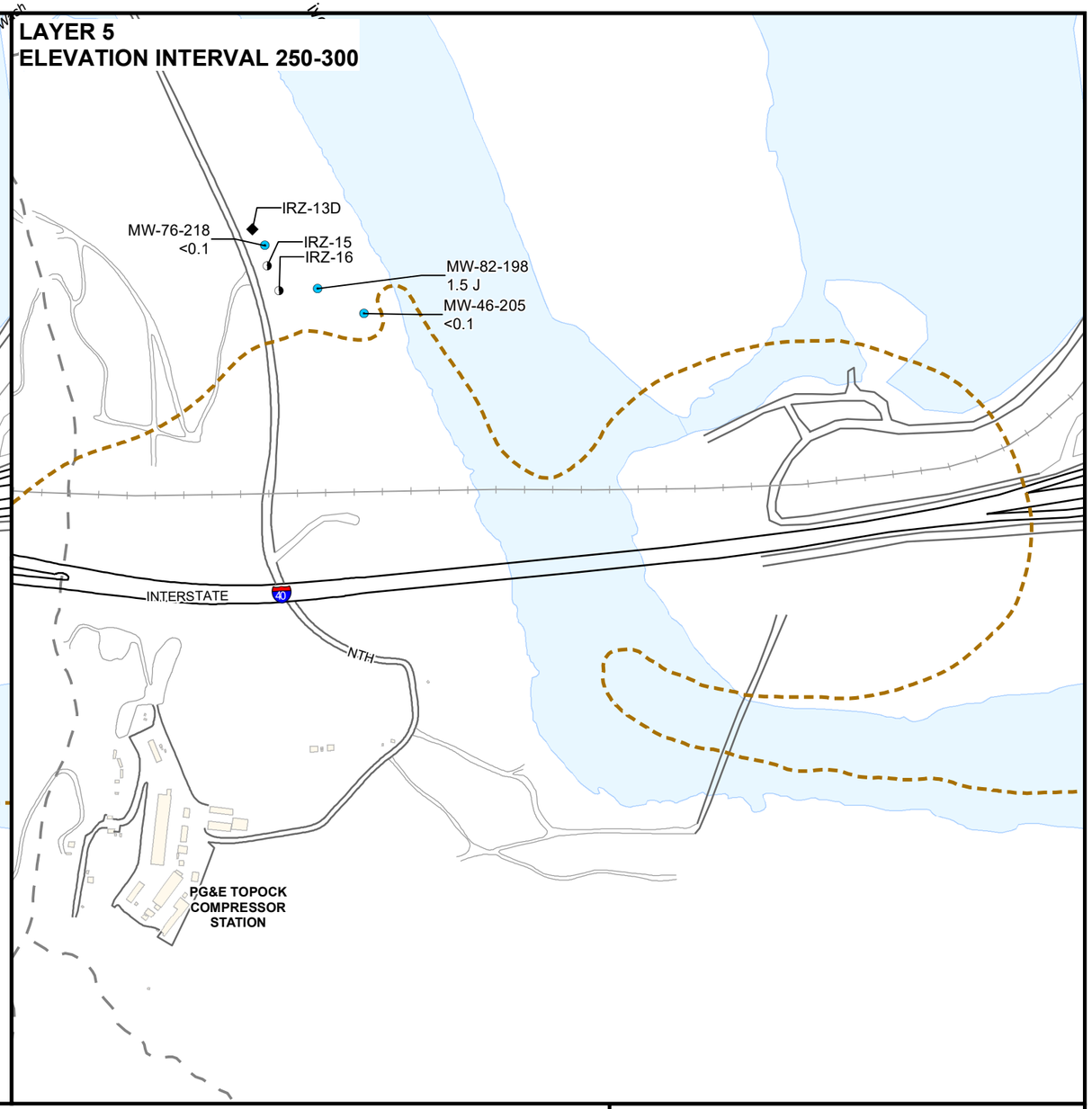
FIGURE
3.2a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
Topock (RC000753.802D Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22FinalFigure3.2a_Arsenic Concentrations_Layer 1 to 3.mxd 3/8/2023 8:38:18 PM

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Arsenic Concentrations

- 5 µg/L
- 10 µg/L (ARAR)
- 24.3 µg/L (Background UTL)

Notes:

1. µg/L = micrograms per liter
2. NTH = National Trails Highway
3. IRZ = in-situ reactive zone
4. < = non-detect at the reporting limit
5. Arsenic Background Study Upper Tolerance Limit (UTL) = 24.3 µg/L
6. Arsenic applicable or relevant and appropriate requirement (ARAR) = 10.0 µg/L
7. J = concentration estimated by laboratory or data validation
8. Fourth quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

MW-77-187 — Well ID
5 — Dissolved arsenic concentration in µg/L

N

0 400 800
Feet

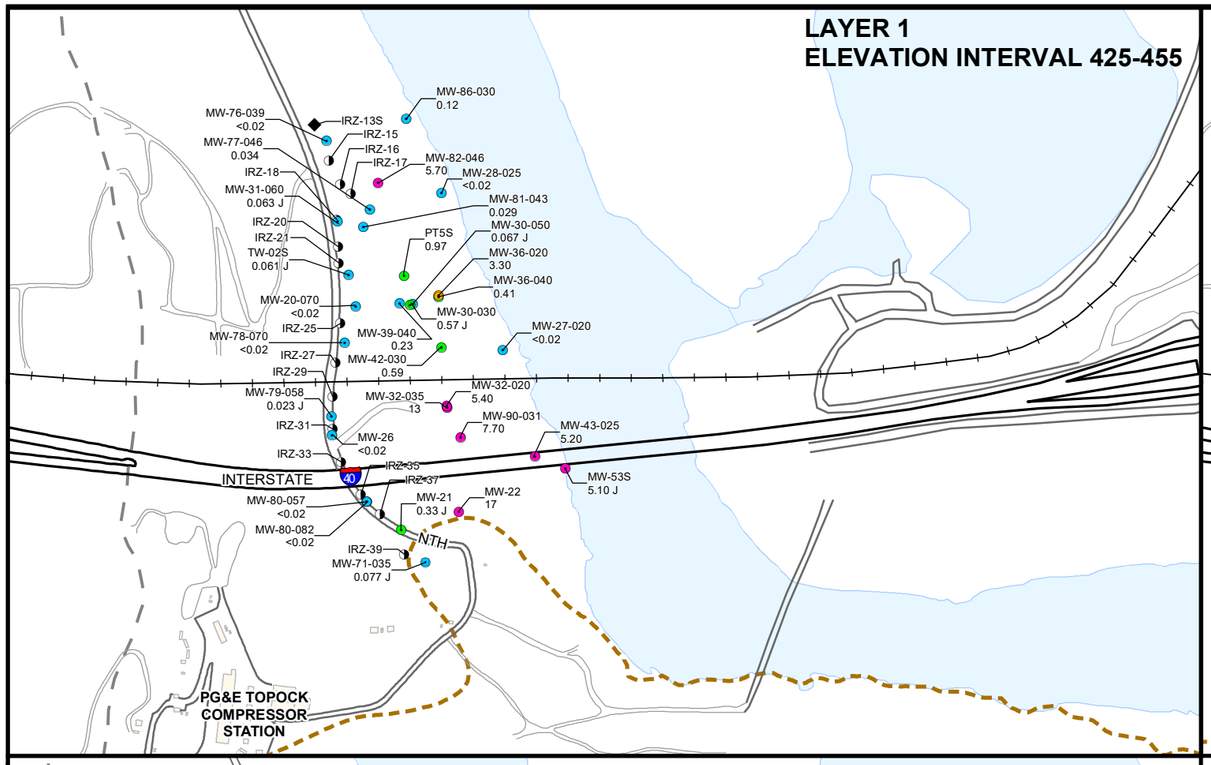
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

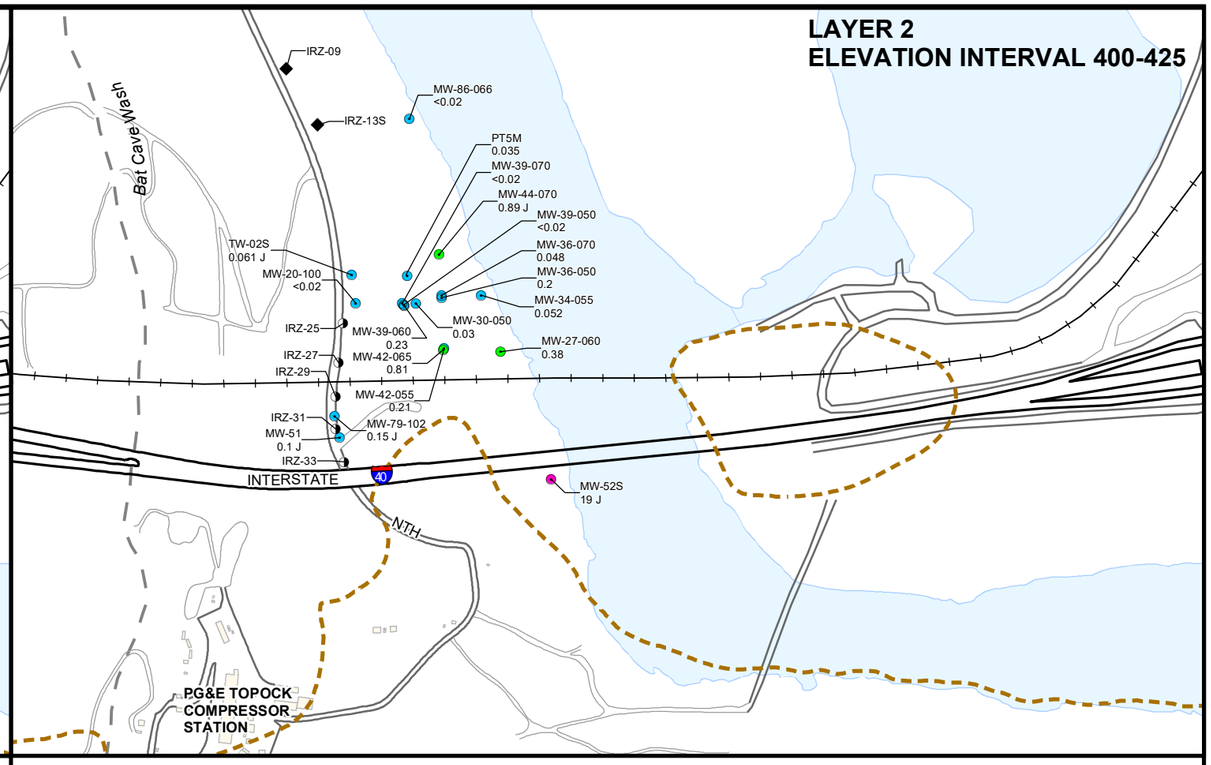
DISSOLVED ARSENIC CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 4 AND 5

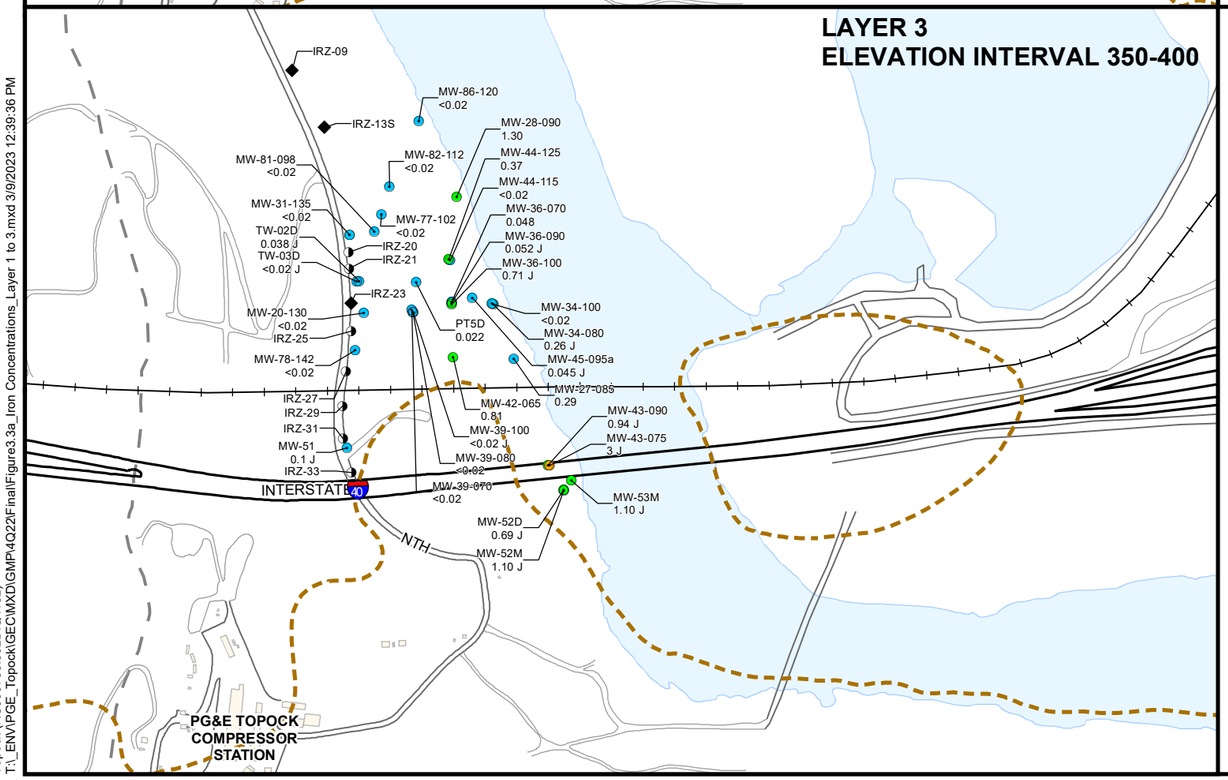
ARCADIS

FIGURE
3.2b

City: Citrix_DW/Group: IM_Created By: K. SINSABAUGH_Last Saved By: sbi01179
Topock (RC000753.802D.04182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22F\inal\Figure3.2b_Arsenic Concentrations_Layer 4 and 5.mxd 3/9/2023 9:11:40 PM







LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Iron Concentrations

- 0.3 mg/L (ARAR)
- 2 mg/L
- 3.93 mg/L (Background UTL)

MW-27-085 — Well ID
0.29 — Dissolved Iron concentration in mg/L

N

0 400 800 Feet

Notes:

1. mg/L = milligrams per liter
2. NTH = National Trails Highway
3. IRZ = in-situ reactive zone
4. < = non-detect at the reporting limit
5. Iron Background Study Upper Tolerance Limit (UTL) = 3.93 mg/L.
6. Iron applicable or relevant and appropriate requirement (ARAR) = 0.3 mg/L
7. J = concentration estimated by laboratory or data validation
8. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

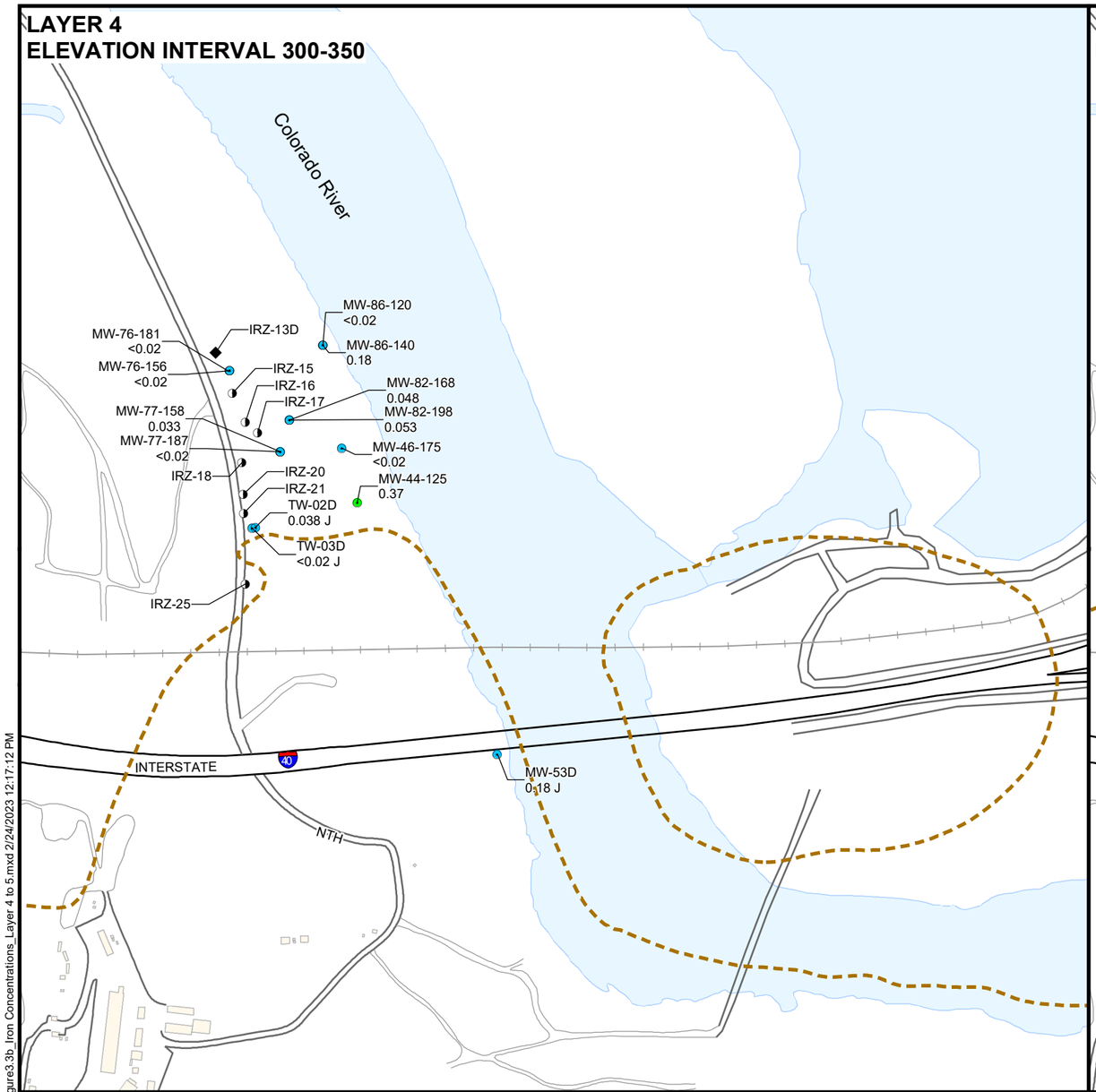
DISSOLVED IRON CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 1, 2, AND 3

ARCADIS

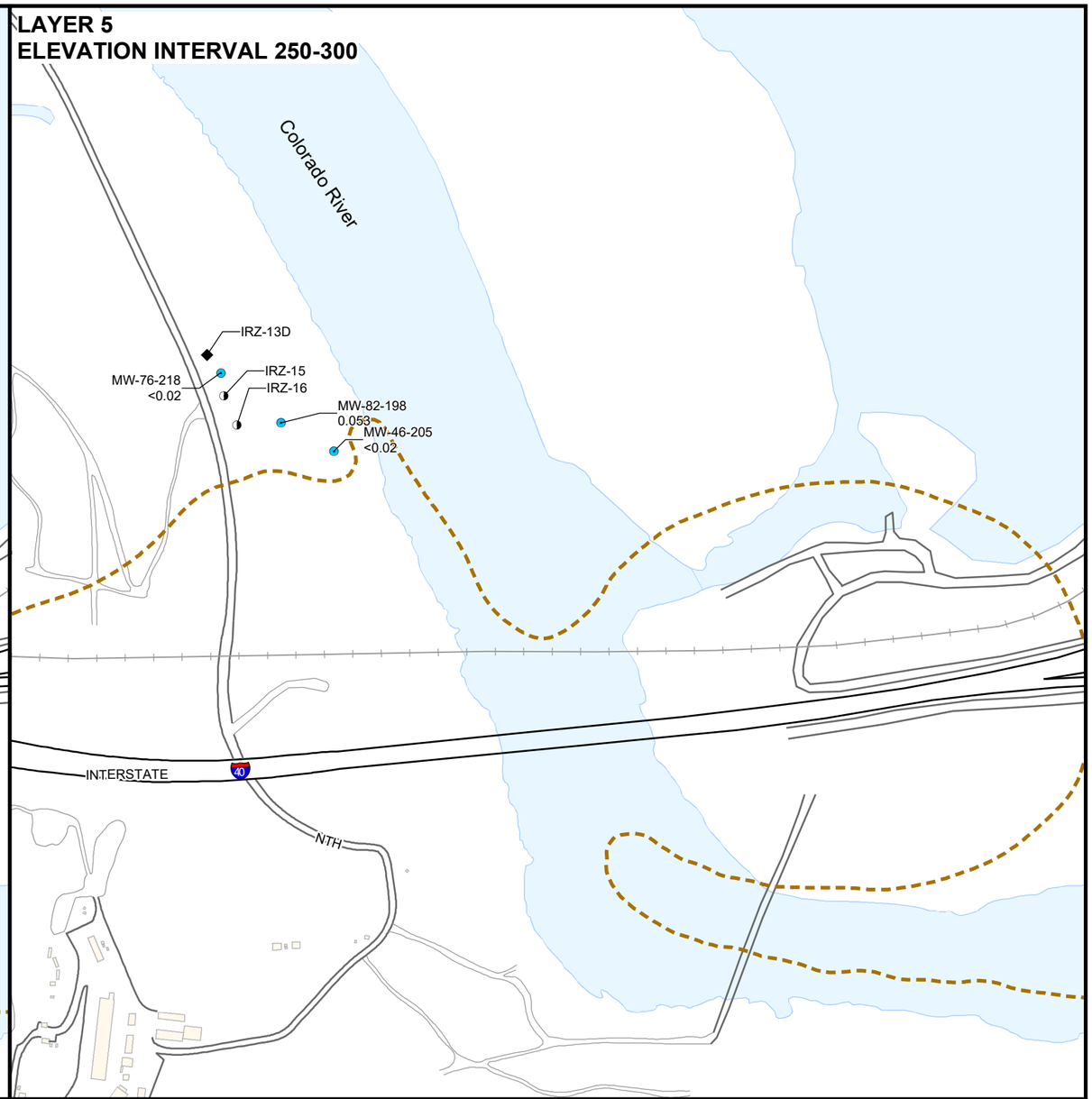
FIGURE 3.3a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22FinalFigure3.3a_Iron Concentrations_Layer 1 to 3.mxd 3/9/2023 12:39:36 PM

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Iron Concentrations

- 0.3 mg/L (ARAR)
- 2 mg/L
- 3.93 mg/L (Background UTL)

Notes:

1. mg/L = milligrams per liter
2. NTH = National Trails Highway
3. IRZ = in-situ reactive zone
4. < = non-detect at the reporting limit
5. Iron Background Study Upper Tolerance Limit (UTL) = 3.93 mg/L.
6. Iron applicable or relevant and appropriate requirement (ARAR) = 0.3 mg/L
7. J = concentration estimated by laboratory or data validation
8. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

MW-53D — Well ID

0.18 — Dissolved Iron concentration in mg/L

N

0 400 800 Feet

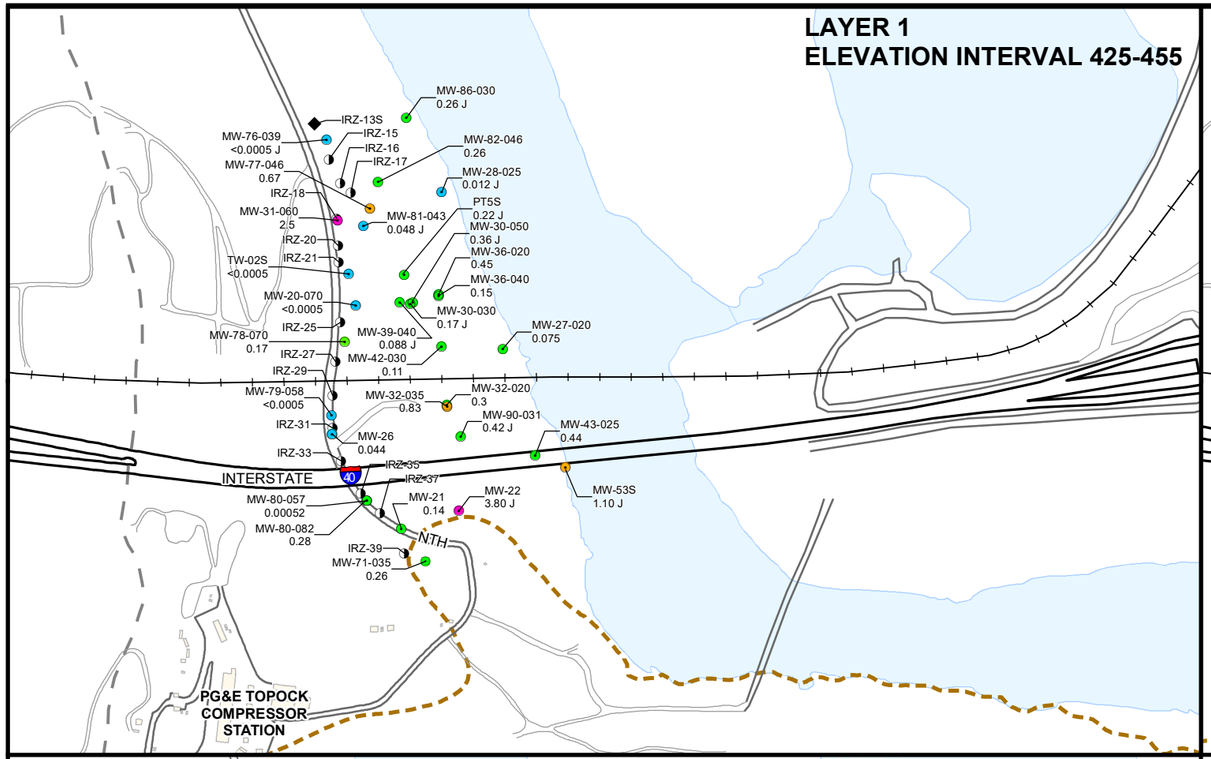
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

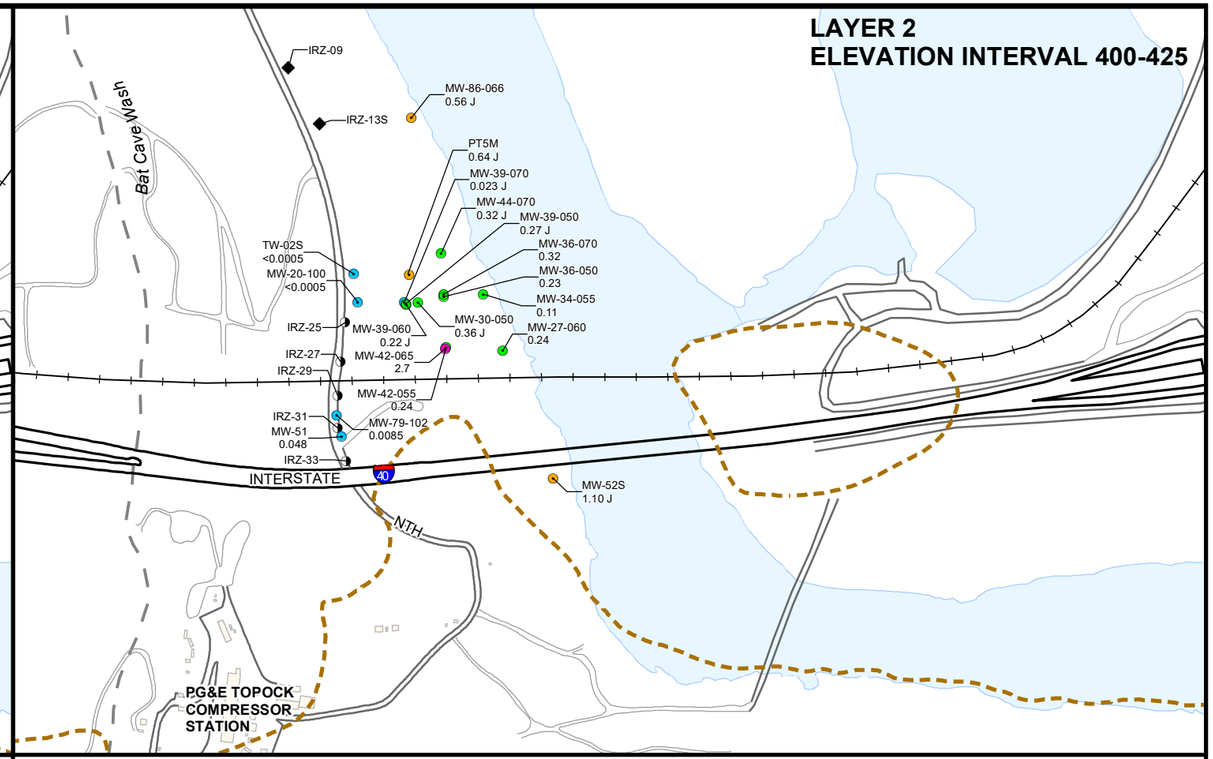
DISSOLVED IRON CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 4 AND 5

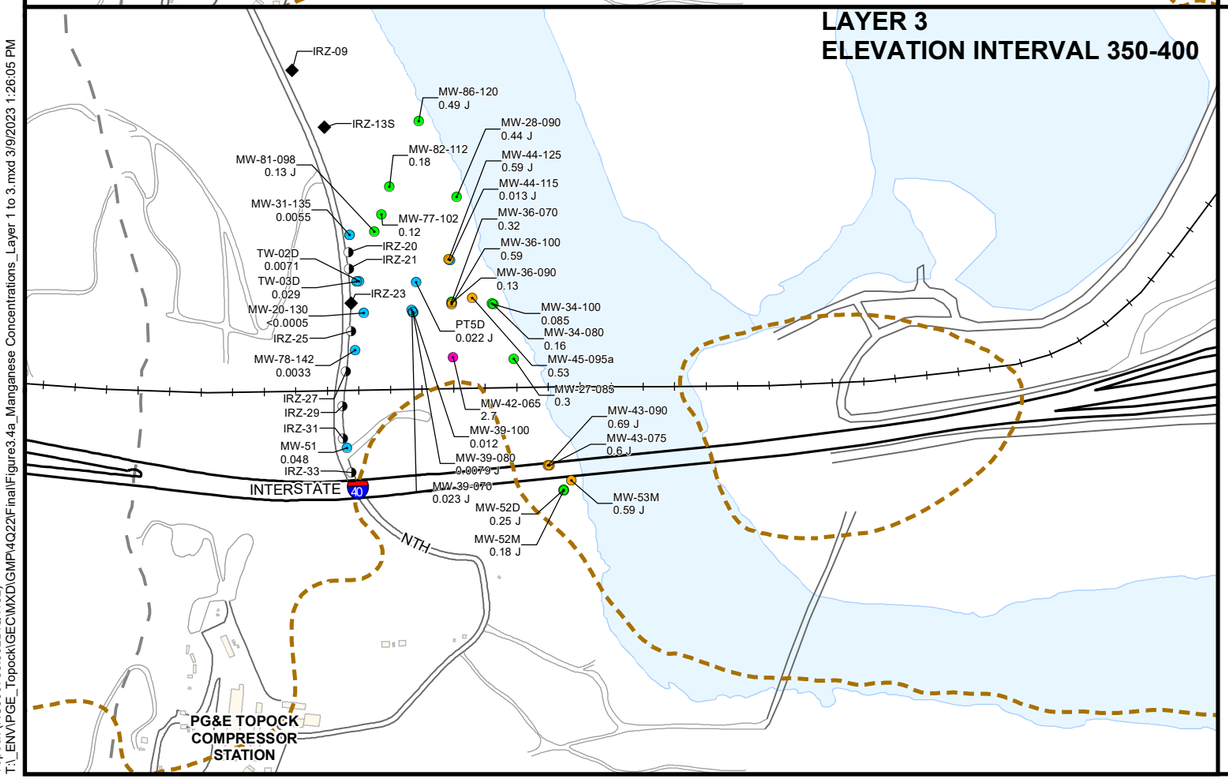
ARCADIS

FIGURE
3.3b

City: Citrix_Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbl01179
Topock (RC000753.802D.04182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22FinalFigure3.3b_Iron Concentrations_Layer 4 to 5.mxd 2/24/2023 12:17:12 PM







LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Manganese Concentrations

- 0.05 mg/L (ARAR)
- 0.5 mg/L
- 1.320 mg/L (Background UTL)

MW-43-090 — Well ID
0.69 — Dissolved manganese concentration in mg/L

N

0 400 800 Feet

Notes:

1. mg/L = milligrams per liter
2. NTH = National Trails Highway
3. IRZ = in-situ reactive zone
4. < = non-detect at the reporting limit
5. Manganese Background Study Upper Tolerance Limit (UTL) = 1.320 mg/L
6. Manganese applicable or relevant and appropriate requirement (ARAR) = 0.05 mg/L
7. J = concentration estimated by laboratory or data validation
8. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

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QUARTERLY PROGRESS REPORT
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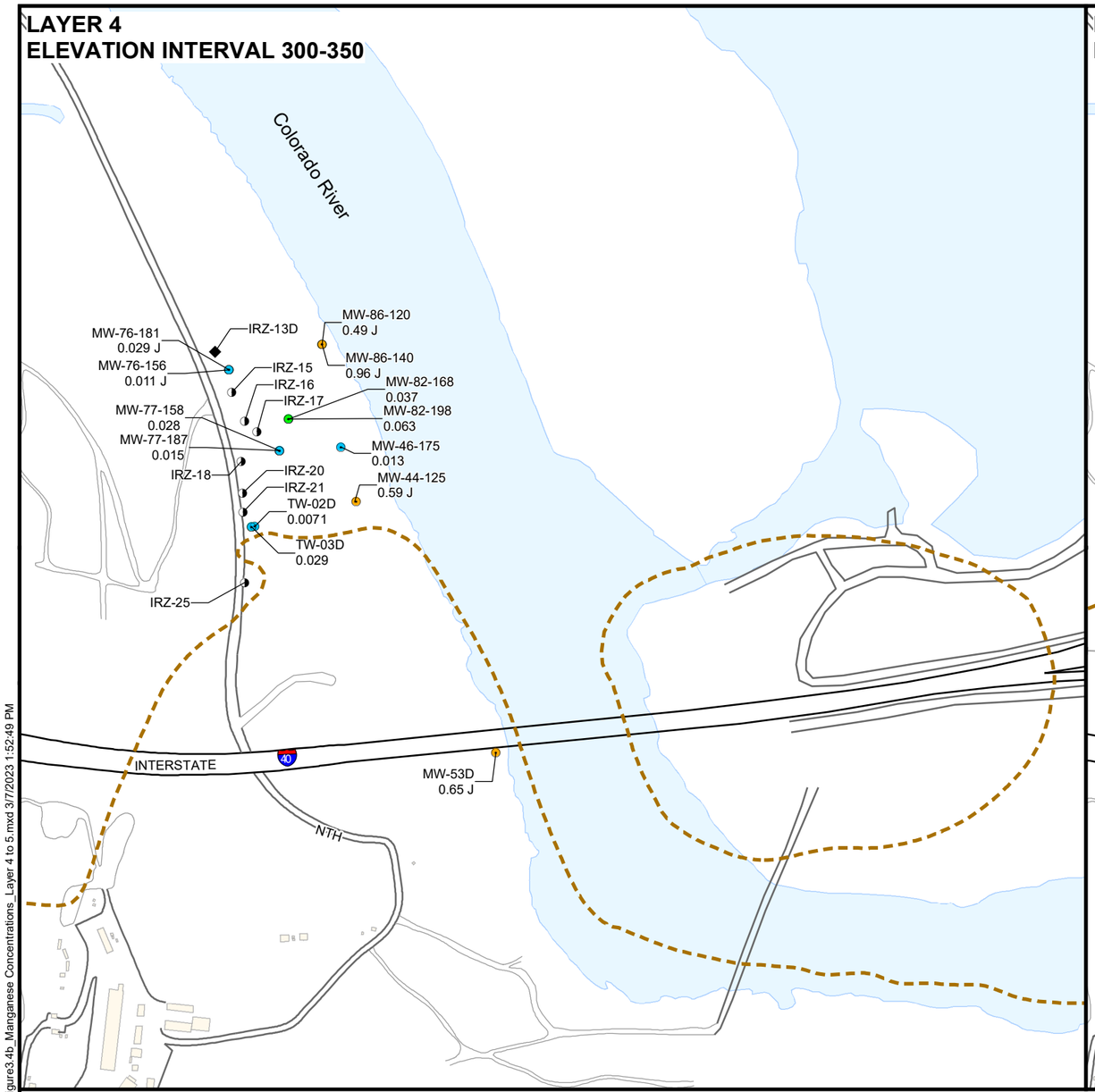
DISSOLVED MANGANESE CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 1, 2, AND 3

ARCADIS

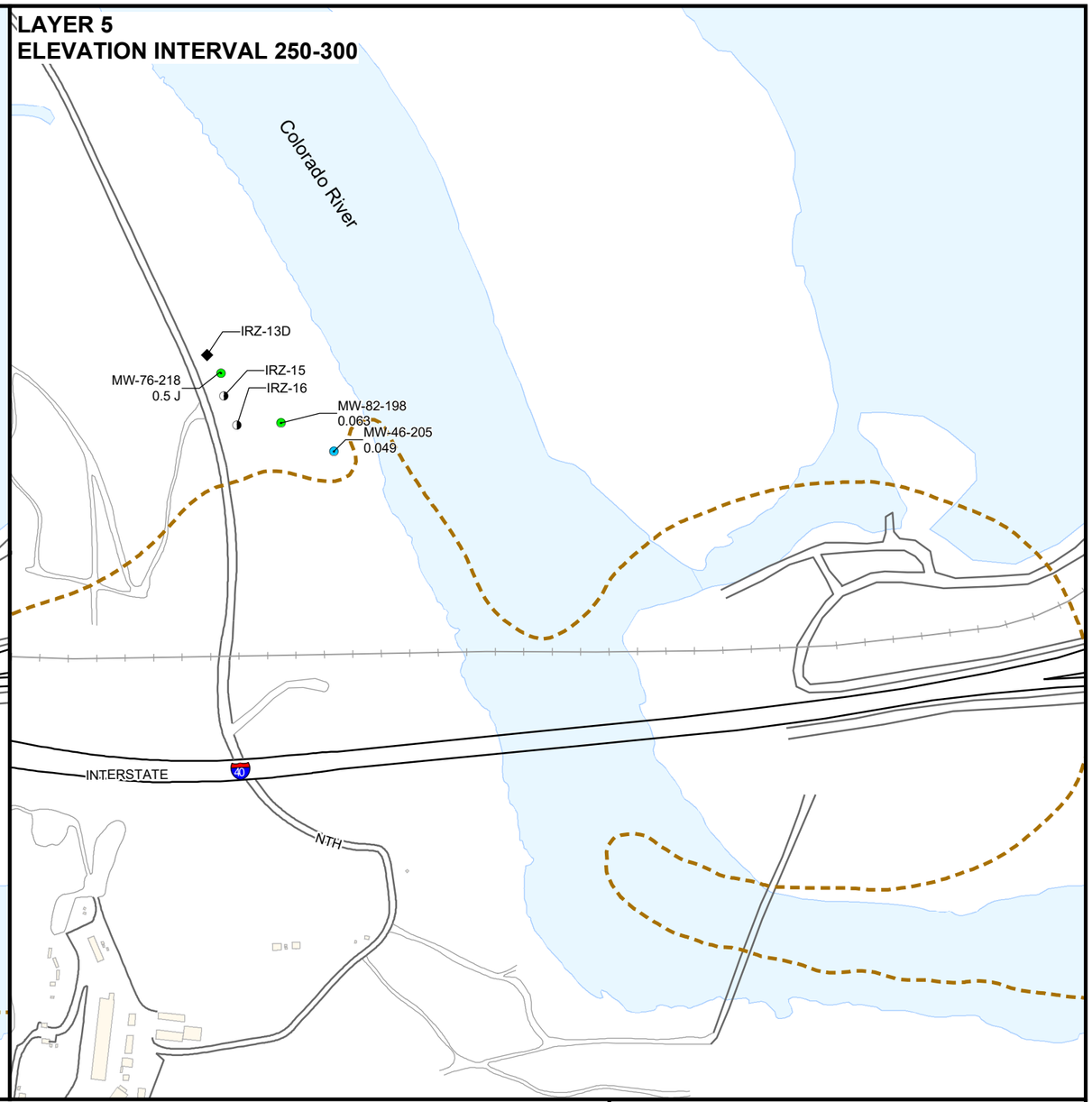
FIGURE
3.4a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
Topock (RC000753.802D Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22\Final\Figure3.4a_Manganese Concentrations_Layer 1 to 3.mxd 3/9/2023 1:26:05 PM

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Manganese Concentrations

- 0.05 mg/L (ARAR)
- 0.5 mg/L
- 1.320 mg/L (Background UTL)

Notes:

1. mg/L = milligrams per liter
2. NTH = National Trails Highway
3. IRZ = in-situ reactive zone
4. < = non-detect at the reporting limit
5. Manganese Background Study Upper Tolerance Limit (UTL) = 1.320 mg/L
6. Manganese applicable or relevant and appropriate requirement (ARAR) = 0.05 mg/L
7. J = concentration estimated by laboratory or data validation
8. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and field duplicate sample were collected, then the maximum result is presented.

MW-44-125
0.59
Well ID
Dissolved manganese concentration in mg/L

N

0 400 800
Feet

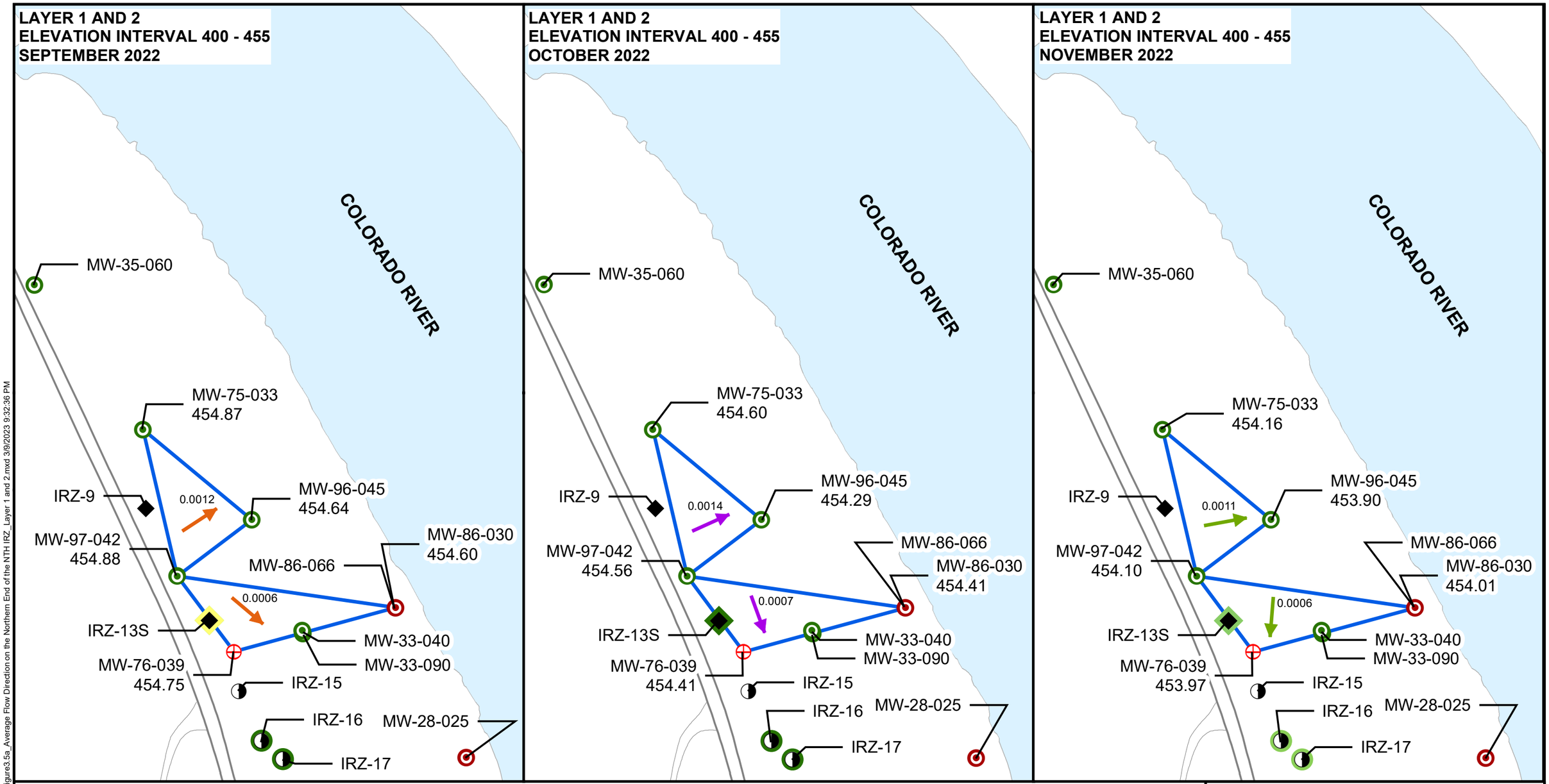
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

DISSOLVED MANGANESE CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 4 AND 5

ARCADIS

FIGURE
3.4b

City: Citrix_Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbl01179
Topock (RC000753.802D.04182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22FinalFigure3.4b_Manganese Concentrations_Layer 4 to 5.mxd 3/7/2023 1:52:49 PM



LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 85-95% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 75-85% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 85-95% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 75-85% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 50-55% UPTIME
- CALCULATED FLOW VECTOR IN SEPTEMBER 2022
- CALCULATED FLOW VECTOR IN OCTOBER 2022
- CALCULATED FLOW VECTOR IN NOVEMBER 2022

Hydraulic Gradient (feet/feet)

- 0.0030 ft/ft

Notes:
1. NTH = National Trails Highway
2. IRZ = in-situ reactive zone
3. ft/ft = feet per foot

0 200 400 Feet

N

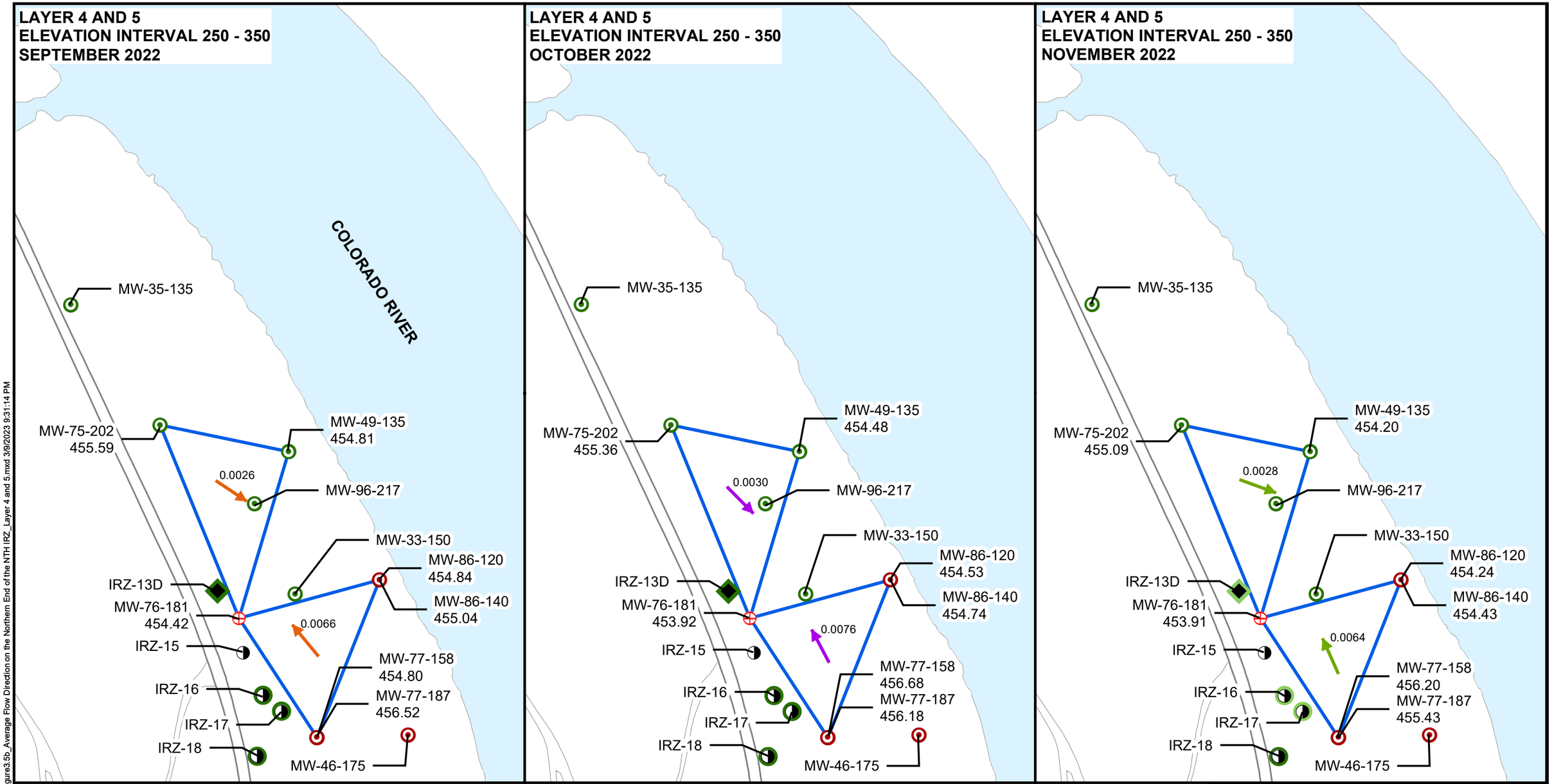
FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

LAYER 1 AND LAYER 2 AVERAGE FLOW DIRECTION ON THE NORTHERN END OF THE NTH IRZ

ARCADIS

FIGURE
3.5a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22Final\Figure3.5a_Average Flow Direction on the Northern End of the NTH IRZ_Layer 1 and 2.mxd 3/9/2023 9:32:36 PM



LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 85-95% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 75-85% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 85-95% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 75-85% UPTIME
- CALCULATED FLOW VECTOR IN SEPTEMBER 2022
- CALCULATED FLOW VECTOR IN OCTOBER 2022
- CALCULATED FLOW VECTOR IN NOVEMBER 2022

Hydraulic Gradient (feet/feet)

0.0030 ft/ft

Notes:
1. NTH = National Trails Highway
2. IRZ = in-situ reactive zone
3. The hyraulic gradient for triplet MW-76-181/MW-86-120/MW-77-158 is represented on the figure
4. ft/ft = feet per foot

0 200 400 Feet

N

FOURTH QUARTER 2022
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NEEDLES, CALIFORNIA

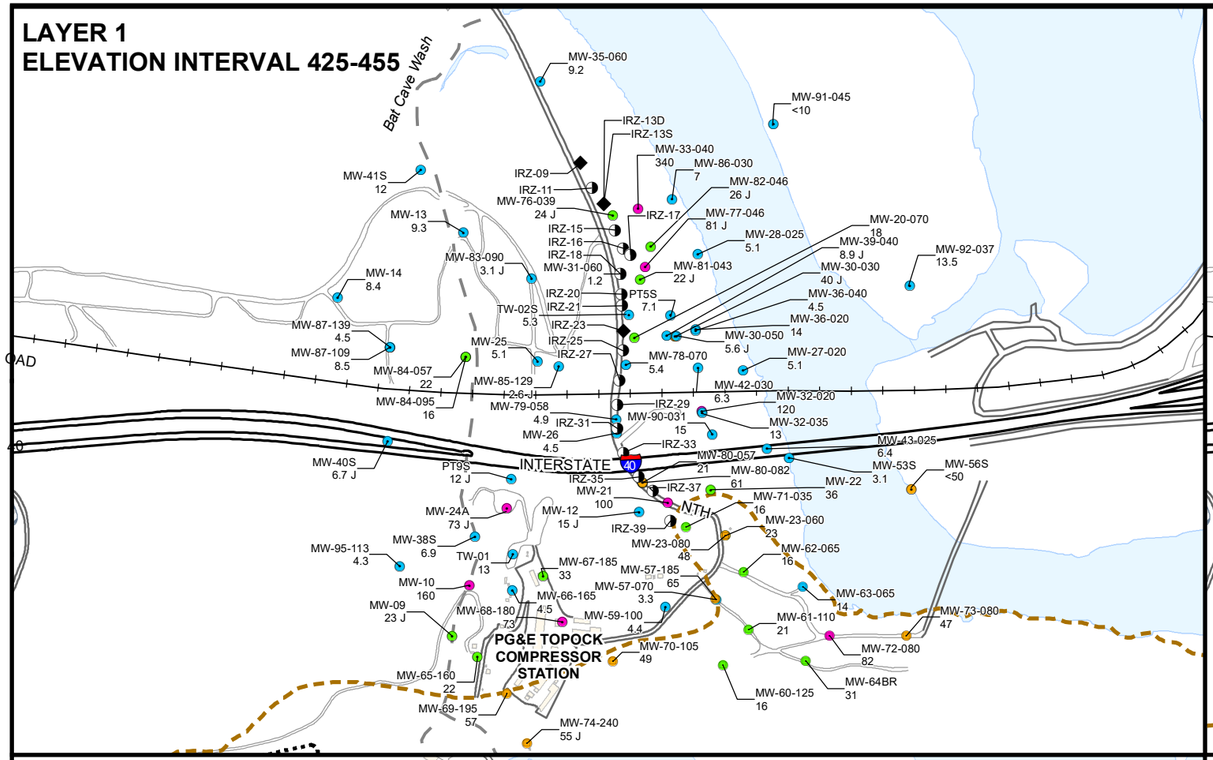
LAYER 4 AND LAYER 5 AVERAGE FLOW DIRECTION ON THE NORTHERN END OF THE NTH IRZ

ARCADIS

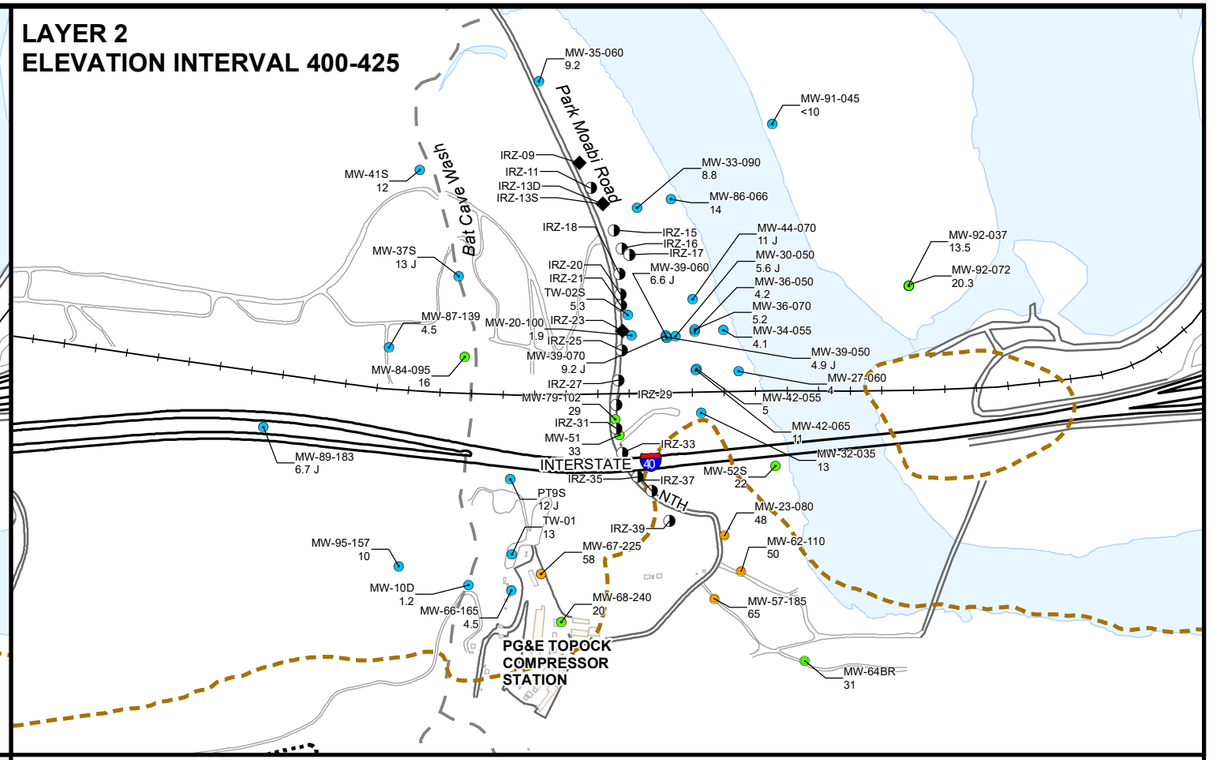
FIGURE
3.5b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22\Final\Figure3.5b_Average Flow Direction on the Northern End of the NTH IRZ_Layer 4 and 5.mxd 3/9/2023 9:31:14 PM

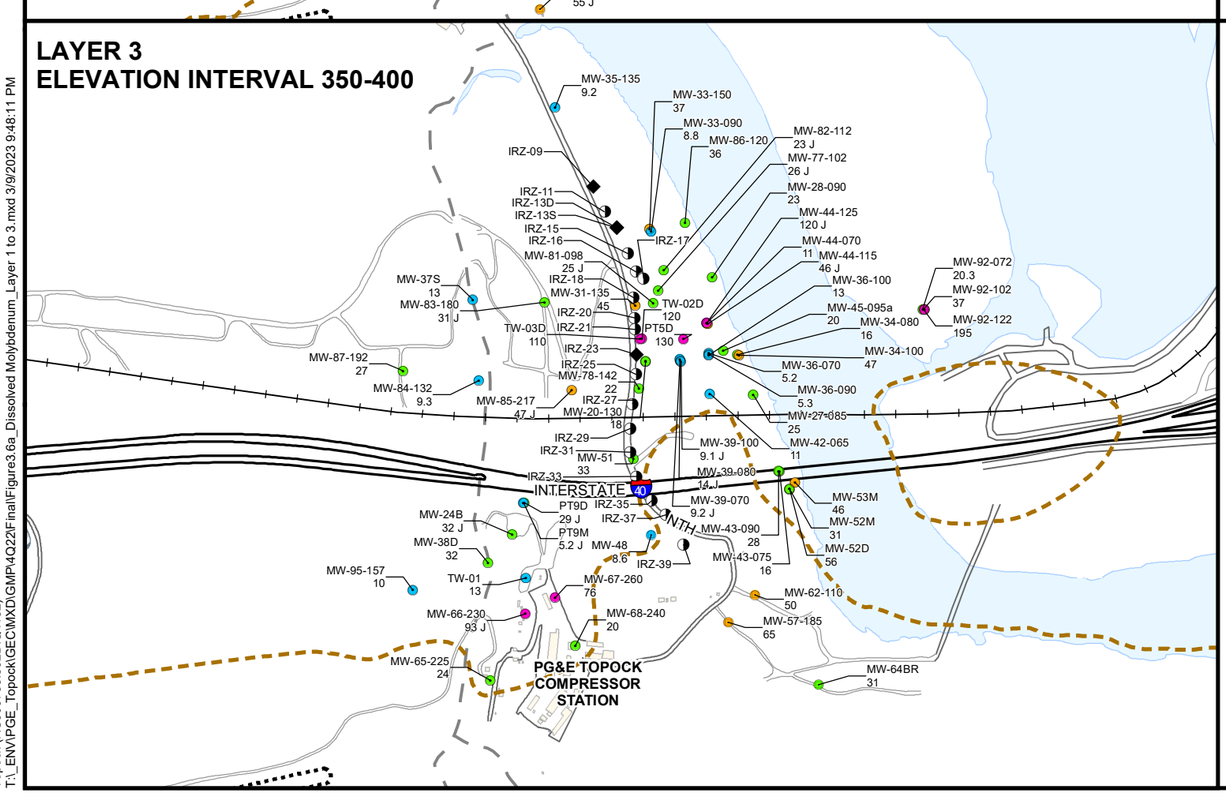
LAYER 1
ELEVATION INTERVAL 425-455



LAYER 2
ELEVATION INTERVAL 400-425



LAYER 3
ELEVATION INTERVAL 350-400



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Molybdenum Concentrations

- 15 µg/L
- 36.3 µg/L (Background UTL)
- 70 µg/L

MW-63-065 — Well ID
14 — Dissolved Molybdenum concentration in µg/L

N

0 400 800
Feet

Notes:

1. IRZ = In-situ reactive zone
2. µg/l = micrograms per liter
3. NTH = National Trails Highway
4. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and a field dulpicate sample were collected, then the maximum result is presented.
5. Molybdenum background study upper tolerance limit (UTL) = 36.3 µg/L
6. < = non-detect at the reporting limit

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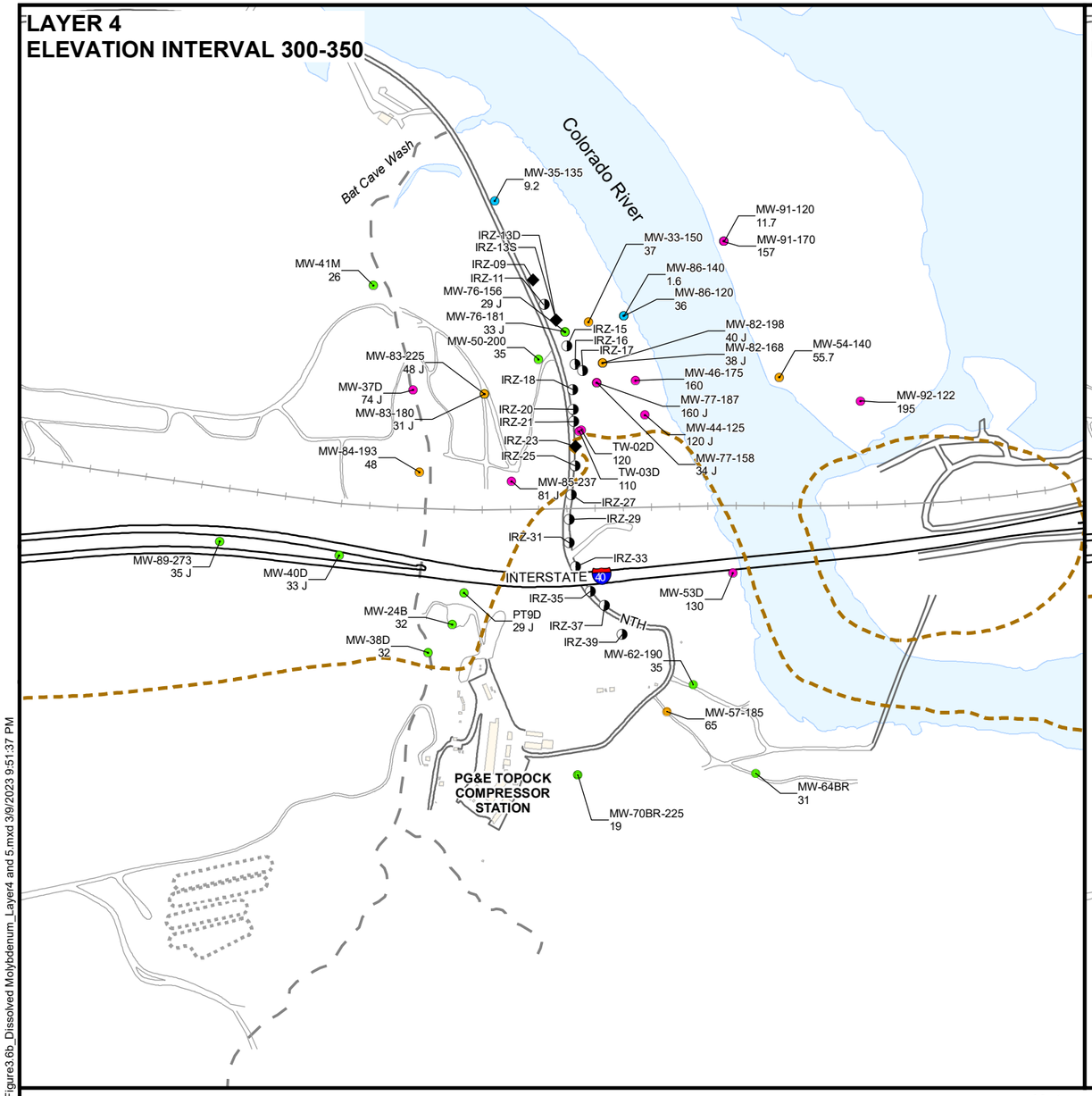
DISSOLVED MOLYBDENUM CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 1, 2 AND 3

ARCADIS

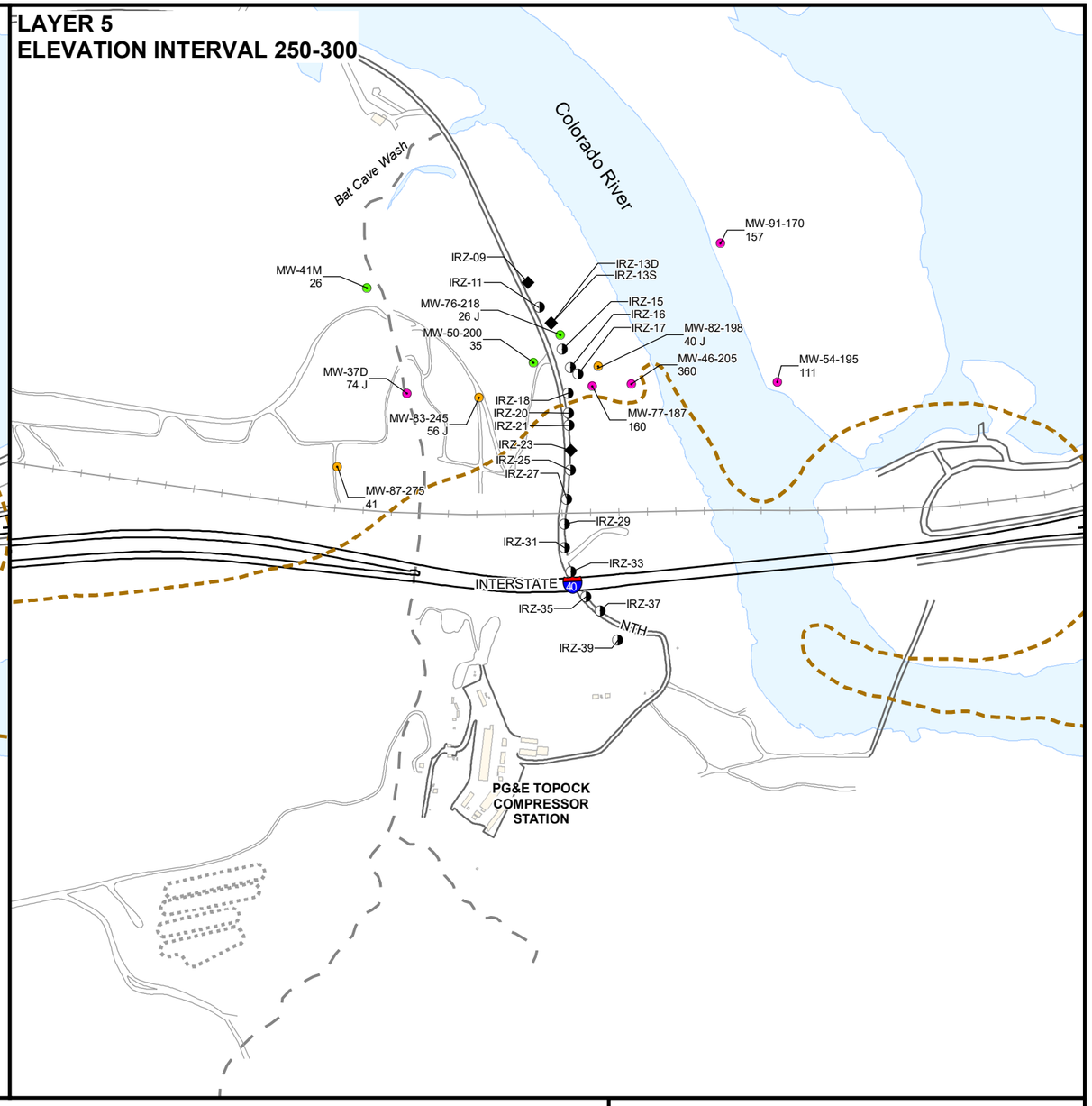
FIGURE
3.6a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22Final\Figure3.6a_Dissolved Molybdenum_Layer 1 to 3.mxd 3/9/2023 9:48:11 PM
Topock (RC000753.802D.Q4182)

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Molybdenum Concentrations

- 15 µg/L
- 36.3 µg/L (Background UTL)
- 70 µg/L

MW-62-190 — Well ID
35 — Dissolved Molybdenum Concentration in µg/L

Notes:
1. IRZ = In-situ reactive zone
2. µg/l = micrograms per liter
3. NTH = National Trails Highway
4. Fourth Quarter 2022 results are presented (October - December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and a field duplicate sample were collected, then the maximum result is presented.
5. Molybdenum background study upper tolerance limit (UTL) = 36.3 µg/L
6. < = non-detect at the reporting limit

N

0 400 800 Feet

FOURTH QUARTER 2022
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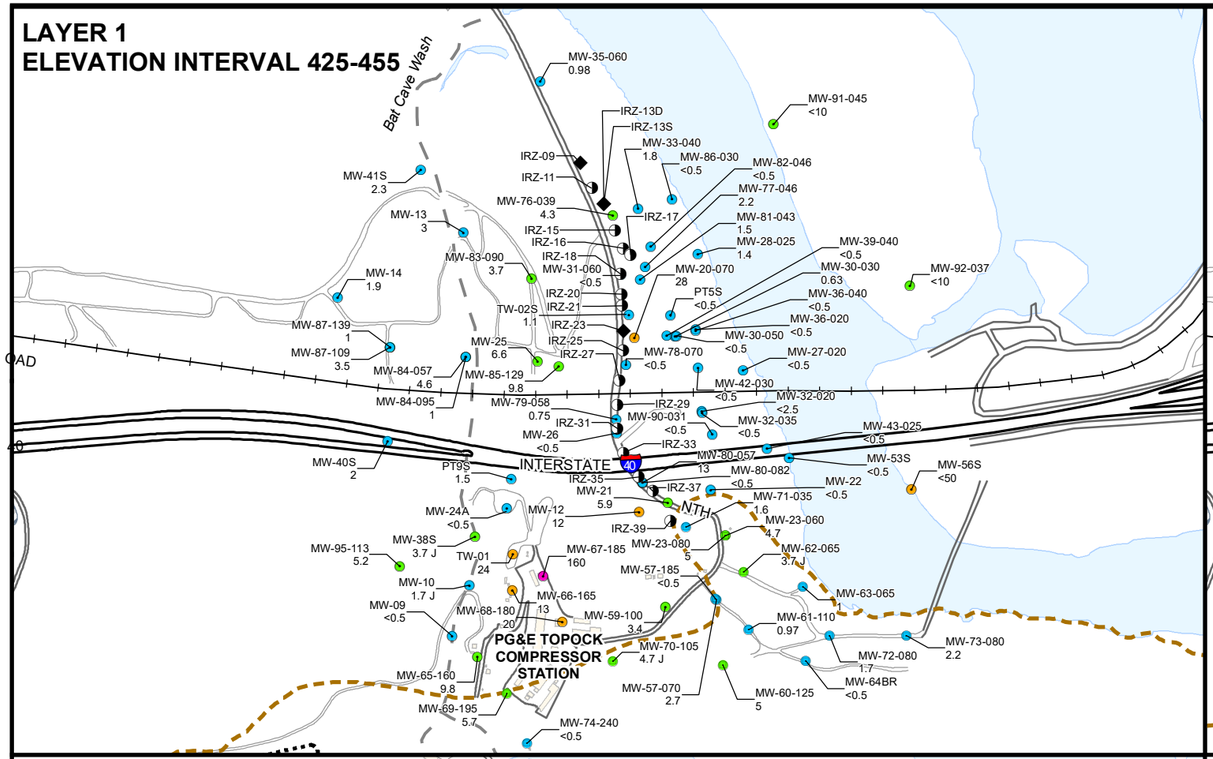
DISSOLVED MOLYBDENUM CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 4 AND 5

ARCADIS

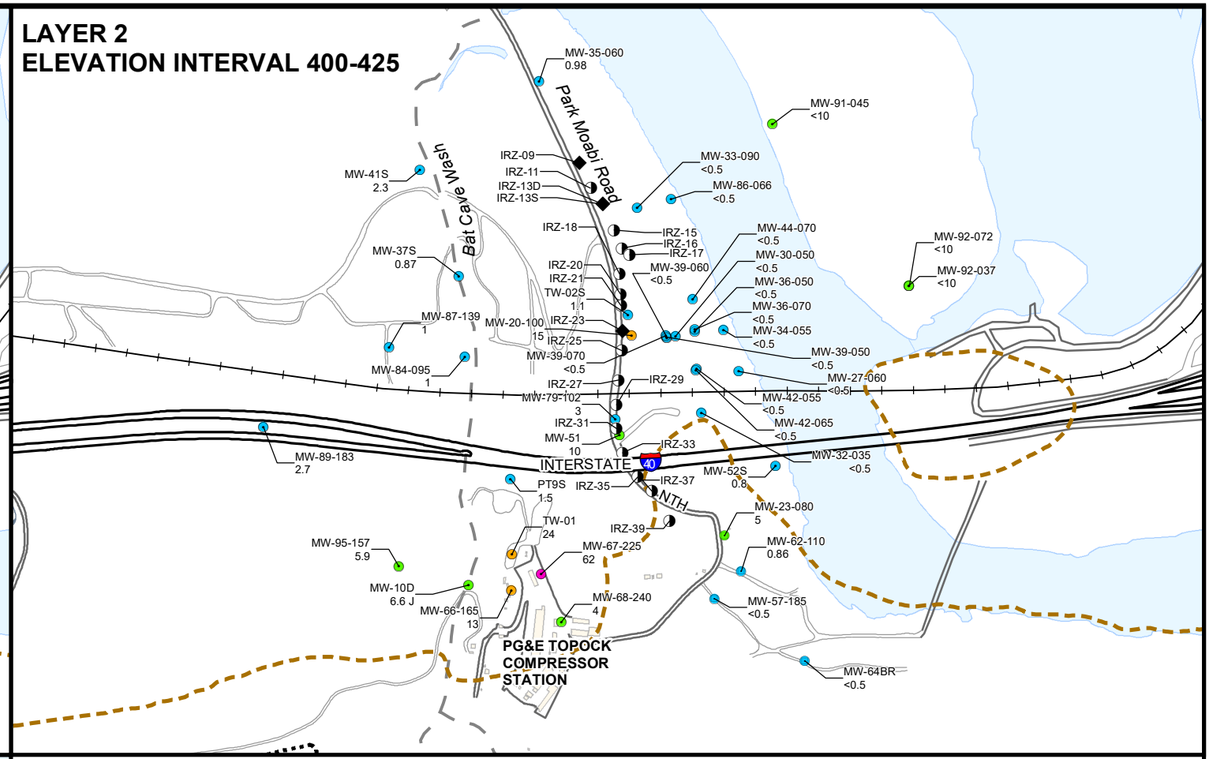
FIGURE
3.6b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
Topock (RC000753.8002D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22Final\Figure3.6b_Dissolved Molybdenum_Layer4 and 5.mxd 3/9/2023 9:51:37 PM

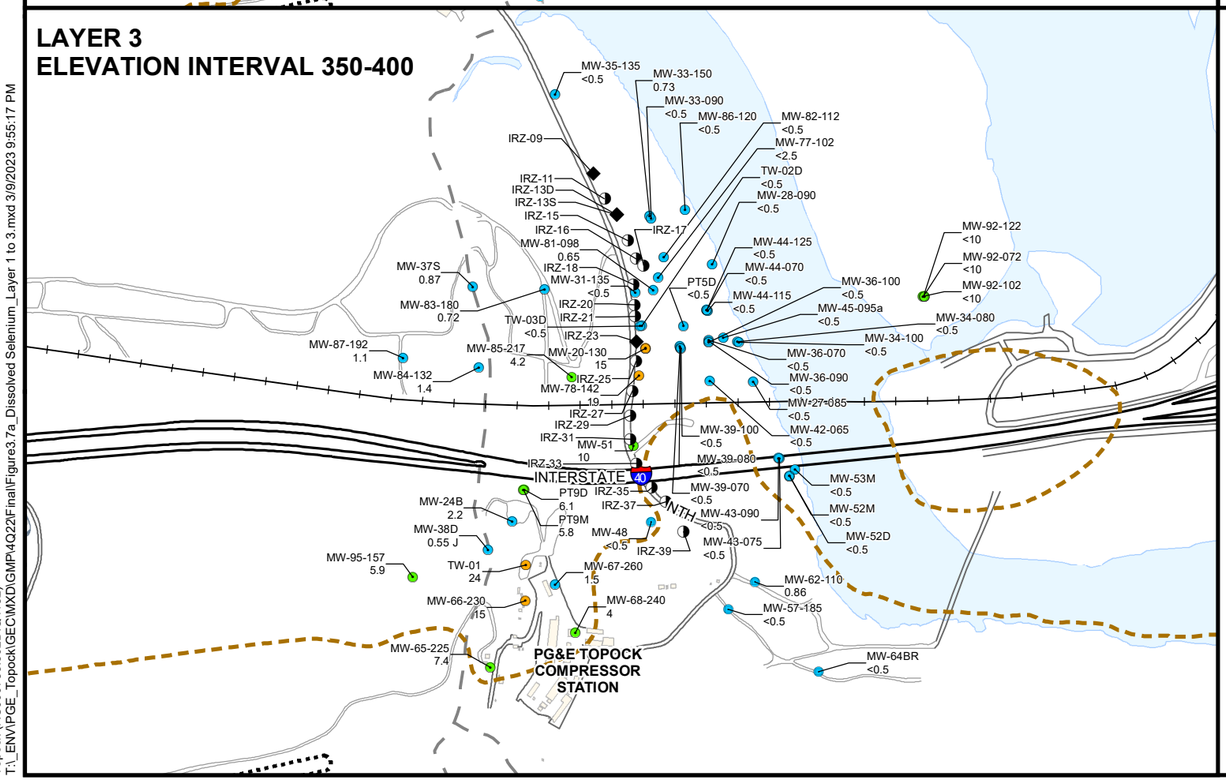
LAYER 1
ELEVATION INTERVAL 425-455



LAYER 2
ELEVATION INTERVAL 400-425



LAYER 3
ELEVATION INTERVAL 350-400



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Selenium Concentrations

- 3 µg/L
- 10.3 µg/L (Background UTL)
- 50.0 µg/L (ARAR)

MW-20-070 — Well ID
28 — Dissolved Selenium concentration in µg/L

N

0 400 800 Feet

Notes:

1. IRZ = In-situ reactive zone
2. µg/l = micrograms per liter
3. NTH = National Trails Highway
4. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and a field dulpicate sample were collected, then the maximum result is presented.
5. Selenium background study upper tolerance limit (UTL) = 10.3 µg/L
6. Selenium applicable or relevant and appropriate requirement (ARAR) = 50.0 µg/L
7. < = non-detect at the reporting limit
8. J = concentration estimated by laboratory or data validation

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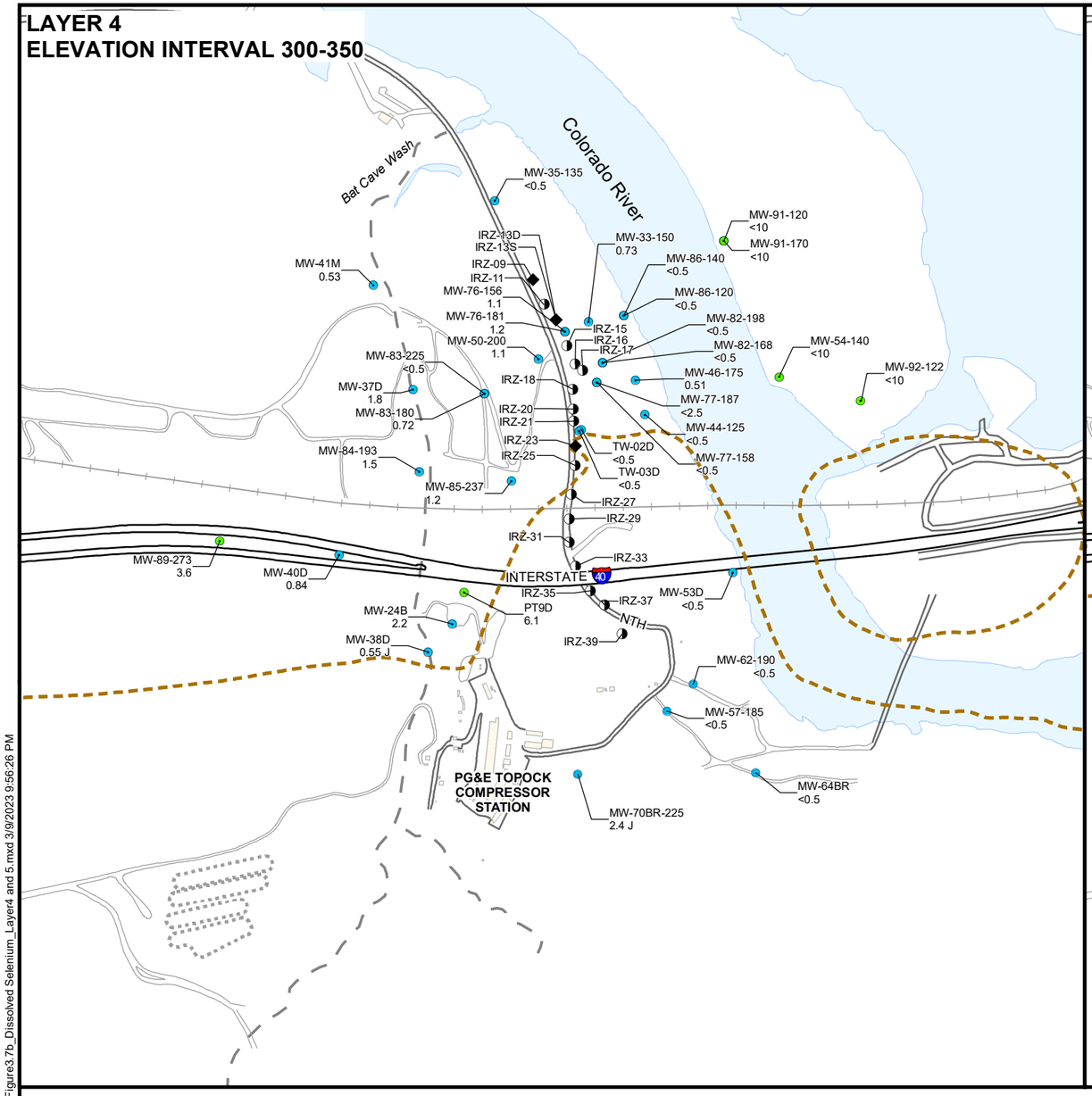
DISSOLVED SELENIUM CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 1, 2 AND 3

ARCADIS

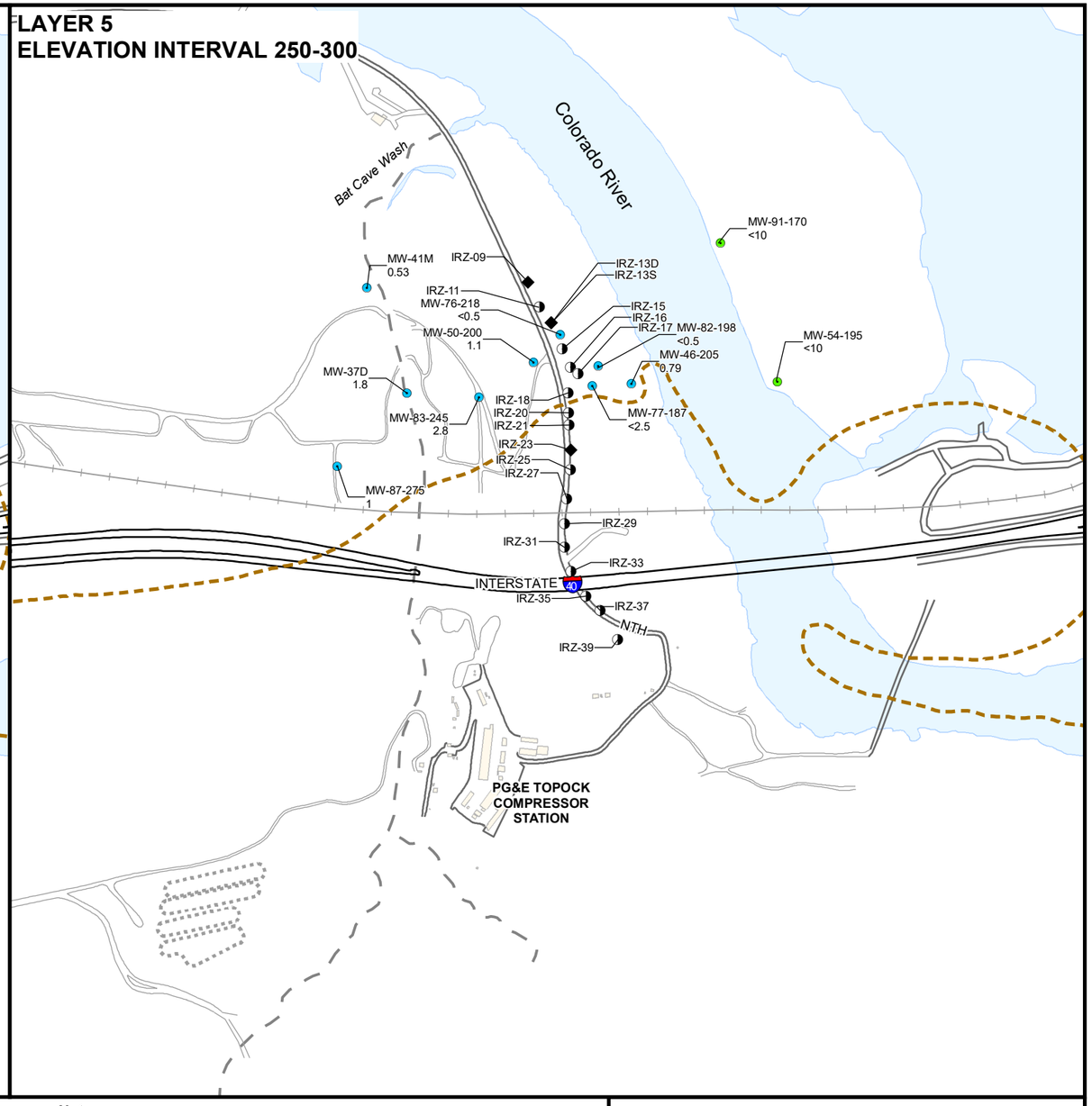
FIGURE
3.7a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP4Q22\Final\Figure3.7a_Dissolved Selenium_Layer 1 to 3.mxd 3/9/2023 9:55:17 PM

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Dissolved Selenium Concentrations

- 3 µg/L
- 10.3 µg/L (Background UTL)
- 50.0 µg/L (ARAR)

MW-76-181 — Well ID
1.2 — Dissolved Selenium Concentration in µg/L

N

0 400 800 Feet

Notes:

1. IRZ = In-situ reactive zone
2. µg/l = micrograms per liter
3. NTH = National Trails Highway
4. Fourth Quarter 2022 results are presented (October - December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and a field duplicate sample were collected, then the maximum result is presented.
5. Selenium background study upper tolerance limit (UTL) = 10.3 µg/L
6. Selenium applicable or relevant and appropriate requirement (ARAR) = 50.0 µg/L
7. < = non-detect at the reporting limit
8. J = concentration estimated by laboratory or data validation

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

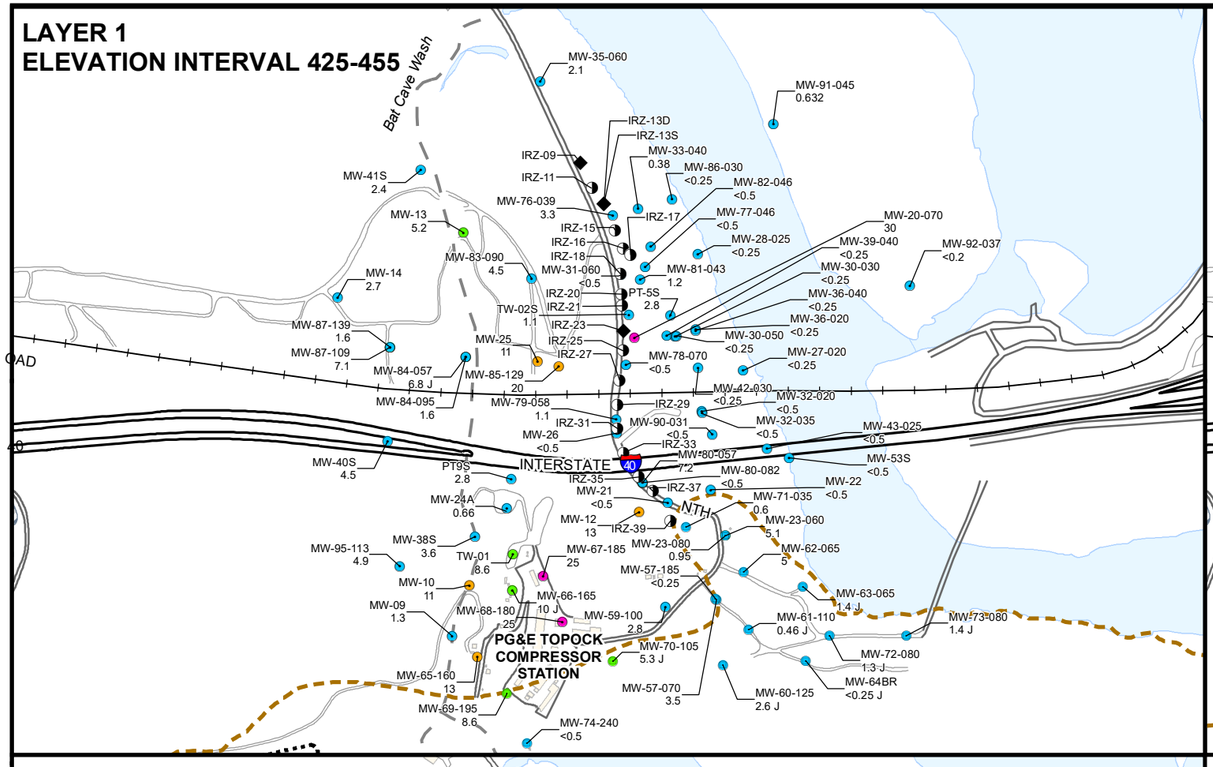
DISSOLVED SELENIUM CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 4 AND 5

ARCADIS

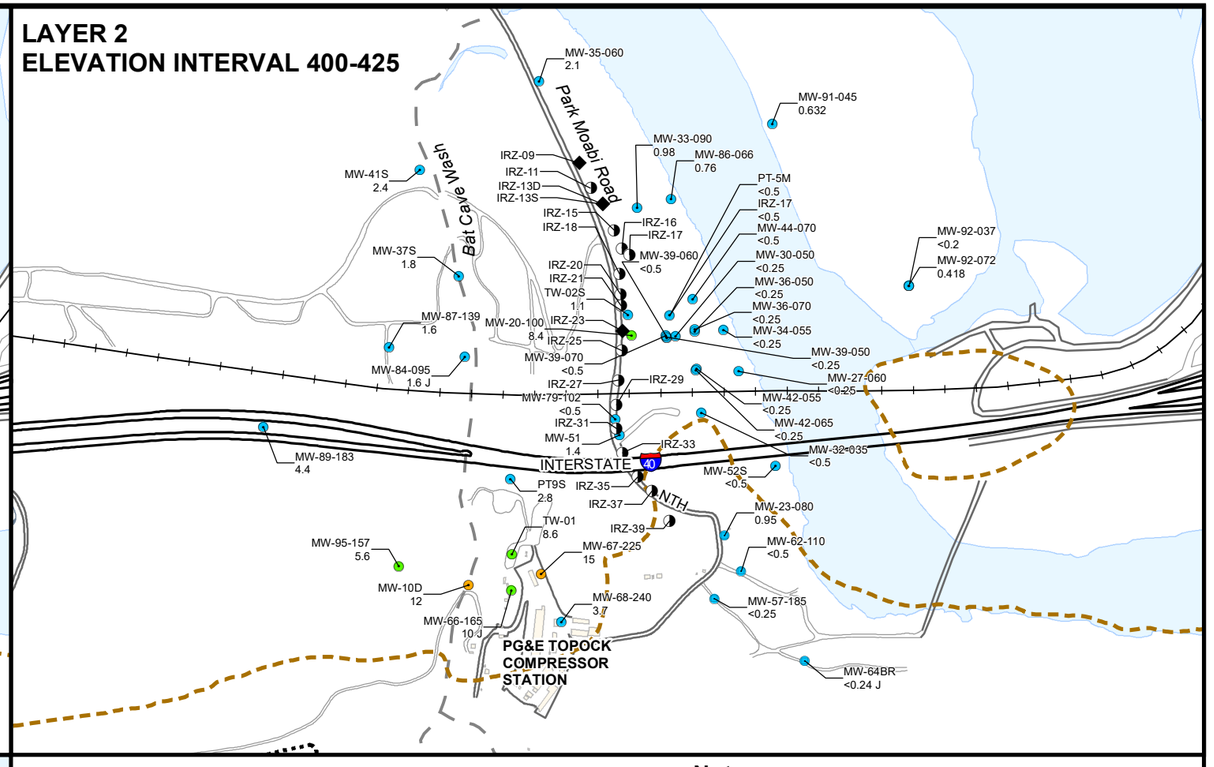
FIGURE **3.7b**

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22Final\Figure3.7b_Dissolved Selenium_Layer4 and 5.mxd 3/9/2023 9:56:26 PM
Topock (RC000753.8020.Q4182)

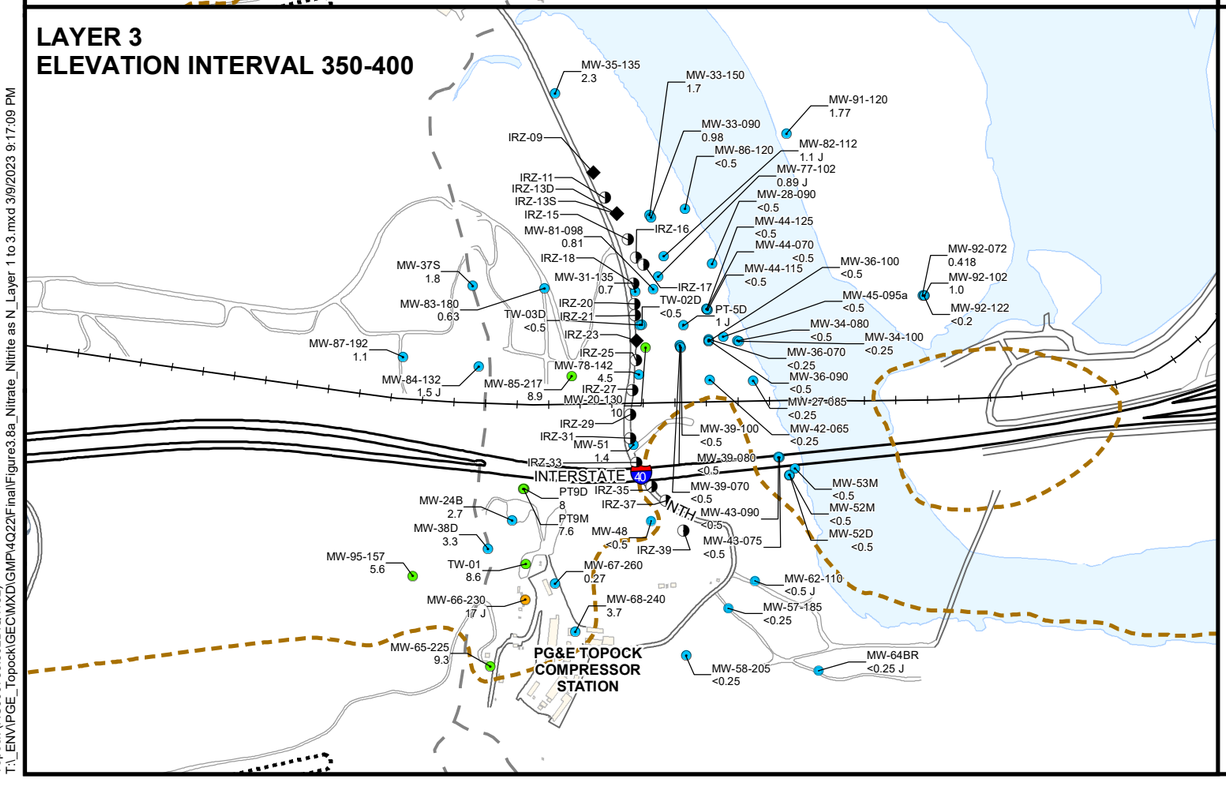
LAYER 1
ELEVATION INTERVAL 425-455



LAYER 2
ELEVATION INTERVAL 400-425



LAYER 3
ELEVATION INTERVAL 350-400



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Nitrate as N Concentrations

- 5.03 mg/L (Background UTL)
- 10 mg/L (ARAR)
- 20 mg/L

MW-20-070 —— Well ID
30 —— Nitrate as N concentration in mg/L

N

0 400 800 Feet

Notes:

1. IRZ = In-situ reactive zone
2. mg/l = milligrams per liter
3. NTH = National Trails Highway
4. * = nitrate result
5. Fourth Quarter 2022 results are presented (October to December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and a field dulpicate sample were collected, then the maximum result is presented.
6. Nitrate background study upper tolerance limit (UTL) = 5.03 mg/L
7. Nitrate applicable or relevant and appropriate requirement (ARAR) = 10.0 mg/L
8. < = non-detect at the reporting limit

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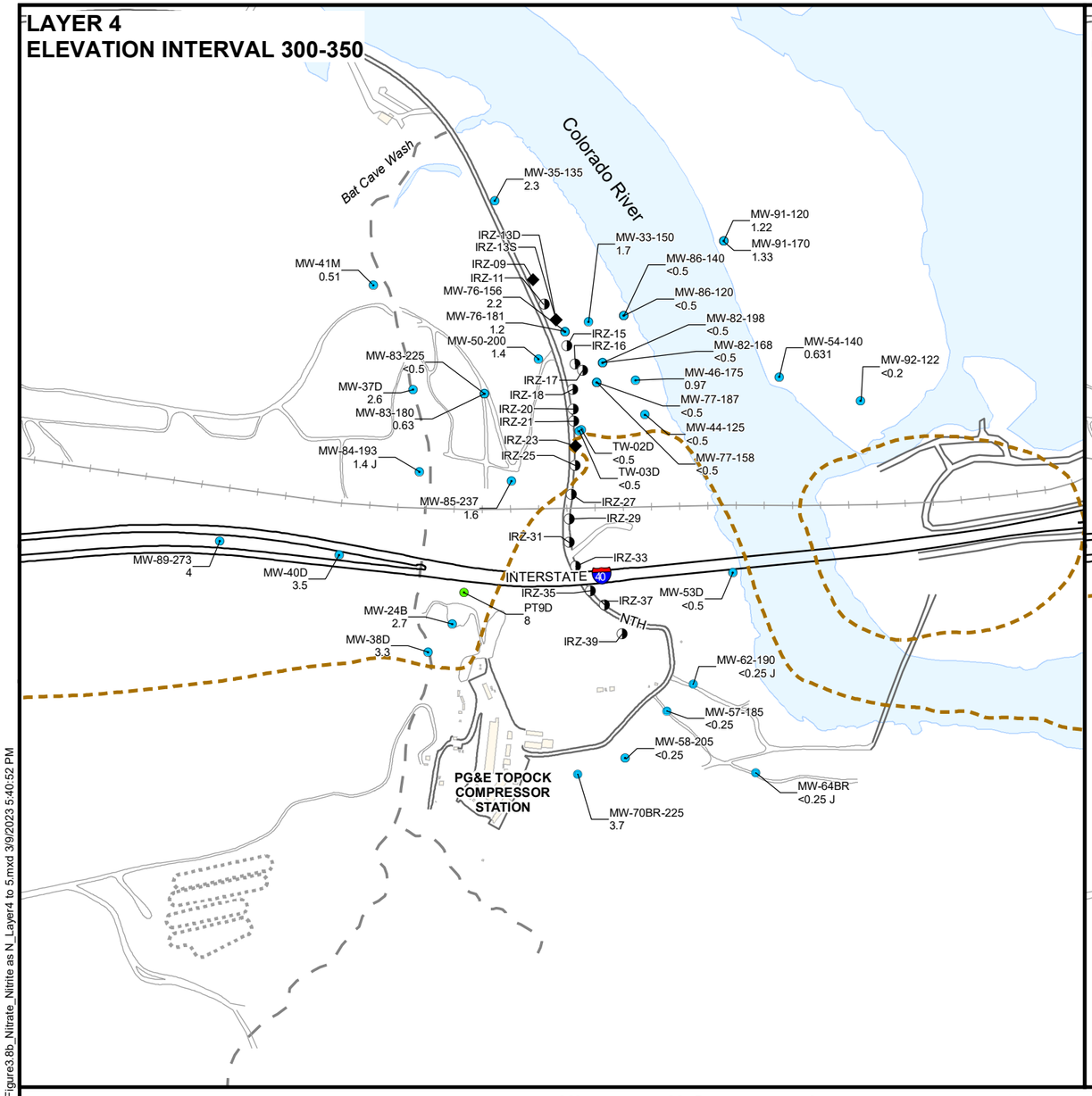
NITRATE AS N CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 1, 2 AND 3

ARCADIS

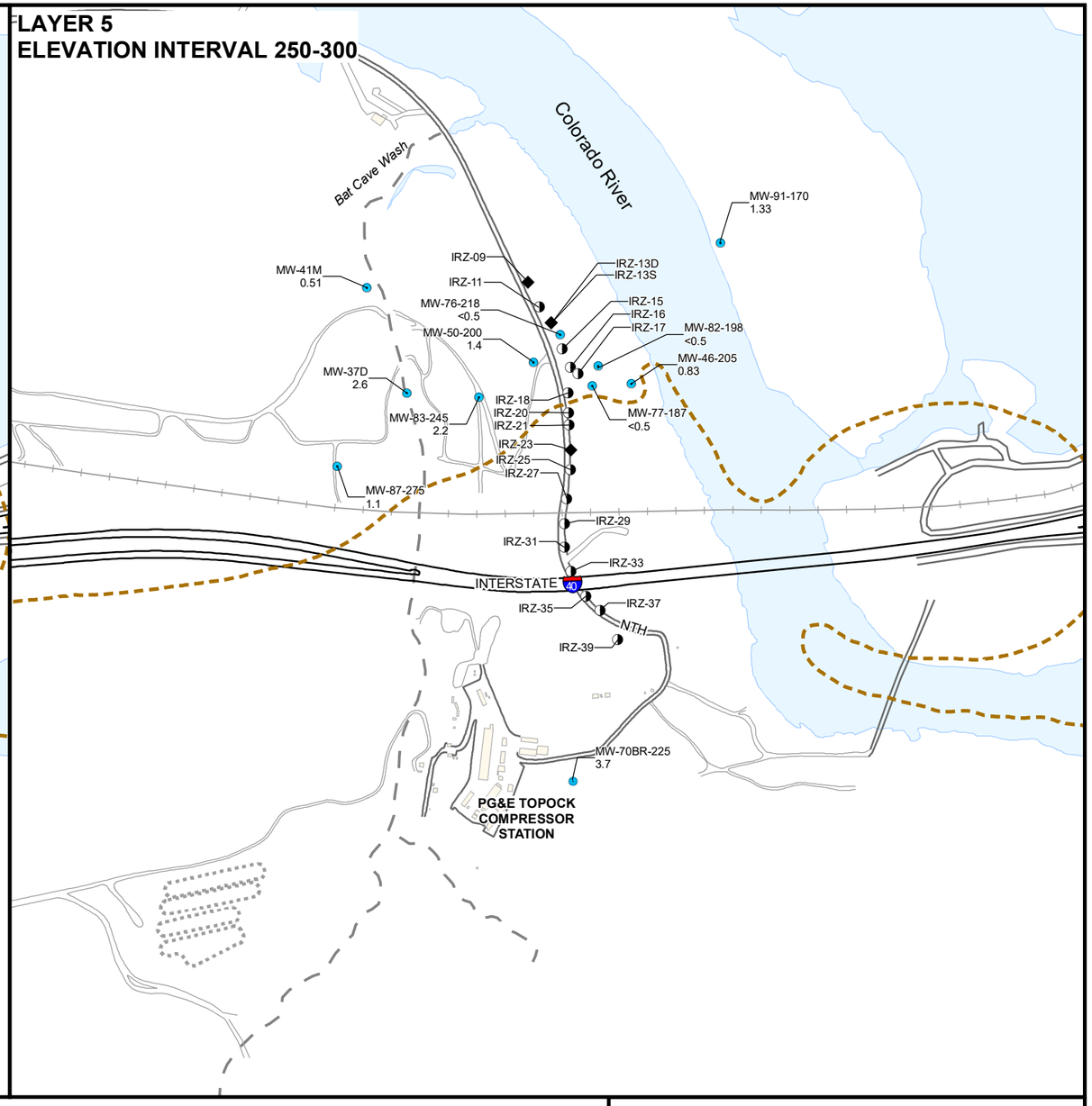
FIGURE **3.8a**

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: psi01045
Topock (RC000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22Final\Figure3.8a_Nitrate_Nitrite as N_Layer 1 to 3.mxd 3/9/2023 9:17:09 PM

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

- Groundwater Monitoring Well
- Groundwater Well Completed in Bedrock
- NTH IRZ Injection Well
- NTH IRZ Extraction Well
- Bat Cave Wash
- Approximate bedrock contact (per depth interval)

Nitrate as N Concentrations

- 5.03 mg/L (Background UTL)
- 10 mg/L (ARAR)
- 20 mg/L

MW-76-181 — Well ID
1.2 — Nitrate as N concentration in mg/L

Notes:

1. IRZ = In-situ reactive zone
2. mg/l = milligrams per liter
3. NTH = National Trails Highway
4. * = nitrate result
4. Fourth Quarter 2022 results are presented (October - December 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary sample and a field duplicate sample were collected, then the maximum result is presented.
5. Nitrate background study upper tolerance limit (UTL) = 5.03 mg/L
6. Nitrate applicable or relevant and appropriate requirement (ARAR) = 10.0 mg/L
7. < = non-detect at the reporting limit

N

0 400 800 Feet

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

NITRATE AS N CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL: LAYERS 4 AND 5

ARCADIS

FIGURE
3.8b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: sbi01179
Topock (RC000753.8022D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\4Q22Final\Figure3.8b_Nitrate_Nitrite as N_Layer4 to 5.mxd 3/9/2023 5:40:52 PM

Appendix A

Fourth Quarter 2022 Field Parameters

Appendix A
Fourth Quarter 2022 Field Parameters
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
C-BNS	11/15/2022	8.37	955	3.00	6.21	16.0	0.48	620	105.4
C-CON-D	11/16/2022	8.50	951	5.00	9.94	14.0	0.47	610	96.6
C-CON-S	11/16/2022	8.52	969	6.00	9.12	14.1	0.46	690	102.5
C-I-3-D	11/15/2022	8.29	944	7.00	3.66	15.8	0.48	610	103.8
C-I-3-S	11/15/2022	8.29	946	5.00	3.21	15.9	0.47	610	102.1
C-MAR-D	11/16/2022	8.32	997	11.0	3.22	12.5	0.50	650	106.1
C-MAR-S	11/16/2022	8.32	1,000	13.0	4.20	12.5	0.50	650	104.9
C-NR1-D	11/16/2022	8.42	946	3.00	8.75	14.3	0.48	620	101.2
C-NR1-S	11/16/2022	8.44	945	4.00	6.55	14.3	0.46	600	103.5
C-NR3-D	11/16/2022	8.43	979	5.00	6.33	14.3	0.46	600	103.4
C-NR3-S	11/16/2022	8.37	953	2.00	7.08	14.3	0.47	610	103.3
C-NR4-D	11/16/2022	8.35	956	7.00	3.11	14.3	0.47	610	104.3
C-NR4-S	11/16/2022	8.35	959	8.00	8.71	14.3	0.47	610	102.9
C-R22A-D	11/15/2022	8.26	953	9.00	3.13	15.7	0.49	610	100.9
C-R22A-S	11/15/2022	8.28	958	6.00	2.75	15.7	0.47	610	104.6
C-R27-D	11/15/2022	8.30	949	2.00	2.69	16.0	0.47	610	106.2
C-R27-S	11/15/2022	8.32	957	7.00	3.77	15.9	0.47	610	107.1
C-TAZ-D	11/15/2022	8.69	949	3.00	8.59	15.8	0.47	610	97.5
C-TAZ-S	11/15/2022	8.30	946	4.00	3.23	16.9	0.48	630	102.5
CW-01D	11/29/2022	7.35	6,914	2.00	5.78	24.9	3.77	4,490	91.2
CW-01M	11/29/2022	6.20	7,323	5.00	7.48	27.2	4.01	4,760	169.9
CW-02D	12/02/2022	7.66	7,520	4.00	2.97	24.2	4.12	4,860	66.2
CW-02M	12/02/2022	7.63	7,483	9.00	2.85	25.4	4.11	4,850	62.1
CW-03D	12/02/2022	7.68	7,586	2.00	2.69	25.1	4.18	4,930	32.1
CW-03M	12/02/2022	7.73	7,561	2.00	2.42	25.2	4.17	4,910	65.2
CW-04D	12/01/2022	7.64	7,741	3.00	4.93	24.9	4.26	5,010	84.5
CW-04M	12/01/2022	7.67	7,365	5.00	4.17	24.8	4.05	4,780	64.2
IRZ-09-100	10/11/2022	7.88	11,719	3.16	1.01	29.4	nm	nm	-44.5
IRZ-09-100	11/15/2022	7.97	10,426	1.20	1.89	22.9	nm	nm	42.8
IRZ-13D-210	11/15/2022	7.67	18,643	0.90	1.17	25.0	nm	nm	48.9
IRZ-13D-210	10/11/2022	7.65	20,108	0.60	0.89	28.3	nm	nm	14.4
IRZ-13D-210	12/06/2022	7.68	17,728	0.60	nm	22.9	nm	nm	65.8
IRZ-13D-210	12/16/2022	7.77	16,587	0.05	nm	19.5	nm	nm	50.2
IRZ-13S-095	12/06/2022	7.85	8,759	2.60	1.81	24.1	nm	nm	87.2
IRZ-13S-095	11/15/2022	7.88	8,917	1.20	1.87	24.4	nm	nm	49.0
IRZ-13S-095	10/11/2022	7.91	9,351	0.90	2.20	27.5	nm	nm	23.6
IRZ-13S-095	12/16/2022	7.98	7,673	0.70	2.96	18.6	nm	nm	48.6
IRZ-23-143	11/15/2022	7.74	7,566	4.70	2.34	22.1	nm	nm	59.0
IRZ-23-143	10/11/2022	7.63	7,814	2.69	2.64	26.8	nm	nm	42.3
IRZ-23-143	12/16/2022	7.73	7,000	2.50	2.86	17.2	nm	nm	70.7
IRZ-23-143	12/06/2022	7.65	8,146	0.030	2.31	24.7	nm	nm	117.3
MTS-1	12/13/2022	7.42	1,756	10.0	3.88	27.0	0.90	1,150	-185.6
MTS-2	12/13/2022	7.12	2,218	28.0	3.50	31.6	1.12	1,430	-126.8
MW-09	12/01/2022	7.61	1,163	44.0	3.40	23.3	0.56	780	48.5
MW-10	11/28/2022	7.48	1,566	4.00	4.17	27.0	1.09	nm	129.4
MW-10D	11/28/2022	7.30	3,675	5.00	3.06	27.6	0.94	nm	102.4
MW-11	11/30/2022	7.45	1,788	5.00	5.91	23.3	0.70	nm	114.5
MW-11D	11/30/2022	7.39	4,541	5.00	4.61	21.3	0.79	nm	114.5
MW-12	11/30/2022	8.23	7,481	5.00	0.31	27.2	4.11	4,890	165.2
MW-13	11/30/2022	7.35	2,837	5.00	5.77	27.2	1.44	nm	109.7
MW-14	12/02/2022	7.40	3,952	5.00	5.55	25.0	0.85	nm	116.4
MW-15	11/29/2022	7.64	2,224	2.00	3.59	26.2	1.15	1,460	64.1
MW-19	12/02/2022	7.27	2,099	4.00	6.10	25.4	0.53	nm	118.1
MW-20-070	10/12/2022	7.41	3,602	4.00	6.88	32.0	0.79	nm	41.1
MW-20-070	11/09/2022	7.55	3,301	4.00	3.50	28.2	0.91	nm	9.4
MW-20-070	12/08/2022	7.10	3,782	2.00	6.58	27.1	1.17	nm	98.9
MW-20-100	10/12/2022	6.81	4,445	4.00	1.40	33.6	0.81	nm	77.8
MW-20-100	11/09/2022	7.07	3,620	3.00	1.12	29.0	0.82	nm	60.6
MW-20-130	10/12/2022	6.76	12,210	5.00	0.68	34.9	0.89	nm	65.1
MW-20-130	11/09/2022	7.79	8,424	3.00	0.44	29.2	0.79	nm	33.4
MW-21	12/07/2022	7.37	7,769	10.0	0.80	20.7	4.31	5,050	37.7
MW-21	11/15/2022	7.55	10,085	7.00	0.76	24.5	6.08	7,010	-96.1
MW-22	11/16/2022	6.95	26,261	39.0	1.09	27.4	0.16	16,860	-178.7
MW-23-060	11/18/2022	7.91	16,678	7.00	0.63	25.2	9.77	10,820	-32.1
MW-23-080	11/18/2022	9.80	17,082	6.00	0.33	26.0	0.10	11,120	-59.6
MW-24A	12/01/2022	7.81	1,613	3.00	1.80	26.8	1.15	nm	-39.1
MW-24B	12/01/2022	7.45	16,810	3.00	0.23	28.9	0.88	nm	-103.1
MW-24BR	12/01/2022	nm	nm	nm	nm	nm	nm	nm	nm
MW-24BR	12/02/2022	7.94	14,861	2.00	0.26	25.2	8.61	9,570	-96.5
MW-25	12/02/2022	7.28	2,094	5.00	4.47	27.5	0.91	nm	94.5
MW-26	12/08/2022	6.74	9,672	5.00	3.34	26.1	0.90	nm	120.9

Appendix A
Fourth Quarter 2022 Field Parameters
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-26	10/13/2022	7.00	10,718	4.00	0.62	29.6	0.85	nm	72.2
MW-26	11/11/2022	7.17	9,611	3.00	1.86	27.0	0.50	nm	139.0
MW-27-020	11/09/2022	7.75	1,065	3.00	0.53	21.5	0.53	680	25.5
MW-27-060	11/09/2022	7.77	1,077	4.00	4.35	19.5	0.53	700	21.3
MW-27-085	11/09/2022	7.41	13,015	5.00	1.31	19.9	7.67	8,610	12.8
MW-28-025	11/16/2022	7.30	1,325	4.00	1.47	21.5	0.68	890	9.8
MW-28-090	11/16/2022	7.40	8,262	4.00	0.66	19.6	4.68	5,440	-57.3
MW-29	11/16/2022	7.36	2,381	6.00	0.37	22.2	1.22	1,540	-36.8
MW-30-030	11/08/2022	7.79	4,172	4.00	0.11	26.6	0.77	nm	-171.1
MW-30-050	10/11/2022	7.54	1,226	5.00	4.39	25.4	0.92	nm	-41.5
MW-30-050	12/06/2022	7.27	1,074	4.00	5.01	21.3	0.73	nm	-58.9
MW-30-050	11/08/2022	7.62	1,088	3.00	3.29	23.9	0.92	nm	-50.9
MW-31-060	10/12/2022	7.09	11,250	4.00	0.18	30.8	0.98	nm	-305.1
MW-31-060	11/09/2022	7.65	9,759	4.00	0.59	25.2	0.96	nm	-330.1
MW-31-060	12/07/2022	7.19	10,593	2.00	0.42	25.4	1.25	nm	-243.9
MW-31-135	10/12/2022	7.66	13,967	5.00	1.94	28.6	0.92	nm	-9.1
MW-31-135	11/09/2022	7.20	11,356	3.00	0.40	21.6	0.99	nm	-238.7
MW-31-135	12/07/2022	7.24	12,070	3.00	0.51	23.1	0.97	nm	-89.9
MW-32-020	11/10/2022	7.31	25,912	6.00	0.22	28.2	0.16	16,840	-165.4
MW-32-035	11/10/2022	7.17	10,078	5.00	0.19	25.3	5.68	6,550	-206.4
MW-33-040	11/17/2022	7.54	18,451	5.00	3.46	22.2	0.11	12,020	65.1
MW-33-090	11/17/2022	7.11	10,308	5.00	0.58	21.5	5.84	6,700	27.6
MW-33-150	11/17/2022	7.34	17,069	8.00	1.77	23.4	0.10	11,070	22.9
MW-33-210	11/17/2022	7.26	21,540	5.00	4.08	23.7	0.13	13,980	65.7
MW-34-055	11/09/2022	7.78	931	8.00	0.40	19.3	0.45	590	-79.5
MW-34-080	11/09/2022	7.40	8,823	7.00	0.41	19.4	4.94	5,730	-78.7
MW-34-080	10/12/2022	7.62	8,739	6.00	0.58	20.7	4.69	5,680	77.8
MW-34-080	12/07/2022	7.44	8,854	3.00	0.76	19.6	4.97	5,780	150.2
MW-34-100	11/09/2022	7.92	13,116	5.00	0.38	19.7	7.59	8,530	-71.0
MW-35-060	11/17/2022	7.51	6,427	32.0	0.35	25.1	3.50	4,170	-42.4
MW-35-135	11/17/2022	7.63	9,862	38.0	0.48	25.8	5.52	6,380	-58.5
MW-36-020	11/10/2022	7.37	5,326	5.00	0.50	22.6	0.84	nm	-149.8
MW-36-040	11/10/2022	7.84	1,041	3.00	0.11	21.4	0.97	nm	-190.0
MW-36-050	11/10/2022	9.23	988	4.00	0.12	21.5	1.04	nm	-160.6
MW-36-070	11/10/2022	7.77	1,100	5.00	0.15	21.0	0.66	nm	-126.5
MW-36-090	10/12/2022	7.36	4,348	5.00	0.33	21.3	0.90	nm	-105.0
MW-36-090	11/10/2022	7.52	3,982	4.00	0.15	21.1	0.79	nm	-86.6
MW-36-090	12/07/2022	6.99	3,923	4.00	0.18	20.6	0.92	nm	-102.5
MW-36-100	10/12/2022	7.45	5,062	5.00	0.18	21.6	0.88	nm	-94.1
MW-36-100	11/10/2022	7.70	5,267	4.00	0.14	22.6	1.01	nm	-131.1
MW-36-100	12/07/2022	6.98	5,356	4.00	0.26	20.3	1.18	nm	-120.1
MW-37D	12/01/2022	7.73	9,910	3.00	2.72	26.9	0.72	nm	105.5
MW-37S	12/01/2022	7.48	7,450	5.00	1.63	25.3	0.80	nm	121.8
MW-38D	11/28/2022	8.39	17,879	5.00	0.84	26.8	1.54	nm	80.3
MW-38S	11/28/2022	7.66	1,900	5.00	2.15	27.4	1.22	nm	98.1
MW-39-040	10/11/2022	8.02	1,230	6.00	0.30	23.3	0.79	nm	-175.2
MW-39-040	11/08/2022	8.08	1,170	4.00	0.27	22.4	0.85	nm	-202.7
MW-39-040	12/06/2022	7.70	1,257	3.00	0.21	19.5	0.83	nm	-192.1
MW-39-050	10/11/2022	7.51	1,094	5.00	0.17	23.5	0.79	nm	-44.6
MW-39-050	11/08/2022	7.57	1,024	4.00	0.18	22.9	0.70	nm	-62.6
MW-39-050	12/06/2022	7.13	1,084	4.00	0.20	20.0	0.78	nm	-68.8
MW-39-060	10/11/2022	7.46	1,591	5.00	0.13	25.6	0.75	nm	-75.0
MW-39-060	11/08/2022	7.53	1,619	5.00	0.25	23.5	0.83	nm	-89.9
MW-39-060	12/06/2022	7.04	1,725	5.00	0.19	21.9	0.66	nm	-96.1
MW-39-070	10/11/2022	7.33	2,897	5.00	0.69	22.5	0.85	nm	-38.9
MW-39-070	11/08/2022	7.44	3,924	4.00	0.49	21.3	0.75	nm	15.8
MW-39-070	12/06/2022	6.94	3,708	4.00	0.40	18.7	0.74	nm	37.5
MW-39-080	10/11/2022	7.24	8,290	5.00	0.44	24.0	0.90	nm	-52.9
MW-39-080	12/06/2022	6.93	5,268	5.00	0.40	19.6	0.56	nm	-75.8
MW-39-080	11/08/2022	7.40	4,876	3.00	0.28	22.8	0.88	nm	-86.7
MW-39-100	10/11/2022	7.16	15,648	5.00	0.15	23.9	0.95	nm	24.1
MW-39-100	11/08/2022	7.19	13,748	4.00	0.20	23.4	0.98	nm	35.4
MW-39-100	12/06/2022	6.72	13,562	4.00	0.16	21.5	1.18	nm	36.2
MW-40D	12/01/2022	7.54	13,295	6.00	1.48	26.6	7.64	8,640	60.9
MW-40S	12/01/2022	7.68	2,547	3.00	3.24	25.5	1.31	1,650	53.6
MW-41D	11/30/2022	7.29	18,248	11.0	1.77	25.6	0.11	11,880	148.0
MW-41M	11/30/2022	7.81	13,728	38.0	1.52	26.2	7.79	8,720	34.2
MW-41S	11/30/2022	8.12	6,959	47.0	3.41	23.6	3.62	4,310	174.9
MW-42-030	11/10/2022	7.85	1,325	9.00	0.24	22.9	0.66	850	-71.3
MW-42-055	11/10/2022	7.65	1,031	7.00	0.21	21.5	0.51	660	-74.7
MW-42-065	11/10/2022	7.16	8,939	6.00	0.25	21.6	5.00	5,800	-103.9

Appendix A
Fourth Quarter 2022 Field Parameters
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-43-025	11/17/2022	7.33	1,895	5.00	0.72	22.4	0.96	1,220	-87.3
MW-43-075	11/17/2022	7.25	12,190	7.00	1.76	21.2	6.99	7,920	-105.0
MW-43-090	11/17/2022	7.36	17,733	6.00	0.42	21.4	0.10	11,270	-65.3
MW-44-070	11/08/2022	7.83	1,884	11.0	1.28	20.7	0.95	1,210	80.2
MW-44-115	10/11/2022	7.95	10,458	11.0	0.30	22.1	5.92	6,760	63.3
MW-44-115	11/08/2022	7.85	10,664	6.00	0.58	21.4	6.05	6,920	77.9
MW-44-115	12/06/2022	7.65	10,710	4.00	0.68	20.7	6.08	6,960	159.5
MW-44-125	10/11/2022	8.04	11,601	7.00	0.34	21.8	6.67	7,580	57.8
MW-44-125	11/08/2022	7.84	11,850	5.00	0.42	21.2	6.79	7,700	79.0
MW-44-125	12/06/2022	7.58	11,975	5.00	2.42	20.7	6.86	7,780	161.5
MW-45-095A	10/12/2022	7.70	7,817	12.0	1.45	21.8	4.14	4,920	94.3
MW-45-095A	11/09/2022	7.45	6,781	9.00	0.97	20.9	3.73	4,420	43.8
MW-45-095A	12/07/2022	8.16	6,519	8.00	0.62	20.9	3.61	4,280	91.4
MW-46-175	11/17/2022	8.19	20,602	6.00	0.44	19.5	0.12	13,390	24.4
MW-46-205	11/17/2022	8.20	24,243	7.00	0.63	19.4	0.15	15,760	74.7
MW-47-055	11/14/2022	7.49	4,307	28.0	2.13	25.9	2.29	2,800	132.7
MW-47-115	11/14/2022	7.41	14,371	41.0	0.82	26.4	8.40	9,410	124.2
MW-48	11/30/2022	nm	nm	nm	nm	nm	nm	nm	nm
MW-48	12/02/2022	7.94	17,567	6.00	0.60	27.1	0.10	11,360	157.2
MW-49-135	11/16/2022	7.41	15,331	7.00	0.28	22.4	8.94	9,950	24.2
MW-49-275	11/16/2022	7.90	27,223	3.00	0.47	23.3	0.17	17,680	27.9
MW-49-365	11/16/2022	7.13	39,375	4.00	2.03	22.3	0.25	25,580	56.8
MW-50-095	11/30/2022	7.60	6,333	5.00	1.49	27.3	0.84	nm	89.4
MW-50-200	11/30/2022	7.57	17,914	4.00	0.73	24.8	1.70	nm	92.0
MW-51	10/13/2022	7.25	8,118	5.00	0.30	30.3	0.89	nm	32.1
MW-51	12/08/2022	6.68	4,284	5.00	1.27	23.8	1.10	nm	105.4
MW-51	11/11/2022	7.10	6,161	2.00	0.53	27.0	0.40	nm	95.2
MW-52D	11/17/2022	6.88	20,386	7.00	0.35	20.9	0.12	13,130	10.9
MW-52M	11/17/2022	6.95	15,869	4.00	0.72	20.4	9.32	10,330	-90.6
MW-52S	11/17/2022	6.83	13,478	8.00	0.30	20.8	7.78	8,720	-148.8
MW-53D	11/17/2022	7.30	24,949	6.00	0.55	20.3	0.15	16,210	44.6
MW-53M	11/17/2022	7.13	17,031	8.00	0.63	20.5	0.10	11,250	21.3
MW-53S	11/17/2022	7.38	1,364	4.00	0.55	20.6	0.69	890	-88.7
MW-54-085	12/15/2022	7.20	9,374	6.00	1.00	26.9	5.23	6,090	105.8
MW-54-140	12/15/2022	7.43	12,374	8.00	0.33	26.5	7.03	8,000	12.4
MW-54-195	12/15/2022	8.14	19,657	2.00	0.37	20.8	0.12	12,750	-144.1
MW-55-045	12/13/2022	7.38	1,292	37.0	0.63	26.4	0.64	830	105.3
MW-55-120	12/13/2022	7.42	6,978	7.00	0.61	26.3	3.82	4,530	104.4
MW-56D	12/14/2022	6.92	21,236	7.00	0.85	18.7	0.13	13,800	133.7
MW-56M	12/14/2022	6.83	14,419	5.00	1.71	20.8	8.39	9,370	93.6
MW-56S	12/14/2022	6.94	6,195	4.00	1.34	21.2	3.38	4,020	60.5
MW-57-070	11/18/2022	8.54	1,446	33.0	0.26	26.9	0.71	920	-65.9
MW-57-185	11/18/2022	9.81	12,253	9.00	0.63	27.2	6.99	7,960	4.3
MW-58-065	12/08/2022[a]	nm	nm	nm	nm	nm	nm	nm	nm
MW-58BR	12/08/2022	7.57	8,141	7.00	3.60	27.4	4.43	5,190	150.0
MW-59-100	11/30/2022	7.34	11,128	9.00	4.08	23.9	6.33	7,190	95.8
MW-60-125	11/29/2022	7.74	7,788	48.0	0.66	26.0	4.55	5,260	69.3
MW-60BR-245	11/29/2022	9.28	17,112	5.00	0.72	26.1	9.98	11,050	66.2
MW-61-110	11/29/2022	8.10	15,816	11.0	0.75	27.6	9.30	10,380	67.3
MW-62-065	11/28/2022	7.34	7,265	7.00	2.89	27.2	4.01	4,720	35.1
MW-62-110	11/29/2022	7.52	13,876	2.00	0.41	25.1	7.96	8,950	-155.2
MW-62-190	11/29/2022	7.81	19,062	2.00	0.35	23.5	0.11	12,510	-167.3
MW-63-065	11/29/2022	7.51	6,898	8.00	3.63	23.2	3.77	4,460	77.9
MW-64BR	11/29/2022	8.30	13,038	3.00	0.40	24.3	7.47	8,430	-65.1
MW-65-160	11/30/2022	7.20	4,143	25.0	1.88	23.3	2.18	2,670	72.9
MW-65-225	11/30/2022	7.35	7,103	5.00	1.81	25.4	3.86	4,550	88.1
MW-66-165	11/29/2022	7.55	3,052	18.0	4.03	25.7	1.58	1,980	68.1
MW-66-230	11/29/2022	7.76	19,333	24.0	0.75	25.4	0.11	12,550	-12.1
MW-66BR-270	11/29/2022	nm	nm	nm	nm	nm	nm	nm	nm
MW-66BR-270	12/13/2022	8.15	10,703	6.00	0.41	24.7	6.08	6,980	-145.3
MW-67-185	10/13/2022	7.71	5,537	30.0	1.12	29.9	2.87	3,450	85.2
MW-67-185	11/10/2022	7.72	5,374	20.0	1.33	26.9	2.85	3,460	43.3
MW-67-185	12/07/2022	7.54	5,025	12.0	0.98	26.7	2.69	3,360	152.8
MW-67-225	11/30/2022	7.90	5,163	8.00	2.04	23.9	2.76	3,340	24.9
MW-67-260	11/30/2022	10.23	18,144	9.00	1.06	23.5	0.11	11,740	-92.6
MW-68-180	10/13/2022	7.38	5,517	22.0	2.76	30.1	2.92	3,570	101.1
MW-68-180	12/07/2022	7.59	4,558	10.0	0.59	28.4	2.42	2,960	152.7
MW-68-180	11/10/2022	7.82	4,550	8.00	0.40	27.8	2.41	2,950	58.7
MW-68-240	11/30/2022	7.45	16,398	8.00	1.62	25.2	9.60	10,660	64.9
MW-68BR-280	11/30/2022	8.39	21,685	2.00	0.97	30.7	0.13	13,940	-57.1
MW-69-195	11/30/2022	7.43	2,969	13.0	3.34	21.6	1.38	1,730	65.9

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Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-70-105	11/28/2022	7.73	3,737	9.00	3.04	24.4	1.99	2,440	40.3
MW-70BR-225	11/28/2022	8.51	13,815	3.00	1.44	25.4	7.98	8,970	42.8
MW-70BR-287	11/28/2022	9.11	18,550	2.00	0.57	26.6	0.11	12,090	-85.9
MW-71-035	10/12/2022	7.21	13,661	15.0	0.98	29.5	7.89	8,870	92.0
MW-71-035	11/10/2022	7.32	15,070	13.0	1.04	20.9	7.22	8,140	31.1
MW-71-035	12/07/2022	7.52	11,906	11.0	0.99	20.3	6.98	7,820	56.6
MW-72-080	11/29/2022	8.11	15,536	50.0	0.70	24.7	9.08	10,120	70.0
MW-72BR-200	11/29/2022	8.04	14,183	4.00	0.47	23.9	6.92	7,870	20.6
MW-73-080	11/29/2022	7.90	10,115	6.00	0.65	23.5	5.71	6,580	73.2
MW-74-240	11/30/2022	7.96	846	14.0	1.15	23.6	0.42	550	-46.9
MW-75-033	11/11/2022	7.63	3,745	6.00	0.85	25.3	1.97	2,430	4.2
MW-75-117	11/11/2022	7.62	12,186	5.00	1.08	25.1	6.97	7,930	22.2
MW-75-202	11/11/2022	7.52	17,062	9.00	0.44	23.4	0.10	11,080	-52.8
MW-75-267	11/11/2022	7.44	22,722	6.00	0.35	23.9	0.14	14,780	-160.1
MW-75-337	11/11/2022	7.56	28,469	8.00	0.30	21.5	0.18	18,530	-156.6
MW-76-039	10/10/2022	7.52	3,501	27.0	3.28	28.0	1.81	2,260	165.8
MW-76-039	11/07/2022	7.75	3,339	13.0	1.12	27.2	1.75	2,170	90.6
MW-76-039	12/06/2022	7.72	3,472	13.0	1.24	26.4	1.79	2,220	159.2
MW-76-156	10/10/2022	7.45	14,745	36.0	0.36	31.5	8.49	9,590	23.6
MW-76-156	11/07/2022	7.51	15,177	10.0	1.26	27.8	8.80	9,870	91.4
MW-76-156	12/06/2022	7.71	15,105	8.00	0.49	25.3	8.79	9,820	156.2
MW-76-181	10/10/2022	7.59	15,676	12.0	0.95	28.3	9.04	10,100	65.0
MW-76-181	12/06/2022	7.55	14,782	5.00	1.23	24.9	8.55	9,580	154.6
MW-76-181	11/07/2022	7.55	15,625	4.00	1.41	27.7	9.09	10,160	92.1
MW-76-218	10/10/2022	7.84	15,596	16.0	0.37	29.4	9.06	10,150	46.9
MW-76-218	11/07/2022	7.93	15,522	8.00	2.08	28.0	9.00	10,060	89.1
MW-76-218	12/06/2022	7.65	15,452	7.00	1.45	25.9	9.00	10,040	152.8
MW-77-046	10/10/2022	7.53	6,983	6.00	5.39	29.1	0.69	nm	5.2
MW-77-046	12/05/2022	7.14	10,315	5.00	6.42	24.6	0.85	nm	-38.9
MW-77-046	11/07/2022	7.54	7,233	4.00	6.57	26.7	0.71	nm	-42.1
MW-77-102	10/10/2022	7.51	12,675	5.00	0.25	28.7	0.65	nm	-9.7
MW-77-102	11/07/2022	7.55	12,248	4.00	0.21	26.4	0.74	nm	9.3
MW-77-102	12/05/2022	7.09	12,701	4.00	0.41	24.3	0.81	nm	-121.1
MW-77-158	10/10/2022	7.70	10,554	5.00	0.20	28.5	0.71	nm	-119.0
MW-77-158	12/05/2022	7.12	10,078	5.00	4.36	24.0	0.84	nm	-104.8
MW-77-158	11/07/2022	7.64	10,118	4.00	2.49	26.4	0.77	nm	-60.7
MW-77-187	10/10/2022	7.96	14,985	9.00	6.30	32.4	0.80	nm	49.9
MW-77-187	12/05/2022	7.70	10,681	5.00	5.85	24.4	0.68	nm	-15.5
MW-77-187	11/07/2022	8.12	12,409	3.00	7.21	26.8	0.87	nm	69.9
MW-78-070	10/13/2022	7.47	9,470	49.0	1.50	29.8	5.27	6,160	74.9
MW-78-070	11/09/2022	7.02	9,676	4.00	0.70	27.3	0.71	nm	51.7
MW-78-070	12/07/2022	6.81	9,843	2.00	0.69	26.6	0.85	nm	-13.8
MW-78-142	10/13/2022	7.32	11,653	5.00	0.64	31.1	0.89	nm	89.3
MW-78-142	12/07/2022	6.97	10,763	5.00	0.49	26.7	1.36	nm	24.6
MW-78-142	11/09/2022	7.44	10,246	4.00	0.48	25.2	0.85	nm	65.1
MW-79-058	12/08/2022	6.75	8,521	9.00	4.80	27.7	1.17	nm	115.9
MW-79-058	10/13/2022	7.00	9,717	4.00	6.44	31.2	0.77	nm	125.4
MW-79-058	11/11/2022	6.74	9,362	4.00	2.80	28.4	0.40	nm	114.0
MW-79-102	10/13/2022	7.29	10,815	5.00	0.30	31.0	0.88	nm	45.1
MW-79-102	11/11/2022	7.04	9,690	4.00	0.42	27.9	0.60	nm	-22.5
MW-79-102	12/08/2022	6.88	9,629	3.00	0.37	27.8	0.71	nm	38.1
MW-80-057	10/13/2022	7.16	8,780	5.00	3.57	29.0	0.67	nm	131.6
MW-80-057	12/07/2022	6.81	8,072	4.00	3.01	28.8	0.88	nm	69.4
MW-80-057	11/10/2022	6.96	8,179	3.00	1.80	28.7	0.50	nm	67.1
MW-80-082	12/07/2022	6.90	10,838	5.00	0.27	28.4	1.41	nm	-45.5
MW-80-082	10/13/2022	7.49	11,138	4.00	0.29	28.7	0.77	nm	-45.9
MW-80-082	11/10/2022	7.22	9,745	3.00	0.38	28.6	0.50	nm	-16.9
MW-81-043	11/08/2022	7.86	5,491	39.0	0.68	27.6	2.95	3,540	90.3
MW-81-043	10/11/2022	7.87	5,541	28.0	0.40	28.4	3.01	3,650	71.4
MW-81-043	12/06/2022	7.70	5,373	9.00	1.87	26.4	2.89	3,490	173.6
MW-81-098	11/08/2022	7.63	14,837	15.0	0.41	27.2	8.60	9,630	73.9
MW-81-098	12/06/2022	7.50	14,625	6.00	1.90	26.2	8.46	9,490	159.1
MW-81-098	10/11/2022	7.69	15,593	5.00	0.32	28.0	8.86	9,930	59.7
MW-82-046	10/11/2022	7.50	10,676	44.0	0.45	25.6	5.89	6,900	40.0
MW-82-046	11/08/2022	7.41	10,612	43.0	0.69	25.5	5.96	7,040	-140.9
MW-82-046	12/05/2022	7.24	11,091	39.0	0.81	25.7	6.28	7,200	-37.6
MW-82-112	11/08/2022	7.83	11,010	18.0	0.94	25.3	6.12	7,070	58.1
MW-82-112	10/11/2022	7.95	10,861	11.0	0.32	25.4	6.14	7,040	144.5
MW-82-112	12/05/2022	7.79	11,143	7.00	0.59	25.0	6.32	7,240	125.7
MW-82-168	10/11/2022	7.68	9,560	13.0	0.55	26.8	5.43	6,220	198.0
MW-82-168	11/08/2022	7.77	9,620	8.00	0.68	25.8	5.40	6,250	71.1

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MW-82-168	12/05/2022	7.81	10,063	4.00	2.10	25.3	5.39	6,160	136.7
MW-82-198	12/05/2022	7.90	10,735	43.0	1.49	26.0	6.05	6,980	135.0
MW-82-198	11/08/2022	7.94	12,147	27.0	1.05	25.8	6.96	7,940	78.3
MW-82-198	10/11/2022	7.96	14,416	6.00	0.88	26.6	8.34	9,370	91.3
MW-83-090	11/30/2022	7.74	2,155	50.0	1.57	27.7	1.10	1,400	152.6
MW-83-180	11/30/2022	7.39	10,823	6.00	1.38	28.1	6.09	7,020	151.0
MW-83-225	11/30/2022	7.99	13,974	3.00	0.69	27.9	8.07	9,110	160.6
MW-83-245	11/30/2022	7.98	17,446	4.00	1.03	28.0	0.10	11,360	161.5
MW-84-057	11/29/2022	7.37	1,949	5.00	5.04	26.6	1.04	nm	109.8
MW-84-095	11/29/2022	6.97	4,879	5.00	3.98	27.8	1.22	nm	109.5
MW-84-132	11/29/2022	7.30	7,428	4.00	2.52	27.8	1.14	nm	91.3
MW-84-193	11/29/2022	7.08	10,003	4.00	1.84	28.3	1.34	nm	85.4
MW-85-129	12/01/2022	7.58	2,042	12.0	5.49	26.7	1.04	1,330	154.1
MW-85-217	12/01/2022	7.68	10,257	6.00	2.29	25.4	4.97	5,950	71.1
MW-85-237	12/01/2022	7.74	13,163	3.00	3.16	24.7	7.53	8,510	69.6
MW-86-030	11/16/2022	7.22	1,229	4.00	0.40	21.2	0.62	790	-14.5
MW-86-066	11/16/2022	7.28	8,458	3.00	1.86	19.9	4.72	5,490	31.7
MW-86-120	11/16/2022	7.44	13,339	3.00	0.72	20.2	7.70	8,640	-46.5
MW-86-140	11/16/2022	7.35	12,861	3.00	0.32	20.2	7.46	8,410	-92.1
MW-87-109	11/18/2022	7.40	3,335	9.00	4.02	23.2	1.75	2,180	54.9
MW-87-139	11/18/2022	7.25	8,047	15.0	4.39	20.3	4.51	5,260	94.3
MW-87-192	11/18/2022	7.19	10,429	6.00	2.19	25.2	5.88	6,780	53.9
MW-87-275	11/18/2022	7.54	11,735	6.00	3.61	26.3	6.67	7,610	45.3
MW-88-107	11/30/2022	7.38	2,149	5.00	5.36	27.1	1.09	nm	111.8
MW-89-183	12/01/2022	7.48	6,958	35.0	0.80	27.8	3.80	4,520	51.6
MW-89-273	12/01/2022	7.73	7,277	6.00	0.88	27.6	4.00	4,740	85.3
MW-90-031	11/16/2022	6.97	16,009	23.0	0.35	25.9	9.33	10,390	-160.9
MW-91-045	12/15/2022	7.96	1,557	4.00	0.60	24.1	0.78	1,010	162.9
MW-91-120	12/15/2022	7.37	9,734	6.00	1.35	22.8	5.48	6,330	161.5
MW-91-170	12/15/2022	7.73	11,901	26.0	0.88	23.4	6.79	7,720	158.7
MW-91-320	12/15/2022	7.26	29,286	14.0	0.33	21.0	0.18	19,170	95.1
MW-92-037	12/15/2022	8.26	1,849	2.00	0.42	24.0	0.94	1,190	-119.1
MW-92-072	12/15/2022	8.28	2,272	2.00	0.37	23.8	1.17	1,480	-98.2
MW-92-102	12/15/2022	8.28	3,504	2.00	0.29	22.8	1.86	2,280	-127.1
MW-92-122	12/15/2022	8.08	15,119	2.00	0.25	23.4	8.86	9,880	-184.7
MW-93-050	11/29/2022	7.28	4,957	4.00	1.20	26.6	0.79	nm	81.5
MW-93-213	11/29/2022	6.62	11,587	5.00	0.22	27.4	1.34	nm	79.5
MW-95-113	12/08/2022	7.49	1,522	50.0	1.48	26.4	0.78	1,000	97.1
MW-95-157	12/08/2022	7.33	5,311	44.0	2.00	27.9	2.80	3,380	26.3
MW-96-045	11/17/2022	7.32	17,126	7.00	3.35	23.1	0.10	11,060	54.1
MW-96-217	11/17/2022	7.26	21,422	5.00	0.71	24.6	0.13	13,900	29.4
MW-97-042	11/14/2022	7.82	3,010	33.0	2.32	26.7	1.56	1,950	-44.3
MW-97-202	11/14/2022	7.41	18,410	12.0	1.52	26.6	0.11	11,970	132.2
MW-98-055	11/30/2022	7.55	3,949	5.00	4.01	22.8	1.34	nm	91.6
MW-98-077	11/30/2022	7.12	4,314	4.00	2.77	20.3	0.99	nm	136.0
OW-01D	11/28/2022	8.03	6,883	6.00	0.68	26.2	2.68	3,590	73.7
OW-01M	11/28/2022	7.91	7,016	9.00	1.20	26.5	3.90	4,620	74.6
OW-01S	11/28/2022	6.93	6,206	14.0	0.49	26.7	3.38	4,050	76.3
OW-02D	12/01/2022	7.42	6,818	5.00	5.19	26.7	3.72	4,430	152.0
OW-02M	12/01/2022	7.52	6,896	4.00	4.09	25.4	3.77	4,470	150.3
OW-02S	12/01/2022	7.65	3,116	8.00	3.43	25.3	1.62	2,020	153.2
OW-05D	12/01/2022	7.33	6,682	3.00	3.35	27.0	3.62	4,310	137.9
OW-05M	12/01/2022	7.59	6,714	9.00	1.42	26.4	3.68	4,380	127.9
OW-05S	12/01/2022	7.55	4,846	7.00	0.31	25.5	2.59	3,140	22.4
PGE-07BR	12/01/2022	6.93	17,088	7.00	0.25	26.8	0.10	11,880	-206.5
PGE-08	12/02/2022	7.80	19,632	8.00	0.34	28.0	0.11	12,580	-102.2
PM-03	12/12/2022	7.85	1,383	2.00	4.69	24.6	0.69	890	46.9
PM-04	12/12/2022	7.78	2,892	2.00	3.59	24.8	1.50	1,880	62.5
PT5D	11/16/2022	7.63	15,379	9.00	0.45	21.5	8.97	9,980	16.3
PT5M	11/16/2022	7.42	3,414	4.00	0.68	21.2	1.79	2,210	27.3
PT5S	11/16/2022	7.36	1,231	13.0	0.60	21.6	0.61	790	63.4
PT8D	12/01/2022	6.90	13,644	5.00	0.15	29.4	1.89	nm	-28.4
PT9D	12/01/2022	6.92	14,278	5.00	0.11	28.9	1.80	nm	92.8
PT9M	12/01/2022	6.63	9,728	9.00	0.28	28.6	1.45	nm	79.9
PT9S	12/01/2022	7.13	3,712	8.00	0.23	28.7	1.05	nm	71.1
R-19	11/16/2022	8.27	949	3.00	3.03	14.2	0.47	610	103.6
R-28	11/15/2022	8.28	967	10.0	8.38	15.8	0.46	610	107.2
R-63	11/15/2022	8.09	954	12.0	9.03	15.0	0.48	630	130.6
RRB	11/16/2022	8.32	959	9.00	8.55	14.3	0.46	610	101.2
SW1	11/15/2022	8.29	1,103	11.0	8.55	16.5	0.55	710	70.9
SW2	11/15/2022	8.29	1,069	10.0	3.33	16.2	0.51	700	39.6
TW-01	12/15/2022	7.89	14,393	5.00	3.89	27.9	8.39	9,360	150.7

Appendix A
Fourth Quarter 2022 Field Parameters
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
TW-02D	10/12/2022	7.96	15,213	14.0	1.30	27.0	8.71	9,760	129.8
TW-02D	11/09/2022	8.16	12,698	5.00	1.08	27.5	7.28	8,230	36.0
TW-02D	12/07/2022	7.80	12,642	5.00	1.24	27.7	7.21	8,190	134.8
TW-02S	10/12/2022	7.70	5,972	10.0	4.54	28.5	3.19	3,840	190.3
TW-02S	11/09/2022	7.68	6,957	9.00	0.81	28.2	3.75	4,480	22.7
TW-02S	12/07/2022	7.31	7,116	6.00	1.10	28.1	3.90	4,640	119.3
TW-03D	10/12/2022	7.78	14,811	8.00	1.33	28.1	8.55	9,630	126.8
TW-03D	11/09/2022	7.76	14,284	4.00	0.39	27.7	8.24	9,260	38.5
TW-03D	12/07/2022	7.68	12,820	4.00	2.13	27.8	7.38	8,410	140.4
TW-04	11/14/2022	7.32	18,740	8.00	1.43	26.9	0.11	12,180	115.7
TW-05	11/28/2022	8.02	10,858	8.00	2.17	27.7	6.16	7,090	73.1

Abbreviations:
-- = not available
deg C = degrees Celsius
mg/L = milligrams per liter
mV = millivolts
nm = not measured
NTU = nephelometric turbidity units
ORP = oxidation-reduction potential
ppt = parts per thousand
µS/cm = microsiemens per centimeter

Appendix B

January 2020 to December 2022 Analytical Results

For additional help with the information provided in Appendix B, please contact Alison Schaffer, Arcadis Report Lead, at 303.471.3575

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-BNS	01/29/20	N	<0.2	<1	2.2	120	--	--	0.093	<0.02	--	0.0016	4.7	--
C-BNS	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.13 J	0.08 J	--	0.0013	4.6	--
C-BNS	04/29/20	N	<0.2	<1	2.2	120	--	--	0.058 J	0.039 J	--	0.00071	4.6	--
C-BNS	08/19/20	N	<0.2	<1	2.6	120 J	--	--	0.051 J	0.023 J	--	0.00054	4.7	--
C-BNS	11/18/20	N	<0.2	<1	2.4	110	--	--	0.05	<0.02	--	0.00079	4.4	--
C-BNS	11/18/20	FD	<0.2	<1	2.4	110	--	--	0.036	<0.02	--	0.001	4.4	--
C-BNS	01/27/21	N	<0.2	<1	2.3	120	--	--	0.033	<0.02	--	0.0012	4.7	--
C-BNS	02/17/21	N	<0.2	<1	2.5	110	--	--	0.046 J	<0.02 J	--	0.0014	4.7	--
C-BNS	05/19/21	N	<0.2	<1	2.2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--
C-BNS	08/18/21	N	<0.2	<1	2.3	100	--	--	0.026 J	<0.02	--	<0.0005	4.1	--
C-BNS	11/17/21	N	<0.2	<1	3	--	--	--	--	--	--	<0.0005	4.4 J	--
C-BNS	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--
C-BNS	05/18/22	N	<0.2	<1	2.1 J	--	--	--	--	--	--	<0.0005	--	--
C-BNS	08/17/22	N	<0.2	--	2.3	--	--	--	--	--	--	0.0013 J	--	--
C-BNS	11/15/22	N	<0.2	<1	2.5 J	--	--	--	--	--	--	0.00067	4.7	--
C-CON-D	01/30/20	N	<0.2	<1	2.2	120	--	--	0.084	0.027 J	--	0.002 J	4.6	--
C-CON-D	02/20/20	N	<0.2	<1	2.1	110	--	--	0.078	0.029	--	0.0014	4.5 J	--
C-CON-D	04/30/20	N	<0.2	<1	2.2	110	--	--	0.079	0.031 J	--	0.00082	4.6	--
C-CON-D	04/30/20	FD	<0.2	<1	2.1	100	--	--	0.099	0.029 J	--	0.00083	4.4	--
C-CON-D	08/20/20	N	<0.2	<1	2.6	110 J	--	--	0.032 J	<0.02 J	--	0.0021	4.8	--
C-CON-D	11/19/20	N	<0.2	<1	2.3	110	--	--	0.026	<0.02	--	0.00096	4.7	--
C-CON-D	01/28/21	N	<0.2	<1	2.3	120	--	--	0.035	0.024	--	0.00069	4.6	--
C-CON-D	02/18/21	N	<0.2	<1	2.2	110	--	--	0.15 J	<0.02 J	--	0.0012	4.6	--
C-CON-D	05/20/21	N	<0.2	<1	1.9	110	--	--	<0.02	<0.02	--	<0.0005	4.3	--
C-CON-D	08/19/21	N	<0.2	<1	2	98	--	--	0.025	<0.02 J	--	<0.0005	4.1	--
C-CON-D	11/18/21	N	<0.2	<1	2.5 J	--	--	--	--	--	--	<0.0005	4.5	--
C-CON-D	02/17/22	N	<0.2	--	2.2	--	--	--	--	--	--	0.00071	--	--
C-CON-D	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005 J	--	--
C-CON-D	05/19/22	FD	<0.2	<1 J	2 J	--	--	--	--	--	--	0.0037 J	--	--
C-CON-D	08/18/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.00072 J	--	--
C-CON-D	08/18/22	FD	<0.2	--	2.2	--	--	--	--	--	--	0.0041 J	--	--
C-CON-D	11/16/22	N	<0.2	<1	2.6	--	--	--	--	--	--	0.00087	4.7	--
C-CON-S	01/30/20	N	<0.2	<1	2.2	110	--	--	0.053	0.032 J	--	0.0022 J	4.6	--
C-CON-S	02/20/20	N	<0.2	<1	2.1	110	--	--	0.067 J	0.028	--	0.0012	4.6 J	--
C-CON-S	02/20/20	FD	<0.2	<1	2.3	120 J	--	--	0.088	0.038	--	0.00099	4.7	--
C-CON-S	04/30/20	N	<0.2	<1	2.2	110	--	--	0.073	<0.02	--	0.00052	4.5	--
C-CON-S	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.025 J	<0.02 J	--	0.00062	4.5	--
C-CON-S	11/19/20	N	<0.2	<1	2.2	110	--	--	0.034	<0.02	--	0.0011	4.5	--
C-CON-S	01/28/21	N	<0.2	<1	2.2	120	--	--	0.029	<0.02	--	0.00074	4.6	--
C-CON-S	02/18/21	N	<0.2	<1	2.3	120	--	--	0.1 J	<0.02 J	--	0.0011	4.8	--
C-CON-S	02/18/21	FD	<0.2	<1	2.5	120	--	--	0.035 J	<0.02 J	--	0.0011	4.8	--
C-CON-S	05/20/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02	--	<0.0005	4.4	--
C-CON-S	08/19/21	N	<0.2	<1	2.2	100	--	--	0.021	<0.02 J	--	<0.0005	4.4	--
C-CON-S	11/18/21	N	<0.2	<1	3 J	--	--	--	--	--	--	<0.0005	4.4	--
C-CON-S	11/18/21	FD	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.5	--
C-CON-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--
C-CON-S	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-BNS	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.35	--	--
C-BNS	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.32	--	--
C-BNS	04/29/20	N	1.7	--	--	--	--	--	--	--	--	0.43	--	--
C-BNS	08/19/20	N	1.5	--	--	--	--	--	--	--	--	0.39	--	--
C-BNS	11/18/20	N	1.5	--	--	--	--	--	--	--	--	0.27	--	--
C-BNS	11/18/20	FD	1.5	--	--	--	--	--	--	--	--	0.28	--	--
C-BNS	01/27/21	N	1.7	--	--	--	--	--	--	--	--	0.27	--	--
C-BNS	02/17/21	N	1.6	--	--	--	--	--	--	--	--	0.42	--	--
C-BNS	05/19/21	N	1.4	--	--	--	--	--	--	--	--	0.36	--	--
C-BNS	08/18/21	N	1.4	--	--	--	--	--	--	--	--	0.36	--	--
C-BNS	11/17/21	N	1.9	--	--	--	--	--	--	--	--	0.29	--	--
C-BNS	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-BNS	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-BNS	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-BNS	11/15/22	N	1.2	--	--	--	--	--	--	0.27	--	--	--	--
C-CON-D	01/30/20	N	1.6	--	--	--	--	--	--	--	--	0.3	--	--
C-CON-D	02/20/20	N	1.4	--	--	--	--	--	--	--	--	0.28	--	--
C-CON-D	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.34	--	--
C-CON-D	04/30/20	FD	1.7	--	--	--	--	--	--	--	--	0.4	--	--
C-CON-D	08/20/20	N	1.6	--	--	--	--	--	--	--	--	0.43	--	--
C-CON-D	11/19/20	N	1.7	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	01/28/21	N	1.6	--	--	--	--	--	--	--	--	0.44	--	--
C-CON-D	02/18/21	N	1.4	--	--	--	--	--	--	--	--	0.43	--	--
C-CON-D	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.46	--	--
C-CON-D	08/19/21	N	1.4	--	--	--	--	--	--	--	--	0.37	--	--
C-CON-D	11/18/21	N	1.5	--	--	--	--	--	--	--	--	0.28	--	--
C-CON-D	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	05/19/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	08/18/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	11/16/22	N	1.5	--	--	--	--	--	--	0.28	--	--	--	--
C-CON-S	01/30/20	N	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-CON-S	02/20/20	N	1.4	--	--	--	--	--	--	--	--	0.33	--	--
C-CON-S	02/20/20	FD	1.6	--	--	--	--	--	--	--	--	0.29	--	--
C-CON-S	04/30/20	N	1.5	--	--	--	--	--	--	--	--	0.43	--	--
C-CON-S	08/20/20	N	1.4	--	--	--	--	--	--	--	--	0.39	--	--
C-CON-S	11/19/20	N	1.6	--	--	--	--	--	--	--	--	--	--	--
C-CON-S	01/28/21	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
C-CON-S	02/18/21	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-CON-S	02/18/21	FD	1.7	--	--	--	--	--	--	--	--	0.39	--	--
C-CON-S	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.39	--	--
C-CON-S	08/19/21	N	1.4	--	--	--	--	--	--	--	--	0.38	--	--
C-CON-S	11/18/21	N	1.5	--	--	--	--	--	--	--	--	0.3	--	--
C-CON-S	11/18/21	FD	2	--	--	--	--	--	--	--	--	0.28	--	--
C-CON-S	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-S	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-BNS	01/29/20	N	--	--
C-BNS	02/19/20	N	--	--
C-BNS	04/29/20	N	--	--
C-BNS	08/19/20	N	--	--
C-BNS	11/18/20	N	--	--
C-BNS	11/18/20	FD	--	--
C-BNS	01/27/21	N	--	--
C-BNS	02/17/21	N	--	--
C-BNS	05/19/21	N	--	--
C-BNS	08/18/21	N	--	--
C-BNS	11/17/21	N	--	--
C-BNS	02/16/22	N	--	--
C-BNS	05/18/22	N	--	--
C-BNS	08/17/22	N	--	--
C-BNS	11/15/22	N	--	--
C-CON-D	01/30/20	N	--	--
C-CON-D	02/20/20	N	--	--
C-CON-D	04/30/20	N	--	--
C-CON-D	04/30/20	FD	--	--
C-CON-D	08/20/20	N	--	--
C-CON-D	11/19/20	N	--	--
C-CON-D	01/28/21	N	--	--
C-CON-D	02/18/21	N	--	--
C-CON-D	05/20/21	N	--	--
C-CON-D	08/19/21	N	--	--
C-CON-D	11/18/21	N	--	--
C-CON-D	02/17/22	N	--	--
C-CON-D	05/19/22	N	--	--
C-CON-D	05/19/22	FD	--	--
C-CON-D	08/18/22	N	--	--
C-CON-D	08/18/22	FD	--	--
C-CON-D	11/16/22	N	--	--
C-CON-S	01/30/20	N	--	--
C-CON-S	02/20/20	N	--	--
C-CON-S	02/20/20	FD	--	--
C-CON-S	04/30/20	N	--	--
C-CON-S	08/20/20	N	--	--
C-CON-S	11/19/20	N	--	--
C-CON-S	01/28/21	N	--	--
C-CON-S	02/18/21	N	--	--
C-CON-S	02/18/21	FD	--	--
C-CON-S	05/20/21	N	--	--
C-CON-S	08/19/21	N	--	--
C-CON-S	11/18/21	N	--	--
C-CON-S	11/18/21	FD	--	--
C-CON-S	02/17/22	N	--	--
C-CON-S	05/19/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-CON-S	08/18/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.00092	--	--
C-CON-S	11/16/22	N	<0.2	<1	2.6	--	--	--	--	--	--	0.00086	4.7	--
C-I-3-D	01/29/20	N	<0.2	<1	2.1	110	--	--	0.075	<0.02	--	0.0012	4.4	--
C-I-3-D	02/19/20	N	<0.2	<1	2.1	120 J	--	--	0.091 J	0.086 J	--	0.00084	4.6	--
C-I-3-D	04/29/20	N	<0.2	<1	2.2	120	--	--	0.53 J	0.049 J	--	0.00068	4.5	--
C-I-3-D	08/19/20	N	<0.2	<1	2.6	120 J	--	--	0.056 J	0.051 J	--	0.00062	4.8	--
C-I-3-D	11/18/20	N	<0.2	<1	2.4	110	--	--	0.09	<0.02	--	0.0013	4.6	--
C-I-3-D	01/27/21	N	<0.2	<1	2.3	120	--	--	0.023	<0.02	--	<0.0005	4.6	--
C-I-3-D	02/17/21	N	<0.2	<1	2.5	120	--	--	0.07 J	<0.02 J	--	0.0014	4.8	--
C-I-3-D	05/19/21	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02 J	--	<0.0005	4.5	--
C-I-3-D	08/18/21	N	<0.2	<1	2.1	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--
C-I-3-D	11/17/21	N	<0.2	<1	2.5	--	--	--	--	--	--	<0.0005	4.5 J	--
C-I-3-D	02/16/22	N	<0.2	--	2.1	--	--	--	--	--	--	<0.0005 J	--	--
C-I-3-D	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--
C-I-3-D	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0015 J	--	--
C-I-3-D	11/15/22	N	<0.2	<1	2.6 J	--	--	--	--	--	--	<0.0005	4.7	--
C-I-3-S	01/29/20	N	<0.2	<1	2.2	110	--	--	0.12	<0.02	--	0.0011	4.4	--
C-I-3-S	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.075	0.044 J	--	0.0011	4.6	--
C-I-3-S	04/29/20	N	<0.2	<1	2.2	120	--	--	0.075 J	0.029 J	--	<0.0005	4.5	--
C-I-3-S	08/19/20	N	<0.2 J	<1	2.5	120 J	--	--	0.04 J	0.038 J	--	<0.0005	4.7	--
C-I-3-S	11/18/20	N	<0.2	<1	2.5	110	--	--	0.044	<0.02	--	0.001	4.6	--
C-I-3-S	01/27/21	N	<0.2	<1	2.3	120	--	--	0.029	0.026 J	--	0.00051	4.9	--
C-I-3-S	02/17/21	N	<0.2	<1	2.3	110	--	--	0.069 J	<0.02 J	--	0.0017	4.6	--
C-I-3-S	05/19/21	N	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--
C-I-3-S	08/18/21	N	<0.2	<1	2.1	100	--	--	0.025 J	<0.02	--	<0.0005	4.2	--
C-I-3-S	11/17/21	N	<0.2	<1	2.8	--	--	--	--	--	--	<0.0005	4.5 J	--
C-I-3-S	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--
C-I-3-S	05/18/22	N	<0.2	<1	1.9 J	--	--	--	--	--	--	<0.0005	--	--
C-I-3-S	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0022 J	--	--
C-I-3-S	08/17/22	FD	<0.2	--	2.5	--	--	--	--	--	--	0.0017 J	--	--
C-I-3-S	11/15/22	N	<0.2	<1	2.5 J	--	--	--	--	--	--	<0.0005	4.5	--
C-MAR-D	01/30/20	N	<0.2	<1	2.6	130	--	--	1.10	0.38 J	--	0.092 J	5.1	--
C-MAR-D	02/20/20	N	<0.2	<1	2.1	110	--	--	0.4 J	0.069	--	0.014	4.7 J	--
C-MAR-D	04/30/20	N	<0.2	<1	2.3	110	--	--	0.26	0.048 J	--	0.0021	4.6	--
C-MAR-D	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.15 J	<0.02 J	--	0.0038	4.7	--
C-MAR-D	08/20/20	FD	<0.2	<1	2.4	110 J	--	--	0.2 J	<0.02 J	--	0.0025	4.8	--
C-MAR-D	11/19/20	N	<0.2	<1	2.3	110	--	--	0.35	<0.02	--	0.0099	4.8	--
C-MAR-D	01/28/21	N	<0.2	<1	2.4	130	--	--	0.38	0.028	--	0.021	4.8	--
C-MAR-D	02/18/21	N	<0.2	<1	2.4	110	--	--	0.24 J	<0.02 J	--	0.0036	4.8	--
C-MAR-D	05/20/21	N	<0.2	<1	1.9	100	--	--	0.042 J	<0.02	--	0.0014	4.4	--
C-MAR-D	08/19/21	N	<0.2	<1	2.1	100	--	--	0.19	<0.02 J	--	0.0032	4.3	--
C-MAR-D	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	0.0047	4.5	--
C-MAR-D	02/17/22	N	<0.2	--	1.8	--	--	--	--	--	--	0.0054	--	--
C-MAR-D	05/19/22	N	<0.2	<1 J	2.1 J	--	--	--	--	--	--	0.00096	--	--
C-MAR-D	08/18/22	N	<0.2	--	3.5	--	--	--	--	--	--	0.13	--	--
C-MAR-D	11/16/22	N	<0.2	<1	2.4	--	--	--	--	--	--	0.052	4.8	--
C-MAR-S	01/30/20	N	<0.2	<1	2.7	130	--	--	1.40	0.88 J	--	0.11 J	5	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-CON-S	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-S	11/16/22	N	1.6	--	--	--	--	--	--	0.29	--	--	--	--
C-I-3-D	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.35	--	--
C-I-3-D	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-I-3-D	04/29/20	N	1.6	--	--	--	--	--	--	--	--	0.43	--	--
C-I-3-D	08/19/20	N	1.6	--	--	--	--	--	--	--	--	0.38	--	--
C-I-3-D	11/18/20	N	1.6	--	--	--	--	--	--	--	--	0.33	--	--
C-I-3-D	01/27/21	N	1.6	--	--	--	--	--	--	--	--	0.28	--	--
C-I-3-D	02/17/21	N	1.9	--	--	--	--	--	--	--	--	0.45	--	--
C-I-3-D	05/19/21	N	1.4	--	--	--	--	--	--	--	--	0.37	--	--
C-I-3-D	08/18/21	N	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-I-3-D	11/17/21	N	1.5	--	--	--	--	--	--	--	--	0.3	--	--
C-I-3-D	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-D	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-D	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-D	11/15/22	N	1.6	--	--	--	--	--	--	0.26	--	--	--	--
C-I-3-S	01/29/20	N	1.5	--	--	--	--	--	--	--	--	0.29	--	--
C-I-3-S	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.35	--	--
C-I-3-S	04/29/20	N	1.7	--	--	--	--	--	--	--	--	0.44	--	--
C-I-3-S	08/19/20	N	1.6	--	--	--	--	--	--	--	--	0.46	--	--
C-I-3-S	11/18/20	N	1.7	--	--	--	--	--	--	--	--	0.44	--	--
C-I-3-S	01/27/21	N	1.7	--	--	--	--	--	--	--	--	0.29	--	--
C-I-3-S	02/17/21	N	1.7	--	--	--	--	--	--	--	--	0.45	--	--
C-I-3-S	05/19/21	N	1.5	--	--	--	--	--	--	--	--	0.41	--	--
C-I-3-S	08/18/21	N	1.4	--	--	--	--	--	--	--	--	0.37	--	--
C-I-3-S	11/17/21	N	1.6	--	--	--	--	--	--	--	--	0.3	--	--
C-I-3-S	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-S	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-S	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-S	08/17/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-S	11/15/22	N	1.5	--	--	--	--	--	--	0.27	--	--	--	--
C-MAR-D	01/30/20	N	1.6	--	--	--	--	--	--	--	--	0.31	--	--
C-MAR-D	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-MAR-D	04/30/20	N	1.7	--	--	--	--	--	--	--	--	0.41	--	--
C-MAR-D	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-MAR-D	08/20/20	FD	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-MAR-D	11/19/20	N	1.5	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	01/28/21	N	1.4	--	--	--	--	--	--	--	--	0.42	--	--
C-MAR-D	02/18/21	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-MAR-D	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.42	--	--
C-MAR-D	08/19/21	N	1.5	--	--	--	--	--	--	--	--	0.36	--	--
C-MAR-D	11/18/21	N	1.8	--	--	--	--	--	--	--	--	0.28	--	--
C-MAR-D	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	11/16/22	N	1.2	--	--	--	--	--	--	0.25	--	--	--	--
C-MAR-S	01/30/20	N	1.4	--	--	--	--	--	--	--	--	0.27	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-CON-S	08/18/22	N	--	--
C-CON-S	11/16/22	N	--	--
C-I-3-D	01/29/20	N	--	--
C-I-3-D	02/19/20	N	--	--
C-I-3-D	04/29/20	N	--	--
C-I-3-D	08/19/20	N	--	--
C-I-3-D	11/18/20	N	--	--
C-I-3-D	01/27/21	N	--	--
C-I-3-D	02/17/21	N	--	--
C-I-3-D	05/19/21	N	--	--
C-I-3-D	08/18/21	N	--	--
C-I-3-D	11/17/21	N	--	--
C-I-3-D	02/16/22	N	--	--
C-I-3-D	05/18/22	N	--	--
C-I-3-D	08/17/22	N	--	--
C-I-3-D	11/15/22	N	--	--
C-I-3-S	01/29/20	N	--	--
C-I-3-S	02/19/20	N	--	--
C-I-3-S	04/29/20	N	--	--
C-I-3-S	08/19/20	N	--	--
C-I-3-S	11/18/20	N	--	--
C-I-3-S	01/27/21	N	--	--
C-I-3-S	02/17/21	N	--	--
C-I-3-S	05/19/21	N	--	--
C-I-3-S	08/18/21	N	--	--
C-I-3-S	11/17/21	N	--	--
C-I-3-S	02/16/22	N	--	--
C-I-3-S	05/18/22	N	--	--
C-I-3-S	08/17/22	N	--	--
C-I-3-S	08/17/22	FD	--	--
C-I-3-S	11/15/22	N	--	--
C-MAR-D	01/30/20	N	--	--
C-MAR-D	02/20/20	N	--	--
C-MAR-D	04/30/20	N	--	--
C-MAR-D	08/20/20	N	--	--
C-MAR-D	08/20/20	FD	--	--
C-MAR-D	11/19/20	N	--	--
C-MAR-D	01/28/21	N	--	--
C-MAR-D	02/18/21	N	--	--
C-MAR-D	05/20/21	N	--	--
C-MAR-D	08/19/21	N	--	--
C-MAR-D	11/18/21	N	--	--
C-MAR-D	02/17/22	N	--	--
C-MAR-D	05/19/22	N	--	--
C-MAR-D	08/18/22	N	--	--
C-MAR-D	11/16/22	N	--	--
C-MAR-S	01/30/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-MAR-S	02/20/20	N	<0.2	<1	2.3	120	--	--	0.43 J	0.25	--	0.021	4.7 J	--
C-MAR-S	04/30/20	N	<0.2	<1	2.2	110	--	--	0.072	0.022 J	--	0.0019	4.5	--
C-MAR-S	08/20/20	N	<0.2	<1	2.6	110 J	--	--	0.2 J	<0.02 J	--	0.0055	4.9	--
C-MAR-S	11/19/20	N	<0.2	<1	2.3	110	--	--	0.11	0.021 J	--	0.0034	4.5	--
C-MAR-S	01/28/21	N	<0.2	<1	2.4	130	--	--	0.56	0.028	--	0.024	5.1	--
C-MAR-S	02/18/21	N	<0.2	<1	2.3	120	--	--	0.14 J	<0.02 J	--	0.003	4.8	--
C-MAR-S	02/18/21	FD	<0.2	<1	2.3	120	--	--	0.16 J	<0.02 J	--	0.003	4.8	--
C-MAR-S	05/20/21	N	<0.2	<1	1.9	100	--	--	0.029 J	<0.02	--	0.0034	4.4	--
C-MAR-S	08/19/21	N	<0.2	<1	2.6	100	--	--	0.15	<0.02 J	--	0.0048	4.3	--
C-MAR-S	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	0.005	4.6	--
C-MAR-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	0.007	--	--
C-MAR-S	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	0.0026	--	--
C-MAR-S	08/18/22	N	<0.2	--	4.2	--	--	--	--	--	--	0.14	--	--
C-MAR-S	11/16/22	N	<0.2	<1	2.3	--	--	--	--	--	--	0.047	4.7	--
C-NR1-D	01/30/20	N	<0.2	<1	2.2	110	--	--	0.057	<0.02 J	--	0.002 J	4.5	--
C-NR1-D	02/20/20	N	<0.2	<1	2.1	120	--	--	0.08 J	0.038 J	--	0.00084	4.6 J	--
C-NR1-D	04/30/20	N	<0.2	<1	2.2	110	--	--	0.065	0.051 J	--	0.00082	4.6	--
C-NR1-D	08/20/20	N	<0.2	<1	2.4	110	--	--	0.15 J	0.2 J	--	0.00051	4.6	--
C-NR1-D	11/19/20	N	<0.2	<1	2.4	110	--	--	0.034	<0.02	--	0.00096	4.6	--
C-NR1-D	01/28/21	N	<0.2	<1	2.2	120	--	--	0.02	<0.02	--	0.00064	4.7	--
C-NR1-D	02/18/21	N	<0.2	<1	2.4	120	--	--	0.071 J	<0.02 J	--	0.0012	4.8	--
C-NR1-D	05/20/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--
C-NR1-D	08/19/21	N	<0.2	<1	1.8	100	--	--	<0.02	<0.02 J	--	<0.0005	4.1	--
C-NR1-D	11/18/21	N	<0.2	<1	3.3 J	--	--	--	--	--	--	<0.0005	4.5	--
C-NR1-D	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--
C-NR1-D	02/17/22	FD	<0.2	--	1.9	--	--	--	--	--	--	0.0017	--	--
C-NR1-D	05/19/22	N	<0.2	<1 J	1.8 J	--	--	--	--	--	--	<0.0005	--	--
C-NR1-D	08/18/22	N	<0.2	--	2.5	--	--	--	--	--	--	<0.0005	--	--
C-NR1-D	08/18/22	FD	<0.2	--	2.4	--	--	--	--	--	--	<0.0005	--	--
C-NR1-D	11/16/22	N	<0.2	<1	2.3	--	--	--	--	--	--	0.00067	4.3	--
C-NR1-S	01/30/20	N	<0.2	<1	2.1	110	--	--	0.026	0.028 J	--	0.0026 J	4.4	--
C-NR1-S	02/20/20	N	<0.2	<1	2.2	120	--	--	0.083 J	<0.02 J	--	0.0011	4.6 J	--
C-NR1-S	04/30/20	N	<0.2	<1	2.1	110	--	--	0.061 J	<0.02	--	<0.0005	4.4	--
C-NR1-S	04/30/20	FD	<0.2	<1	2.1	100	--	--	0.18 J	<0.02	--	<0.0005	4.6	--
C-NR1-S	08/20/20	N	<0.2	<1	2.4	110 J	--	--	0.022 J	<0.02 J	--	0.00059	4.5	--
C-NR1-S	11/19/20	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02	--	0.00098	4.5	--
C-NR1-S	01/28/21	N	<0.2	<1	2.2	120	--	--	0.023	<0.02	--	0.00062	4.6	--
C-NR1-S	02/18/21	N	<0.2	<1	2.4	120	--	--	0.024 J	<0.02 J	--	0.0013	4.8	--
C-NR1-S	05/20/21	N	<0.2	<1	1.9	110	--	--	0.02 J	<0.02	--	<0.0005	4.4	--
C-NR1-S	08/19/21	N	<0.2	<1	1.7	99	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--
C-NR1-S	11/18/21	N	<0.2	<1	3.1 J	--	--	--	--	--	--	<0.0005	4.4	--
C-NR1-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--
C-NR1-S	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	<0.0005	--	--
C-NR1-S	08/18/22	N	<0.2	--	2.3	--	--	--	--	--	--	<0.0005	--	--
C-NR1-S	11/16/22	N	<0.2	<1	2.6	--	--	--	--	--	--	0.0007	4.8	--
C-NR3-D	01/30/20	N	<0.2	<1	2.1	110	--	--	0.054	0.044 J	--	0.0023 J	4.5	--
C-NR3-D	01/30/20	FD	<0.2	<1	2.1	110	--	--	0.037	0.031 J	--	0.0021 J	4.4	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-MAR-S	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.28	--	--
C-MAR-S	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-MAR-S	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.39	--	--
C-MAR-S	11/19/20	N	1.4	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	01/28/21	N	1.5	--	--	--	--	--	--	--	--	0.41	--	--
C-MAR-S	02/18/21	N	1.9	--	--	--	--	--	--	--	--	0.37	--	--
C-MAR-S	02/18/21	FD	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-MAR-S	05/20/21	N	1.4	--	--	--	--	--	--	--	--	0.38	--	--
C-MAR-S	08/19/21	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-MAR-S	11/18/21	N	1.6	--	--	--	--	--	--	--	--	0.27	--	--
C-MAR-S	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	11/16/22	N	1.4	--	--	--	--	--	--	0.23	--	--	--	--
C-NR1-D	01/30/20	N	1.7	--	--	--	--	--	--	--	--	0.27	--	--
C-NR1-D	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-NR1-D	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.42	--	--
C-NR1-D	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-NR1-D	11/19/20	N	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	01/28/21	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-NR1-D	02/18/21	N	1.3	--	--	--	--	--	--	--	--	0.42	--	--
C-NR1-D	01/28/21	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-NR1-D	02/18/21	N	1.3	--	--	--	--	--	--	--	--	0.42	--	--
C-NR1-D	05/20/21	N	1.1	--	--	--	--	--	--	--	--	0.39	--	--
C-NR1-D	08/19/21	N	1.5	--	--	--	--	--	--	--	--	0.37	--	--
C-NR1-D	11/18/21	N	1.6	--	--	--	--	--	--	--	--	0.29	--	--
C-NR1-D	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	02/17/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	08/18/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	11/16/22	N	1.4	--	--	--	--	--	--	0.26	--	--	--	--
C-NR1-S	01/30/20	N	1.6	--	--	--	--	--	--	--	--	0.27	--	--
C-NR1-S	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-NR1-S	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.43	--	--
C-NR1-S	04/30/20	FD	1.7	--	--	--	--	--	--	--	--	0.43	--	--
C-NR1-S	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.37	--	--
C-NR1-S	11/19/20	N	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	01/28/21	N	1.7	--	--	--	--	--	--	--	--	0.35	--	--
C-NR1-S	02/18/21	N	1.7	--	--	--	--	--	--	--	--	0.43	--	--
C-NR1-S	05/20/21	N	1.4	--	--	--	--	--	--	--	--	0.41	--	--
C-NR1-S	08/19/21	N	1.4	--	--	--	--	--	--	--	--	0.36	--	--
C-NR1-S	11/18/21	N	2	--	--	--	--	--	--	--	--	0.29	--	--
C-NR1-S	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	11/16/22	N	1.6	--	--	--	--	--	--	0.26	--	--	--	--
C-NR3-D	01/30/20	N	1.5	--	--	--	--	--	--	--	--	0.33	--	--
C-NR3-D	01/30/20	FD	1.6	--	--	--	--	--	--	--	--	0.39	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-MAR-S	02/20/20	N	--	--
C-MAR-S	04/30/20	N	--	--
C-MAR-S	08/20/20	N	--	--
C-MAR-S	11/19/20	N	--	--
C-MAR-S	01/28/21	N	--	--
C-MAR-S	02/18/21	N	--	--
C-MAR-S	02/18/21	FD	--	--
C-MAR-S	05/20/21	N	--	--
C-MAR-S	08/19/21	N	--	--
C-MAR-S	11/18/21	N	--	--
C-MAR-S	02/17/22	N	--	--
C-MAR-S	05/19/22	N	--	--
C-MAR-S	08/18/22	N	--	--
C-MAR-S	11/16/22	N	--	--
C-NR1-D	01/30/20	N	--	--
C-NR1-D	02/20/20	N	--	--
C-NR1-D	04/30/20	N	--	--
C-NR1-D	08/20/20	N	--	--
C-NR1-D	11/19/20	N	--	--
C-NR1-D	01/28/21	N	--	--
C-NR1-D	02/18/21	N	--	--
C-NR1-D	01/28/21	N	--	--
C-NR1-D	02/18/21	N	--	--
C-NR1-D	05/20/21	N	--	--
C-NR1-D	08/19/21	N	--	--
C-NR1-D	11/18/21	N	--	--
C-NR1-D	02/17/22	N	--	--
C-NR1-D	02/17/22	FD	--	--
C-NR1-D	05/19/22	N	--	--
C-NR1-D	08/18/22	N	--	--
C-NR1-D	08/18/22	FD	--	--
C-NR1-D	11/16/22	N	--	--
C-NR1-S	01/30/20	N	--	--
C-NR1-S	02/20/20	N	--	--
C-NR1-S	04/30/20	N	--	--
C-NR1-S	04/30/20	FD	--	--
C-NR1-S	08/20/20	N	--	--
C-NR1-S	11/19/20	N	--	--
C-NR1-S	01/28/21	N	--	--
C-NR1-S	02/18/21	N	--	--
C-NR1-S	05/20/21	N	--	--
C-NR1-S	08/19/21	N	--	--
C-NR1-S	11/18/21	N	--	--
C-NR1-S	02/17/22	N	--	--
C-NR1-S	05/19/22	N	--	--
C-NR1-S	08/18/22	N	--	--
C-NR1-S	11/16/22	N	--	--
C-NR3-D	01/30/20	N	--	--
C-NR3-D	01/30/20	FD	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-NR3-D	02/20/20	N	<0.2	<1	2.1	120	--	--	0.12 J	0.066 J	--	0.0017	4.6 J	--
C-NR3-D	04/30/20	N	<0.2	<1	2.2	110	--	--	0.049	<0.02	--	<0.0005	4.5	--
C-NR3-D	08/20/20	N	<0.2	<1	2.4	110 J	--	--	0.025 J	<0.02 J	--	0.0006	4.6	--
C-NR3-D	11/19/20	N	<0.2	<1	2.3	100	--	--	0.022	<0.02	--	0.0007	4.5	--
C-NR3-D	01/28/21	N	<0.2	<1	2.2	120	--	--	0.04	<0.02	--	0.0007	4.5	--
C-NR3-D	02/18/21	N	<0.2	<1	2.4	120	--	--	0.07 J	<0.02 J	--	0.0011	4.8	--
C-NR3-D	05/20/21	N	<0.2	<1	2.1	100	--	--	<0.02	<0.02	--	<0.0005	4.4	--
C-NR3-D	08/19/21	N	<0.2	<1	2	99	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--
C-NR3-D	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.6	--
C-NR3-D	11/18/21	FD	<0.2	<1	3.1 J	--	--	--	--	--	--	<0.0005	4.4	--
C-NR3-D	02/17/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005	--	--
C-NR3-D	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	<0.0005	--	--
C-NR3-D	05/19/22	FD	<0.2	<1 J	2.1 J	--	--	--	--	--	--	<0.0005	--	--
C-NR3-D	08/18/22	N	<0.2	--	2.2	--	--	--	--	--	--	<0.0005	--	--
C-NR3-D	11/16/22	N	<0.2	<1	2.4	--	--	--	--	--	--	0.00061	4.5	--
C-NR3-S	01/30/20	N	<0.2	<1	2	110	--	--	0.097	0.051 J	--	0.0017 J	4.3	--
C-NR3-S	02/20/20	N	<0.2	<1	2.2	120	--	--	0.091 J	0.02 J	--	0.0013	4.7 J	--
C-NR3-S	04/30/20	N	<0.2	<1	2	110	--	--	0.03	<0.02	--	<0.0005	4.4	--
C-NR3-S	08/20/20	N	<0.2	<1	2.4	110 J	--	--	0.022 J	<0.02 J	--	0.00057	4.6	--
C-NR3-S	11/19/20	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02	--	0.00068	4.6	--
C-NR3-S	11/19/20	FD	<0.2	<1	2.2	100	--	--	0.022	<0.02	--	0.00067	4.5	--
C-NR3-S	01/28/21	N	<0.2	<1	2.4	120	--	--	0.084	0.025	--	0.00084	4.6	--
C-NR3-S	01/28/21	FD	<0.2	<1	2.3	120	--	--	0.026	<0.02	--	0.00061	4.4	--
C-NR3-S	02/18/21	N	<0.2	<1	2.5	120	--	--	0.032 J	<0.02 J	--	0.0013	4.8	--
C-NR3-S	05/20/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02	--	<0.0005	4.5	--
C-NR3-S	08/19/21	N	<0.2	<1	2.4	100	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--
C-NR3-S	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.5	--
C-NR3-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--
C-NR3-S	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--
C-NR3-S	08/18/22	N	<0.2	--	2.3	--	--	--	--	--	--	<0.0005	--	--
C-NR3-S	11/16/22	N	<0.2	<1	2.3	--	--	--	--	--	--	0.00064	4.4	--
C-NR4-D	01/30/20	N	<0.2	<1	2.1	110	--	--	0.065	<0.02 J	--	0.0015 J	4.3	--
C-NR4-D	02/20/20	N	<0.2	<1	2.1	120	--	--	0.072 J	0.022 J	--	0.001	4.7 J	--
C-NR4-D	04/30/20	N	<0.2	<1	2.1	110	--	--	0.049	0.035 J	--	<0.0005	4.5	--
C-NR4-D	08/20/20	N	<0.2 J	<1	2.4	110 J	--	--	0.021 J	<0.02 J	--	0.00071	4.7	--
C-NR4-D	08/20/20	FD	<0.2	<1	2.4	110 J	--	--	0.027 J	<0.02 J	--	0.001	4.7	--
C-NR4-D	11/19/20	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02	--	0.00057	4.7	--
C-NR4-D	01/28/21	N	<0.2	<1	2.3	120	--	--	0.058	<0.02	--	0.00073	4.7	--
C-NR4-D	01/28/21	FD	<0.2	<1	2.3	120	--	--	<0.02	<0.02	--	0.00085	4.6	--
C-NR4-D	02/18/21	N	<0.2	<1	2.4	110	--	--	0.031 J	<0.02 J	--	0.00099	4.7	--
C-NR4-D	05/20/21	N	<0.2	<1	1.9	100	--	--	0.027 J	<0.02	--	<0.0005	4.4	--
C-NR4-D	05/20/21	FD	<0.2	<1	2.1	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--
C-NR4-D	08/19/21	N	<0.2	<1	2.4	100	--	--	0.024	<0.02 J	--	<0.0005	4.2	--
C-NR4-D	08/19/21	FD	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--
C-NR4-D	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.7	--
C-NR4-D	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--
C-NR4-D	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-NR3-D	02/20/20	N	1.6	--	--	--	--	--	--	--	--	0.27	--	--
C-NR3-D	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.43	--	--
C-NR3-D	08/20/20	N	1.4	--	--	--	--	--	--	--	--	0.39	--	--
C-NR3-D	11/19/20	N	1.4	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	01/28/21	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-NR3-D	02/18/21	N	1.3	--	--	--	--	--	--	--	--	0.41	--	--
C-NR3-D	05/20/21	N	1.4	--	--	--	--	--	--	--	--	0.57	--	--
C-NR3-D	08/19/21	N	1.4	--	--	--	--	--	--	--	--	0.38	--	--
C-NR3-D	11/18/21	N	1.7	--	--	--	--	--	--	--	--	0.29	--	--
C-NR3-D	11/18/21	FD	1.7	--	--	--	--	--	--	--	--	0.29	--	--
C-NR3-D	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	05/19/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	11/16/22	N	1.4	--	--	--	--	--	--	0.28	--	--	--	--
C-NR3-S	01/30/20	N	1.6	--	--	--	--	--	--	--	--	0.33	--	--
C-NR3-S	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.29	--	--
C-NR3-S	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.37	--	--
C-NR3-S	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
C-NR3-S	11/19/20	N	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	11/19/20	FD	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	11/19/20	N	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	11/19/20	FD	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	01/28/21	N	1.5	--	--	--	--	--	--	--	--	0.4	--	--
C-NR3-S	01/28/21	FD	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-NR3-S	02/18/21	N	1.5	--	--	--	--	--	--	--	--	0.41	--	--
C-NR3-S	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.42	--	--
C-NR3-S	08/19/21	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
C-NR3-S	11/18/21	N	1.8	--	--	--	--	--	--	--	--	0.28	--	--
C-NR3-S	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	11/16/22	N	1.5	--	--	--	--	--	--	0.28	--	--	--	--
C-NR4-D	01/30/20	N	1.5	--	--	--	--	--	--	--	--	0.36	--	--
C-NR4-D	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
C-NR4-D	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.89	--	--
C-NR4-D	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.44	--	--
C-NR4-D	08/20/20	FD	1.6	--	--	--	--	--	--	--	--	0.54	--	--
C-NR4-D	11/19/20	N	1.5	--	--	--	--	--	--	--	--	--	--	--
C-NR4-D	01/28/21	N	1.6	--	--	--	--	--	--	--	--	0.39	--	--
C-NR4-D	01/28/21	FD	1.5	--	--	--	--	--	--	--	--	0.39	--	--
C-NR4-D	02/18/21	N	1.6	--	--	--	--	--	--	--	--	0.38	--	--
C-NR4-D	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.42	--	--
C-NR4-D	05/20/21	FD	1.2	--	--	--	--	--	--	--	--	0.38	--	--
C-NR4-D	08/19/21	N	1.3	--	--	--	--	--	--	--	--	0.39	--	--
C-NR4-D	08/19/21	FD	1.4	--	--	--	--	--	--	--	--	0.36	--	--
C-NR4-D	11/18/21	N	1.8	--	--	--	--	--	--	--	--	0.28	--	--
C-NR4-D	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-D	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-NR3-D	02/20/20	N	--	--
C-NR3-D	04/30/20	N	--	--
C-NR3-D	08/20/20	N	--	--
C-NR3-D	11/19/20	N	--	--
C-NR3-D	01/28/21	N	--	--
C-NR3-D	02/18/21	N	--	--
C-NR3-D	05/20/21	N	--	--
C-NR3-D	08/19/21	N	--	--
C-NR3-D	11/18/21	N	--	--
C-NR3-D	11/18/21	FD	--	--
C-NR3-D	02/17/22	N	--	--
C-NR3-D	05/19/22	N	--	--
C-NR3-D	05/19/22	FD	--	--
C-NR3-D	08/18/22	N	--	--
C-NR3-D	11/16/22	N	--	--
C-NR3-S	01/30/20	N	--	--
C-NR3-S	02/20/20	N	--	--
C-NR3-S	04/30/20	N	--	--
C-NR3-S	08/20/20	N	--	--
C-NR3-S	11/19/20	N	--	--
C-NR3-S	11/19/20	FD	--	--
C-NR3-S	01/28/21	N	--	--
C-NR3-S	01/28/21	FD	--	--
C-NR3-S	02/18/21	N	--	--
C-NR3-S	05/20/21	N	--	--
C-NR3-S	08/19/21	N	--	--
C-NR3-S	11/18/21	N	--	--
C-NR3-S	02/17/22	N	--	--
C-NR3-S	05/19/22	N	--	--
C-NR3-S	08/18/22	N	--	--
C-NR3-S	11/16/22	N	--	--
C-NR4-D	01/30/20	N	--	--
C-NR4-D	02/20/20	N	--	--
C-NR4-D	04/30/20	N	--	--
C-NR4-D	08/20/20	N	--	--
C-NR4-D	08/20/20	FD	--	--
C-NR4-D	11/19/20	N	--	--
C-NR4-D	01/28/21	N	--	--
C-NR4-D	01/28/21	FD	--	--
C-NR4-D	02/18/21	N	--	--
C-NR4-D	05/20/21	N	--	--
C-NR4-D	05/20/21	FD	--	--
C-NR4-D	08/19/21	N	--	--
C-NR4-D	08/19/21	FD	--	--
C-NR4-D	11/18/21	N	--	--
C-NR4-D	02/17/22	N	--	--
C-NR4-D	05/19/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-NR4-D	08/18/22	N	<0.2	--	2.3	--	--	--	--	--	--	<0.0005	--	--
C-NR4-D	11/16/22	N	<0.2	<1	2.3	--	--	--	--	--	--	0.00074	4.3	--
C-NR4-S	01/30/20	N	<0.2	<1	2.1	110	--	--	0.038	0.022 J	--	0.0015 J	4.4	--
C-NR4-S	02/20/20	N	<0.2	<1	2.1	110	--	--	0.12 J	0.03	--	0.0011	4.5 J	--
C-NR4-S	04/30/20	N	<0.2	<1	2.2	110	--	--	0.042	<0.02	--	0.00053	4.5	--
C-NR4-S	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.031 J	<0.02 J	--	0.00065	4.7	--
C-NR4-S	11/19/20	N	<0.2	<1	2.4	120	--	--	<0.02	<0.02	--	0.00062	4.7	--
C-NR4-S	01/28/21	N	<0.2	<1	2.3	120	--	--	0.032	0.032	--	0.00073	4.7	--
C-NR4-S	02/18/21	N	<0.2	<1	2.2	120	--	--	0.071 J	<0.02 J	--	0.0011	4.9	--
C-NR4-S	05/20/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02	--	<0.0005	4.5	--
C-NR4-S	08/19/21	N	<0.2	<1	1.9	99	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--
C-NR4-S	11/18/21	N	<0.2	<1	3.1 J	--	--	--	--	--	--	<0.0005	4.4	--
C-NR4-S	02/17/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005	--	--
C-NR4-S	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	<0.0005	--	--
C-NR4-S	08/18/22	N	<0.2	--	2.3	--	--	--	--	--	--	<0.0005	--	--
C-NR4-S	08/18/22	FD	<0.2	--	2.3	--	--	--	--	--	--	<0.0005	--	--
C-NR4-S	11/16/22	N	<0.2	<1	2.3	--	--	--	--	--	--	0.0007	4.4	--
C-NR4-S	11/16/22	FD	<0.2	<1	2.5	--	--	--	--	--	--	0.00071	4.8	--
C-R22A-D	01/29/20	N	<0.2	<1	2.2	120	--	--	0.13	<0.02	--	0.0026	4.8	--
C-R22A-D	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.13 J	0.11 J	--	0.0012	4.5	--
C-R22A-D	04/29/20	N	<0.2	<1	2.2	110	--	--	0.43 J	0.035 J	--	0.00088	4.4	--
C-R22A-D	08/19/20	N	<0.2	<1	2.4	110 J	--	--	0.047 J	0.037 J	--	0.00065	4.6	--
C-R22A-D	11/18/20	N	<0.2	<1	2.2	110	--	--	0.025	<0.02	--	0.0018	4.3	--
C-R22A-D	01/27/21	N	<0.2	<1	2.2	110	--	--	0.029	0.024 J	--	0.0023	4.7	--
C-R22A-D	02/17/21	N	<0.2	<1	2.3	110	--	--	0.048 J	0.034 J	--	0.0024	4.8	--
C-R22A-D	05/19/21	N	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	0.00088	4.7	--
C-R22A-D	08/18/21	N	<0.2	<1	2	100	--	--	0.021 J	<0.02	--	<0.0005	4.1	--
C-R22A-D	11/17/21	N	<0.2	<1	2.6	--	--	--	--	--	--	0.00058	4.5 J	--
C-R22A-D	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--
C-R22A-D	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--
C-R22A-D	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0028 J	--	--
C-R22A-D	11/15/22	N	<0.2	<1	2.6 J	--	--	--	--	--	--	0.00097	4.9	--
C-R22A-S	01/29/20	N	<0.2	<1	2.3	120	--	--	0.12	<0.02	--	0.0027	4.6	--
C-R22A-S	01/29/20	FD	<0.2	<1	2.3	130	--	--	0.16	0.027	--	0.0029	4.9	--
C-R22A-S	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.09	0.032 J	--	0.0014	4.7	--
C-R22A-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.088 J	<0.02 J	--	0.00058	4.5	--
C-R22A-S	08/19/20	N	<0.2	<1	2.6	110 J	--	--	0.058 J	<0.02 J	--	0.00074	4.8	--
C-R22A-S	11/18/20	N	<0.2	<1	2.3	110	--	--	0.06	0.027	--	0.0016	4.4	--
C-R22A-S	01/27/21	N	<0.2	<1	2.3	120	--	--	0.032	<0.02	--	0.0022	4.9	--
C-R22A-S	02/17/21	N	<0.2	<1	2.3	110	--	--	0.1 J	<0.02 J	--	0.0026	4.6	--
C-R22A-S	02/17/21	FD	<0.2	<1	2.2	110	--	--	0.043 J	<0.02 J	--	0.0025	4.5	--
C-R22A-S	05/19/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02 J	--	0.0017	4.5	--
C-R22A-S	08/18/21	N	<0.2	<1	2.2	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--
C-R22A-S	11/17/21	N	<0.2	<1	2.7	--	--	--	--	--	--	<0.0005	4.3 J	--
C-R22A-S	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--
C-R22A-S	02/16/22	FD	<0.2	--	2.1	--	--	--	--	--	--	<0.0005 J	--	--
C-R22A-S	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-NR4-D	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-D	11/16/22	N	1.4	--	--	--	--	--	--	0.32	--	--	--	--
C-NR4-S	01/30/20	N	1.5	--	--	--	--	--	--	--	--	0.36	--	--
C-NR4-S	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.37	--	--
C-NR4-S	04/30/20	N	1.6	--	--	--	--	--	--	--	--	0.38	--	--
C-NR4-S	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.43	--	--
C-NR4-S	11/19/20	N	1.7	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	01/28/21	N	1.6	--	--	--	--	--	--	--	--	0.37	--	--
C-NR4-S	02/18/21	N	1.6	--	--	--	--	--	--	--	--	0.44	--	--
C-NR4-S	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.39	--	--
C-NR4-S	08/19/21	N	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-NR4-S	11/18/21	N	2	--	--	--	--	--	--	--	--	0.28	--	--
C-NR4-S	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	08/18/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	11/16/22	N	1.4	--	--	--	--	--	--	0.3	--	--	--	--
C-NR4-S	11/16/22	FD	1.4	--	--	--	--	--	--	0.28	--	--	--	--
C-R22A-D	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-R22A-D	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.33	--	--
C-R22A-D	04/29/20	N	1.6	--	--	--	--	--	--	--	--	0.43	--	--
C-R22A-D	08/19/20	N	1.4	--	--	--	--	--	--	--	--	0.32	--	--
C-R22A-D	11/18/20	N	1.6	--	--	--	--	--	--	--	--	0.25	--	--
C-R22A-D	01/27/21	N	1.6	--	--	--	--	--	--	--	--	0.3	--	--
C-R22A-D	02/17/21	N	1.9	--	--	--	--	--	--	--	--	0.46	--	--
C-R22A-D	05/19/21	N	1.5	--	--	--	--	--	--	--	--	0.39	--	--
C-R22A-D	08/18/21	N	1.2	--	--	--	--	--	--	--	--	0.35	--	--
C-R22A-D	11/17/21	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-R22A-D	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-D	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-D	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-D	11/15/22	N	1.5	--	--	--	--	--	--	0.28 J	--	--	--	--
C-R22A-S	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.35	--	--
C-R22A-S	01/29/20	FD	1.6	--	--	--	--	--	--	--	--	0.36	--	--
C-R22A-S	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.33	--	--
C-R22A-S	04/29/20	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
C-R22A-S	08/19/20	N	1.4	--	--	--	--	--	--	--	--	0.3	--	--
C-R22A-S	11/18/20	N	1.5	--	--	--	--	--	--	--	--	0.26	--	--
C-R22A-S	01/27/21	N	1.5	--	--	--	--	--	--	--	--	0.39	--	--
C-R22A-S	02/17/21	N	1.8	--	--	--	--	--	--	--	--	0.46	--	--
C-R22A-S	02/17/21	FD	1.7	--	--	--	--	--	--	--	--	0.51	--	--
C-R22A-S	05/19/21	N	1.5	--	--	--	--	--	--	--	--	0.4	--	--
C-R22A-S	08/18/21	N	1.3	--	--	--	--	--	--	--	--	0.37	--	--
C-R22A-S	11/17/21	N	1.5	--	--	--	--	--	--	--	--	0.3	--	--
C-R22A-S	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-S	02/16/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-S	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-NR4-D	08/18/22	N	--	--
C-NR4-D	11/16/22	N	--	--
C-NR4-S	01/30/20	N	--	--
C-NR4-S	02/20/20	N	--	--
C-NR4-S	04/30/20	N	--	--
C-NR4-S	08/20/20	N	--	--
C-NR4-S	11/19/20	N	--	--
C-NR4-S	01/28/21	N	--	--
C-NR4-S	02/18/21	N	--	--
C-NR4-S	05/20/21	N	--	--
C-NR4-S	08/19/21	N	--	--
C-NR4-S	11/18/21	N	--	--
C-NR4-S	02/17/22	N	--	--
C-NR4-S	05/19/22	N	--	--
C-NR4-S	08/18/22	N	--	--
C-NR4-S	08/18/22	FD	--	--
C-NR4-S	11/16/22	N	--	--
C-NR4-S	11/16/22	FD	--	--
C-R22A-D	01/29/20	N	--	--
C-R22A-D	02/19/20	N	--	--
C-R22A-D	04/29/20	N	--	--
C-R22A-D	08/19/20	N	--	--
C-R22A-D	11/18/20	N	--	--
C-R22A-D	01/27/21	N	--	--
C-R22A-D	02/17/21	N	--	--
C-R22A-D	05/19/21	N	--	--
C-R22A-D	08/18/21	N	--	--
C-R22A-D	11/17/21	N	--	--
C-R22A-D	02/16/22	N	--	--
C-R22A-D	05/18/22	N	--	--
C-R22A-D	08/17/22	N	--	--
C-R22A-D	11/15/22	N	--	--
C-R22A-S	01/29/20	N	--	--
C-R22A-S	01/29/20	FD	--	--
C-R22A-S	02/19/20	N	--	--
C-R22A-S	04/29/20	N	--	--
C-R22A-S	08/19/20	N	--	--
C-R22A-S	11/18/20	N	--	--
C-R22A-S	01/27/21	N	--	--
C-R22A-S	02/17/21	N	--	--
C-R22A-S	02/17/21	FD	--	--
C-R22A-S	05/19/21	N	--	--
C-R22A-S	08/18/21	N	--	--
C-R22A-S	11/17/21	N	--	--
C-R22A-S	02/16/22	N	--	--
C-R22A-S	02/16/22	FD	--	--
C-R22A-S	05/18/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-R22A-S	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0025 J	--	--
C-R22A-S	11/15/22	N	<0.2	<1	2.5 J	--	--	--	--	--	--	0.0012	4.5	--
C-R27-D	01/29/20	N	<0.2	<1	2.1	120	--	--	0.18	0.11	--	0.004	4.6	--
C-R27-D	02/19/20	N	<0.2	<1	2.1	120 J	--	--	0.26 J	0.039 J	--	0.0021	4.6	--
C-R27-D	02/19/20	FD	<0.2	<1	2.2	120 J	--	--	0.19 J	0.061 J	--	0.0011	4.6	--
C-R27-D	04/29/20	N	<0.2	<1	2.2	110	--	--	0.071 J	0.047 J	--	0.0011	4.5	--
C-R27-D	08/19/20	N	<0.2	<1	2.4	110 J	--	--	0.054 J	0.023 J	--	0.00067	4.6	--
C-R27-D	11/18/20	N	<0.2	<1	2.4	110	--	--	0.032	<0.02	--	0.001	4.4	--
C-R27-D	01/27/21	N	<0.2	<1	2.3	120	--	--	0.028	<0.02	--	0.0014	4.8	--
C-R27-D	02/17/21	N	<0.2	<1	2.2	110	--	--	0.11 J	<0.02 J	--	0.0016	4.7	--
C-R27-D	05/19/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--
C-R27-D	08/18/21	N	<0.2	<1	1.9	100	--	--	0.023 J	0.021	--	<0.0005	4.3	--
C-R27-D	11/17/21	N	<0.2	<1	3	--	--	--	--	--	--	0.00059	4.4 J	--
C-R27-D	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--
C-R27-D	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--
C-R27-D	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0013 J	--	--
C-R27-D	11/15/22	N	<0.2	<1	2.7 J	--	--	--	--	--	--	0.0021	5.3	--
C-R27-S	01/29/20	N	<0.2	<1	2.2	120	--	--	0.17	<0.02	--	0.002	4.6	--
C-R27-S	02/19/20	N	<0.2	<1	2.3	120 J	--	--	0.27 J	0.058 J	--	0.0011	4.7	--
C-R27-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.07 J	0.037 J	--	<0.0005 J	4.4	--
C-R27-S	04/29/20	FD	<0.2	<1	2.2	120	--	--	0.11 J	0.088 J	--	0.0014 J	4.4	--
C-R27-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.07 J	0.037 J	--	<0.0005 J	4.4	--
C-R27-S	04/29/20	FD	<0.2	<1	2.2	120	--	--	0.11 J	0.088 J	--	0.0014 J	4.4	--
C-R27-S	08/19/20	N	<0.2 J	<1	2.4	110 J	--	--	0.058 J	0.022 J	--	0.0006	4.6	--
C-R27-S	08/19/20	FD	<0.2 J	<1	2.6	120 J	--	--	0.19 J	0.026 J	--	0.00069	4.9	--
C-R27-S	11/18/20	N	<0.2	<1	2.5	110	--	--	0.038	<0.02	--	0.00093	4.4	--
C-R27-S	01/27/21	N	<0.2	<1	2.1	120	--	--	0.031	<0.02	--	0.0015	4.6	--
C-R27-S	02/17/21	N	<0.2	<1	2.4	120	--	--	0.098 J	<0.02 J	--	0.0022	4.7	--
C-R27-S	05/19/21	N	<0.2	<1	2.1	100	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--
C-R27-S	08/18/21	N	<0.2	<1	2	100	--	--	0.043 J	<0.02	--	<0.0005	4.3	--
C-R27-S	11/17/21	N	<0.2	<1	2.9	--	--	--	--	--	--	<0.0005	4.4 J	--
C-R27-S	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--
C-R27-S	05/18/22	N	<0.2	<1	1.9 J	--	--	--	--	--	--	<0.0005	--	--
C-R27-S	08/17/22	N	<0.2	--	2.2	--	--	--	--	--	--	0.0013 J	--	--
C-R27-S	11/15/22	N	<0.2	<1	2.7 J	--	--	--	--	--	--	0.0006	4.8	--
C-TAZ-D	01/29/20	N	<0.2	<1	2.2	110	--	--	0.15	0.026	--	0.0022	4.5	--
C-TAZ-D	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.12 J	0.033 J	--	0.0014	4.5	--
C-TAZ-D	04/29/20	N	<0.2	<1	2.2	110	--	--	0.065 J	<0.02 J	--	<0.0005	4.4	--
C-TAZ-D	08/19/20	N	<0.2	<1	2.5	120 J	--	--	0.053 J	<0.02 J	--	<0.0005	4.6	--
C-TAZ-D	11/18/20	N	<0.2	<1	2.4	110	--	--	0.042	<0.02	--	0.0013	4.5	--
C-TAZ-D	01/27/21	N	<0.2	<1	2.2	120	--	--	0.034	0.025 J	--	0.00069	4.6	--
C-TAZ-D	02/17/21	N	<0.2	<1	2.3	110	--	--	0.15 J	<0.02 J	--	0.0014	4.6	--
C-TAZ-D	05/19/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--
C-TAZ-D	08/18/21	N	<0.2	<1	2	100	--	--	0.036 J	<0.02	--	<0.0005	4.2	--
C-TAZ-D	08/18/21	FD	<0.2	<1	2.2	98	--	--	0.023 J	<0.02	--	<0.0005	4.2	--
C-TAZ-D	11/17/21	N	<0.2	<1	2.9	--	--	--	--	--	--	<0.0005	4.5 J	--
C-TAZ-D	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--
C-TAZ-D	02/16/22	FD	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--
C-TAZ-D	05/18/22	N	<0.2	<1	2.1 J	--	--	--	--	--	--	<0.0005	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-R22A-S	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-S	11/15/22	N	1.4	--	--	--	--	--	--	0.28 J	--	--	--	--
C-R27-D	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.25	--	--
C-R27-D	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.28	--	--
C-R27-D	02/19/20	FD	1.6	--	--	--	--	--	--	--	--	0.28	--	--
C-R27-D	04/29/20	N	1.6	--	--	--	--	--	--	--	--	0.42	--	--
C-R27-D	08/19/20	N	1.5	--	--	--	--	--	--	--	--	0.34	--	--
C-R27-D	11/18/20	N	1.5	--	--	--	--	--	--	--	--	0.24	--	--
C-R27-D	01/27/21	N	1.6	--	--	--	--	--	--	--	--	0.4	--	--
C-R27-D	02/17/21	N	1.7	--	--	--	--	--	--	--	--	0.46	--	--
C-R27-D	05/19/21	N	1.3	--	--	--	--	--	--	--	--	0.38	--	--
C-R27-D	08/18/21	N	1.5	--	--	--	--	--	--	--	--	0.37	--	--
C-R27-D	11/17/21	N	1.8	--	--	--	--	--	--	--	--	0.3	--	--
C-R27-D	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-D	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-D	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-D	11/15/22	N	1.5	--	--	--	--	--	--	0.27 J	--	--	--	--
C-R27-S	01/29/20	N	1.5	--	--	--	--	--	--	--	--	0.31	--	--
C-R27-S	02/19/20	N	1.7	--	--	--	--	--	--	--	--	0.28	--	--
C-R27-S	04/29/20	N	1.6	--	--	--	--	--	--	--	--	0.39	--	--
C-R27-S	04/29/20	FD	1.6	--	--	--	--	--	--	--	--	0.42	--	--
C-R27-S	04/29/20	N	1.6	--	--	--	--	--	--	--	--	0.39	--	--
C-R27-S	04/29/20	FD	1.6	--	--	--	--	--	--	--	--	0.42	--	--
C-R27-S	08/19/20	N	1.4	--	--	--	--	--	--	--	--	0.34	--	--
C-R27-S	08/19/20	FD	1.5	--	--	--	--	--	--	--	--	0.36	--	--
C-R27-S	11/18/20	N	1.6	--	--	--	--	--	--	--	--	0.3	--	--
C-R27-S	01/27/21	N	1.6	--	--	--	--	--	--	--	--	0.28	--	--
C-R27-S	02/17/21	N	1.6	--	--	--	--	--	--	--	--	0.43	--	--
C-R27-S	05/19/21	N	1.4	--	--	--	--	--	--	--	--	0.43	--	--
C-R27-S	08/18/21	N	1.2	--	--	--	--	--	--	--	--	0.36	--	--
C-R27-S	11/17/21	N	1.9	--	--	--	--	--	--	--	--	0.31	--	--
C-R27-S	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-S	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-S	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-S	11/15/22	N	1.7	--	--	--	--	--	--	0.26 J	--	--	--	--
C-TAZ-D	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.29	--	--
C-TAZ-D	02/19/20	N	1.5	--	--	--	--	--	--	--	--	0.27	--	--
C-TAZ-D	04/29/20	N	1.6	--	--	--	--	--	--	--	--	0.37	--	--
C-TAZ-D	08/19/20	N	1.5	--	--	--	--	--	--	--	--	0.35	--	--
C-TAZ-D	11/18/20	N	1.5	--	--	--	--	--	--	--	--	0.27	--	--
C-TAZ-D	01/27/21	N	1.5	--	--	--	--	--	--	--	--	0.29	--	--
C-TAZ-D	02/17/21	N	1.6	--	--	--	--	--	--	--	--	0.45	--	--
C-TAZ-D	05/19/21	N	1.4	--	--	--	--	--	--	--	--	0.54	--	--
C-TAZ-D	08/18/21	N	1.4	--	--	--	--	--	--	--	--	0.37	--	--
C-TAZ-D	08/18/21	FD	1.4	--	--	--	--	--	--	--	--	0.35	--	--
C-TAZ-D	11/17/21	N	1.8	--	--	--	--	--	--	--	--	0.3	--	--
C-TAZ-D	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-D	02/16/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-D	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-R22A-S	08/17/22	N	--	--
C-R22A-S	11/15/22	N	--	--
C-R27-D	01/29/20	N	--	--
C-R27-D	02/19/20	N	--	--
C-R27-D	02/19/20	FD	--	--
C-R27-D	04/29/20	N	--	--
C-R27-D	08/19/20	N	--	--
C-R27-D	11/18/20	N	--	--
C-R27-D	01/27/21	N	--	--
C-R27-D	02/17/21	N	--	--
C-R27-D	05/19/21	N	--	--
C-R27-D	08/18/21	N	--	--
C-R27-D	11/17/21	N	--	--
C-R27-D	02/16/22	N	--	--
C-R27-D	05/18/22	N	--	--
C-R27-D	08/17/22	N	--	--
C-R27-D	11/15/22	N	--	--
C-R27-S	01/29/20	N	--	--
C-R27-S	02/19/20	N	--	--
C-R27-S	04/29/20	N	--	--
C-R27-S	04/29/20	FD	--	--
C-R27-S	08/19/20	N	--	--
C-R27-S	08/19/20	FD	--	--
C-R27-S	11/18/20	N	--	--
C-R27-S	01/27/21	N	--	--
C-R27-S	02/17/21	N	--	--
C-R27-S	05/19/21	N	--	--
C-R27-S	08/18/21	N	--	--
C-R27-S	11/17/21	N	--	--
C-R27-S	02/16/22	N	--	--
C-R27-S	05/18/22	N	--	--
C-R27-S	08/17/22	N	--	--
C-R27-S	11/15/22	N	--	--
C-TAZ-D	01/29/20	N	--	--
C-TAZ-D	02/19/20	N	--	--
C-TAZ-D	04/29/20	N	--	--
C-TAZ-D	08/19/20	N	--	--
C-TAZ-D	11/18/20	N	--	--
C-TAZ-D	01/27/21	N	--	--
C-TAZ-D	02/17/21	N	--	--
C-TAZ-D	05/19/21	N	--	--
C-TAZ-D	08/18/21	N	--	--
C-TAZ-D	08/18/21	FD	--	--
C-TAZ-D	11/17/21	N	--	--
C-TAZ-D	02/16/22	N	--	--
C-TAZ-D	02/16/22	FD	--	--
C-TAZ-D	05/18/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
C-TAZ-D	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0031 J	--	--
C-TAZ-D	11/15/22	N	<0.2	<1	2.5 J	--	--	--	--	--	--	0.00062	4.6	--
C-TAZ-S	01/29/20	N	<0.2	<1	2.2	110	--	--	0.1	<0.02	--	0.0016	4.6	--
C-TAZ-S	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.084 J	0.03 J	--	0.001	4.4	--
C-TAZ-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.28 J	0.031 J	--	0.00055	4.5	--
C-TAZ-S	08/19/20	N	<0.2	<1	2.5	110 J	--	--	0.039 J	<0.02 J	--	0.00052	4.6	--
C-TAZ-S	11/18/20	N	<0.2	<1	2.4	110	--	--	0.037	<0.02	--	0.0013	4.5	--
C-TAZ-S	01/27/21	N	<0.2	<1	2.2	120	--	--	0.061	0.022 J	--	0.00079	4.8	--
C-TAZ-S	02/17/21	N	<0.2	<1	2.3	110	--	--	0.34 J	<0.02 J	--	0.0018	4.7	--
C-TAZ-S	05/19/21	N	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.3	--
C-TAZ-S	08/18/21	N	<0.2	<1	2.2	100	--	--	<0.02	<0.02	--	<0.0005	4.2	--
C-TAZ-S	11/17/21	N	<0.2	<1	3.3	--	--	--	--	--	--	<0.0005	4.6 J	--
C-TAZ-S	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--
C-TAZ-S	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--
C-TAZ-S	08/17/22	N	<0.2	--	2.2	--	--	--	--	--	--	0.0026 J	--	--
C-TAZ-S	08/17/22	FD	<0.2	--	2.2	--	--	--	--	--	--	0.0027 J	--	--
C-TAZ-S	11/15/22	N	<0.2	<1	2.7 J	--	--	--	--	--	--	0.00061	4.9	--
C-TAZ-S	11/15/22	FD	<0.2	<1	2.5 J	--	--	--	--	--	--	0.00052	4.7	--
CW-01D	10/08/20	N	0.59	2	1.4	22	1.1	100	0.93 J	0.19 J	21	0.0075	20	10
CW-01D	12/01/21	N	0.51	1.6	<0.1 J	20	1.1	150	--	--	19	<0.0005	24	13 J
CW-01D	11/29/22	N	<1	1.8	<0.1	23	1.8	160	--	--	17	0.018	23	12
CW-01M	10/08/20	N	0.6	<1	1.3	82	1.2	110	0.17 J	0.099 J	14	<0.0005	17	9.7
CW-01M	10/08/20	FD	0.58	<1	1.3	81	1.2	120	0.19 J	0.12 J	14	<0.0005	17	8.9
CW-01M	12/01/21	N	1.2	2.4	<0.1 J	74	0.98	180	--	--	13	0.00092	17	12 J
CW-01M	11/29/22	N	<1	<1	<0.1	80	1.8	200	--	--	13	0.0011	16	11
CW-02D	10/07/20	N	0.47	1.3	2.2 J	21	3.7 J	150	<0.02	<0.1	12 J	0.00074	14 J	8.2 J
CW-02D	12/06/21	N	0.45	1.4 J	<0.1	17	1 J	100	--	--	5.2 J	0.00089 J	14	14
CW-02D	12/06/21	FD	0.45	1.5 J	<0.1	17	0.97 J	95	--	--	4.9 J	0.001 J	14	10
CW-02D	12/02/22	N	0.4	<1	1.4	15 J	1.3	85 J	--	--	5.5 J	<0.0005	14	12 J
CW-02M	10/07/20	N	1.1	2.1	2.1 J	63	1.7 J	130	1	<0.1	12 J	0.0019	15 J	6.1 J
CW-02M	12/06/21	N	1.1	2.3 J	<0.1	66	1.1 J	140	--	--	9.8 J	0.00075 J	14	15
CW-02M	12/02/22	N	1.1	1.5	0.46	84 J	1.2	120 J	--	--	11 J	0.00054	13	11 J
CW-03D	10/07/20	N	1	2.5	1.8 J	19	2.6 J	79	3.40	0.13 J	7.3 J	0.014	16 J	8.7 J
CW-03D	12/06/21	N	1.2	2.2 J	<0.1	19	0.89 J	73	--	--	4.6 J	0.0055 J	13	11
CW-03D	12/02/22	N	0.6	<1	<0.1	18 J	1.2	73 J	--	--	6.3 J	<0.0005	13	12 J
CW-03M	10/07/20	N	2.8	6.7	1.5 J	40	3.4 J	170	0.59 J	<0.1	17 J	0.0025 J	33 J	8 J
CW-03M	10/07/20	FD	2.8	6	1.5 J	38	2.9 J	150	0.44 J	<0.1	15 J	0.0014 J	34 J	8.1 J
CW-03M	12/06/21	N	2.2	3.6 J	<0.1	34	1.2 J	150	--	--	11 J	0.002 J	37	13
CW-03M	12/02/22	N	2.4	2.5	<0.1	37 J	1.4	140 J	--	--	13 J	<0.0005	33	20 J
CW-04D	10/02/20	N	0.53	3.9	<0.1	23	1.2	100 J	0.099	0.058 J	11 J	0.0016	21	11
CW-04D	12/01/21	N	0.3	17	<0.1 J	30	0.99	160	--	--	11	0.095	24	13 J
CW-04D	12/01/22	N	<1	1	1.5	21 J	1.4	160	--	--	8 J	<0.0005	32 J	13 J
CW-04M	10/02/20	N	1	4.8	<0.1	100	1.2	150 J	0.29	0.06 J	16 J	0.0022	12	13
CW-04M	12/01/21	N	1.2	2.1	<0.1 J	98	0.91	210	--	--	14	<0.0005	10	13 J
CW-04M	12/01/22	N	1.1	1.3	0.68	85 J	1.2	230	--	--	15 J	<0.0005	9.1 J	13 J
IRZ-09-100	09/14/20	N	19	20	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	09/24/20	N	19	19	<0.1 J	79	1.2	240	<0.02 J	<0.02 J	32	0.011	14	16

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
C-TAZ-D	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-D	11/15/22	N	1.7	--	--	--	--	--	--	0.28 J	--	--	--	--
C-TAZ-S	01/29/20	N	1.7	--	--	--	--	--	--	--	--	0.35	--	--
C-TAZ-S	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.32	--	--
C-TAZ-S	04/29/20	N	1.6	--	--	--	--	--	--	--	--	2.5	--	--
C-TAZ-S	08/19/20	N	1.5	--	--	--	--	--	--	--	--	0.43	--	--
C-TAZ-S	11/18/20	N	1.5	--	--	--	--	--	--	--	--	0.28	--	--
C-TAZ-S	01/27/21	N	1.5	--	--	--	--	--	--	--	--	0.26	--	--
C-TAZ-S	02/17/21	N	1.8	--	--	--	--	--	--	--	--	0.42	--	--
C-TAZ-S	05/19/21	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
C-TAZ-S	08/18/21	N	1.3	--	--	--	--	--	--	--	--	0.37	--	--
C-TAZ-S	11/17/21	N	1.8	--	--	--	--	--	--	--	--	0.31	--	--
C-TAZ-S	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-S	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-S	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-S	08/17/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-S	11/15/22	N	1.5	--	--	--	--	--	--	0.26 J	--	--	--	--
C-TAZ-S	11/15/22	FD	1.3	--	--	--	--	--	--	0.27 J	--	--	--	--
CW-01D	10/08/20	N	4.8	1,400	2.4	90	<0.2	2,200	2.5	--	--	2.6	500	4,600
CW-01D	12/01/21	N	7.6	1,400	2.4	73	--	1,900	2.7	--	--	8.3	510	4,000
CW-01D	11/29/22	N	7.5	1,300	3.2	79	--	1,900	2.3	--	--	8.2 J	510	4,300
CW-01M	10/08/20	N	4.6	1,500	2.5	89	<0.2	2,200	2.2	--	--	3 J	510	4,700
CW-01M	10/08/20	FD	4.7	1,700	2.5	90	<0.2	2,200	2.2	--	--	5.4 J	510	4,600
CW-01M	12/01/21	N	4.1	1,500	2.2	90	--	2,100	2.4	--	--	2.5	490	4,300
CW-01M	11/29/22	N	3.8	1,500	3	78	--	2,100	2.1	--	--	2.8 J	510	5,500
CW-02D	10/07/20	N	4.3	1,500	3.2	66	<0.2	2,300	2	--	--	2.8	510	4,300
CW-02D	12/06/21	N	4.1	1,500	3.7	64	--	2,200	2.1	--	--	2.8	510	4,000
CW-02D	12/06/21	FD	4.3	1,600	3.7	64	--	2,200	1.9	--	--	2.7	510	4,200
CW-02D	12/02/22	N	4.1	1,700 J	4.7	70	--	2,100	1.8	--	--	2.8 J	490	4,400
CW-02M	10/07/20	N	4.2	1,500	3.7	59	<0.2	2,200	3.1	--	--	2.6	500	4,300
CW-02M	12/06/21	N	3.4	1,500	3.5	63	--	2,200	3.2	--	--	2.8	500	4,100
CW-02M	12/02/22	N	4.1	1,500 J	4.5	67	--	2,100	2.8	--	--	2.7 J	600	4,400
CW-03D	10/07/20	N	4.4	1,600	2.7	68	<0.2	2,200	2.5	--	--	2.9	490	4,300
CW-03D	12/06/21	N	3.9	1,500	2.3	70	--	2,200	2.4	--	--	2.6	500	4,100
CW-03D	12/02/22	N	3.6	1,600 J	2.7	65	--	2,100	2.3	--	--	2.9 J	610	4,500
CW-03M	10/07/20	N	3.1	1,500	2.9	53	<0.2	2,300	3.7	--	--	2.6	510	4,500
CW-03M	10/07/20	FD	3.1	1,500	3	53	<0.2	2,300	3.8	--	--	2.6	510	4,400
CW-03M	12/06/21	N	2.5	1,500	2.6	52	--	2,200	4.2	--	--	2.6	520	4,100
CW-03M	12/02/22	N	2.7	1,500 J	3.6	54	--	2,100	3.9	--	--	2.8 J	620	4,400
CW-04D	10/02/20	N	3.6	1,500	3	59	0.21	2,100	4.2	--	--	2.9	470	4,400
CW-04D	12/01/21	N	3.5	1,500	5.3	72	--	2,100	2.9	--	--	2.7	480	4,300
CW-04D	12/01/22	N	3.4	1,500 J	3.7	54	--	2,200	4	--	--	2.7 J	510	4,500
CW-04M	10/02/20	N	5.9	1,400	3.6	60	<0.2	2,100	2.1	--	--	2.7	480	4,500
CW-04M	12/01/21	N	3.2	1,400	3.2	57	--	2,100	2.3	--	--	2.7	490	4,200
CW-04M	12/01/22	N	3.3	1,400 J	3.8	59	--	2,000	2	--	--	2.9 J	490	4,200
IRZ-09-100	09/14/20	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	09/24/20	N	1	1,700	3.4	54	0.2	3,000	2.8	--	--	1.8	500	6,500

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
C-TAZ-D	08/17/22	N	--	--
C-TAZ-D	11/15/22	N	--	--
C-TAZ-S	01/29/20	N	--	--
C-TAZ-S	02/19/20	N	--	--
C-TAZ-S	04/29/20	N	--	--
C-TAZ-S	08/19/20	N	--	--
C-TAZ-S	11/18/20	N	--	--
C-TAZ-S	01/27/21	N	--	--
C-TAZ-S	02/17/21	N	--	--
C-TAZ-S	05/19/21	N	--	--
C-TAZ-S	08/18/21	N	--	--
C-TAZ-S	11/17/21	N	--	--
C-TAZ-S	02/16/22	N	--	--
C-TAZ-S	05/18/22	N	--	--
C-TAZ-S	08/17/22	N	--	--
C-TAZ-S	08/17/22	FD	--	--
C-TAZ-S	11/15/22	N	--	--
C-TAZ-S	11/15/22	FD	--	--
CW-01D	10/08/20	N	--	--
CW-01D	12/01/21	N	--	--
CW-01D	11/29/22	N	--	--
CW-01M	10/08/20	N	--	--
CW-01M	10/08/20	FD	--	--
CW-01M	12/01/21	N	--	--
CW-01M	11/29/22	N	--	--
CW-02D	10/07/20	N	--	--
CW-02D	12/06/21	N	--	--
CW-02D	12/06/21	FD	--	--
CW-02D	12/02/22	N	--	--
CW-02M	10/07/20	N	--	--
CW-02M	12/06/21	N	--	--
CW-02M	12/02/22	N	--	--
CW-03D	10/07/20	N	--	--
CW-03D	12/06/21	N	--	--
CW-03D	12/02/22	N	--	--
CW-03M	10/07/20	N	--	--
CW-03M	10/07/20	FD	--	--
CW-03M	12/06/21	N	--	--
CW-03M	12/02/22	N	--	--
CW-04D	10/02/20	N	--	--
CW-04D	12/01/21	N	--	--
CW-04D	12/01/22	N	--	--
CW-04M	10/02/20	N	--	--
CW-04M	12/01/21	N	--	--
CW-04M	12/01/22	N	--	--
IRZ-09-100	09/14/20	N	--	--
IRZ-09-100	09/24/20	N	--	<1

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
IRZ-09-100	01/25/22	N	19	18	<0.1	75	1	330	<0.02	<0.02	27	0.0027	13	19 J
IRZ-09-100	03/10/22	N	6.7	--	--	--	--	--	0.081	0.022	--	0.0016	--	--
IRZ-09-100	04/12/22	N	11	--	--	--	--	--	0.34	<0.02	--	0.0018	--	--
IRZ-09-100	05/18/22	N	15	--	--	--	--	--	0.14 J	<0.02 J	--	<0.0005	--	--
IRZ-09-100	06/13/22	N	18	--	--	--	--	--	--	0.048 J	--	<0.0005	--	--
IRZ-09-100	09/14/22	N	16	--	--	--	--	--	<0.02	<0.02	--	0.0016	--	--
IRZ-09-100	10/11/22	N	17	--	--	--	--	--	<0.02	<0.02	--	0.00094 J	--	--
IRZ-09-100	11/15/22	N	17	--	--	--	--	--	<0.02	<0.02	--	0.0017	--	--
IRZ-13D-210	08/07/20	N	350	330	--	--	--	--	--	--	--	--	--	--
IRZ-13D-210	09/26/20	N	390	370	1.9 J	42	1.8 J	320 J	<0.1 J	<0.1 J	65 J	0.057	35	29 J
IRZ-13D-210	03/10/22	N	350	340	<0.1 J	44 J	1.4	450	<0.02	0.059 J	52 J	0.062	34	29 J
IRZ-13D-210	04/12/22	N	410	--	--	--	--	--	0.63	<0.02	--	0.028	--	--
IRZ-13D-210	05/17/22	N	500	--	--	--	--	--	<0.1 J	<0.02 J	--	0.0025	--	--
IRZ-13D-210	06/13/22	N	500	--	--	--	--	--	--	<0.02 J	--	<0.0005	--	--
IRZ-13D-210	09/14/22	N	460	--	--	--	--	--	<0.02	<0.02	--	<0.0005	--	--
IRZ-13D-210	10/11/22	N	410	--	--	--	--	--	<0.02	<0.02	--	<0.0005 J	--	--
IRZ-13D-210	11/15/22	N	410	--	--	--	--	--	0.035	<0.02	--	0.00099	--	--
IRZ-13D-210	12/06/22	N	380	--	--	--	--	--	<0.02	<0.02	--	<0.0005 J	--	--
IRZ-13D-210	12/16/22	N	360	410	--	--	--	430	0.022 J	<0.02	45	<0.0005	--	--
IRZ-13S-095	08/18/20	N	24	22	--	--	--	--	--	--	--	--	--	--
IRZ-13S-095	09/28/20	N	20	21	<0.1	76	0.79 J	220 J	0.053 J	<0.02 J	30 J	0.0031	17	13 J
IRZ-13S-095	03/10/22	N	17	17	<0.1 J	76 J	1.1	430	0.06	<0.02 J	37 J	<0.0005	15	16 J
IRZ-13S-095	04/12/22	N	6.2	--	--	--	--	--	0.18	<0.02	--	0.0029	--	--
IRZ-13S-095	05/17/22	N	23	--	--	--	--	--	0.054 J	<0.02 J	--	<0.0005	--	--
IRZ-13S-095	06/13/22	N	23	--	--	--	--	--	--	<0.02	--	<0.0005	--	--
IRZ-13S-095	09/14/22	N	19	--	--	--	--	--	0.021	<0.02	--	<0.0005	--	--
IRZ-13S-095	10/11/22	N	29	--	--	--	--	--	<0.02	<0.02	--	<0.0005 J	--	--
IRZ-13S-095	11/15/22	N	32	--	--	--	--	--	<0.02	<0.02	--	<0.0005	--	--
IRZ-13S-095	12/06/22	N	35	--	--	--	--	--	<0.02	<0.02	--	<0.0005 J	--	--
IRZ-13S-095	12/16/22	N	34	34	--	--	--	250 J	1.20 J	<0.02	23	<0.0005	--	--
IRZ-15-055	06/30/20	N	36	--	--	--	--	--	--	--	--	--	--	--
IRZ-15-055	12/20/21	N	590	690	<0.1 J	45	1.7	460	0.14 J	0.023	23	0.014	45	38 J
IRZ-15-055	04/12/22	N	960	930	<0.1 J	31	--	--	--	<0.02	--	0.0059	--	--
IRZ-15-200	06/30/20	N	800	--	--	--	--	--	--	--	--	--	--	--
IRZ-15-200	12/20/21	N	65	77	<0.1 J	52	0.56	180	0.18 J	<0.02	26	0.00097	19	10 J
IRZ-15-200	04/12/22	N	320	260	<0.1 J	82	--	--	--	<0.02	--	0.0038	--	--
IRZ-21-065	12/20/21	N	270	180	1.3 J	40	0.34	76	4.80 J	<0.02	21	<0.0005	10	7.5 J
IRZ-21-065	04/12/22	N	370	350	<0.1 J	63	--	--	--	<0.02	--	0.053	--	--
IRZ-21-157	12/20/21	N	2,900	2,900	<0.1 J	230	1.7	640	3.50 J	<0.02	24	0.015	51	32 J
IRZ-21-157	04/12/22	N	410	460	<0.1 J	77	--	--	--	<0.02	--	0.16	--	--
IRZ-23-143	12/21/21	N	150	150	0.92 J	51	0.63 J	170	0.69	0.091 J	26 J	<0.0005	6.7	9.9 J
IRZ-23-143	01/25/22	N	780	--	--	--	--	--	0.13	<0.02	--	<0.0005	--	--
IRZ-23-143	02/21/22	N	880	--	--	--	--	--	<0.02	<0.02	--	<0.0005	--	--
IRZ-23-143	03/10/22	N	900	--	--	--	--	--	0.11	<0.02	--	<0.0005	--	--
IRZ-23-143	04/12/22	N	710	--	--	--	--	--	0.13	<0.02	--	<0.0005	--	--
IRZ-23-143	05/17/22	N	650	--	--	--	--	--	<0.02 J	<0.02 J	--	<0.0005	--	--
IRZ-23-143	06/13/22	N	660	--	--	--	--	--	--	<0.02 J	--	<0.0005	--	--

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Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
IRZ-09-100	01/25/22	N	0.83	1,900 J	3	52	<0.2	3,000	3.2	1.8	<5	--	480	6,800
IRZ-09-100	03/10/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	04/12/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	09/14/22	N	--	--	--	--	--	--	--	2.1	--	--	520	--
IRZ-09-100	10/11/22	N	--	--	--	--	--	--	--	1.6	--	--	480	--
IRZ-09-100	11/15/22	N	--	--	--	--	--	--	--	1.7	--	--	430	--
IRZ-13D-210	08/07/20	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13D-210	09/26/20	N	1.1	3,300 J	2.3	58	0.22	6,100	3	--	--	2.1	930	13,000
IRZ-13D-210	03/10/22	N	0.96	4,200	2.5	52	<0.2	6,200	3.7	1.5	<5	--	950	12,000
IRZ-13D-210	04/12/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13D-210	05/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13D-210	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13D-210	09/14/22	N	--	--	--	--	--	--	--	2.1	--	--	960	--
IRZ-13D-210	10/11/22	N	--	--	--	--	--	--	--	1.8	--	--	910	--
IRZ-13D-210	11/15/22	N	--	--	--	--	--	--	--	1.9	--	--	860	--
IRZ-13D-210	12/06/22	N	--	--	--	--	--	--	--	1.5	--	--	900	--
IRZ-13D-210	12/16/22	N	--	--	--	59	--	5,400	3	1.7 J	<5	--	900	10,000
IRZ-13S-095	08/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13S-095	09/28/20	N	1.1	1,400 J	4.9	53	0.49	2,600	2.6	--	--	2.1	460	5,700
IRZ-13S-095	03/10/22	N	0.86	2,000	3.9	48	<0.22	2,800	3.8	1.6	<5	--	460	5,600
IRZ-13S-095	04/12/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13S-095	05/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13S-095	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13S-095	09/14/22	N	--	--	--	--	--	--	--	2	--	--	400	--
IRZ-13S-095	10/11/22	N	--	--	--	--	--	--	--	1.8	--	--	460	--
IRZ-13S-095	11/15/22	N	--	--	--	--	--	--	--	1.8	--	--	410	--
IRZ-13S-095	12/06/22	N	--	--	--	--	--	--	--	1.6	--	--	460	--
IRZ-13S-095	12/16/22	N	--	--	--	64	--	2,300	3.1	1.8 J	<5	--	450	4,900
IRZ-15-055	06/30/20	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-15-055	12/20/21	N	1.5	4,900	3.7	38	--	7,100	4.2	1.4	<5	--	920	13,000
IRZ-15-055	04/12/22	N	--	--	--	--	--	--	--	1.6	--	--	770	--
IRZ-15-200	06/30/20	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-15-200	12/20/21	N	2.1	600 J	3.2	81	--	1,200	2.8	2.3	<5	--	230	2,400
IRZ-15-200	04/12/22	N	--	--	--	--	--	--	--	1.5	--	--	500	--
IRZ-21-065	12/20/21	N	3.5	400	8.5	96	--	470	1.9	4.6	<5	--	180	1,200
IRZ-21-065	04/12/22	N	--	--	--	--	--	--	--	0.76	--	--	540	--
IRZ-21-157	12/20/21	N	2.4	4,300	6	39	--	7,300	4.6	2.2	<5	--	840	13,000
IRZ-21-157	04/12/22	N	--	--	--	--	--	--	--	0.5	--	--	600	--
IRZ-23-143	12/21/21	N	4.1	580	9.6	87	<0.2	990	2	5.5	<5	--	220	2,200
IRZ-23-143	01/25/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-23-143	02/21/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-23-143	03/10/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-23-143	04/12/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-23-143	05/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-23-143	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
IRZ-09-100	01/25/22	N	--	<1
IRZ-09-100	03/10/22	N	--	<1
IRZ-09-100	04/12/22	N	--	<1
IRZ-09-100	05/18/22	N	--	<1
IRZ-09-100	06/13/22	N	--	<1
IRZ-09-100	09/14/22	N	--	<1
IRZ-09-100	10/11/22	N	--	<1
IRZ-09-100	11/15/22	N	--	<1
IRZ-13D-210	08/07/20	N	--	--
IRZ-13D-210	09/26/20	N	--	<1
IRZ-13D-210	03/10/22	N	--	<50
IRZ-13D-210	04/12/22	N	--	<1
IRZ-13D-210	05/17/22	N	--	<1
IRZ-13D-210	06/13/22	N	--	<1
IRZ-13D-210	09/14/22	N	--	<1
IRZ-13D-210	10/11/22	N	--	<1
IRZ-13D-210	11/15/22	N	--	<1
IRZ-13D-210	12/06/22	N	1.2	<1
IRZ-13D-210	12/16/22	N	--	<50
IRZ-13S-095	08/18/20	N	--	--
IRZ-13S-095	09/28/20	N	--	<1 J
IRZ-13S-095	03/10/22	N	--	<1
IRZ-13S-095	04/12/22	N	--	<1
IRZ-13S-095	05/17/22	N	--	<1
IRZ-13S-095	06/13/22	N	--	<1
IRZ-13S-095	09/14/22	N	--	<1
IRZ-13S-095	10/11/22	N	--	<1
IRZ-13S-095	11/15/22	N	--	<1
IRZ-13S-095	12/06/22	N	<1	<1
IRZ-13S-095	12/16/22	N	--	<1
IRZ-15-055	06/30/20	N	--	--
IRZ-15-055	12/20/21	N	--	<50
IRZ-15-055	04/12/22	N	--	<1
IRZ-15-200	06/30/20	N	--	--
IRZ-15-200	12/20/21	N	--	<1
IRZ-15-200	04/12/22	N	--	<1
IRZ-21-065	12/20/21	N	--	<1
IRZ-21-065	04/12/22	N	--	<1
IRZ-21-157	12/20/21	N	--	<1
IRZ-21-157	04/12/22	N	--	<1
IRZ-23-143	12/21/21	N	--	<10
IRZ-23-143	01/25/22	N	--	<1
IRZ-23-143	02/21/22	N	--	<20
IRZ-23-143	03/10/22	N	--	<1
IRZ-23-143	04/12/22	N	--	<1
IRZ-23-143	05/17/22	N	--	<1
IRZ-23-143	06/13/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
IRZ-23-143	09/14/22	N	670	--	--	--	--	--	<0.02	<0.02	--	<0.0005	--	--
IRZ-23-143	10/11/22	N	650	--	--	--	--	--	0.11	<0.02	--	<0.0005 J	--	--
IRZ-23-143	11/15/22	N	660	--	--	--	--	--	0.044	0.025	--	<0.0005	--	--
IRZ-23-143	12/06/22	N	650	--	--	--	--	--	0.22	<0.02	--	<0.0005 J	--	--
IRZ-23-143	12/16/22	N	640	620	--	--	--	320	1.20 J	<0.02	41	<0.0005	--	--
IRZ-25-100	12/20/21	N	2,000	2,000	0.91 J	30	0.53	110	1.70 J	<0.02	19	0.00055	16	7.8 J
IRZ-25-100	04/12/22	N	2,600	2,500	0.85 J	25	--	--	--	<0.02	--	0.013	--	--
IRZ-25-166	12/20/21	N	3,700	810	<0.1 J	41	0.9	160	0.25 J	<0.02	17	0.018	17	15 J
IRZ-25-166	04/12/22	N	1,400	1,300	<0.1 J	39	--	--	--	<0.02	--	0.0062	--	--
IRZ-33-077	01/04/22	N	2,200	2,200	1.2	35	0.94 J	140	0.96	<0.02	26 J	<0.0005	91	11 J
MARINA-1	09/20/21	N	1.28	<10	<10	80.7	2.87	338	--	<1	10.4	<0.1	61.4	51.3
MARINA-1	03/10/22	N	2.08	<10	<10	74.1	2.64	313	--	<1	8.92	<0.1	66.7	49.6
MARINA-1	03/10/22	FD	1.99	<10	<10	73.9	2.59	316	--	<1	8.92	<0.1	67.5	50.3
MARINA-1	05/17/22	N	3.73	<10	<10	63.2	1.63	209	--	<1	10.6	<0.1	41.8	32
MTS-1	09/22/21	N	2.02	3.32	15.3	82.6	0.996	87.8	--	<0.1	2.84	<0.01	19.5	7.94
MTS-1	11/15/21	N	<0.2	<1	23.9	28.1	0.487	11.2	--	<0.1	0.358	<0.01	14.3	6.38
MTS-1	02/16/22	N	<1	<1	20.7	65.8	0.667	91	--	<0.1	2.84	<0.01	16.2	8.49
MTS-1	05/17/22	N	0.687	<10	13	88.8	0.728	92.8	--	<1	3.16	<0.1	<20	8.13
MTS-1	08/16/22	N	5.69	7.21	16.3	86.9	0.801	101	--	<0.1	3.28	<0.01	18.2	7.71
MTS-1	12/13/22	N	6.45	8.28	13.7	80.3 J	--	67.4	--	0.5	4.08	<0.05	14.4	6.82
MTS-1	12/13/22	FD	6.46	8.22	14.1	81.3 J	--	68.6	--	0.5	4.14	<0.05	14.5	6.91
MTS-2	09/22/21	N	8.5	10.3	18.1	84.4	0.972	88	--	<0.1	2.82	<0.01	19.1	7.87
MTS-2	11/15/21	N	5.43	7.3	17.3	82.6	0.756	85.6	--	<0.1	3.07	<0.01	17.9	7.68
MTS-2	02/16/22	N	5.54	8.37	16.6	89.7	0.804	91.9	--	0.178	3.17	0.0218	19.6	7.6
MTS-2	05/17/22	N	9.87	11	17.1	88.9	0.744	94.3	--	<1	3.22	<0.1	<20	7.77
MTS-2	08/16/22	N	7.88	9.41	16.5	88.8	0.811	102	--	<0.1	3.34	<0.01	18.6	7.71
MTS-2	12/13/22	N	11.1	12.6	17.5	88.4 J	--	95	--	0.5	3.18	<0.05	18.4	7.83
MW-09	04/24/20	N	130	130	1.1	--	--	--	--	--	--	0.0021	6.8	--
MW-09	12/01/20	N	120	120	1.8	--	1 J	100 J	--	<0.02	36 J	0.0017	4.4	--
MW-09	02/24/21	N	120	120	--	--	--	--	--	--	--	--	4.7	--
MW-09	05/19/21	N	120	110	0.86	--	--	--	--	--	--	<0.0005	3.9	--
MW-09	12/08/21	N	170	170	0.38	--	--	--	--	--	--	0.0016 J	6.2	--
MW-09	12/08/21	FD	170	180	0.52	--	--	--	--	--	--	0.002 J	6.7	--
MW-09	06/08/22	N	0.9	4	--	--	--	--	--	--	--	--	10	--
MW-09	06/08/22	FD	1.1	4.1	--	--	--	--	--	--	--	--	11	--
MW-09	12/01/22	N	0.23	<1	17	--	--	--	--	--	--	2.50 J	23 J	--
MW-09	12/01/22	FD	<0.2	<1	18	--	--	--	--	--	--	2.60 J	23 J	--
MW-10	04/23/20	N	150	150	--	--	--	--	--	--	--	--	19	--
MW-10	11/30/20	N	120	120	2.2	51	1 J	120 J	--	0.029 J	26 J	0.0071	21	--
MW-10	11/30/20	FD	120	120	2.2	50	1 J	120 J	--	0.026 J	26 J	0.0067	20	--
MW-10	02/24/21	N	110	120	--	--	--	--	--	--	--	--	16	--
MW-10	05/05/21	N	130	130 J	1.5	--	--	160	--	--	--	0.00057	17	13 J
MW-10	09/22/21	N	120	140 J	1.6 J	--	--	150 J	--	--	23 J	<0.0005	17 J	11
MW-10	12/08/21	N	69	71	0.93	--	--	--	--	--	--	0.0013 J	15	--
MW-10	12/08/21	FD	67	72	0.92	--	--	--	--	--	--	0.0011 J	15	--
MW-10	06/08/22	N	98	96	--	--	--	--	--	--	--	--	16	--
MW-10	06/08/22	FD	99	95	--	--	--	--	--	--	--	--	16	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
IRZ-23-143	09/14/22	N	--	--	--	--	--	--	--	4.7	--	--	470	--
IRZ-23-143	10/11/22	N	--	--	--	--	--	--	--	4	--	--	470	--
IRZ-23-143	11/15/22	N	--	--	--	--	--	--	--	4.1	--	--	440	--
IRZ-23-143	12/06/22	N	--	--	--	--	--	--	--	3.8	--	--	490	--
IRZ-23-143	12/16/22	N	--	--	--	120	--	2,000	2.5	3.9 J	<5	--	490	4,500
IRZ-25-100	12/20/21	N	8.6	380	5.7	89	--	490	1.4	12	<5	--	270	1,500
IRZ-25-100	04/12/22	N	--	--	--	--	--	--	--	14	--	--	300	--
IRZ-25-166	12/20/21	N	7.2	420 J	5	47	--	5,600	4.2	2.8	<5	--	790	13,000
IRZ-25-166	04/12/22	N	--	--	--	--	--	--	--	7.2	--	--	380	--
IRZ-33-077	01/04/22	N	62	940	4.2	120	--	1,000	2.3	27	<5	--	620	2,900
MARINA-1	09/20/21	N	<10	5,360	<10	--	--	9,580	3.28	--	--	--	653	19,400
MARINA-1	03/10/22	N	<10	5,280	<10	--	--	12,400	3.5	--	--	--	864	14,600
MARINA-1	03/10/22	FD	<10	5,260	<10	--	--	11,700	3.26	--	--	--	754	16,800
MARINA-1	05/17/22	N	<10	3,120	<10	39.8	--	13,400	3.75	--	--	--	902	15,400
MTS-1	09/22/21	N	<1	404	9.65	--	--	565	5.25	--	--	--	129	1,090
MTS-1	11/15/21	N	<1	352	<1	40.7	0.261	1,160	4.74	--	--	--	128	2,090
MTS-1	02/16/22	N	<1	602	3.69	--	--	938	5.08	--	--	--	126	1,810
MTS-1	05/17/22	N	<10	434	<10	71.3	--	878	5.47	--	--	--	137	1,350
MTS-1	08/16/22	N	<1	439	10.8	73.3	--	809	5.64	1.57	--	--	142	1,430
MTS-1	12/13/22	N	<5	316	11.6	94.5	<0.1	514 J	4.83	2.06	--	--	115 J	799 J
MTS-1	12/13/22	FD	<5	319	11.7	85.6	<0.1	529 J	4.82	1.89	--	--	138 J	985 J
MTS-2	09/22/21	N	<1	400	11.8	--	--	586	5.1	--	--	--	124	1,120
MTS-2	11/15/21	N	<1	370	11.2	69.8	<0.1	724	5	--	--	--	144	1,350
MTS-2	02/16/22	N	<1	393	12.3	--	--	612	5.48	--	--	--	132	1,260
MTS-2	05/17/22	N	<10	386	10.2	74	--	760	5.49	--	--	--	161	1,300
MTS-2	08/16/22	N	<1	413	12.1	74.2	--	683	5.32	1.73	--	--	137	1,470
MTS-2	12/13/22	N	<5	404	13.1	74.1	<0.1	711 J	5.13	1.94	--	--	153 J	1,160
MW-09	04/24/20	N	5.3	--	--	--	--	--	--	--	--	11	--	--
MW-09	12/01/20	N	5.3	450 J	--	120	--	740	--	--	--	--	250	1,700
MW-09	02/24/21	N	5.8	--	--	--	--	--	--	--	--	13	--	--
MW-09	05/19/21	N	5.2	--	--	--	--	--	--	--	--	11	--	--
MW-09	12/08/21	N	6.2	--	--	--	--	--	--	--	--	14	--	--
MW-09	12/08/21	FD	6.4	--	--	--	--	--	--	--	--	14	--	--
MW-09	06/08/22	N	2.2	--	--	--	--	--	--	3.1	--	--	--	--
MW-09	06/08/22	FD	2.3	--	--	--	--	--	--	2.9	--	--	--	--
MW-09	12/01/22	N	<0.5	--	--	--	--	--	--	1.3	--	--	--	--
MW-09	12/01/22	FD	<0.5	--	--	--	--	--	--	1.2	--	--	--	--
MW-10	04/23/20	N	6.1	--	--	--	--	--	--	--	--	12	--	--
MW-10	11/30/20	N	6	280 J	14	120	--	520	--	--	--	12	250	1,400
MW-10	11/30/20	FD	5.3	300 J	14	120	--	520	--	--	--	12	260	1,400
MW-10	02/24/21	N	6.5	--	--	--	--	--	--	--	--	9	--	--
MW-10	05/05/21	N	6.3	420	--	--	--	670	--	--	--	8.8	270	1,700
MW-10	09/22/21	N	7.3	500	--	--	--	710	--	--	--	11	280	1,800
MW-10	12/08/21	N	6.1	--	--	--	--	--	--	--	--	11	--	--
MW-10	12/08/21	FD	6.2	--	--	--	--	--	--	--	--	11	--	--
MW-10	06/08/22	N	5.8	--	--	--	--	--	--	9.6	--	--	--	--
MW-10	06/08/22	FD	6.1	--	--	--	--	--	--	9.6	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
IRZ-23-143	09/14/22	N	--	<1
IRZ-23-143	10/11/22	N	--	<1
IRZ-23-143	11/15/22	N	--	<1
IRZ-23-143	12/06/22	N	1.8	<1
IRZ-23-143	12/16/22	N	--	<1
IRZ-25-100	12/20/21	N	--	<1
IRZ-25-100	04/12/22	N	--	<1
IRZ-25-166	12/20/21	N	--	<1
IRZ-25-166	04/12/22	N	--	<1
IRZ-33-077	01/04/22	N	--	<1
MARINA-1	09/20/21	N	--	--
MARINA-1	03/10/22	N	--	--
MARINA-1	03/10/22	FD	--	--
MARINA-1	05/17/22	N	--	--
MTS-1	09/22/21	N	--	--
MTS-1	11/15/21	N	--	--
MTS-1	02/16/22	N	--	--
MTS-1	05/17/22	N	--	--
MTS-1	08/16/22	N	--	--
MTS-1	12/13/22	N	--	--
MTS-1	12/13/22	FD	--	--
MTS-2	09/22/21	N	--	--
MTS-2	11/15/21	N	--	--
MTS-2	02/16/22	N	--	--
MTS-2	05/17/22	N	--	--
MTS-2	08/16/22	N	--	--
MTS-2	12/13/22	N	--	--
MW-09	04/24/20	N	--	--
MW-09	12/01/20	N	--	--
MW-09	02/24/21	N	--	--
MW-09	05/19/21	N	--	--
MW-09	12/08/21	N	--	--
MW-09	12/08/21	FD	--	--
MW-09	06/08/22	N	--	--
MW-09	06/08/22	FD	--	--
MW-09	12/01/22	N	--	--
MW-09	12/01/22	FD	--	--
MW-10	04/23/20	N	--	--
MW-10	11/30/20	N	--	--
MW-10	11/30/20	FD	--	--
MW-10	02/24/21	N	--	--
MW-10	05/05/21	N	--	--
MW-10	09/22/21	N	--	--
MW-10	12/08/21	N	--	--
MW-10	12/08/21	FD	--	--
MW-10	06/08/22	N	--	--
MW-10	06/08/22	FD	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-10	11/28/22	N	3,400	3,500 J	8.2	--	--	--	--	--	--	0.027 J	160	--
MW-10D	02/24/20	N	370	370	0.43	54	1.3	160	0.022 J	<0.02	31	<0.0005	1.8	14 J
MW-10D	05/28/20	N	380	390	0.52	53	1.3	150	0.24	0.022	37	0.0024	2.3	14 J
MW-10D	08/19/20	N	410	380	<0.1	40	1.3	130 J	0.089	0.065 J	35	0.018	1.9	14
MW-10D	12/10/20	N	420	390	0.21	46	1.1	140 J	0.18 J	0.046 J	39	<0.0005	1.4	15
MW-10D	02/24/21	N	380	380	<0.1	49 J	1.4	170	0.25 J	<0.02	41	<0.0005	1.4	16 J
MW-10D	05/05/21	N	400	370 J	<0.1	--	--	200	--	--	--	<0.0005	1.6	16 J
MW-10D	05/19/21	N	400	390	<0.1	45	1.1	160	<0.02 J	<0.02	32 J	<0.0005	1.4	16 J
MW-10D	08/24/21	N	240	270	<0.1	43	1.1	130	0.053 J	<0.02 J	28	<0.0005 J	1.4	18 J
MW-10D	09/22/21	N	94	120 J	<0.1 J	--	--	120 J	--	--	22 J	<0.0005	1.4 J	12
MW-10D	12/08/21	N	88	89	<0.1	--	--	--	--	--	--	<0.0005 J	1.8	--
MW-10D	06/08/22	N	160	150	--	--	--	--	--	--	--	--	1.5	--
MW-10D	11/28/22	N	230	260 J	0.86	--	--	--	--	--	--	0.00063 J	1.2	--
MW-11	04/23/20	N	43	43	0.9	--	--	--	--	--	--	0.0013	5.8	--
MW-11	12/10/20	N	33	33	1.4	--	0.68	120	--	0.1 J	26	0.0006	5.1 J	--
MW-11	05/19/21	N	38	37	0.42	--	--	--	--	--	--	<0.0005	5.7	--
MW-11	12/09/21	N	170	180	0.48 J	--	--	--	--	--	--	0.00077	--	--
MW-11	06/08/22	N	45	44	--	--	--	--	--	--	--	--	--	--
MW-11	11/30/22	N	710	720 J	1.4	--	--	--	--	--	--	0.00086	--	--
MW-11D	01/29/20	N	390	380	<0.1	59	1.7	400	0.16	0.036	73 J	0.049	6.6	18
MW-11D	02/24/20	N	390	370	<0.1	54	1.5	320	0.15 J	0.11 J	52	0.012	6.2	18 J
MW-11D	05/28/20	N	340	340	<0.1	54	1.5	340	0.26	0.037	62	0.0058	7.2	19 J
MW-11D	08/26/20	N	480	460	<0.1	53	1.4 J	260	0.15 J	<0.02	64 J	0.0021	6.1	19 J
MW-11D	12/10/20	N	530	520	<0.1	49	1.3	300 J	0.23 J	<0.02 J	62	<0.0005	4.6	20
MW-11D	02/24/21	N	490	510	<0.1	55 J	1.6	400	0.055 J	<0.02	66	<0.0005	4.9	21 J
MW-11D	05/19/21	N	510	490	<0.1	50	1.3	330	0.042 J	0.024	53 J	<0.0005	5.9	20 J
MW-11D	08/24/21	N	300	330	<0.1	63	0.88	350	0.023 J	<0.02 J	64	<0.0005 J	4.1	23 J
MW-11D	12/09/21	N	150	150	<0.1 J	--	--	--	--	--	--	<0.0005	--	--
MW-11D	06/08/22	N	220	230	--	--	--	--	--	--	--	--	--	--
MW-11D	11/30/22	N	160	150 J	0.35	--	--	--	--	--	--	<0.0005	--	--
MW-12	04/28/20	N	2,700	2,800	45	--	--	--	--	--	--	0.0014	8.8	--
MW-12	12/14/20	N	1,600	1,900	45	41	1.2	22 J	--	0.068 J	5.8	0.0022	10	--
MW-12	12/14/20	FD	1,600	1,900	48	43	1.1	24 J	--	0.12 J	6.4	0.0023	10	--
MW-12	02/17/21	N	1,400	1,600	--	--	--	--	--	--	--	--	12	--
MW-12	05/26/21	N	1,300	1,200	--	--	--	--	--	--	--	--	11	--
MW-12	12/13/21	N	2,000	2,000	35	--	--	--	--	--	--	0.00064	9.7	--
MW-12	06/08/22	N	2,300	2,400	--	--	--	--	--	--	--	--	12	--
MW-12	06/08/22	FD	2,200	2,400	--	--	--	--	--	--	--	--	13	--
MW-12	11/30/22	N	2,600	2,800	34	--	--	--	--	--	--	<0.0005	15 J	--
MW-13	12/14/20	N	23	24	1.9	--	0.68	120 J	--	0.043 J	21	0.0026	12	--
MW-13	12/07/21	N	19	20	0.8 J	--	--	--	--	--	--	0.0051 J	12	--
MW-13	12/07/21	FD	18	20	0.81 J	--	--	--	--	--	--	0.0047 J	11	--
MW-13	06/16/22	N	22	22	--	--	--	--	--	--	--	--	--	--
MW-13	11/30/22	N	26	25 J	1.2	--	--	--	--	--	--	<0.0005	9.3	--
MW-14	06/24/20	N	12	12	0.12	--	--	--	--	--	--	0.00079	10	--
MW-14	06/24/20	FD	12	12	0.18 J	--	--	--	--	--	--	0.00072	10	--
MW-14	12/10/20	N	13	13	<0.1	190	0.25	160	--	0.067 J	30	0.00097	10	--

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MW-10	11/28/22	N	1.7 J	--	--	--	--	--	--	11	--	--	--	--
MW-10D	02/24/20	N	7.6	620	9.1	120	0.05 J	980	1.1	--	--	11	370	2,500
MW-10D	05/28/20	N	7.9	710	10	120	<0.2	1,000	<1	--	--	13 J	380	2,400
MW-10D	08/19/20	N	8	640	11	120	<0.2	980	1.1	--	--	13 J	370	2,500
MW-10D	12/10/20	N	7.7	580	11	120	<0.2	1,000	1.2	--	--	13	390	2,400
MW-10D	02/24/21	N	7.1	800 J	11	120	<0.22	1,000	1.3	--	--	9.9	380	2,300
MW-10D	05/05/21	N	6.9	630	--	--	--	990	--	--	--	12	370	2,300
MW-10D	05/19/21	N	7.3	590	12	120	<0.2	980	1.1	--	--	12	380	2,300
MW-10D	08/24/21	N	6.6	630	14	120	<0.2	920	1.2	--	--	11	370	2,200
MW-10D	09/22/21	N	6.6	520	--	--	--	840	--	--	--	9.5	270	1,900
MW-10D	12/08/21	N	5.3	--	--	--	--	--	--	--	--	9.5	--	--
MW-10D	06/08/22	N	5.7	--	--	--	--	--	--	8.9	--	--	--	--
MW-10D	11/28/22	N	6.6 J	--	--	--	--	--	--	12	--	--	--	--
MW-11	04/23/20	N	4	--	--	--	--	--	--	--	--	5.2	--	--
MW-11	12/10/20	N	4	270	--	87	--	590	--	--	--	4.4	170	1,300
MW-11	05/19/21	N	4.1	--	--	--	--	--	--	--	--	5	--	--
MW-11	12/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-11D	01/29/20	N	5	800	3.8	84	<0.1	1,500	1.2	--	--	6.6	460	3,500
MW-11D	02/24/20	N	4.8	730	4.1	86	0.05 J	1,500	<2	--	--	6.4	480	3,800
MW-11D	05/28/20	N	4.6	750	3.8	86	<0.2	1,600	<2	--	--	8.1 J	520	4,400
MW-11D	08/26/20	N	5.2	830 J	4.9	86	<0.2	1,600	<2	--	--	7.8 J	500	4,400
MW-11D	12/10/20	N	5	680	5.8	85	<0.2	1,700	<2	--	--	7.8	490	3,500
MW-11D	02/24/21	N	4.7	770 J	6.3	83	<0.22	1,600	2.1	--	--	5.7	500	3,700
MW-11D	05/19/21	N	5.3	830	5.8	82	<0.2	1,800	<2	--	--	7.4	550	4,000
MW-11D	08/24/21	N	4.1	820	5.9	79	<0.2	1,600	<2	--	--	5.3 J	360	4,100
MW-11D	12/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-11D	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-11D	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	04/28/20	N	13	--	--	--	--	--	--	--	--	15	--	--
MW-12	12/14/20	N	28	1,200	20	110	--	1,800	--	--	--	15	470	3,800
MW-12	12/14/20	FD	28	1,400	20	110	--	1,700	--	--	--	14	460	3,900
MW-12	02/17/21	N	29	--	--	--	--	--	--	--	--	15	--	--
MW-12	05/26/21	N	34	--	--	--	--	--	--	--	--	16	--	--
MW-12	12/13/21	N	19	--	--	--	--	--	--	--	--	17	--	--
MW-12	06/08/22	N	15	--	--	--	--	--	--	14	--	--	--	--
MW-12	06/08/22	FD	16	--	--	--	--	--	--	15	--	--	--	--
MW-12	11/30/22	N	12	--	--	--	--	--	--	13	--	--	--	--
MW-13	12/14/20	N	3.3	340	--	71	--	680	--	--	--	--	150	1,600
MW-13	12/07/21	N	3	--	--	--	--	--	--	--	--	5.4	--	--
MW-13	12/07/21	FD	2.8	--	--	--	--	--	--	--	--	5.5	--	--
MW-13	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-13	11/30/22	N	3	--	--	--	--	--	--	5.2	--	--	--	--
MW-14	06/24/20	N	1.8	--	--	--	--	--	--	--	--	3.2	--	--
MW-14	06/24/20	FD	2	--	--	--	--	--	--	--	--	2.8	--	--
MW-14	12/10/20	N	2	370	2.5	60	--	940	--	--	--	2.8	150	1,900

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-10	11/28/22	N	--	--
MW-10D	02/24/20	N	--	<1
MW-10D	05/28/20	N	--	<1
MW-10D	08/19/20	N	--	<1
MW-10D	12/10/20	N	--	<1
MW-10D	02/24/21	N	--	<1
MW-10D	05/05/21	N	--	--
MW-10D	05/19/21	N	--	<1
MW-10D	08/24/21	N	--	<1
MW-10D	09/22/21	N	--	--
MW-10D	12/08/21	N	--	--
MW-10D	06/08/22	N	--	--
MW-10D	11/28/22	N	--	--
MW-11	04/23/20	N	--	--
MW-11	12/10/20	N	--	--
MW-11	05/19/21	N	--	--
MW-11	12/09/21	N	--	--
MW-11	06/08/22	N	--	--
MW-11	11/30/22	N	--	--
MW-11D	01/29/20	N	--	<1
MW-11D	02/24/20	N	--	<1
MW-11D	05/28/20	N	--	<1
MW-11D	08/26/20	N	--	<1 J
MW-11D	12/10/20	N	--	<1
MW-11D	02/24/21	N	--	<1
MW-11D	05/19/21	N	--	<1
MW-11D	08/24/21	N	--	<1
MW-11D	12/09/21	N	--	--
MW-11D	06/08/22	N	--	--
MW-11D	11/30/22	N	--	--
MW-12	04/28/20	N	--	--
MW-12	12/14/20	N	--	--
MW-12	12/14/20	FD	--	--
MW-12	02/17/21	N	--	--
MW-12	05/26/21	N	--	--
MW-12	12/13/21	N	--	--
MW-12	06/08/22	N	--	--
MW-12	06/08/22	FD	--	--
MW-12	11/30/22	N	--	--
MW-13	12/14/20	N	--	--
MW-13	12/07/21	N	--	--
MW-13	12/07/21	FD	--	--
MW-13	06/16/22	N	--	--
MW-13	11/30/22	N	--	--
MW-14	06/24/20	N	--	--
MW-14	06/24/20	FD	--	--
MW-14	12/10/20	N	--	--

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MW-14	05/28/21	N	17	16	0.82	--	--	--	--	--	--	0.0022	12	--
MW-14	12/07/21	N	12	12	<0.1 J	--	--	--	--	--	--	0.0026 J	13	--
MW-14	06/16/22	N	11	11	--	--	--	--	--	--	--	--	--	--
MW-14	12/02/22	N	11	12 J	<0.1	--	--	--	--	--	--	<0.0005	8.4	--
MW-15	12/10/20	N	15	14	--	--	0.2	130	--	0.069 J	36	<0.0005	3.1	--
MW-15	12/02/21	N	13	13	1.2 J	--	--	--	--	--	--	<0.0005	--	--
MW-15	06/14/22	N	12	11 J	--	--	--	--	--	--	--	--	--	--
MW-15	11/29/22	N	12	12 J	1.5	--	--	--	--	--	--	<0.0005 J	--	--
MW-19	04/27/20	N	32	40	--	--	--	--	--	--	--	--	--	--
MW-19	12/07/20	N	94	92 J	--	--	0.62 J	100 J	--	0.022 J	19 J	<0.0005	6.6 J	--
MW-19	05/28/21	N	500	500	--	--	--	--	--	--	--	--	--	--
MW-19	12/13/21	N	43	48	0.3	--	--	--	--	--	--	0.0028	--	--
MW-19	06/17/22	N	55	54	--	--	--	--	--	--	--	--	--	--
MW-19	12/02/22	N	29	30 J	0.43	--	--	--	--	--	--	<0.0005	--	--
MW-20-070	04/24/20	N	2,500	2,500	2.2	--	--	--	--	--	--	0.0022	29	--
MW-20-070	12/04/20	N	1,600 J	1,700	--	--	0.6 J	78	--	0.024 J	22 J	<0.0005	27	5.9
MW-20-070	05/28/21	N	1,700	1,700	--	--	--	--	--	--	--	--	22	--
MW-20-070	12/15/21	N	570	590	0.9	47	--	--	--	0.037 J	--	<0.0005	18	--
MW-20-070	02/03/22	N	520	--	2.1 J	32	--	--	--	<0.02 J	--	0.0046	--	--
MW-20-070	03/10/22	N	450	420	1.5	26	--	--	--	<0.02	--	<0.0005	20	--
MW-20-070	03/10/22	FD	450	450	1.6	26	--	--	--	<0.02	--	<0.0005	21	--
MW-20-070	03/10/22	N	450	420	1.5	26	--	--	--	<0.02	--	<0.0005	20	--
MW-20-070	03/10/22	FD	450	450	1.6	26	--	--	--	<0.02	--	<0.0005	21	--
MW-20-070	04/14/22	N	320	--	1.4	24	--	--	--	<0.02	--	<0.0005	--	--
MW-20-070	05/20/22	N	330	--	1.1 J	29 J	--	--	--	<0.02	--	0.0016	--	--
MW-20-070	05/20/22	FD	330	--	0.95 J	26 J	--	--	--	<0.02	--	0.0013	--	--
MW-20-070	06/13/22	N	610	610 J	0.62 J	35	--	--	--	<0.02	--	<0.0005	19	--
MW-20-070	07/13/22	N	1,200	--	0.6	41	--	--	--	0.035 J	--	0.0035	--	--
MW-20-070	08/09/22	N	700	720	<0.1	53 J	--	--	--	<0.02 J	--	<0.0005 J	19 J	--
MW-20-070	08/09/22	FD	690	680	<0.1	50 J	--	--	--	<0.02 J	--	<0.0005 J	18 J	--
MW-20-070	09/14/22	N	560	--	1.3	32	--	--	--	<0.02	--	<0.0005	--	--
MW-20-070	10/12/22	N	890	--	0.92	43 J	--	--	--	<0.02	--	<0.0005 J	--	--
MW-20-070	11/09/22	N	1,200	1,200	1.4	42	--	--	--	<0.02	--	<0.0005	18	--
MW-20-070	11/09/22	FD	1,200	1,300	1.2	39	--	--	--	<0.02	--	<0.0005	17	--
MW-20-070	12/08/22	N	850	--	1.2	42	--	--	--	<0.02	--	<0.0005	--	--
MW-20-100	04/24/20	N	750	760	1.3	--	--	--	--	--	--	0.0011	4.8	--
MW-20-100	12/04/20	N	610 J	660	--	--	1 J	95	--	<0.02 J	19 J	<0.0005	3.8	6.1 J
MW-20-100	05/28/21	N	680	690	--	--	--	--	--	--	--	--	3.8	--
MW-20-100	12/15/21	N	650	660	1.3	24	--	--	--	0.033 J	--	<0.0005	3.6	--
MW-20-100	02/03/22	N	1,300	--	1.6 J	31	--	--	--	0.022 J	--	0.0052	--	--
MW-20-100	03/10/22	N	2,100	2,000	0.65	44	--	--	--	0.1	--	<0.0005	3.1	--
MW-20-100	04/14/22	N	1,300	--	<0.1	83	--	--	--	<0.02	--	<0.0005	--	--
MW-20-100	04/14/22	FD	1,300	--	<0.1	83	--	--	--	<0.02	--	<0.0005	--	--
MW-20-100	05/20/22	N	880	--	<0.1 J	62 J	--	--	--	<0.02	--	<0.0005	--	--
MW-20-100	06/13/22	N	910	980 J	<0.1 J	66	--	--	--	<0.02 J	--	<0.0005	2.1	--
MW-20-100	07/13/22	N	920	--	<0.1	74	--	--	--	0.021 J	--	<0.0005	--	--
MW-20-100	07/13/22	FD	930	--	<0.1	79	--	--	--	0.023 J	--	<0.0005	--	--
MW-20-100	08/09/22	N	1,600	1,700	<0.1	56 J	--	--	--	<0.02 J	--	<0.0005 J	1.7 J	--
MW-20-100	09/14/22	N	1,700	--	<0.1	77	--	--	--	<0.02	--	<0.0005	--	--

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Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-14	05/28/21	N	2	--	--	--	--	--	--	--	--	3.7	--	--
MW-14	12/07/21	N	2.1	--	--	--	--	--	--	--	--	3.7	--	--
MW-14	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	12/02/22	N	1.9	--	--	--	--	--	--	2.7	--	2.8 J	--	--
MW-15	12/10/20	N	3.5	220	--	67	--	590	--	--	--	--	170	1,400
MW-15	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	11/29/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	04/27/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	12/07/20	N	3.2 J	230 J	--	100	--	510	--	--	--	--	160	1,200
MW-19	05/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	12/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-20-070	04/24/20	N	7.7	--	--	--	--	--	--	--	--	13	--	--
MW-20-070	12/04/20	N	11	280	--	88	--	470	--	--	--	17	320	1,400
MW-20-070	05/28/21	N	21	--	--	--	--	--	--	--	--	25	--	--
MW-20-070	12/15/21	N	33 J	--	--	--	<0.2	--	--	--	<5	39	490	--
MW-20-070	02/03/22	N	--	--	--	--	--	--	--	21	--	--	330	--
MW-20-070	03/10/22	N	15	--	--	--	<0.2	--	--	17	--	--	300	--
MW-20-070	03/10/22	FD	16	--	--	--	<0.2	--	--	17	--	--	300	--
MW-20-070	03/10/22	N	15	--	--	--	<0.2	--	--	17	--	--	300	--
MW-20-070	03/10/22	FD	16	--	--	--	<0.2	--	--	17	--	--	300	--
MW-20-070	04/14/22	N	--	--	--	--	--	--	--	14 J	--	--	250	--
MW-20-070	05/20/22	N	--	--	--	--	--	--	--	16	--	--	280	--
MW-20-070	05/20/22	FD	--	--	--	--	--	--	--	16	--	--	270	--
MW-20-070	06/13/22	N	22	--	--	--	<0.2	--	--	24	<5	--	410	--
MW-20-070	07/13/22	N	--	--	--	--	--	--	--	28	--	--	530	--
MW-20-070	08/09/22	N	43	--	--	--	<0.2	--	--	40	<5	--	690	--
MW-20-070	08/09/22	FD	41	--	--	--	<0.23	--	--	39	<5	--	690	--
MW-20-070	09/14/22	N	--	--	--	--	--	--	--	25	--	--	420	--
MW-20-070	10/12/22	N	--	--	--	--	--	--	--	31	--	--	550	--
MW-20-070	11/09/22	N	28	--	--	--	<0.44 J	--	--	30	<10	--	580	--
MW-20-070	11/09/22	FD	27	--	--	--	<0.44 J	--	--	32	<5	--	560	--
MW-20-070	12/08/22	N	--	--	--	--	--	--	--	30	--	--	600	--
MW-20-100	04/24/20	N	5.4	--	--	--	--	--	--	--	--	7.5	--	--
MW-20-100	12/04/20	N	5.6	250	--	140	--	460	--	--	--	6.7	210	1,200
MW-20-100	05/28/21	N	5	--	--	--	--	--	--	--	--	6.6	--	--
MW-20-100	12/15/21	N	6 J	--	--	--	<0.2	--	--	--	<2.5	7.9	200	--
MW-20-100	02/03/22	N	--	--	--	--	--	--	--	6	--	--	270	--
MW-20-100	03/10/22	N	14	--	--	--	0.29	--	--	9.3	--	--	400	--
MW-20-100	04/14/22	N	--	--	--	--	--	--	--	6.3 J	--	--	740	--
MW-20-100	04/14/22	FD	--	--	--	--	--	--	--	6.5 J	--	--	740	--
MW-20-100	05/20/22	N	--	--	--	--	--	--	--	4.3	--	--	650	--
MW-20-100	06/13/22	N	11	--	--	--	<0.2	--	--	5.1	<5	--	700	--
MW-20-100	07/13/22	N	--	--	--	--	--	--	--	5.3	--	--	880	--
MW-20-100	07/13/22	FD	--	--	--	--	--	--	--	5.3	--	--	890	--
MW-20-100	08/09/22	N	15	--	--	--	<0.2	--	--	8.2	<5	--	650	--
MW-20-100	09/14/22	N	--	--	--	--	--	--	--	9.1	--	--	810	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-14	05/28/21	N	--	--
MW-14	12/07/21	N	--	--
MW-14	06/16/22	N	--	--
MW-14	12/02/22	N	--	--
MW-15	12/10/20	N	--	--
MW-15	12/02/21	N	--	--
MW-15	06/14/22	N	--	--
MW-15	11/29/22	N	--	--
MW-19	04/27/20	N	--	--
MW-19	12/07/20	N	--	--
MW-19	05/28/21	N	--	--
MW-19	12/13/21	N	--	--
MW-19	06/17/22	N	--	--
MW-19	12/02/22	N	--	--
MW-20-070	04/24/20	N	--	--
MW-20-070	12/04/20	N	--	--
MW-20-070	05/28/21	N	--	--
MW-20-070	12/15/21	N	--	<1
MW-20-070	02/03/22	N	--	<1
MW-20-070	03/10/22	N	--	<5
MW-20-070	03/10/22	FD	--	<1
MW-20-070	03/10/22	N	--	<5
MW-20-070	03/10/22	FD	--	<1
MW-20-070	04/14/22	N	--	<5
MW-20-070	05/20/22	N	--	<1
MW-20-070	05/20/22	FD	--	<1
MW-20-070	06/13/22	N	--	<1
MW-20-070	07/13/22	N	--	<1
MW-20-070	08/09/22	N	--	<1
MW-20-070	08/09/22	FD	--	<1
MW-20-070	09/14/22	N	--	<1
MW-20-070	10/12/22	N	--	<1
MW-20-070	11/09/22	N	--	<1
MW-20-070	11/09/22	FD	--	<1
MW-20-070	12/08/22	N	1.5	<1
MW-20-100	04/24/20	N	--	--
MW-20-100	12/04/20	N	--	--
MW-20-100	05/28/21	N	--	--
MW-20-100	12/15/21	N	--	<1
MW-20-100	02/03/22	N	--	<1
MW-20-100	03/10/22	N	--	<1
MW-20-100	04/14/22	N	--	<1
MW-20-100	04/14/22	FD	--	<1
MW-20-100	05/20/22	N	--	<1
MW-20-100	06/13/22	N	--	<1
MW-20-100	07/13/22	N	--	<1
MW-20-100	07/13/22	FD	--	<1
MW-20-100	08/09/22	N	--	<1
MW-20-100	09/14/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-20-100	10/12/22	N	1,700	--	<0.1	67 J	--	--	--	<0.02	--	<0.0005 J	--	--
MW-20-100	11/09/22	N	1,700	1,900	0.55	45	--	--	--	<0.02	--	<0.0005	1.9	--
MW-20-100	12/08/22	N	1,700	--	0.64	31	--	--	--	<0.02	--	<0.0005	--	--
MW-20-130	04/24/20	N	5,900	6,100	0.97	--	--	--	--	--	--	0.00084	42	--
MW-20-130	12/04/20	N	4,000 J	4,400	<0.1	--	2 J	140	--	0.092 J	20 J	0.0025	20	64
MW-20-130	12/04/20	FD	4,100 J	4,500	<0.1	--	2.2 J	150	--	0.023 J	21 J	0.0023	19	67 J
MW-20-130	05/28/21	N	4,100	4,000	3.1	--	--	--	--	--	--	0.0015	24	--
MW-20-130	12/15/21	N	3,300	3,400	0.22	24	--	--	--	<0.02 J	--	0.0016	22	--
MW-20-130	02/03/22	N	6,000	--	<0.1	29	--	--	--	<0.02 J	--	0.0053	--	--
MW-20-130	03/10/22	N	4,800	4,500	<0.1	26	--	--	--	0.041	--	0.0021	32	--
MW-20-130	04/14/22	N	3,300	--	<0.1	29	--	--	--	<0.1	--	0.00072	--	--
MW-20-130	05/20/22	N	2,000	--	<0.1 J	32 J	--	--	--	<0.02	--	0.0032	--	--
MW-20-130	06/13/22	N	1,700	1,600 J	<0.1 J	32	--	--	--	<0.02	--	0.0022	8.5	--
MW-20-130	06/13/22	FD	1,700	1,700 J	<0.1 J	34	--	--	--	0.04 J	--	0.0024	9	--
MW-20-130	07/13/22	N	1,800	--	<0.1	26	--	--	--	0.29 J	--	0.0027	--	--
MW-20-130	08/09/22	N	1,800	1,700	<0.1	24 J	--	--	--	<0.02 J	--	0.0023 J	6.9 J	--
MW-20-130	09/14/22	N	1,300	--	<0.1	33	--	--	--	<0.02	--	0.016	--	--
MW-20-130	10/12/22	N	1,800	--	<0.1	28 J	--	--	--	<0.02	--	0.004 J	--	--
MW-20-130	11/09/22	N	3,500	3,600	0.41	54	--	--	--	<0.02	--	0.0078	18	--
MW-20-130	12/08/22	N	2,900	--	1.1	24	--	--	--	<0.02	--	<0.0005	--	--
MW-21	04/30/20	N	4.6	5.4	--	--	--	--	--	--	--	--	46	--
MW-21	12/15/20	N	<1	<1	--	--	6.4	190 J	--	<0.1	97	0.038	64	--
MW-21	06/08/21	N	<1	1.7	--	--	--	--	--	--	--	--	43	--
MW-21	12/16/21	N	<1	<1	<0.1	41	--	--	--	0.076 J	--	0.2	65	--
MW-21	02/03/22	N	6.7	--	6.4 J	32	--	--	--	0.77 J	--	0.04	--	--
MW-21	03/14/22	N	2.3	5.6	14 J	35	--	--	--	0.13	--	0.028	28	--
MW-21	03/14/22	FD	2.4	5.7	9 J	36	--	--	--	0.16	--	0.029	28	--
MW-21	04/12/22	N	0.34	--	6 J	31	--	--	--	0.068	--	0.14	--	--
MW-21	05/18/22	N	<0.2	--	7.6	35	--	--	--	0.93 J	--	0.48	--	--
MW-21	06/14/22	N	<0.2	3.8	8.2	38 J	--	--	--	1.10	--	0.68	64	--
MW-21	07/13/22	N	<0.2	--	3.3	29	--	--	--	2.50 J	--	0.28	--	--
MW-21	08/12/22	N	<1	5.8	5.7 J	25	--	--	--	1.20	--	0.28 J	82 J	--
MW-21	09/15/22	N	<0.2	--	12	24	--	--	--	0.13	--	0.26	--	--
MW-21	11/15/22	N	<0.2	2.2	14 J	22 J	--	--	--	0.12	--	0.17	100	--
MW-21	11/15/22	FD	<0.2	2.3	14 J	23 J	--	--	--	0.13	--	0.17	100	--
MW-21	12/07/22	N	0.36	--	10 J	21	--	--	--	0.33 J	--	0.14	--	--
MW-22	06/16/20	N	<0.2	<1	3.2	--	--	--	--	--	--	1.60	--	--
MW-22	12/08/20	N	<1	<1	14	120	3.9 J	560 J	--	8.80 J	280 J	4	32	--
MW-22	12/08/20	FD	<1	<1	15	130	4.1 J	550 J	--	9.10 J	290 J	4.10	33	--
MW-22	04/27/21	N	<1	<1	8.2	--	--	--	--	--	--	1.80	--	--
MW-22	11/30/21	N	<1	<1	22 J	87	--	--	--	8.20	--	2.50	36	--
MW-22	11/30/21	FD	<1	<1	24 J	92	--	--	--	8	--	2.50	38	--
MW-22	03/04/22	N	<1	--	6.5	110	--	--	--	11	--	4.30	--	--
MW-22	05/05/22	N	<1	<1	3.7 J	110 J	--	--	--	4.30	--	2.10	--	--
MW-22	05/05/22	FD	<1	<1	5.1 J	150 J	--	--	--	4.80	--	2	--	--
MW-22	08/19/22	N	<1	--	14	150	--	--	--	16	--	5.30 J	--	--
MW-22	11/16/22	N	<1	<1	16	130	--	--	--	17	--	3.80 J	36	--

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Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-20-100	10/12/22	N	--	--	--	--	--	--	--	8.2	--	--	660	--
MW-20-100	11/09/22	N	15	--	--	--	<0.44 J	--	--	8.5	<5	--	600	--
MW-20-100	12/08/22	N	--	--	--	--	--	--	--	8.4	--	--	510	--
MW-20-130	04/24/20	N	22	--	--	--	--	--	--	--	--	11	--	--
MW-20-130	12/04/20	N	53	1,200	--	57 J	--	2,200	--	--	--	11	1,000	5,200
MW-20-130	12/04/20	FD	51	1,300	--	92 J	--	2,500	--	--	--	11	940	5,800
MW-20-130	05/28/21	N	39	--	--	--	--	--	--	--	--	12	--	--
MW-20-130	12/15/21	N	37 J	--	--	--	<0.2	--	--	--	<5	13	960	--
MW-20-130	02/03/22	N	--	--	--	--	--	--	--	9.3	--	--	870	--
MW-20-130	03/10/22	N	21	--	--	--	<0.2	--	--	9	--	--	950	--
MW-20-130	04/14/22	N	--	--	--	--	--	--	--	7 J	--	--	1,100	--
MW-20-130	05/20/22	N	--	--	--	--	--	--	--	4	--	--	1,400	--
MW-20-130	06/13/22	N	13	--	--	--	<0.2	--	--	4.3	<5	--	1,400	--
MW-20-130	06/13/22	FD	14	--	--	--	<0.2	--	--	4.3	<5	--	1,400	--
MW-20-130	07/13/22	N	--	--	--	--	--	--	--	5.4	--	--	1,100	--
MW-20-130	08/09/22	N	18	--	--	--	<0.23	--	--	5.3	<5	--	1,100	--
MW-20-130	09/14/22	N	--	--	--	--	--	--	--	4.1	--	--	1,500	--
MW-20-130	10/12/22	N	--	--	--	--	--	--	--	7.6	--	--	1,200	--
MW-20-130	11/09/22	N	44	--	--	--	<0.44 J	--	--	14	<5	--	1,000	--
MW-20-130	12/08/22	N	--	--	--	--	--	--	--	10	--	--	910	--
MW-21	04/30/20	N	42	--	--	--	--	--	--	--	--	2.8	--	--
MW-21	12/15/20	N	4.7	2,900	--	750	--	3,400	--	--	--	0.21	1,600	9,700
MW-21	06/08/21	N	4.2	--	--	--	--	--	--	--	--	0.81	--	--
MW-21	12/16/21	N	4.5	--	--	--	<0.2	--	--	--	<5	0.27	1,600	--
MW-21	02/03/22	N	--	--	--	--	--	--	--	4.8	--	--	1,100	--
MW-21	03/14/22	N	76	--	--	--	<0.2	--	--	3.9	--	--	1,400	--
MW-21	03/14/22	FD	78	--	--	--	<0.2	--	--	3.7	--	--	1,400	--
MW-21	04/12/22	N	--	--	--	--	--	--	--	1	--	--	1,500	--
MW-21	05/18/22	N	--	--	--	--	--	--	--	<0.5	--	--	2,000	--
MW-21	06/14/22	N	1.4 J	--	--	--	<0.2	--	--	<0.5	<5	--	1,900	--
MW-21	07/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,800	--
MW-21	08/12/22	N	<0.5	--	--	--	<0.23	--	--	<0.5	<5	--	1,600	--
MW-21	09/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,500	--
MW-21	11/15/22	N	5.9	--	--	--	0.48 J	--	--	<0.5	<5	--	1,300	--
MW-21	11/15/22	FD	5.8	--	--	--	<0.43 J	--	--	<0.5	<5	--	1,300	--
MW-21	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,400	--
MW-22	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-22	12/08/20	N	<0.5	4,500 J	1.1	690	--	7,700	--	--	--	--	2,000	15,000
MW-22	12/08/20	FD	<0.5	4,600 J	1.1	690	--	8,000	--	--	--	--	2,000	15,000
MW-22	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-22	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-22	11/30/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-22	03/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-22	05/05/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-22	05/05/22	FD	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-22	08/19/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-22	11/16/22	N	<0.5	--	--	--	--	--	--	<0.5	--	0.07	--	--

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Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-20-100	10/12/22	N	--	<1
MW-20-100	11/09/22	N	--	<10
MW-20-100	12/08/22	N	2.2	<1
MW-20-130	04/24/20	N	--	--
MW-20-130	12/04/20	N	--	--
MW-20-130	12/04/20	FD	--	--
MW-20-130	05/28/21	N	--	--
MW-20-130	12/15/21	N	--	<1
MW-20-130	02/03/22	N	--	<1
MW-20-130	03/10/22	N	--	<1
MW-20-130	04/14/22	N	--	<1
MW-20-130	05/20/22	N	--	<1
MW-20-130	06/13/22	N	--	<1
MW-20-130	06/13/22	FD	--	<1
MW-20-130	07/13/22	N	--	<1
MW-20-130	08/09/22	N	--	<1
MW-20-130	09/14/22	N	--	<1
MW-20-130	10/12/22	N	--	<1
MW-20-130	11/09/22	N	--	<1
MW-20-130	12/08/22	N	2.5	<20
MW-21	04/30/20	N	--	--
MW-21	12/15/20	N	--	--
MW-21	06/08/21	N	--	--
MW-21	12/16/21	N	--	<1
MW-21	02/03/22	N	--	<25
MW-21	03/14/22	N	--	<20
MW-21	03/14/22	FD	--	<1
MW-21	04/12/22	N	--	<1
MW-21	05/18/22	N	--	<1
MW-21	06/14/22	N	--	<1
MW-21	07/13/22	N	--	<1
MW-21	08/12/22	N	--	<1
MW-21	09/15/22	N	--	<1
MW-21	11/15/22	N	--	<10
MW-21	11/15/22	FD	--	<1
MW-21	12/07/22	N	7.1	<1
MW-22	06/16/20	N	--	--
MW-22	12/08/20	N	--	--
MW-22	12/08/20	FD	--	--
MW-22	04/27/21	N	--	--
MW-22	11/30/21	N	--	1.3
MW-22	11/30/21	FD	--	1.4
MW-22	03/04/22	N	--	1
MW-22	05/05/22	N	--	1.8
MW-22	05/05/22	FD	--	1.8
MW-22	08/19/22	N	--	1.3
MW-22	11/16/22	N	--	1.3

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-23-060	06/18/20	N	40	37	0.86 J	--	--	--	--	--	--	0.001	--	--
MW-23-060	12/08/20	N	42	40	4.5	--	1.6 J	810 J	--	<0.1 J	5.2 J	0.00095	21	--
MW-23-060	04/30/21	N	41	38	<0.1	--	--	--	--	--	--	0.00073	--	--
MW-23-060	12/09/21	N	36	35	<0.1 J	--	--	--	--	--	--	0.0016	24	--
MW-23-060	12/09/21	FD	36	34	<0.1 J	--	--	--	--	--	--	0.0015	23	--
MW-23-060	06/09/22	N	43	38 J	--	--	--	--	--	--	--	--	--	--
MW-23-060	11/18/22	N	40	38	1	--	--	--	--	--	--	0.0023	23	--
MW-23-080	06/18/20	N	<1	<1	4.9 J	--	--	--	--	--	--	0.0012	--	--
MW-23-080	12/08/20	N	<1	<1	5.9	--	1.9 J	770 J	--	<0.1 J	<500	0.001	45	--
MW-23-080	04/30/21	N	<1	1.3	<0.1	--	--	--	--	--	--	0.0015	--	--
MW-23-080	12/09/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.00094	46	--
MW-23-080	06/09/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-23-080	11/18/22	N	<1	<1	1.5	--	--	--	--	--	--	0.00084	48	--
MW-24A	05/01/20	N	<0.2	2.9	<0.1	--	--	--	--	--	--	0.017	100	--
MW-24A	10/05/20	N	<0.2	3.3	--	--	--	--	--	--	--	--	--	--
MW-24A	12/01/20	N	<0.2	<1	0.43	23	--	--	--	--	--	0.02	120	--
MW-24A	12/01/20	FD	<0.2	<1	0.35	23	--	--	--	--	--	0.02	110	--
MW-24A	05/05/21	N	<0.2	<1 J	<0.1	--	--	11	--	--	--	0.015	96	3.6 J
MW-24A	12/09/21	N	<0.2	1.9	<0.1 J	--	--	--	--	--	--	0.43	110	--
MW-24A	06/16/22	N	<0.2	<1	--	--	--	--	--	--	--	--	46	--
MW-24A	06/16/22	FD	<0.2	<1	--	--	--	--	--	--	--	--	42	--
MW-24A	06/16/22	N	<0.2	<1	--	--	--	--	--	--	--	--	46	--
MW-24A	06/16/22	FD	<0.2	<1	--	--	--	--	--	--	--	--	42	--
MW-24A	12/01/22	N	<0.2	<1	0.27	--	--	--	--	--	--	0.14 J	73 J	--
MW-24B	05/01/20	N	120	140	<0.5	--	--	--	--	--	--	0.096	56	--
MW-24B	10/05/20	N	<1	57	--	--	--	--	--	--	--	--	--	--
MW-24B	12/01/20	N	64	65	3.8	74	--	--	--	--	--	0.12	63	--
MW-24B	05/05/21	N	48	45 J	<0.1	--	--	97	--	--	--	0.11	59	51 J
MW-24B	12/09/21	N	<1	1.3	<0.1 J	--	--	--	--	--	--	0.087	63	--
MW-24B	12/09/21	FD	<1	1.1	<0.1 J	--	--	--	--	--	--	0.087	64	--
MW-24B	06/16/22	N	45	160	--	--	--	--	--	--	--	--	36	--
MW-24B	12/01/22	N	270	270	<0.1	--	--	--	--	--	--	0.029 J	32 J	--
MW-24BR	12/02/20	N	<1	<1	0.63	--	3	100	--	0.8	4.3	0.16	58	--
MW-24BR	12/10/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.079	--	--
MW-24BR	06/17/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-24BR	12/02/22	N	<1	<1 J	<0.1	--	--	--	--	--	--	0.064	--	--
MW-25	06/24/20	N	56	55	0.96	--	--	--	--	--	--	0.0027	4.3	--
MW-25	06/24/20	FD	57	56	0.93	--	--	--	--	--	--	0.0032	4.4	--
MW-25	12/07/20	N	68	65 J	0.79	--	0.55 J	110 J	--	0.032 J	27 J	0.00055	5.9 J	7.5 J
MW-25	05/25/21	N	55	56	1.5 J	--	--	--	--	--	--	0.00062	4.6	--
MW-25	05/25/21	FD	55	56	1.2 J	--	--	--	--	--	--	0.00051	4.7	--
MW-25	12/07/21	N	70	80	0.75 J	--	--	--	--	--	--	0.0036 J	14	--
MW-25	06/14/22	N	58	53 J	--	--	--	--	--	--	--	--	--	--
MW-25	12/02/22	N	60	67 J	0.9	--	--	--	--	--	--	<0.0005	5.1	--
MW-26	04/27/20	N	2,300	2,300	0.88	--	--	--	--	--	--	0.0015	35	--
MW-26	12/03/20	N	2,200	2,200	0.74	33 J	1.1	120	--	0.084	40	<0.0005	33	9
MW-26	12/03/20	FD	2,200	2,500	0.88	33 J	1.1	130	--	0.074	41	<0.0005	32	9.6
MW-26	05/20/21	N	2,200	2,300	0.48	--	--	--	--	--	--	<0.0005	31	--
MW-26	12/15/21	N	2,200	2,300	0.92	33	--	--	--	0.046 J	--	0.0023	16	--

Appendix B
January 2020 to December 2022 Analytical Results
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-23-060	06/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-060	12/08/20	N	4.8	3,000 J	--	16	--	5,800	--	--	--	--	670	12,000
MW-23-060	04/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-060	12/09/21	N	5.3	--	--	--	--	--	--	--	--	5.7	--	--
MW-23-060	12/09/21	FD	5	--	--	--	--	--	--	--	--	5.8	--	--
MW-23-060	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-060	11/18/22	N	4.7	--	--	--	--	--	--	5.1	--	4.85	--	--
MW-23-080	06/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-080	12/08/20	N	5	3,500 J	--	50	--	5,700	--	--	--	--	1,000	12,000
MW-23-080	04/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-080	12/09/21	N	4.5	--	--	--	--	--	--	--	--	4.7	--	--
MW-23-080	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-080	11/18/22	N	5	--	--	--	--	--	--	0.95	--	4	--	--
MW-24A	05/01/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-24A	10/05/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-24A	12/01/20	N	<0.5	--	<1	--	--	--	--	--	--	--	--	--
MW-24A	12/01/20	FD	<0.5	--	<1	--	--	--	--	--	--	--	--	--
MW-24A	05/05/21	N	<0.5	400	--	--	--	300	--	--	--	<0.05	180	990
MW-24A	12/09/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-24A	06/16/22	N	0.63	--	--	--	--	--	--	0.55	--	--	--	--
MW-24A	06/16/22	FD	<0.5	--	--	--	--	--	--	0.5	--	--	--	--
MW-24A	12/01/22	N	<0.5	--	--	--	--	--	--	0.66	--	--	--	--
MW-24B	05/01/20	N	<2.5	--	--	--	--	--	--	--	--	0.87	--	--
MW-24B	10/05/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-24B	12/01/20	N	1.8	--	3.6	--	--	--	--	--	--	--	--	--
MW-24B	05/05/21	N	1.4	5,600	--	--	--	6,700	--	--	--	0.48	760	13,000
MW-24B	12/09/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-24B	12/09/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-24B	06/16/22	N	1.4	--	--	--	--	--	--	1.3	--	--	--	--
MW-24B	12/01/22	N	2.2	--	--	--	--	--	--	2.7	--	--	--	--
MW-24BR	12/02/20	N	<0.5	2,700	--	45	--	4,400	--	--	--	<0.1	450	8,900
MW-24BR	12/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-24BR	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-24BR	12/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-25	06/24/20	N	7.5	--	--	--	--	--	--	--	--	13	--	--
MW-25	06/24/20	FD	7.4	--	--	--	--	--	--	--	--	12	--	--
MW-25	12/07/20	N	6.7 J	180 J	--	120	--	400	--	--	--	12	220	1,200
MW-25	05/25/21	N	7.3	--	--	--	--	--	--	--	--	11	--	--
MW-25	05/25/21	FD	8	--	--	--	--	--	--	--	--	12	--	--
MW-25	12/07/21	N	6.2	--	--	--	--	--	--	--	--	10	--	--
MW-25	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-25	12/02/22	N	6.6	--	--	--	--	--	--	11	--	--	--	--
MW-26	04/27/20	N	39	--	--	--	--	--	--	--	--	21	--	--
MW-26	12/03/20	N	31 J	470	7.5	130	--	770	--	--	--	18	470	2,200
MW-26	12/03/20	FD	31 J	500	7.9	140	--	760	--	--	--	18	460	2,200
MW-26	05/20/21	N	33	--	--	--	--	--	--	--	--	19	--	--
MW-26	12/15/21	N	13 J	--	--	--	<0.2	--	--	--	<5	13	430	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-23-060	06/18/20	N	--	--
MW-23-060	12/08/20	N	--	--
MW-23-060	04/30/21	N	--	--
MW-23-060	12/09/21	N	--	--
MW-23-060	12/09/21	FD	--	--
MW-23-060	06/09/22	N	--	--
MW-23-060	11/18/22	N	--	--
MW-23-080	06/18/20	N	--	--
MW-23-080	12/08/20	N	--	--
MW-23-080	04/30/21	N	--	--
MW-23-080	12/09/21	N	--	--
MW-23-080	06/09/22	N	--	--
MW-23-080	11/18/22	N	--	--
MW-24A	05/01/20	N	--	--
MW-24A	10/05/20	N	--	--
MW-24A	12/01/20	N	--	--
MW-24A	12/01/20	FD	--	--
MW-24A	05/05/21	N	--	--
MW-24A	12/09/21	N	--	--
MW-24A	06/16/22	N	--	--
MW-24A	06/16/22	FD	--	--
MW-24A	06/16/22	N	--	--
MW-24A	06/16/22	FD	--	--
MW-24A	12/01/22	N	--	--
MW-24B	05/01/20	N	--	--
MW-24B	10/05/20	N	--	--
MW-24B	12/01/20	N	--	--
MW-24B	05/05/21	N	--	--
MW-24B	12/09/21	N	--	--
MW-24B	12/09/21	FD	--	--
MW-24B	06/16/22	N	--	--
MW-24B	12/01/22	N	--	--
MW-24BR	12/02/20	N	--	--
MW-24BR	12/10/21	N	--	--
MW-24BR	06/17/22	N	--	--
MW-24BR	12/02/22	N	--	--
MW-25	06/24/20	N	--	--
MW-25	06/24/20	FD	--	--
MW-25	12/07/20	N	--	--
MW-25	05/25/21	N	--	--
MW-25	05/25/21	FD	--	--
MW-25	12/07/21	N	--	--
MW-25	06/14/22	N	--	--
MW-25	12/02/22	N	--	--
MW-26	04/27/20	N	--	--
MW-26	12/03/20	N	--	--
MW-26	12/03/20	FD	--	--
MW-26	05/20/21	N	--	--
MW-26	12/15/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-26	02/02/22	N	1,800	--	1.2 J	36	--	--	--	0.037	--	0.006	--	--
MW-26	03/14/22	N	1,600	1,600	0.82 J	45	--	--	--	0.022	--	0.62	13	--
MW-26	03/14/22	FD	1,600	1,600	0.75 J	44	--	--	--	<0.02	--	0.64	13	--
MW-26	04/13/22	N	740	--	<0.1	84	--	--	--	0.033 J	--	0.72	--	--
MW-26	05/20/22	N	340	--	<0.1 J	87 J	--	--	--	<0.02	--	0.12	--	--
MW-26	06/14/22	N	140	130	<0.1	88 J	--	--	--	0.049	--	0.88	6.4	--
MW-26	07/13/22	N	110	--	<0.1	79	--	--	--	0.076 J	--	0.11	--	--
MW-26	08/12/22	N	100	94	<0.1 J	73	--	--	--	<0.02	--	0.0032 J	4.1 J	--
MW-26	09/15/22	N	19	--	<0.1	73	--	--	--	0.038	--	0.77	--	--
MW-26	10/13/22	N	7	--	<0.1	80 J	--	--	--	<0.02 J	--	0.22	--	--
MW-26	11/11/22	N	28	28	<0.1	81 J	--	--	--	<0.02	--	0.14	4.5	--
MW-26	12/08/22	N	14	--	<0.1	74	--	--	--	<0.02	--	0.044	--	--
MW-27-020	12/03/20	N	<0.2	<1	0.86 J	--	<100	73	--	0.1 J	27 J	0.012	5.8	--
MW-27-020	12/01/21	N	<0.2	<1	0.71	55	--	--	--	0.032	--	0.0094	5.9	--
MW-27-020	03/10/22	N	<0.2	--	0.89	53	--	--	--	0.034	--	0.056	--	--
MW-27-020	05/05/22	N	<0.2	<1	0.55 J	75 J	--	--	--	<0.02	--	<0.0005 J	--	--
MW-27-020	08/23/22	N	<0.2	--	0.67	57 J	--	--	--	<0.02 J	--	0.036 J	--	--
MW-27-020	11/09/22	N	<0.2	<1	0.75	63	--	--	--	<0.02	--	0.075	5.1	--
MW-27-060	12/03/20	N	<0.2	<1	9.8 J	--	0.1	78	--	0.35 J	23 J	0.28	4.6	--
MW-27-060	12/01/21	N	<0.2	<1	12	70	--	--	--	0.39	--	0.27	4.7	--
MW-27-060	03/10/22	N	<0.2	--	8.5	73	--	--	--	0.34	--	0.24	--	--
MW-27-060	05/05/22	N	<0.2	<1	9.1 J	68 J	--	--	--	0.43	--	0.24 J	--	--
MW-27-060	08/23/22	N	<0.2	--	8.7	62 J	--	--	--	0.33 J	--	0.26 J	--	--
MW-27-060	11/09/22	N	<0.2	<1	7.6	66	--	--	--	0.38	--	0.24	4	--
MW-27-085	06/18/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.11	16	--
MW-27-085	12/03/20	N	<1	<1	<0.1 J	--	1.1	180	--	0.1 J	56 J	0.078	21	--
MW-27-085	04/27/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.1	16 J	--
MW-27-085	12/01/21	N	<1	<1	<0.1	43	--	--	--	0.17	--	0.14	19	--
MW-27-085	03/10/22	N	<1	--	<0.1	40	--	--	--	0.14	--	0.14	--	--
MW-27-085	05/05/22	N	<1	<1	<0.1 J	37 J	--	--	--	0.24	--	0.13 J	--	--
MW-27-085	08/23/22	N	<1	--	<0.1	50 J	--	--	--	0.27 J	--	0.26 J	--	--
MW-27-085	11/09/22	N	<1	<1	<0.1	50	--	--	--	0.29	--	0.3	25	--
MW-28-025	06/23/20	N	<0.2	<1	0.52	--	--	--	--	--	--	0.0022	4.1	--
MW-28-025	12/15/20	N	<0.2	<1	0.58	--	0.43	99 J	--	<0.02	30	0.0031	4.5	--
MW-28-025	04/29/21	N	<0.2	<1	0.7	--	--	--	--	--	--	0.24	5.5	--
MW-28-025	12/08/21	N	<0.2	<1	0.4	68	--	--	--	<0.02	--	0.006	4.6	--
MW-28-025	03/08/22	N	<0.2	--	0.48 J	61	--	--	--	<0.02 J	--	0.0067	--	--
MW-28-025	05/04/22	N	<0.2	<1	0.57	57	--	--	--	<0.02 J	--	0.046	--	--
MW-28-025	08/23/22	N	<0.2	--	0.38 J	58 J	--	--	--	<0.02	--	0.051 J	--	--
MW-28-025	11/16/22	N	<0.2	<1	0.54	69	--	--	--	<0.02	--	0.012 J	5.1	--
MW-28-090	06/23/20	N	<0.2	<1	1	--	--	--	--	--	--	0.28	20	--
MW-28-090	12/15/20	N	<0.2	<1	2	--	1.3	190 J	--	0.43 J	52	0.12	24	--
MW-28-090	04/29/21	N	<0.2	<1	0.43	--	--	--	--	--	--	0.29	25	--
MW-28-090	12/08/21	N	<0.2	<1	<0.1	27	--	--	--	0.59	--	0.14	26	--
MW-28-090	03/08/22	N	<0.2	--	<0.1 J	27	--	--	--	0.87 J	--	0.27	--	--
MW-28-090	05/04/22	N	<0.2	<1	<0.1	29	--	--	--	0.99 J	--	0.43	--	--
MW-28-090	08/23/22	N	<0.2	--	<0.1	32 J	--	--	--	1.10 J	--	0.41 J	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-26	02/02/22	N	--	--	--	--	--	--	--	12	--	--	400	--
MW-26	03/14/22	N	8.5	--	--	--	<0.2	--	--	6.8	--	--	380	--
MW-26	03/14/22	FD	8.5	--	--	--	<0.2	--	--	6.7	--	--	390	--
MW-26	04/13/22	N	--	--	--	--	--	--	--	3.1	--	--	480	--
MW-26	05/20/22	N	--	--	--	--	--	--	--	1.2	--	--	560	--
MW-26	06/14/22	N	1 J	--	--	--	<0.2	--	--	0.73	<5	--	550	--
MW-26	07/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-26	08/12/22	N	0.53	--	--	--	<0.23	--	--	<0.5	<5	--	520	--
MW-26	09/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	550	--
MW-26	10/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	510	--
MW-26	11/11/22	N	<0.5	--	--	--	0.63 J	--	--	<0.5	<5	--	470	--
MW-26	12/08/22	N	--	--	--	--	--	--	--	<0.5	--	--	460	--
MW-27-020	12/03/20	N	0.54	66 J	--	170	--	91	--	--	--	<0.1	220	620
MW-27-020	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-27-020	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-27-020	05/05/22	N	--	--	--	--	--	--	--	0.44	--	--	--	--
MW-27-020	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-27-020	11/09/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-27-060	12/03/20	N	<0.5	68 J	--	190	--	87	0.66	--	--	<0.1	210	640
MW-27-060	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-27-060	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-27-060	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-27-060	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-27-060	11/09/22	N	<0.5	--	--	--	--	--	--	<0.25	--	<0.05	--	--
MW-27-085	06/18/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-27-085	12/03/20	N	<0.5	1,400 J	--	260	--	2,900	2.2	--	--	<0.1	660	6,800
MW-27-085	04/27/21	N	<0.5	--	--	--	--	--	--	--	--	0.061	--	--
MW-27-085	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-27-085	03/10/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-27-085	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-27-085	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-27-085	11/09/22	N	<0.5	--	--	--	--	--	--	<0.25	--	<0.05	--	--
MW-28-025	06/23/20	N	1.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-28-025	12/15/20	N	1.5	100	--	220	--	100	--	--	--	<0.05	250	750
MW-28-025	04/29/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-28-025	12/08/21	N	1.3	--	--	--	--	--	--	--	--	<0.1	--	--
MW-28-025	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-28-025	05/04/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-28-025	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-28-025	11/16/22	N	1.4	--	--	--	--	--	--	<0.25	--	--	--	--
MW-28-090	06/23/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-28-090	12/15/20	N	<0.5	1,300	--	260	--	1,800	1.8	--	--	<0.05	560	4,400
MW-28-090	04/29/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-28-090	12/08/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-28-090	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-28-090	05/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-28-090	08/23/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-26	02/02/22	N	--	<5
MW-26	03/14/22	N	--	<1
MW-26	03/14/22	FD	--	<1
MW-26	04/13/22	N	--	<1
MW-26	05/20/22	N	--	<1
MW-26	06/14/22	N	--	<1
MW-26	07/13/22	N	--	<1
MW-26	08/12/22	N	--	<1
MW-26	09/15/22	N	--	<1
MW-26	10/13/22	N	2.4 J	<20
MW-26	11/11/22	N	--	<1
MW-26	12/08/22	N	1.6	<1
MW-27-020	12/03/20	N	--	--
MW-27-020	12/01/21	N	--	1
MW-27-020	03/10/22	N	--	1
MW-27-020	05/05/22	N	--	1.5
MW-27-020	08/23/22	N	--	1.1
MW-27-020	11/09/22	N	--	<1
MW-27-060	12/03/20	N	--	--
MW-27-060	12/01/21	N	--	1.3
MW-27-060	03/10/22	N	--	1.3
MW-27-060	05/05/22	N	--	1.4
MW-27-060	08/23/22	N	--	1.4
MW-27-060	11/09/22	N	--	1.2
MW-27-085	06/18/20	N	--	--
MW-27-085	12/03/20	N	--	--
MW-27-085	04/27/21	N	--	--
MW-27-085	12/01/21	N	--	<1
MW-27-085	03/10/22	N	--	<1
MW-27-085	05/05/22	N	--	<1
MW-27-085	08/23/22	N	--	<1
MW-27-085	11/09/22	N	--	<1
MW-28-025	06/23/20	N	--	--
MW-28-025	12/15/20	N	--	--
MW-28-025	04/29/21	N	--	--
MW-28-025	12/08/21	N	--	<1
MW-28-025	03/08/22	N	--	<1
MW-28-025	05/04/22	N	--	<1
MW-28-025	08/23/22	N	--	<1
MW-28-025	11/16/22	N	--	<1
MW-28-090	06/23/20	N	--	--
MW-28-090	12/15/20	N	--	--
MW-28-090	04/29/21	N	--	--
MW-28-090	12/08/21	N	--	<1
MW-28-090	03/08/22	N	--	<1
MW-28-090	05/04/22	N	--	<1
MW-28-090	08/23/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-28-090	11/16/22	N	<0.2	<1	0.69	32	--	--	--	1.30	--	0.44 J	23	--
MW-29	06/23/20	N	<0.2	<1	8.4	--	--	--	--	--	--	0.29	18	--
MW-29	12/04/20	N	<0.2	<1	15	--	0.57 J	84	--	1.40 J	45 J	0.22	9.2	--
MW-29	04/29/21	N	<0.2	<1	8	--	--	--	--	--	--	0.39	13	--
MW-29	12/02/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-29	03/08/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-29	06/13/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--
MW-29	08/23/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-29	11/16/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-30-030	12/07/20	N	<1	<1 J	0.91	--	1.7 J	51 J	--	0.85 J	52 J	0.25	57 J	--
MW-30-030	12/03/21	N	<1	<1	<0.1	250	--	--	--	0.54 J	--	0.18	48	--
MW-30-030	03/09/22	N	<1	--	<0.1	120	--	--	--	0.26 J	--	0.079	--	--
MW-30-030	05/03/22	N	<1	<1	0.2	76	--	--	--	0.17	--	0.049	--	--
MW-30-030	08/22/22	N	<1	--	<0.1	240 J	--	--	--	0.37 J	--	0.11 J	--	--
MW-30-030	11/08/22	N	<0.2	<1	0.64	310	--	--	--	0.57 J	--	0.17 J	40 J	--
MW-30-050	12/07/20	N	<0.2	<1 J	2.7	--	0.31 J	82 J	--	0.062 J	19 J	0.2	4.3 J	--
MW-30-050	12/03/21	N	<0.2	2.6	2.7	21	--	--	--	0.038 J	--	0.26	4.9	--
MW-30-050	03/09/22	N	1.4	--	2.4	18	--	--	--	<0.02 J	--	0.0021	--	--
MW-30-050	05/03/22	N	<0.2	2.6	2.2	19	--	--	--	0.02	--	0.38	--	--
MW-30-050	06/17/22	N	<0.2	--	2 J	21	--	--	--	0.058 J	--	0.54 J	--	--
MW-30-050	07/12/22	N	<0.2	--	2.2	22	--	--	--	0.034 J	--	0.5	--	--
MW-30-050	08/10/22	N	<0.2	--	2.5	18	--	--	--	0.052 J	--	0.36	--	--
MW-30-050	08/10/22	FD	<0.2	--	2.4	18	--	--	--	0.047 J	--	0.37	--	--
MW-30-050	09/13/22	N	3.4	--	2.9	20	--	--	--	<0.02	--	0.0018	--	--
MW-30-050	10/11/22	N	<0.2	--	2.5 J	16 J	--	--	--	0.027 J	--	0.37 J	--	--
MW-30-050	11/08/22	N	<0.2	<1	3	19	--	--	--	0.067 J	--	0.42 J	5.6 J	--
MW-30-050	12/06/22	N	0.76	--	3.6	18	--	--	--	0.03	--	0.36 J	--	--
MW-31-060	06/24/20	N	320	280	0.36	--	--	--	--	--	--	<0.0005	--	--
MW-31-060	12/07/20	N	410	400 J	0.53	--	0.54 J	100 J	--	0.03 J	19 J	0.001	22 J	6 J
MW-31-060	04/30/21	N	150	150	<0.1	--	--	--	--	--	--	0.0019	--	--
MW-31-060	12/16/21	N	310	310	0.52	55	--	--	--	0.021 J	--	0.0013	25	--
MW-31-060	12/16/21	FD	310	310	0.32	57	--	--	--	<0.02	--	0.0013	26	--
MW-31-060	02/01/22	N	<1	--	6.9	480	--	--	--	0.031	--	7.80 J	--	--
MW-31-060	03/04/22	N	230	230	<0.1	320	--	--	--	0.047	--	2.20	22	--
MW-31-060	04/12/22	N	<0.2	--	3.6 J	230	--	--	--	0.21	--	5.40	--	--
MW-31-060	05/20/22	N	48	--	<0.1 J	79 J	--	--	--	0.14	--	0.69	--	--
MW-31-060	06/13/22	N	340	340 J	<0.1 J	67	--	--	--	0.044 J	--	0.024	17	--
MW-31-060	07/13/22	N	190	--	<0.1 J	67 J	--	--	--	0.043 J	--	0.12 J	--	--
MW-31-060	08/10/22	N	<1	<1	<0.1	76	--	--	--	0.26 J	--	0.85	7.6	--
MW-31-060	09/14/22	N	30	--	<0.1	99	--	--	--	0.17 J	--	0.98	--	--
MW-31-060	10/12/22	N	<1	--	<0.1	91 J	--	--	--	0.079	--	0.69 J	--	--
MW-31-060	11/09/22	N	<1	5.5	1.3	160	--	--	--	<0.02 J	--	1.70	1.2	--
MW-31-060	11/09/22	FD	<1	5.3	1.4	160	--	--	--	0.06 J	--	1.70	1.1	--
MW-31-060	12/07/22	N	<1	--	<0.1	220	--	--	--	0.063 J	--	2.50	--	--
MW-31-135	12/07/20	N	15	13 J	<0.1	--	2.4 J	340 J	--	<0.1 J	31 J	<0.0005	26 J	--
MW-31-135	12/16/21	N	13	14	<0.1	46	--	--	--	<0.02	--	<0.0005	27	--
MW-31-135	02/01/22	N	15	--	<0.1	49	--	--	--	0.024	--	0.0067 J	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-28-090	11/16/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-29	06/23/20	N	3.3	--	--	--	--	--	--	--	--	0.13	--	--
MW-29	12/04/20	N	1.5	220	--	430	--	260	--	--	--	<0.1	250	1,200
MW-29	04/29/21	N	1.7	--	--	--	--	--	--	--	--	0.15	--	--
MW-29	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-29	03/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-29	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-29	08/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-29	11/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-30-030	12/07/20	N	1.6 J	1,400 J	--	1,000	--	1,200	--	--	--	<0.1	1,400	5,000
MW-30-030	12/03/21	N	0.54	--	--	--	--	--	--	--	--	0.1	--	--
MW-30-030	03/09/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-30-030	05/03/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-30-030	08/22/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-30-030	11/08/22	N	0.63	--	--	--	--	--	--	<0.25	--	--	--	--
MW-30-050	12/07/20	N	<0.5	81 J	--	180	--	87	--	--	--	<0.1	200	630
MW-30-050	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-30-050	03/09/22	N	--	--	--	--	--	--	--	0.14	--	--	--	--
MW-30-050	05/03/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-30-050	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	210	--
MW-30-050	07/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	200	--
MW-30-050	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	200	--
MW-30-050	08/10/22	FD	--	--	--	--	--	--	--	<0.5	--	--	190	--
MW-30-050	09/13/22	N	--	--	--	--	--	--	--	0.51	--	--	230	--
MW-30-050	10/11/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-30-050	11/08/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	200	--
MW-30-050	12/06/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-31-060	06/24/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-31-060	12/07/20	N	3.3 J	450 J	--	99	--	790	--	--	--	4.1	220	1,700
MW-31-060	04/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-31-060	12/16/21	N	3.1	--	--	--	<0.2	--	--	--	<2.5	3.6	210	--
MW-31-060	12/16/21	FD	3.1	--	--	--	<0.2	--	--	--	<2.5	3.6	210	--
MW-31-060	02/01/22	N	--	--	--	--	--	--	--	<0.25	--	--	48	--
MW-31-060	03/04/22	N	8.8	--	--	--	0.25	--	--	4.4	--	--	430	--
MW-31-060	04/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-31-060	05/20/22	N	--	--	--	--	--	--	--	<0.5	--	--	560	--
MW-31-060	06/13/22	N	3.8	--	--	--	<0.2	--	--	2.6	<25	--	570	--
MW-31-060	07/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	560	--
MW-31-060	08/10/22	N	<0.5 J	--	--	--	0.6	--	--	<0.5	<5	--	540	--
MW-31-060	09/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	570	--
MW-31-060	10/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	520	--
MW-31-060	11/09/22	N	<0.5	--	--	--	0.75 J	--	--	<0.5	<5	--	420	--
MW-31-060	11/09/22	FD	<0.5	--	--	--	0.47 J	--	--	<0.5	<5	--	440	--
MW-31-060	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	490	--
MW-31-135	12/07/20	N	0.72 J	1,800 J	--	35	--	3,900	--	--	--	--	500	7,900
MW-31-135	12/16/21	N	0.58	--	--	--	<0.2	--	--	--	<5	1.2	500	--
MW-31-135	02/01/22	N	--	--	--	--	--	--	--	1.4	--	--	570	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-28-090	11/16/22	N	--	<1
MW-29	06/23/20	N	--	--
MW-29	12/04/20	N	--	--
MW-29	04/29/21	N	--	--
MW-29	12/02/21	N	--	--
MW-29	03/08/22	N	--	--
MW-29	06/13/22	N	--	--
MW-29	08/23/22	N	--	--
MW-29	11/16/22	N	--	--
MW-30-030	12/07/20	N	--	--
MW-30-030	12/03/21	N	--	11
MW-30-030	03/09/22	N	--	2.9
MW-30-030	05/03/22	N	--	5.6
MW-30-030	08/22/22	N	--	12
MW-30-030	11/08/22	N	--	3.2
MW-30-050	12/07/20	N	--	--
MW-30-050	12/03/21	N	--	1
MW-30-050	03/09/22	N	--	<1
MW-30-050	05/03/22	N	--	<1
MW-30-050	06/17/22	N	--	<1
MW-30-050	07/12/22	N	--	<5
MW-30-050	08/10/22	N	--	<1
MW-30-050	08/10/22	FD	--	<1
MW-30-050	09/13/22	N	--	<1
MW-30-050	10/11/22	N	--	<1
MW-30-050	11/08/22	N	--	<1
MW-30-050	12/06/22	N	--	<1
MW-31-060	06/24/20	N	--	--
MW-31-060	12/07/20	N	--	--
MW-31-060	04/30/21	N	--	--
MW-31-060	12/16/21	N	--	<1
MW-31-060	12/16/21	FD	--	<1
MW-31-060	02/01/22	N	--	<25
MW-31-060	03/04/22	N	--	<20
MW-31-060	04/12/22	N	--	<20
MW-31-060	05/20/22	N	--	<1
MW-31-060	06/13/22	N	--	<50
MW-31-060	07/13/22	N	--	<1
MW-31-060	08/10/22	N	--	<1
MW-31-060	09/14/22	N	--	<1
MW-31-060	10/12/22	N	25	<50
MW-31-060	11/09/22	N	--	<1
MW-31-060	11/09/22	FD	--	<1
MW-31-060	12/07/22	N	2	<1
MW-31-135	12/07/20	N	--	--
MW-31-135	12/16/21	N	--	<1
MW-31-135	02/01/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-31-135	03/07/22	N	20	24	3.8 J	62 J	--	--	--	0.48	--	0.014 J	28	--
MW-31-135	03/07/22	FD	19	23	3.5 J	59 J	--	--	--	0.53	--	0.018 J	27	--
MW-31-135	04/12/22	N	26	--	<0.1 J	55	--	--	--	<0.02	--	0.00076	--	--
MW-31-135	05/20/22	N	26	--	<0.1 J	51 J	--	--	--	<0.02	--	0.003	--	--
MW-31-135	06/13/22	N	23	21 J	<0.1 J	49	--	--	--	0.048 J	--	0.0036	29	--
MW-31-135	07/13/22	N	23	--	<0.1 J	44 J	--	--	--	<0.02 J	--	0.013 J	--	--
MW-31-135	08/10/22	N	25	25	<0.1	40	--	--	--	<0.02 J	--	0.0021	28	--
MW-31-135	09/14/22	N	19	--	1.1	41	--	--	--	<0.02	--	0.0031	--	--
MW-31-135	10/12/22	N	17	--	<0.1	40 J	--	--	--	<0.02	--	0.0035 J	--	--
MW-31-135	11/09/22	N	<1	1.5	<0.1	58	--	--	--	0.53	--	0.16	45	--
MW-31-135	12/07/22	N	<1	--	1.3	35	--	--	--	<0.02	--	0.0055	--	--
MW-32-020	12/07/20	N	<1	<1 J	3.8	--	3.8 J	340 J	--	6.10 J	440 J	0.16	160 J	--
MW-32-020	11/30/21	N	<1	<1	<0.1 J	110	--	--	--	4.50	--	0.2	100	--
MW-32-020	03/04/22	N	<1	--	<0.1	170	--	--	--	3.50	--	0.13	--	--
MW-32-020	05/04/22	N	<1	<1	<0.1 J	77 J	--	--	--	2.20	--	0.094 J	--	--
MW-32-020	08/19/22	N	<1	--	2.6	120	--	--	--	3.60	--	0.28 J	--	--
MW-32-020	11/10/22	N	<1	<5	<0.5	110	--	--	--	5.40	--	0.3	120	--
MW-32-035	06/18/20	N	<0.2	<1	26 J	--	--	--	--	--	--	0.61	--	--
MW-32-035	12/07/20	N	<1	<1 J	17	--	0.94 J	300 J	--	11 J	210 J	0.75	13 J	18 J
MW-32-035	12/07/20	FD	<1	<1 J	17	--	0.9 J	300 J	--	10 J	200 J	0.73	13 J	19 J
MW-32-035	04/27/21	N	<0.2	1.1	24	--	--	--	--	--	--	0.66	--	--
MW-32-035	11/30/21	N	<0.2	<1	15 J	160	--	--	--	12	--	0.59	9.6	--
MW-32-035	03/04/22	N	<1	--	13	200	--	--	--	10	--	0.58	--	--
MW-32-035	05/04/22	N	<0.2	<1	5.7 J	84 J	--	--	--	1.90 J	--	0.74 J	--	--
MW-32-035	05/04/22	FD	<0.2	<1	10 J	83 J	--	--	--	2.90 J	--	0.62 J	--	--
MW-32-035	08/19/22	N	<0.2	--	17	260	--	--	--	10	--	0.77 J	--	--
MW-32-035	11/10/22	N	<0.2	<1	20	380	--	--	--	13	--	0.83	13	--
MW-33-040	06/17/20	N	<0.2	<1	5.5	--	--	--	--	--	--	0.054	120	--
MW-33-040	12/02/20	N	<1	1.8	9.3	--	4.2	75	--	<0.1	180	0.016	440	--
MW-33-040	04/29/21	N	<0.2	<1	4.7	--	--	--	--	--	--	0.036	140	--
MW-33-040	11/30/21	N	<1	2.2	--	--	--	--	--	--	--	--	380	--
MW-33-040	03/03/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	06/09/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-33-040	08/24/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	11/17/22	N	<1	<1	--	--	--	--	--	--	--	--	340	--
MW-33-090	06/17/20	N	3.3	6.3	<0.1	--	--	--	--	--	--	0.011	8.2	--
MW-33-090	12/02/20	N	3.1	11	1.1	--	1.2	230	--	0.42	30	0.023	9.9	--
MW-33-090	04/29/21	N	3.4	3.9	<0.1	--	--	--	--	--	--	0.0041	8.4	--
MW-33-090	11/30/21	N	3	5.6	--	--	--	--	--	--	--	--	8.1	--
MW-33-090	11/30/21	FD	3	6.6	--	--	--	--	--	--	--	--	8.2	--
MW-33-090	03/03/22	N	4.8	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	06/09/22	N	2.7	3.2 J	--	--	--	--	--	--	--	--	--	--
MW-33-090	08/24/22	N	2.8	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	08/24/22	FD	2.7	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	11/17/22	N	5.4	5	--	--	--	--	--	--	--	--	8.8	--
MW-33-150	06/17/20	N	4.9	11	<0.1	--	--	--	--	--	--	0.0083	48	--
MW-33-150	12/02/20	N	5	8.8	1.3	--	2	450	--	0.28	77	0.012	41	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-31-135	03/07/22	N	1	--	--	--	<0.2	--	--	1.6	--	--	720	--
MW-31-135	03/07/22	FD	0.9	--	--	--	<0.2	--	--	1.6	--	--	720	--
MW-31-135	04/12/22	N	--	--	--	--	--	--	--	1.9	--	--	740	--
MW-31-135	05/20/22	N	--	--	--	--	--	--	--	1.5	--	--	720	--
MW-31-135	06/13/22	N	0.79	--	--	--	<0.2	--	--	1.4	<5	--	700	--
MW-31-135	07/13/22	N	--	--	--	--	--	--	--	1.1	--	--	670	--
MW-31-135	08/10/22	N	0.92 J	--	--	--	<0.2	--	--	1.5	<5	--	690	--
MW-31-135	09/14/22	N	--	--	--	--	--	--	--	1.3	--	--	660	--
MW-31-135	10/12/22	N	--	--	--	--	--	--	--	0.79	--	--	640	--
MW-31-135	11/09/22	N	<0.5	--	--	--	<0.43 J	--	--	<0.5	<5	--	530	--
MW-31-135	12/07/22	N	--	--	--	--	--	--	--	0.7	--	--	580	--
MW-32-020	12/07/20	N	1.5 J	5,000 J	--	1,400	--	5,800	--	--	--	--	3,800	16,000
MW-32-020	11/30/21	N	2.2	--	--	--	--	--	--	--	--	<0.1	--	--
MW-32-020	03/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-32-020	05/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-32-020	08/19/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-32-020	11/10/22	N	<2.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-32-035	06/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-32-035	12/07/20	N	<0.5	1,100 J	--	720	--	2,000	--	--	--	<0.1	840	5,200
MW-32-035	12/07/20	FD	<0.5	1,100 J	--	730	--	2,000	--	--	--	<0.1	850	5,300
MW-32-035	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-32-035	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-32-035	03/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-32-035	05/04/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-32-035	05/04/22	FD	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-32-035	08/19/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-32-035	11/10/22	N	<0.5	--	--	--	--	--	--	<0.5	--	0.02 J	--	--
MW-33-040	06/17/20	N	<0.5	--	--	--	--	--	--	--	--	0.077	--	--
MW-33-040	12/02/20	N	11	3,600	--	570	--	5,500	17	--	--	0.41	2,700	14,000
MW-33-040	04/29/21	N	0.52	--	--	--	--	--	--	--	--	<0.05	--	--
MW-33-040	11/30/21	N	5.7	--	--	--	--	--	--	--	--	0.35	--	--
MW-33-040	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	11/17/22	N	1.8	--	--	--	--	--	--	0.38	--	0.45	--	--
MW-33-090	06/17/20	N	<0.5	--	--	--	--	--	--	--	--	1.1	--	--
MW-33-090	12/02/20	N	<0.5	1,600	--	150	--	2,900	2.5	--	--	0.99	670	6,400
MW-33-090	04/29/21	N	<0.5	--	--	--	--	--	--	--	--	1.1	--	--
MW-33-090	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	1.1	--	--
MW-33-090	11/30/21	FD	<0.5	--	--	--	--	--	--	--	--	1	--	--
MW-33-090	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	08/24/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	11/17/22	N	<0.5	--	--	--	--	--	--	0.98	--	1.12	--	--
MW-33-150	06/17/20	N	0.83	--	--	--	--	--	--	--	--	1.4	--	--
MW-33-150	12/02/20	N	0.61	2,500	--	60	--	5,100	2.2	--	--	1.4	840	11,000

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, Californi

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-31-135	03/07/22	N	--	<1
MW-31-135	03/07/22	FD	--	<1
MW-31-135	04/12/22	N	--	<1
MW-31-135	05/20/22	N	--	<50
MW-31-135	06/13/22	N	--	<1
MW-31-135	07/13/22	N	--	<1
MW-31-135	08/10/22	N	--	<1
MW-31-135	09/14/22	N	--	<1
MW-31-135	10/12/22	N	--	<1
MW-31-135	11/09/22	N	--	<1
MW-31-135	12/07/22	N	1.1	<1
MW-32-020	12/07/20	N	--	--
MW-32-020	11/30/21	N	--	4.4
MW-32-020	03/04/22	N	--	4.4
MW-32-020	05/04/22	N	--	2.8
MW-32-020	08/19/22	N	--	8.2
MW-32-020	11/10/22	N	--	3.7
MW-32-035	06/18/20	N	--	--
MW-32-035	12/07/20	N	--	--
MW-32-035	12/07/20	FD	--	--
MW-32-035	04/27/21	N	--	--
MW-32-035	11/30/21	N	--	1.9
MW-32-035	03/04/22	N	--	1.9
MW-32-035	05/04/22	N	--	1.7
MW-32-035	05/04/22	FD	--	1.7
MW-32-035	08/19/22	N	--	1.8
MW-32-035	11/10/22	N	--	1.8
MW-33-040	06/17/20	N	--	--
MW-33-040	12/02/20	N	--	--
MW-33-040	04/29/21	N	--	--
MW-33-040	11/30/21	N	--	--
MW-33-040	03/03/22	N	--	--
MW-33-040	06/09/22	N	--	--
MW-33-040	08/24/22	N	--	--
MW-33-040	11/17/22	N	--	--
MW-33-090	06/17/20	N	--	--
MW-33-090	12/02/20	N	--	--
MW-33-090	04/29/21	N	--	--
MW-33-090	11/30/21	N	--	--
MW-33-090	11/30/21	FD	--	--
MW-33-090	03/03/22	N	--	--
MW-33-090	06/09/22	N	--	--
MW-33-090	08/24/22	N	--	--
MW-33-090	08/24/22	FD	--	--
MW-33-090	11/17/22	N	--	--
MW-33-150	06/17/20	N	--	--
MW-33-150	12/02/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-33-150	04/29/21	N	7	8.2	<0.1	--	--	--	--	--	--	0.015	45	--
MW-33-150	11/30/21	N	2.8	31	--	--	--	--	--	--	--	--	39	--
MW-33-150	03/03/22	N	4.3	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	06/09/22	N	3.3	5.1 J	--	--	--	--	--	--	--	--	--	--
MW-33-150	08/24/22	N	6.5	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	11/17/22	N	5.2	6.9	--	--	--	--	--	--	--	--	37	--
MW-33-210	06/17/20	N	7.2	15	<0.1	--	--	--	--	--	--	0.0072	22	--
MW-33-210	12/02/20	N	12	15	1.2	--	2.6	440	--	0.24	69	0.012	20	--
MW-33-210	04/29/21	N	7.5	8.9	<0.1	--	--	--	--	--	--	0.0078	24	--
MW-33-210	11/30/21	N	12	20	--	--	--	--	--	--	--	--	--	--
MW-33-210	03/03/22	N	8.6	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	06/09/22	N	9.9	10 J	--	--	--	--	--	--	--	--	--	--
MW-33-210	08/24/22	N	11	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	11/17/22	N	12	11	--	--	--	--	--	--	--	--	--	--
MW-34-055	12/03/20	N	<0.2	<1	2.7 J	--	0.19	67	--	0.033 J	23 J	0.068	5.2	5.4 J
MW-34-055	12/03/20	FD	<0.2	<1	2.8 J	--	0.18	65	--	0.022 J	22 J	0.07	5.4	5.3 J
MW-34-055	06/30/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	07/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	09/22/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	11/02/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	12/01/21	N	<0.2	<1	4	30	--	--	--	0.096	--	0.087	4.5	--
MW-34-055	03/10/22	N	0.27	--	2.2	30	--	--	--	0.043	--	0.079	--	--
MW-34-055	05/05/22	N	<0.2	<1	2.1 J	27 J	--	--	--	0.027	--	0.058 J	--	--
MW-34-055	08/23/22	N	<0.2	--	3.4	30 J	--	--	--	0.094 J	--	0.11 J	--	--
MW-34-055	11/09/22	N	<0.2	<1	3.7	28	--	--	--	0.052	--	0.11	4.1	--
MW-34-080	06/18/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.066	--	--
MW-34-080	12/03/20	N	<0.2	<1	<0.1 J	--	0.98	210	--	0.17 J	93 J	0.052	13	18 J
MW-34-080	04/28/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.064	--	--
MW-34-080	06/30/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	06/30/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	07/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	09/22/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	11/02/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-33-150	04/29/21	N	0.82	--	--	--	--	--	--	--	--	1.6	--	--
MW-33-150	11/30/21	N	0.63	--	--	--	--	--	--	--	--	1.5	--	--
MW-33-150	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	11/17/22	N	0.73	--	--	--	--	--	--	1.7	--	1.89	--	--
MW-33-210	06/17/20	N	<0.5	--	--	--	--	--	--	--	--	1.7	--	--
MW-33-210	12/02/20	N	0.75	3,400	--	58	--	6,200	2.8	--	--	1.7	1,200	13,000
MW-33-210	04/29/21	N	<0.5	--	--	--	--	--	--	--	--	1.6	--	--
MW-33-210	11/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	11/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	12/03/20	N	<0.5	92 J	--	160	--	82	--	--	--	<0.1	210	580
MW-34-055	12/03/20	FD	<0.5	89 J	--	150	--	84	--	--	--	<0.1	210	580
MW-34-055	06/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	07/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	09/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	09/22/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-34-055	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-34-055	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-34-055	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-34-055	11/09/22	N	<0.5	--	--	--	--	--	--	<0.25	--	<0.05	--	--
MW-34-080	06/18/20	N	--	--	--	--	--	--	--	--	--	<0.05	--	--
MW-34-080	12/03/20	N	<0.5	1,400 J	--	310	--	2,200	--	--	--	<0.1	580	4,900
MW-34-080	04/28/21	N	--	--	--	--	--	--	--	--	--	<0.05	--	--
MW-34-080	06/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	06/30/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	07/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	08/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	09/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	09/22/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-33-150	04/29/21	N	--	--
MW-33-150	11/30/21	N	--	--
MW-33-150	03/03/22	N	--	--
MW-33-150	06/09/22	N	--	--
MW-33-150	08/24/22	N	--	--
MW-33-150	11/17/22	N	--	--
MW-33-210	06/17/20	N	--	--
MW-33-210	12/02/20	N	--	--
MW-33-210	04/29/21	N	--	--
MW-33-210	11/30/21	N	--	--
MW-33-210	03/03/22	N	--	--
MW-33-210	06/09/22	N	--	--
MW-33-210	08/24/22	N	--	--
MW-33-210	11/17/22	N	--	--
MW-34-055	12/03/20	N	--	--
MW-34-055	12/03/20	FD	--	--
MW-34-055	06/30/21	N	--	--
MW-34-055	07/12/21	N	--	--
MW-34-055	07/26/21	N	--	--
MW-34-055	08/10/21	N	--	--
MW-34-055	08/26/21	N	--	--
MW-34-055	08/10/21	N	--	--
MW-34-055	08/26/21	N	--	--
MW-34-055	09/08/21	N	--	--
MW-34-055	09/22/21	N	--	--
MW-34-055	10/06/21	N	--	--
MW-34-055	10/20/21	N	--	--
MW-34-055	11/02/21	N	--	--
MW-34-055	11/19/21	N	--	--
MW-34-055	12/01/21	N	--	<1
MW-34-055	03/10/22	N	--	<1
MW-34-055	05/05/22	N	--	<1
MW-34-055	08/23/22	N	--	1.1
MW-34-055	11/09/22	N	--	<1
MW-34-080	06/18/20	N	--	--
MW-34-080	12/03/20	N	--	--
MW-34-080	04/28/21	N	--	--
MW-34-080	06/30/21	N	--	--
MW-34-080	06/30/21	FD	--	--
MW-34-080	07/12/21	N	--	--
MW-34-080	07/26/21	N	--	--
MW-34-080	08/10/21	N	--	--
MW-34-080	08/26/21	N	--	--
MW-34-080	09/08/21	N	--	--
MW-34-080	09/22/21	N	--	--
MW-34-080	10/06/21	N	--	--
MW-34-080	10/20/21	N	--	--
MW-34-080	11/02/21	N	--	--
MW-34-080	11/19/21	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-34-080	12/01/21	N	<0.2	<1	<0.1	36	--	--	--	0.35	--	0.074	12	--
MW-34-080	03/10/22	N	<0.2	--	<0.1	34	--	--	--	0.32	--	0.092	--	--
MW-34-080	05/05/22	N	<0.2	<1	<0.1 J	35 J	--	--	--	0.35	--	0.066 J	--	--
MW-34-080	06/17/22	N	<0.2	--	<0.1 J	35	--	--	--	0.79 J	--	0.11 J	--	--
MW-34-080	07/14/22	N	<0.2	--	1.7	35	--	--	--	0.99	--	0.13 J	--	--
MW-34-080	08/11/22	N	<0.2	--	<0.1 J	39	--	--	--	0.48	--	0.13 J	--	--
MW-34-080	09/15/22	N	<0.2	--	<0.1	36	--	--	--	0.41	--	0.14	--	--
MW-34-080	10/12/22	N	<1	--	<0.1	39 J	--	--	--	0.41	--	0.15 J	--	--
MW-34-080	11/09/22	N	<1	<1	<0.1	39	--	--	--	0.35	--	0.2	16	--
MW-34-080	12/07/22	N	<0.2	--	<0.1 J	40	--	--	--	0.26 J	--	0.16	--	--
MW-34-100	02/20/20	N	<0.2	4	<0.1	--	--	--	--	--	--	0.086	53	--
MW-34-100	06/18/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.11	64	--
MW-34-100	10/01/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.19	85	--
MW-34-100	12/03/20	N	<1	<1	<0.1 J	--	1.2 J	92	--	0.088 J	25 J	0.18	57	26 J
MW-34-100	12/03/20	FD	<1	<1	<0.1 J	--	1.6 J	120	--	0.1 J	32 J	0.17	60	28 J
MW-34-100	02/25/21	N	<1	1.7	<0.1	--	--	--	--	--	--	0.16	55	--
MW-34-100	04/28/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.11	63	--
MW-34-100	06/30/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	07/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	08/26/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.16	65	--
MW-34-100	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	09/22/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/20/21	FD	<1	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	11/02/21	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	11/19/21	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	12/01/21	N	<1	<1	<0.1	23	--	--	--	0.073	--	0.092	59	--
MW-34-100	12/01/21	FD	<1	<1	<0.1	23	--	--	--	0.052	--	0.094	59	--
MW-34-100	03/10/22	N	<1	--	<0.1	19	--	--	--	0.077	--	0.08	--	--
MW-34-100	05/05/22	N	<0.2	<1	<0.1 J	20 J	--	--	--	0.15	--	0.25 J	--	--
MW-34-100	08/23/22	N	<1	--	<0.1	21 J	--	--	--	0.055 J	--	0.12 J	--	--
MW-34-100	11/09/22	N	<1	<1	<0.1	20	--	--	--	<0.02	--	0.085	47	--
MW-35-060	04/27/20	N	32	32	0.45	--	--	--	--	--	--	0.0011	15	--
MW-35-060	12/08/20	N	21	21	1.3	72	0.83 J	190 J	--	0.044 J	32 J	0.001	10	--
MW-35-060	12/08/20	FD	20	21	1.2	72	2.1 J	230 J	--	<0.1 J	33 J	0.00081	9.8	--
MW-35-060	04/30/21	N	20	22	<0.1	--	--	--	--	--	--	0.001	12	--
MW-35-060	12/06/21	N	20	20 J	--	--	--	--	--	--	--	--	8.8	--
MW-35-060	03/02/22	N	20	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	06/07/22	N	20	21	--	--	--	--	--	--	--	--	--	--
MW-35-060	08/22/22	N	20	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	08/22/22	FD	20	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	11/17/22	N	20	19	--	--	--	--	--	--	--	--	9.2	--
MW-35-135	04/27/20	N	25	24	<0.1	--	--	--	--	--	--	0.0084	20	--
MW-35-135	12/08/20	N	27	27	0.97	38	1.8 J	260 J	--	<0.1 J	42 J	0.00072	21	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-34-080	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-34-080	03/10/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-34-080	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-34-080	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	490	--
MW-34-080	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	490	--
MW-34-080	08/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-34-080	09/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	620	--
MW-34-080	10/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	640	--
MW-34-080	11/09/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	670	--
MW-34-080	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	680	--
MW-34-100	02/20/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-34-100	06/18/20	N	<0.5	--	--	--	--	--	--	--	--	0.18	--	--
MW-34-100	10/01/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-34-100	12/03/20	N	<0.5	2,000 J	--	200	--	3,000	--	--	--	<0.1	870	6,200
MW-34-100	12/03/20	FD	<0.5	2,000 J	--	210	--	2,800	--	--	--	<0.1	840	6,100
MW-34-100	02/25/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-34-100	04/28/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-34-100	06/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	07/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	08/26/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-34-100	09/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	09/22/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/20/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-34-100	12/01/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-34-100	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-34-100	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-34-100	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-34-100	11/09/22	N	<0.5	--	--	--	--	--	--	<0.25	--	<0.05	--	--
MW-35-060	04/27/20	N	1.5	--	--	--	--	--	--	--	--	2.8	--	--
MW-35-060	12/08/20	N	1.3	990 J	2.9	84	--	2,000	--	--	--	2	310	4,100
MW-35-060	12/08/20	FD	0.99	1,100 J	3	88	--	2,000	--	--	--	2.1	320	4,100
MW-35-060	04/30/21	N	1.2	--	--	--	--	--	--	--	--	2.3	--	--
MW-35-060	12/06/21	N	0.92	--	--	--	--	--	--	--	--	2	--	--
MW-35-060	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	08/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	08/22/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	11/17/22	N	0.98	--	--	--	--	--	--	2.1	--	2.35	--	--
MW-35-135	04/27/20	N	0.92	--	--	--	--	--	--	--	--	2.6	--	--
MW-35-135	12/08/20	N	1	2,000 J	1.5	45	--	3,400	--	--	--	2.6	850	7,500

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-34-080	12/01/21	N	--	<1
MW-34-080	03/10/22	N	--	<1
MW-34-080	05/05/22	N	--	<20
MW-34-080	06/17/22	N	--	<1
MW-34-080	07/14/22	N	--	<1
MW-34-080	08/11/22	N	--	<1
MW-34-080	09/15/22	N	--	<1
MW-34-080	10/12/22	N	--	<1
MW-34-080	11/09/22	N	--	<1
MW-34-080	12/07/22	N	--	<1
MW-34-100	02/20/20	N	--	--
MW-34-100	06/18/20	N	--	--
MW-34-100	10/01/20	N	--	--
MW-34-100	12/03/20	N	--	--
MW-34-100	12/03/20	FD	--	--
MW-34-100	02/25/21	N	--	--
MW-34-100	04/28/21	N	--	--
MW-34-100	06/30/21	N	--	--
MW-34-100	07/12/21	N	--	--
MW-34-100	07/26/21	N	--	--
MW-34-100	08/10/21	N	--	--
MW-34-100	08/10/21	N	--	--
MW-34-100	08/26/21	N	--	--
MW-34-100	09/08/21	N	--	--
MW-34-100	09/22/21	N	--	--
MW-34-100	10/06/21	N	--	--
MW-34-100	10/20/21	N	--	--
MW-34-100	10/20/21	FD	--	--
MW-34-100	11/02/21	N	--	--
MW-34-100	11/19/21	N	--	--
MW-34-100	12/01/21	N	--	<1
MW-34-100	12/01/21	FD	--	<1
MW-34-100	03/10/22	N	--	<1
MW-34-100	05/05/22	N	--	<1
MW-34-100	08/23/22	N	--	<1
MW-34-100	11/09/22	N	--	<1
MW-35-060	04/27/20	N	--	--
MW-35-060	12/08/20	N	--	--
MW-35-060	12/08/20	FD	--	--
MW-35-060	04/30/21	N	--	--
MW-35-060	12/06/21	N	--	--
MW-35-060	03/02/22	N	--	--
MW-35-060	06/07/22	N	--	--
MW-35-060	08/22/22	N	--	--
MW-35-060	08/22/22	FD	--	--
MW-35-060	11/17/22	N	--	--
MW-35-135	04/27/20	N	--	--
MW-35-135	12/08/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-35-135	12/08/20	FD	28	27	1	38	0.82 J	220 J	--	<0.02 J	38 J	0.00069	21	--
MW-35-135	04/30/21	N	24	24	<0.1	--	--	--	--	--	--	0.0025	20	--
MW-35-135	12/06/21	N	26	25 J	--	--	--	--	--	--	--	--	20	--
MW-35-135	03/02/22	N	30	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	06/07/22	N	27	29	--	--	--	--	--	--	--	--	--	--
MW-35-135	08/22/22	N	27	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	11/17/22	N	0.51	2.6	--	--	--	--	--	--	--	--	9.2	--
MW-36-020	12/15/20	N	<0.2	<1	2.2	--	1.4	190 J	--	2.20 J	220	0.45	21	--
MW-36-020	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	12/03/21	N	<0.2	<1	0.48	120	--	--	--	1 J	--	0.29	17	--
MW-36-020	03/09/22	N	<0.2	--	0.52	88	--	--	--	1.30 J	--	0.27	--	--
MW-36-020	05/04/22	N	<0.2	<1	0.79 J	80 J	--	--	--	0.62	--	0.29 J	--	--
MW-36-020	08/23/22	N	<0.2	--	<0.1	340 J	--	--	--	3.70 J	--	0.72 J	--	--
MW-36-020	11/10/22	N	<0.2	<1	0.56	170	--	--	--	3.30	--	0.45	14	--
MW-36-040	12/15/20	N	<0.2	<1	4.5	--	<100	49 J	--	0.34 J	13	0.12	2.9	--
MW-36-040	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/18/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	12/03/21	N	<0.2	<1	5	41	--	--	--	0.32 J	--	0.11	3.5	--
MW-36-040	12/03/21	FD	<0.2	<1	5.2	40	--	--	--	0.31 J	--	0.11	3.3	--
MW-36-040	03/09/22	N	<0.2	--	7.7	49	--	--	--	0.41 J	--	0.15	--	--
MW-36-040	05/04/22	N	<0.2	<1	6.7 J	43 J	--	--	--	0.46	--	0.15 J	--	--
MW-36-040	08/23/22	N	<0.2	--	6.7	55 J	--	--	--	0.47 J	--	0.17 J	--	--
MW-36-040	11/10/22	N	<0.2	<1	6.2	49	--	--	--	0.41	--	0.15	4.5	--
MW-36-050	12/15/20	N	<0.2	<1	5.6	--	<100	76 J	--	0.093 J	19	0.21	3.9	--
MW-36-050	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-35-135	12/08/20	FD	1.1	1,900 J	1.6	46	--	3,300	--	--	--	2.6	840	7,400
MW-35-135	04/30/21	N	1.1	--	--	--	--	--	--	--	--	2.4	--	--
MW-35-135	12/06/21	N	1	--	--	--	--	--	--	--	--	2.5	--	--
MW-35-135	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	08/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	11/17/22	N	<0.5	--	--	--	--	--	--	2.3	--	2.45	--	--
MW-36-020	12/15/20	N	<0.5	1,200	--	820	--	1,100	--	--	--	--	1,500	4,900
MW-36-020	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	07/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	08/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	08/25/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	09/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	09/21/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	10/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	11/01/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	11/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-36-020	03/09/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-020	05/04/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-020	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-020	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-040	12/15/20	N	<0.5	160	--	270	--	86	--	--	--	<0.05	140	630
MW-36-040	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	07/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	08/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	08/25/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	09/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	09/21/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	10/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/01/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/18/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-36-040	12/03/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-36-040	03/09/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-040	05/04/22	N	--	--	--	--	--	--	--	<0.1	--	<0.1	--	--
MW-36-040	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-36-040	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	<0.05	--	--
MW-36-050	12/15/20	N	<0.5	93	--	190	--	84	--	--	--	--	190	590
MW-36-050	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	07/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-35-135	12/08/20	FD	--	--
MW-35-135	04/30/21	N	--	--
MW-35-135	12/06/21	N	--	--
MW-35-135	03/02/22	N	--	--
MW-35-135	06/07/22	N	--	--
MW-35-135	08/22/22	N	--	--
MW-35-135	11/17/22	N	--	--
MW-36-020	12/15/20	N	--	--
MW-36-020	06/29/21	N	--	--
MW-36-020	07/13/21	N	--	--
MW-36-020	07/27/21	N	--	--
MW-36-020	08/09/21	N	--	--
MW-36-020	08/25/21	N	--	--
MW-36-020	09/07/21	N	--	--
MW-36-020	09/21/21	N	--	--
MW-36-020	10/06/21	N	--	--
MW-36-020	10/18/21	N	--	--
MW-36-020	11/01/21	N	--	--
MW-36-020	11/18/21	N	--	--
MW-36-020	12/03/21	N	--	1.6
MW-36-020	03/09/22	N	--	<1
MW-36-020	05/04/22	N	--	1.8
MW-36-020	08/23/22	N	--	1.6
MW-36-020	11/10/22	N	--	1.7
MW-36-040	12/15/20	N	--	--
MW-36-040	06/29/21	N	--	--
MW-36-040	07/13/21	N	--	--
MW-36-040	07/27/21	N	--	--
MW-36-040	08/09/21	N	--	--
MW-36-040	08/25/21	N	--	--
MW-36-040	09/07/21	N	--	--
MW-36-040	09/21/21	N	--	--
MW-36-040	10/06/21	N	--	--
MW-36-040	10/18/21	N	--	--
MW-36-040	11/01/21	N	--	--
MW-36-040	11/18/21	N	--	--
MW-36-040	11/18/21	FD	--	--
MW-36-040	12/03/21	N	--	2.3
MW-36-040	12/03/21	FD	--	2.3
MW-36-040	03/09/22	N	--	1.5
MW-36-040	05/04/22	N	--	2
MW-36-040	08/23/22	N	--	1.8
MW-36-040	11/10/22	N	--	2.3
MW-36-050	12/15/20	N	--	--
MW-36-050	06/29/21	N	--	--
MW-36-050	07/13/21	N	--	--
MW-36-050	07/27/21	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-36-050	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/25/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	12/03/21	N	<0.2	<1	5.2	25	--	--	--	0.15 J	--	0.22	4.1	--
MW-36-050	03/09/22	N	<0.2	--	5.2	27	--	--	--	0.13 J	--	0.22	--	--
MW-36-050	05/04/22	N	<0.2	<1	4.8 J	25 J	--	--	--	0.13	--	0.3 J	--	--
MW-36-050	08/23/22	N	<0.2	--	5.6	28 J	--	--	--	0.2 J	--	0.32 J	--	--
MW-36-050	11/10/22	N	<0.2	<1	4.8	26	--	--	--	0.2	--	0.23	4.2	--
MW-36-070	12/15/20	N	0.2	<1	1.9	--	<100	71 J	--	<0.02	17	0.14	5	--
MW-36-070	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	12/03/21	N	<0.2	<1	2.2	33	--	--	--	<0.02 J	--	0.21	4.9	--
MW-36-070	03/09/22	N	<0.2	--	2.4	32	--	--	--	0.029 J	--	0.22	--	--
MW-36-070	05/04/22	N	<0.2	<1	2.2 J	32 J	--	--	--	0.021	--	0.39 J	--	--
MW-36-070	08/10/22	N	<0.2	--	1.9	36	--	--	--	0.033 J	--	0.28	--	--
MW-36-070	08/10/22	FD	<0.2	--	2.2	36	--	--	--	0.029 J	--	0.29	--	--
MW-36-070	11/10/22	N	<0.2	<1	2.2	39	--	--	--	0.048	--	0.32	5.2	--
MW-36-090	06/16/20	N	<0.2	<1	1.3	--	--	--	--	--	--	0.051	--	--
MW-36-090	12/15/20	N	<0.2	1.7	5.2	--	0.52	86 J	--	0.11 J	25	0.034	9.6	--
MW-36-090	04/28/21	N	<0.2	<1	1.2	--	--	--	--	--	--	0.038	--	--
MW-36-090	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	12/03/21	N	<0.2	<1	1.6	36	--	--	--	0.035 J	--	0.072	14	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-36-050	08/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/25/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/25/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	09/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	09/21/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	10/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	11/01/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	11/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-36-050	03/09/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-050	05/04/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-050	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-050	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-070	12/15/20	N	<0.5	98	--	160	--	93	--	--	--	--	210	640
MW-36-070	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	07/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	08/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	08/25/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	09/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	09/21/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	10/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	11/01/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	11/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-36-070	03/09/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-070	05/04/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-36-070	08/10/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-070	08/10/22	FD	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-070	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-090	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	12/15/20	N	<0.5	620	--	270	--	1,000	--	--	--	--	390	2,400
MW-36-090	04/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	07/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	08/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	08/25/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	09/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	09/21/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	10/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	11/01/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	11/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-36-050	08/09/21	N	--	--
MW-36-050	08/25/21	N	--	--
MW-36-050	08/25/21	FD	--	--
MW-36-050	09/07/21	N	--	--
MW-36-050	09/21/21	N	--	--
MW-36-050	10/06/21	N	--	--
MW-36-050	10/18/21	N	--	--
MW-36-050	11/01/21	N	--	--
MW-36-050	11/18/21	N	--	--
MW-36-050	12/03/21	N	--	1.3
MW-36-050	03/09/22	N	--	<1
MW-36-050	05/04/22	N	--	1.2
MW-36-050	08/23/22	N	--	1.2
MW-36-050	11/10/22	N	--	1.2
MW-36-070	12/15/20	N	--	--
MW-36-070	06/29/21	N	--	--
MW-36-070	07/13/21	N	--	--
MW-36-070	07/27/21	N	--	--
MW-36-070	08/09/21	N	--	--
MW-36-070	08/25/21	N	--	--
MW-36-070	09/07/21	N	--	--
MW-36-070	09/21/21	N	--	--
MW-36-070	10/06/21	N	--	--
MW-36-070	10/18/21	N	--	--
MW-36-070	11/01/21	N	--	--
MW-36-070	11/18/21	N	--	--
MW-36-070	12/03/21	N	--	<1
MW-36-070	03/09/22	N	--	<1
MW-36-070	05/04/22	N	--	<1
MW-36-070	08/10/22	N	--	<1
MW-36-070	08/10/22	FD	--	<1
MW-36-070	11/10/22	N	--	<1
MW-36-090	06/16/20	N	--	--
MW-36-090	12/15/20	N	--	--
MW-36-090	04/28/21	N	--	--
MW-36-090	06/29/21	N	--	--
MW-36-090	07/13/21	N	--	--
MW-36-090	07/27/21	N	--	--
MW-36-090	08/09/21	N	--	--
MW-36-090	08/25/21	N	--	--
MW-36-090	09/07/21	N	--	--
MW-36-090	09/21/21	N	--	--
MW-36-090	10/06/21	N	--	--
MW-36-090	10/18/21	N	--	--
MW-36-090	11/01/21	N	--	--
MW-36-090	11/18/21	N	--	--
MW-36-090	12/03/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-36-090	03/09/22	N	<0.2	--	0.78	46	--	--	--	0.035 J	--	0.11	--	--
MW-36-090	05/04/22	N	<0.2	<1	0.55 J	38 J	--	--	--	0.04	--	0.11 J	--	--
MW-36-090	05/04/22	FD	<0.2	<1	0.51 J	39 J	--	--	--	0.037	--	0.11 J	--	--
MW-36-090	06/17/22	N	<0.2	--	<0.1 J	37	--	--	--	0.042 J	--	0.13 J	--	--
MW-36-090	07/14/22	N	<0.2	--	3.3	37	--	--	--	0.039	--	0.15 J	--	--
MW-36-090	08/10/22	N	<0.2	--	1.2	33	--	--	--	0.037 J	--	0.16	--	--
MW-36-090	09/14/22	N	<0.2	--	2	43	--	--	--	0.038 J	--	0.16	--	--
MW-36-090	10/12/22	N	<0.2	--	1.3	48 J	--	--	--	0.14	--	0.16 J	--	--
MW-36-090	11/10/22	N	<0.2	<1	2.1	41	--	--	--	0.052	--	0.13	5.3	--
MW-36-090	12/07/22	N	<0.2	--	2.4	47	--	--	--	0.052 J	--	0.13	--	--
MW-36-100	06/16/20	N	12	11	1.5	--	--	--	--	--	--	0.24	20	--
MW-36-100	12/15/20	N	4.5	6	2.9	--	1.2	180 J	--	0.18 J	53	0.22	19	--
MW-36-100	04/28/21	N	5.5	7.1	<0.1	--	--	--	--	--	--	0.16	21	--
MW-36-100	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	08/25/21	N	8.7	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	11/01/21	N	36	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	11/18/21	N	8	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	12/03/21	N	8	11	<0.1	43	--	--	--	0.26 J	--	0.23	19	--
MW-36-100	03/09/22	N	<0.2	--	2.8	56	--	--	--	0.49 J	--	0.48	--	--
MW-36-100	05/04/22	N	<0.2	<1	1.5 J	59 J	--	--	--	0.52	--	0.51 J	--	--
MW-36-100	06/17/22	N	0.93	--	<0.1 J	51	--	--	--	0.41 J	--	0.62 J	--	--
MW-36-100	06/17/22	FD	0.81	--	<0.1 J	52	--	--	--	0.35 J	--	0.56 J	--	--
MW-36-100	07/14/22	N	<0.2	--	4.1	59	--	--	--	0.43	--	0.48 J	--	--
MW-36-100	07/14/22	FD	<0.2	--	3.5	54	--	--	--	0.38	--	0.46 J	--	--
MW-36-100	08/10/22	N	3.5	--	13	33	--	--	--	<0.02 J	--	0.0098	--	--
MW-36-100	09/14/22	N	<0.2	--	10	40	--	--	--	0.17 J	--	0.34	--	--
MW-36-100	10/12/22	N	<0.2	--	3.4	61 J	--	--	--	0.71	--	0.59 J	--	--
MW-36-100	11/10/22	N	<0.2	<1	3.9	54	--	--	--	0.79	--	0.51	13	--
MW-36-100	12/07/22	N	<0.2	--	4.5	65	--	--	--	0.71 J	--	0.59	--	--
MW-37D	06/24/20	N	5	6.5	--	--	--	--	--	--	--	--	63	--
MW-37D	12/10/20	N	4.5	5.7	--	--	1.3	220	--	<0.1 J	15	0.0023	65	--
MW-37D	06/07/21	N	4.8	5	--	--	--	--	--	--	--	--	65	--
MW-37D	12/07/21	N	6	7.4	<0.1 J	--	--	--	--	--	--	<0.0005 J	68	--
MW-37D	06/16/22	N	5.6	6	--	--	--	--	--	--	--	--	--	--
MW-37D	12/01/22	N	3.8	4.2	2.2	--	--	--	--	--	--	<0.0005 J	74 J	--
MW-37S	12/10/20	N	12	13	2	--	0.73	190	--	0.13 J	34	0.006	15 J	--
MW-37S	12/07/21	N	7.8	8	<0.1 J	--	--	--	--	--	--	0.0057 J	16	--
MW-37S	06/16/22	N	12	12	--	--	--	--	--	--	--	--	--	--
MW-37S	12/01/22	N	11	12	0.57	--	--	--	--	--	--	<0.0005 J	13 J	--
MW-38D	04/23/20	N	19	16	7.3	--	--	--	--	--	--	0.027	78	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-36-090	03/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-090	05/04/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-090	05/04/22	FD	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-090	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	350	--
MW-36-090	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	280	--
MW-36-090	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	230	--
MW-36-090	09/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	290	--
MW-36-090	10/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	290	--
MW-36-090	11/10/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	250	--
MW-36-090	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	240	--
MW-36-100	06/16/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-36-100	12/15/20	N	<0.5	1,400	--	290	--	1,900	--	--	--	<0.05	600	4,600
MW-36-100	04/28/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-36-100	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	07/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	08/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	08/25/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	09/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	09/21/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	10/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	11/01/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	11/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	12/03/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-36-100	03/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-36-100	05/04/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-36-100	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	470	--
MW-36-100	06/17/22	FD	--	--	--	--	--	--	--	<0.25	--	--	470	--
MW-36-100	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	430	--
MW-36-100	07/14/22	FD	--	--	--	--	--	--	--	<0.5	--	--	430	--
MW-36-100	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	0.25	240	--
MW-36-100	09/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	350	--
MW-36-100	10/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	400	--
MW-36-100	11/10/22	N	<0.5	--	--	--	--	--	--	<0.5	--	<0.05	390	--
MW-36-100	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	390	--
MW-37D	06/24/20	N	0.66	--	--	--	--	--	--	--	--	0.92	--	--
MW-37D	12/10/20	N	1.1	2,400	--	32	--	3,800	--	--	--	0.98	650	7,100
MW-37D	06/07/21	N	0.82	--	--	--	--	--	--	--	--	1.4	--	--
MW-37D	12/07/21	N	1	--	--	--	--	--	--	--	--	1.4	--	--
MW-37D	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-37D	12/01/22	N	1.8	--	--	--	--	--	--	2.6	--	--	--	--
MW-37S	12/10/20	N	0.82	1,300	--	44	--	2,200	--	--	--	--	330	4,200
MW-37S	12/07/21	N	0.8	--	--	--	--	--	--	--	--	1.2	--	--
MW-37S	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-37S	12/01/22	N	0.87	--	--	--	--	--	--	1.8	--	1.2 J	--	--
MW-38D	04/23/20	N	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-36-090	03/09/22	N	--	<1
MW-36-090	05/04/22	N	--	<1
MW-36-090	05/04/22	FD	--	<1
MW-36-090	06/17/22	N	--	<1
MW-36-090	07/14/22	N	--	<1
MW-36-090	08/10/22	N	--	<1
MW-36-090	09/14/22	N	--	<1
MW-36-090	10/12/22	N	--	<1
MW-36-090	11/10/22	N	--	<1
MW-36-090	12/07/22	N	--	<1
MW-36-100	06/16/20	N	--	--
MW-36-100	12/15/20	N	--	--
MW-36-100	04/28/21	N	--	--
MW-36-100	06/29/21	N	--	--
MW-36-100	07/13/21	N	--	--
MW-36-100	07/27/21	N	--	--
MW-36-100	08/09/21	N	--	--
MW-36-100	08/25/21	N	--	--
MW-36-100	09/07/21	N	--	--
MW-36-100	09/21/21	N	--	--
MW-36-100	10/06/21	N	--	--
MW-36-100	10/18/21	N	--	--
MW-36-100	11/01/21	N	--	--
MW-36-100	11/18/21	N	--	--
MW-36-100	12/03/21	N	--	<1
MW-36-100	03/09/22	N	--	<1
MW-36-100	05/04/22	N	--	<1
MW-36-100	06/17/22	N	--	<1
MW-36-100	06/17/22	FD	--	<1
MW-36-100	07/14/22	N	--	<1
MW-36-100	07/14/22	FD	--	<1
MW-36-100	08/10/22	N	--	<1
MW-36-100	09/14/22	N	--	<1
MW-36-100	10/12/22	N	--	<1
MW-36-100	11/10/22	N	--	<1
MW-36-100	12/07/22	N	--	<1
MW-37D	06/24/20	N	--	--
MW-37D	12/10/20	N	--	--
MW-37D	06/07/21	N	--	--
MW-37D	12/07/21	N	--	--
MW-37D	06/16/22	N	--	--
MW-37D	12/01/22	N	--	--
MW-37S	12/10/20	N	--	--
MW-37S	12/07/21	N	--	--
MW-37S	06/16/22	N	--	--
MW-37S	12/01/22	N	--	--
MW-38D	04/23/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-38D	10/05/20	N	20	21	--	--	--	--	--	--	--	--	--	--
MW-38D	12/14/20	N	17	19	--	--	--	--	--	--	--	--	--	--
MW-38D	12/15/20	N	19	18	8.5	--	5.1	250 J	--	<0.1	6.9	0.029	89	--
MW-38D	02/25/21	N	25	22	<0.1	--	--	--	--	--	--	0.04	78	--
MW-38D	05/05/21	N	23	22 J	<0.1	--	--	96	--	--	--	0.02	87	50 J
MW-38D	09/22/21	N	30	36 J	<0.1 J	--	--	550 J	--	--	11 J	0.0054	38 J	47
MW-38D	12/08/21	N	50	47	<0.1	--	--	--	--	--	--	0.0053 J	58	--
MW-38D	03/03/22	N	39	36	--	--	--	--	--	--	--	--	38	--
MW-38D	06/08/22	N	<4	<5	--	--	--	--	--	--	--	--	28	--
MW-38D	06/08/22	FD	<4	<5	--	--	--	--	--	--	--	--	34	--
MW-38D	08/25/22	N	8.8	11	--	--	--	--	--	--	--	--	32	--
MW-38D	11/28/22	N	24	22 J	<0.1	--	--	--	--	--	--	0.065 J	32	--
MW-38S	02/25/20	N	3.8	3.3	6.6	--	--	--	--	--	--	0.048	25	--
MW-38S	02/25/20	FD	3.9	3.2	6.6	--	--	--	--	--	--	0.048	22	--
MW-38S	04/23/20	N	4	4.4	5.7	--	--	--	--	--	--	0.069	21	--
MW-38S	04/23/20	FD	4	4.6	5.8	--	--	--	--	--	--	0.075	22	--
MW-38S	11/30/20	N	7.2	7.8	6.5	--	0.99 J	23 J	--	<0.02	6.2 J	0.061	20	--
MW-38S	02/25/21	N	8.4	9.1	5.1	--	--	--	--	--	--	0.074	17	--
MW-38S	05/05/21	N	11	11 J	5.5	--	--	34	--	--	--	0.053	15	6.4 J
MW-38S	08/27/21	N	15	17	6.5 J	--	--	--	--	--	--	0.022	12	--
MW-38S	09/22/21	N	5.6	5.3 J	9 J	--	--	18 J	--	--	3.3 J	0.014	16 J	3.7
MW-38S	12/08/21	N	15	17	7.2	--	--	--	--	--	--	0.0034 J	8.2	--
MW-38S	03/03/22	N	31	31	--	--	--	--	--	--	--	--	7.7	--
MW-38S	06/08/22	N	17	16	--	--	--	--	--	--	--	--	7	--
MW-38S	08/25/22	N	31	31	--	--	--	--	--	--	--	--	9	--
MW-38S	11/28/22	N	37	44 J	3.6	--	--	--	--	--	--	0.24 J	6.9	--
MW-39-040	12/11/20	N	<0.2	<1	18	--	--	--	--	--	--	0.099	--	--
MW-39-040	12/07/21	N	<0.2	<1	16	74	--	--	--	0.32 J	--	0.12	7.7	--
MW-39-040	02/28/22	N	<0.2	--	15	85	--	--	--	0.32	--	0.11	--	--
MW-39-040	05/03/22	N	<0.2	<1	16	72	--	--	--	0.27	--	0.11	--	--
MW-39-040	06/15/22	N	<0.2	--	15	72	--	--	--	0.35	--	0.11	--	--
MW-39-040	07/12/22	N	<0.2	--	14	69	--	--	--	0.29 J	--	0.11	--	--
MW-39-040	08/09/22	N	<0.2	--	13	59 J	--	--	--	0.24 J	--	0.093 J	--	--
MW-39-040	09/13/22	N	<0.2	--	15	66	--	--	--	0.26 J	--	0.099	--	--
MW-39-040	09/13/22	FD	<0.2	--	15	61	--	--	--	0.27 J	--	0.098	--	--
MW-39-040	10/11/22	N	<0.2	--	14 J	61 J	--	--	--	0.22 J	--	0.1 J	--	--
MW-39-040	11/08/22	N	<0.2	<1	13	63	--	--	--	0.26 J	--	0.087 J	8.9 J	--
MW-39-040	12/06/22	N	<0.2	--	12	61	--	--	--	0.23	--	0.088 J	--	--
MW-39-050	12/11/20	N	<0.2	<1	2	--	0.12	72 J	--	0.15 J	19	0.17	4.5 J	--
MW-39-050	12/07/21	N	<0.2	<1	16	73	--	--	--	<0.02	--	0.12	7.6	--
MW-39-050	02/28/22	N	<0.2	--	1.4	42	--	--	--	0.076	--	0.17	--	--
MW-39-050	05/03/22	N	<0.2	<1	1.8	37	--	--	--	<0.02	--	0.17	--	--
MW-39-050	06/15/22	N	<0.2	--	1.6	41	--	--	--	<0.02	--	0.17	--	--
MW-39-050	07/12/22	N	<0.2	--	1.6	38	--	--	--	<0.02 J	--	0.21	--	--
MW-39-050	08/09/22	N	<0.2	--	1.2	35 J	--	--	--	<0.02 J	--	0.19 J	--	--
MW-39-050	09/13/22	N	<0.2	--	1.6	43	--	--	--	0.021 J	--	0.21	--	--
MW-39-050	10/11/22	N	<0.2	--	1.6 J	42 J	--	--	--	<0.02	--	0.22 J	--	--

Appendix B
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-38D	10/05/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-38D	12/14/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-38D	12/15/20	N	<0.5	3,800	--	43	--	5,800	--	--	--	0.52	580	11,000 J
MW-38D	02/25/21	N	<0.5	--	--	--	--	--	--	--	--	0.12	--	--
MW-38D	05/05/21	N	<0.5	5,700	--	--	--	7,500	--	--	--	0.075	720	12,000 J
MW-38D	09/22/21	N	<0.5	5,300	--	--	--	7,000	--	--	--	0.36	700	13,000
MW-38D	12/08/21	N	0.83	--	--	--	--	--	--	--	--	1.5	--	--
MW-38D	03/03/22	N	0.75	--	--	--	--	--	--	0.75	--	--	--	--
MW-38D	06/08/22	N	<2.5	--	--	--	--	--	--	<1	--	--	--	--
MW-38D	06/08/22	FD	<2.5	--	--	--	--	--	--	<1	--	--	--	--
MW-38D	08/25/22	N	<2.5	--	--	--	--	--	--	<1	--	--	--	--
MW-38D	11/28/22	N	0.55 J	--	--	--	--	--	--	3.3	--	--	--	--
MW-38S	02/25/20	N	2.5	--	--	--	--	--	--	--	--	4.7	--	--
MW-38S	02/25/20	FD	2.4	--	--	--	--	--	--	--	--	5.1	--	--
MW-38S	04/23/20	N	2.9	--	--	--	--	--	--	--	--	5.1	--	--
MW-38S	04/23/20	FD	3.1	--	--	--	--	--	--	--	--	5.5	--	--
MW-38S	11/30/20	N	3	270 J	--	150	--	310	--	--	--	5.6	150	940
MW-38S	02/25/21	N	3.3	--	--	--	--	--	--	--	--	5.3	--	--
MW-38S	05/05/21	N	4	320	--	--	--	350	--	--	--	5.9	150	920
MW-38S	08/27/21	N	4.4	--	--	--	--	--	--	--	--	6.1	--	--
MW-38S	09/22/21	N	2.2	190	--	--	--	140	--	--	--	6.1	81	580
MW-38S	12/08/21	N	3.9	--	--	--	--	--	--	--	--	7	--	--
MW-38S	03/03/22	N	5.7	--	--	--	--	--	--	5.6	--	--	--	--
MW-38S	06/08/22	N	4.5	--	--	--	--	--	--	5.2	--	--	--	--
MW-38S	08/25/22	N	5	--	--	--	--	--	--	5.2	--	--	--	--
MW-38S	11/28/22	N	3.7 J	--	--	--	--	--	--	3.6	--	--	--	--
MW-39-040	12/11/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-39-040	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-040	02/28/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-040	05/03/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-040	06/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	150	--
MW-39-040	07/12/22	N	--	--	--	--	--	--	--	<0.25	--	--	130	--
MW-39-040	08/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	120	--
MW-39-040	09/13/22	N	--	--	--	--	--	--	--	<0.25	--	--	130	--
MW-39-040	09/13/22	FD	--	--	--	--	--	--	--	<0.25	--	--	130	--
MW-39-040	10/11/22	N	--	--	--	--	--	--	--	<0.25	--	--	120	--
MW-39-040	11/08/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	120	--
MW-39-040	12/06/22	N	--	--	--	--	--	--	--	<0.25	--	--	120	--
MW-39-050	12/11/20	N	<0.5	100	--	180	--	87	--	--	--	--	200	610
MW-39-050	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-050	02/28/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-050	05/03/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-050	06/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-39-050	07/12/22	N	--	--	--	--	--	--	--	<0.25	--	--	190	--
MW-39-050	08/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	180	--
MW-39-050	09/13/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-39-050	10/11/22	N	--	--	--	--	--	--	--	<0.25	--	--	190	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-38D	10/05/20	N	--	--
MW-38D	12/14/20	N	--	--
MW-38D	12/15/20	N	--	--
MW-38D	02/25/21	N	--	--
MW-38D	05/05/21	N	--	--
MW-38D	09/22/21	N	--	--
MW-38D	12/08/21	N	--	--
MW-38D	03/03/22	N	--	--
MW-38D	06/08/22	N	--	--
MW-38D	06/08/22	FD	--	--
MW-38D	08/25/22	N	--	--
MW-38D	11/28/22	N	--	--
MW-38S	02/25/20	N	--	--
MW-38S	02/25/20	FD	--	--
MW-38S	04/23/20	N	--	--
MW-38S	04/23/20	FD	--	--
MW-38S	11/30/20	N	--	--
MW-38S	02/25/21	N	--	--
MW-38S	05/05/21	N	--	--
MW-38S	08/27/21	N	--	--
MW-38S	09/22/21	N	--	--
MW-38S	08/27/21	N	--	--
MW-38S	09/22/21	N	--	--
MW-38S	12/08/21	N	--	--
MW-38S	03/03/22	N	--	--
MW-38S	06/08/22	N	--	--
MW-38S	08/25/22	N	--	--
MW-38S	11/28/22	N	--	--
MW-39-040	12/11/20	N	--	--
MW-39-040	12/07/21	N	--	2.2
MW-39-040	02/28/22	N	--	2.7
MW-39-040	05/03/22	N	--	2.3
MW-39-040	06/15/22	N	--	2.5
MW-39-040	07/12/22	N	--	2.2
MW-39-040	08/09/22	N	--	2.7
MW-39-040	09/13/22	N	--	2.6
MW-39-040	09/13/22	FD	--	2.7
MW-39-040	10/11/22	N	--	2.9
MW-39-040	11/08/22	N	--	3.1
MW-39-040	12/06/22	N	--	2.8
MW-39-050	12/11/20	N	--	--
MW-39-050	12/07/21	N	--	1
MW-39-050	02/28/22	N	--	<1
MW-39-050	05/03/22	N	--	<1
MW-39-050	06/15/22	N	--	<1
MW-39-050	07/12/22	N	--	<1
MW-39-050	08/09/22	N	--	<1
MW-39-050	09/13/22	N	--	<1
MW-39-050	10/11/22	N	--	<1

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-39-050	11/08/22	N	<0.2	<1	1.7	46	--	--	--	0.034 J	--	0.27 J	4.9 J	--
MW-39-050	12/06/22	N	<0.2	--	1.9	47	--	--	--	<0.02	--	0.25 J	--	--
MW-39-050	12/06/22	FD	<0.2	--	1.9	43	--	--	--	<0.02	--	0.22 J	--	--
MW-39-060	12/11/20	N	<0.2	<1	2.7	--	0.14	54 J	--	0.12 J	17	0.11	5.2 J	--
MW-39-060	12/07/21	N	<0.2	<1	16	74	--	--	--	0.11 J	--	0.12	7.7	--
MW-39-060	02/28/22	N	<0.2	--	2	36	--	--	--	1.80	--	0.15	--	--
MW-39-060	06/15/22	N	<1	--	2	24	--	--	--	<0.02	--	0.12	--	--
MW-39-060	07/12/22	N	<0.2	--	2.1	24	--	--	--	0.036 J	--	0.13	--	--
MW-39-060	08/09/22	N	<0.2	--	1.6	36 J	--	--	--	0.27 J	--	0.19 J	--	--
MW-39-060	09/13/22	N	<0.2	--	2	32	--	--	--	0.042 J	--	0.18	--	--
MW-39-060	10/11/22	N	<0.2	--	1.5 J	38 J	--	--	--	0.032 J	--	0.25 J	--	--
MW-39-060	11/08/22	N	<0.2	<1	1.5	41	--	--	--	0.041 J	--	0.24 J	6.6 J	--
MW-39-060	12/06/22	N	<0.2	--	1.3	43	--	--	--	0.23	--	0.22 J	--	--
MW-39-070	12/11/20	N	<0.2	<1	--	--	0.22	53 J	--	0.22 J	17	0.0036	16 J	--
MW-39-070	12/07/21	N	<0.2	<1	16	74	--	--	--	<0.02	--	0.12	7.7	--
MW-39-070	02/28/22	N	<0.2	--	1.9	21	--	--	--	<0.02	--	0.0076	--	--
MW-39-070	05/03/22	N	<0.2	<1	1.1	31	--	--	--	<0.02	--	0.0076	--	--
MW-39-070	06/15/22	N	<0.2	--	0.39	40	--	--	--	<0.02	--	0.0085	--	--
MW-39-070	07/12/22	N	<0.2	--	0.71	50	--	--	--	<0.02 J	--	0.015	--	--
MW-39-070	08/09/22	N	<0.2	--	1.2	22 J	--	--	--	0.025 J	--	0.01 J	--	--
MW-39-070	08/09/22	FD	<0.2	--	1.2	24 J	--	--	--	<0.02 J	--	0.012 J	--	--
MW-39-070	08/09/22	N	<0.2	--	1.2	22 J	--	--	--	0.025 J	--	0.01 J	--	--
MW-39-070	08/09/22	FD	<0.2	--	1.2	24 J	--	--	--	<0.02 J	--	0.012 J	--	--
MW-39-070	09/13/22	N	<0.2	--	1.2	36	--	--	--	<0.02	--	0.012	--	--
MW-39-070	10/11/22	N	<0.2	--	0.97 J	45 J	--	--	--	<0.02 J	--	0.018 J	--	--
MW-39-070	10/11/22	FD	<0.2	--	1.1 J	45 J	--	--	--	0.19 J	--	0.019 J	--	--
MW-39-070	11/08/22	N	<0.2	<1	1.2	47	--	--	--	<0.02 J	--	0.017 J	9.2 J	--
MW-39-070	12/06/22	N	<0.2	--	1.2	46	--	--	--	<0.02	--	0.024 J	--	--
MW-39-080	12/11/20	N	0.47	1.2	--	--	0.61	100 J	--	0.032 J	38	0.0042	26 J	--
MW-39-080	12/07/21	N	<0.2	<1	16 J	74 J	--	--	--	<0.02	--	0.12 J	7.7 J	--
MW-39-080	12/07/21	FD	<0.2	<1	1.5 J	22 J	--	--	--	<0.02	--	0.0039 J	22 J	--
MW-39-080	02/28/22	N	<0.2	--	0.49	21	--	--	--	<0.1	--	0.0058	--	--
MW-39-080	05/03/22	N	0.33	<1	<0.1	16	--	--	--	<0.02	--	0.0029	--	--
MW-39-080	06/15/22	N	10	--	<0.1	25	--	--	--	<0.02	--	0.0036	--	--
MW-39-080	07/12/22	N	13	--	<0.1	24	--	--	--	<0.02 J	--	0.0048	--	--
MW-39-080	08/09/22	N	0.53	--	<0.1	20 J	--	--	--	<0.02 J	--	0.0065 J	--	--
MW-39-080	09/13/22	N	17	--	<0.1	32	--	--	--	<0.02	--	0.0078	--	--
MW-39-080	10/11/22	N	13	--	<0.1 J	27 J	--	--	--	<0.02	--	0.0058 J	--	--
MW-39-080	11/08/22	N	23	21	0.69	26	--	--	--	<0.02 J	--	0.0059 J	14 J	--
MW-39-080	12/06/22	N	1.4	--	1	24	--	--	--	<0.02	--	0.0079 J	--	--
MW-39-100	06/18/20	N	93	91	<0.1	--	--	--	--	--	--	0.0042	7.5	--
MW-39-100	12/15/20	N	120	110	2.3	--	2.6	260 J	--	<0.1	46	0.007	7.5	--
MW-39-100	04/28/21	N	92	91	<0.1	--	--	--	--	--	--	0.0051	7.5	--
MW-39-100	12/07/21	N	39	39	<0.1	27	--	--	--	0.029 J	--	0.0058	7.4	--
MW-39-100	02/28/22	N	9.8	--	<0.1	35	--	--	--	0.16	--	0.013	--	--
MW-39-100	06/15/22	N	170	--	<0.1	29	--	--	--	<0.02	--	0.011	--	--
MW-39-100	07/12/22	N	240	--	<0.1	29	--	--	--	0.025 J	--	0.0084	--	--
MW-39-100	08/09/22	N	79	--	<0.1	26 J	--	--	--	<0.02 J	--	0.0085 J	--	--
MW-39-100	09/13/22	N	110	--	<0.1	31	--	--	--	<0.02	--	0.0089	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-39-050	11/08/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	190	--
MW-39-050	12/06/22	N	--	--	--	--	--	--	--	<0.25	--	--	190	--
MW-39-050	12/06/22	FD	--	--	--	--	--	--	--	<0.25	--	--	190	--
MW-39-060	12/11/20	N	<0.5	120	--	190	--	93	--	--	--	<0.05	210	620
MW-39-060	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-060	02/28/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-060	06/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-39-060	07/12/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-39-060	08/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	200	--
MW-39-060	09/13/22	N	--	--	--	--	--	--	--	<0.25	--	--	220	--
MW-39-060	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	210	--
MW-39-060	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	220	--
MW-39-060	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	220	--
MW-39-070	12/11/20	N	<0.5	360	--	190	--	380	--	--	--	--	270	1,200
MW-39-070	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-070	02/28/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-070	05/03/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-39-070	06/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	260	--
MW-39-070	07/12/22	N	--	--	--	--	--	--	--	<0.25	--	--	280	--
MW-39-070	08/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	240	--
MW-39-070	08/09/22	FD	--	--	--	--	--	--	--	<0.25	--	--	240	--
MW-39-070	08/09/22	N	--	--	--	--	--	--	--	<0.25	--	--	240	--
MW-39-070	08/09/22	FD	--	--	--	--	--	--	--	<0.25	--	--	240	--
MW-39-070	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	280	--
MW-39-070	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	280	--
MW-39-070	10/11/22	FD	--	--	--	--	--	--	--	<0.5	--	--	280	--
MW-39-070	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	300	--
MW-39-070	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	290	--
MW-39-080	12/11/20	N	<0.5	1,100	--	250	--	1,400	--	--	--	--	460	3,100
MW-39-080	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-080	12/07/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-080	02/28/22	N	--	--	--	--	--	--	--	0.15	--	--	--	--
MW-39-080	05/03/22	N	--	--	--	--	--	--	--	0.3	--	--	--	--
MW-39-080	06/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	560	--
MW-39-080	07/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	510	--
MW-39-080	08/09/22	N	--	--	--	--	--	--	--	<0.5	--	--	350	--
MW-39-080	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	580	--
MW-39-080	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	590	--
MW-39-080	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	590	--
MW-39-080	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	470	--
MW-39-100	06/18/20	N	<0.5	--	--	--	--	--	--	--	--	0.083	--	--
MW-39-100	12/15/20	N	<0.5	2,500	--	250	--	3,700	--	--	--	0.11	920	8,600
MW-39-100	04/28/21	N	<0.5	--	--	--	--	--	--	--	--	0.13	--	--
MW-39-100	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-39-100	02/28/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-39-100	06/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	940	--
MW-39-100	07/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	960	--
MW-39-100	08/09/22	N	--	--	--	--	--	--	--	<0.5	--	--	750	--
MW-39-100	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	880	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-39-050	11/08/22	N	--	<1
MW-39-050	12/06/22	N	--	<1
MW-39-050	12/06/22	FD	--	<1
MW-39-060	12/11/20	N	--	--
MW-39-060	12/07/21	N	--	<1
MW-39-060	02/28/22	N	--	<1
MW-39-060	06/15/22	N	--	<1
MW-39-060	07/12/22	N	--	<1
MW-39-060	08/09/22	N	--	<1
MW-39-060	09/13/22	N	--	<5
MW-39-060	10/11/22	N	--	<1
MW-39-060	11/08/22	N	--	<1
MW-39-060	12/06/22	N	--	<1
MW-39-070	12/11/20	N	--	--
MW-39-070	12/07/21	N	--	<1
MW-39-070	02/28/22	N	--	<1
MW-39-070	05/03/22	N	--	<1
MW-39-070	06/15/22	N	--	<1
MW-39-070	07/12/22	N	--	<1
MW-39-070	08/09/22	N	--	<1
MW-39-070	08/09/22	FD	--	<1
MW-39-070	08/09/22	N	--	<1
MW-39-070	08/09/22	FD	--	<1
MW-39-070	09/13/22	N	--	<1
MW-39-070	10/11/22	N	--	<1
MW-39-070	10/11/22	FD	--	<1
MW-39-070	11/08/22	N	--	<1
MW-39-070	12/06/22	N	--	<1
MW-39-080	12/11/20	N	--	--
MW-39-080	12/07/21	N	--	<1
MW-39-080	12/07/21	FD	--	<1
MW-39-080	02/28/22	N	--	<1
MW-39-080	05/03/22	N	--	<1
MW-39-080	06/15/22	N	--	<1
MW-39-080	07/12/22	N	--	<1
MW-39-080	08/09/22	N	--	<1
MW-39-080	09/13/22	N	--	<1
MW-39-080	10/11/22	N	--	<1
MW-39-080	11/08/22	N	--	<1
MW-39-080	12/06/22	N	--	<1
MW-39-100	06/18/20	N	--	--
MW-39-100	12/15/20	N	--	--
MW-39-100	04/28/21	N	--	--
MW-39-100	12/07/21	N	--	<1
MW-39-100	02/28/22	N	--	<1
MW-39-100	06/15/22	N	--	<1
MW-39-100	07/12/22	N	--	<1
MW-39-100	08/09/22	N	--	<1
MW-39-100	09/13/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-39-100	10/11/22	N	310	--	<0.1 J	35 J	--	--	--	<0.02	--	0.012 J	--	--
MW-39-100	11/08/22	N	260	300	<0.1	30	--	--	--	<0.02 J	--	0.013 J	9.1 J	--
MW-39-100	12/06/22	N	270	--	<0.1	31	--	--	--	<0.02 J	--	0.012	--	--
MW-40D	06/17/20	N	12	11	<0.1	--	--	--	--	--	--	0.013	41	--
MW-40D	12/10/20	N	31	29	4.7	--	1.7	300	--	<0.1 J	49	0.0064	41	--
MW-40D	05/19/21	N	110	98	<0.1	--	--	--	--	--	--	<0.0005	49	--
MW-40D	12/06/21	N	45	41 J	<0.1	--	--	--	--	--	--	<0.0005 J	35	--
MW-40D	06/16/22	N	1.4	3.8	--	--	--	--	--	--	--	--	--	--
MW-40D	12/01/22	N	46	37	1.6	--	--	--	--	--	--	0.0014 J	33 J	--
MW-40S	06/17/20	N	18	28	3.2	--	--	--	--	--	--	0.0058	30	--
MW-40S	12/10/20	N	5.9	29	0.55	--	--	--	--	--	--	0.0082	5.2	--
MW-40S	05/19/21	N	13	13	1.4	--	--	--	--	--	--	0.00083	15	--
MW-40S	12/06/21	N	43	45 J	4.3	--	--	--	--	--	--	<0.0005 J	32	--
MW-40S	12/06/21	FD	42	44 J	4.6	--	--	--	--	--	--	<0.0005 J	31	--
MW-40S	06/16/22	N	19	19	--	--	--	--	--	--	--	--	--	--
MW-40S	12/01/22	N	8.6	9.3	1.2	--	--	--	--	--	--	<0.0005 J	6.7 J	--
MW-41D	06/24/20	N	<1	<1	2.4	--	--	--	--	--	--	0.12	80	--
MW-41D	06/24/20	FD	<1	<1	2.4	--	--	--	--	--	--	0.12	82	--
MW-41D	12/17/20	N	1.1	1.4	<0.1	--	1.9	380	--	<0.1	31 J	0.047	81	--
MW-41D	06/07/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.081 J	90	--
MW-41D	06/07/21	FD	<1	<1	<0.1 J	--	--	--	--	--	--	0.078 J	88	--
MW-41D	12/07/21	N	<1	2.8	<0.1 J	--	--	--	--	--	--	0.032 J	79	--
MW-41D	06/16/22	N	<1	1	--	--	--	--	--	--	--	--	--	--
MW-41D	11/30/22	N	<1	<1 J	<0.1	--	--	--	--	--	--	0.11	80	--
MW-41M	12/17/20	N	9.5	8.3	<0.1	--	1.4	380	--	<0.1	33 J	<0.0005	26	--
MW-41M	12/07/21	N	6.9	9	<0.1 J	--	--	--	--	--	--	0.0024 J	27	--
MW-41M	06/16/22	N	8.9	9.7	--	--	--	--	--	--	--	--	--	--
MW-41M	11/30/22	N	9.5	9.8 J	<0.1	--	--	--	--	--	--	0.0011	26	--
MW-41S	12/17/20	N	5.5	5.2	<0.1	--	0.93	190	--	0.021	26 J	<0.0005	13	--
MW-41S	12/07/21	N	3.6	6.3	<0.1 J	--	--	--	--	--	--	0.0038 J	14	--
MW-41S	12/07/21	FD	3.7	5.1	<0.1 J	--	--	--	--	--	--	0.0033 J	14	--
MW-41S	06/16/22	N	4.8	5.1	--	--	--	--	--	--	--	--	--	--
MW-41S	11/30/22	N	5.1	5.6 J	0.3	--	--	--	--	--	--	0.0013	12	--
MW-42-030	12/16/20	N	<0.2	<1	2	--	--	--	--	--	--	0.11	27 J	--
MW-42-030	11/30/21	N	<0.2	<1	0.72 J	160	--	--	--	0.76	--	0.14	17	--
MW-42-030	03/10/22	N	<0.2	--	2	110	--	--	--	0.57	--	0.13	--	--
MW-42-030	05/05/22	N	<0.2	<1	2.5	62	--	--	--	0.33	--	0.085	--	--
MW-42-030	08/18/22	N	<0.2	--	1.6	150	--	--	--	0.83	--	0.2	--	--
MW-42-030	11/10/22	N	<0.2	<1	1.6	130	--	--	--	0.59	--	0.11	6.3	--
MW-42-055	06/18/20	N	<0.2	<1	12 J	--	--	--	--	--	--	0.15	--	--
MW-42-055	12/16/20	N	<0.2	<1	16	--	0.1	87 J	--	0.53 J	23 J	0.3	3.9 J	--
MW-42-055	04/27/21	N	<0.2	<1	11	--	--	--	--	--	--	0.22	--	--
MW-42-055	11/30/21	N	<0.2	<1	13 J	150	--	--	--	0.24	--	0.21	3.9	--
MW-42-055	03/10/22	N	<0.2	--	8.8	140	--	--	--	0.2	--	0.17	--	--
MW-42-055	05/05/22	N	<0.2	<1	8.3	130	--	--	--	0.13	--	0.19	--	--
MW-42-055	08/18/22	N	<0.2	--	10	150	--	--	--	0.18	--	0.25	--	--
MW-42-055	11/10/22	N	<0.2	<1	12	150	--	--	--	0.21	--	0.24	5	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-39-100	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-39-100	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-39-100	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	940	--
MW-40D	06/17/20	N	0.78	--	--	--	--	--	--	--	--	0.57	--	--
MW-40D	12/10/20	N	1	3,000	--	47	--	5,100	--	--	--	2	690	11,000 J
MW-40D	05/19/21	N	1.8	--	--	--	--	--	--	--	--	2.1	--	--
MW-40D	12/06/21	N	1.1	--	--	--	--	--	--	--	--	1.3	--	--
MW-40D	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-40D	12/01/22	N	0.84	--	--	--	--	--	--	3.5	--	0.29 J	--	--
MW-40S	06/17/20	N	6.1	--	--	--	--	--	--	--	--	10	--	--
MW-40S	12/10/20	N	1.8	--	--	--	--	--	--	--	--	3.5	--	--
MW-40S	05/19/21	N	3.9	--	--	--	--	--	--	--	--	5.9	--	--
MW-40S	12/06/21	N	11	--	--	--	--	--	--	--	--	25	--	--
MW-40S	12/06/21	FD	11	--	--	--	--	--	--	--	--	25	--	--
MW-40S	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-40S	12/01/22	N	2	--	--	--	--	--	--	4.5	--	3.5 J	--	--
MW-41D	06/24/20	N	<0.5	--	--	--	--	--	--	--	--	0.14	--	--
MW-41D	06/24/20	FD	<0.5	--	--	--	--	--	--	--	--	1.1	--	--
MW-41D	12/17/20	N	0.55	4,300 J	--	41	--	6,900	--	--	--	0.61	760	13,000
MW-41D	06/07/21	N	<0.5	--	--	--	--	--	--	--	--	0.44	--	--
MW-41D	06/07/21	FD	<0.5	--	--	--	--	--	--	--	--	0.5	--	--
MW-41D	12/07/21	N	0.65	--	--	--	--	--	--	--	--	<0.1	--	--
MW-41D	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-41D	11/30/22	N	0.55	--	--	--	--	--	--	0.55	--	--	--	--
MW-41M	12/17/20	N	<0.5	2,700 J	--	36	--	4,600	--	--	--	0.59	560	10,000
MW-41M	12/07/21	N	<0.5	--	--	--	--	--	--	--	--	0.58	--	--
MW-41M	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-41M	11/30/22	N	0.53	--	--	--	--	--	--	0.51	--	0.55 J	--	--
MW-41S	12/17/20	N	1.9	1,100 J	--	49	--	1,900	--	--	--	2.5	430	3,900
MW-41S	12/07/21	N	2.2	--	--	--	--	--	--	--	--	2.5	--	--
MW-41S	12/07/21	FD	1.9	--	--	--	--	--	--	--	--	2.5	--	--
MW-41S	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-41S	11/30/22	N	2.3	--	--	--	--	--	--	2.4	--	2.7 J	--	--
MW-42-030	12/16/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-42-030	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-42-030	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-42-030	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-42-030	08/18/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-42-030	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	<0.05	--	--
MW-42-055	06/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-055	12/16/20	N	<0.5	100 J	--	230	--	87	--	--	--	--	200	660
MW-42-055	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-055	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-42-055	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-42-055	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-42-055	08/18/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-42-055	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-39-100	10/11/22	N	--	<1
MW-39-100	11/08/22	N	--	<1
MW-39-100	12/06/22	N	--	<1
MW-40D	06/17/20	N	--	--
MW-40D	12/10/20	N	--	--
MW-40D	05/19/21	N	--	--
MW-40D	12/06/21	N	--	--
MW-40D	06/16/22	N	--	--
MW-40D	12/01/22	N	--	--
MW-40S	06/17/20	N	--	--
MW-40S	12/10/20	N	--	--
MW-40S	05/19/21	N	--	--
MW-40S	12/06/21	N	--	--
MW-40S	12/06/21	FD	--	--
MW-40S	06/16/22	N	--	--
MW-40S	12/01/22	N	--	--
MW-41D	06/24/20	N	--	--
MW-41D	06/24/20	FD	--	--
MW-41D	12/17/20	N	--	--
MW-41D	06/07/21	N	--	--
MW-41D	06/07/21	FD	--	--
MW-41D	12/07/21	N	--	--
MW-41D	06/16/22	N	--	--
MW-41D	11/30/22	N	--	--
MW-41M	12/17/20	N	--	--
MW-41M	12/07/21	N	--	--
MW-41M	06/16/22	N	--	--
MW-41M	11/30/22	N	--	--
MW-41S	12/17/20	N	--	--
MW-41S	12/07/21	N	--	--
MW-41S	12/07/21	FD	--	--
MW-41S	06/16/22	N	--	--
MW-41S	11/30/22	N	--	--
MW-42-030	12/16/20	N	--	--
MW-42-030	11/30/21	N	--	1.8
MW-42-030	03/10/22	N	--	1.8
MW-42-030	05/05/22	N	--	2.3
MW-42-030	08/18/22	N	--	<5
MW-42-030	11/10/22	N	--	2
MW-42-055	06/18/20	N	--	--
MW-42-055	12/16/20	N	--	--
MW-42-055	04/27/21	N	--	--
MW-42-055	11/30/21	N	--	<1
MW-42-055	03/10/22	N	--	<1
MW-42-055	05/05/22	N	--	<1
MW-42-055	08/18/22	N	--	<1
MW-42-055	11/10/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-42-065	06/18/20	N	<0.2	<1	5.9 J	--	--	--	--	--	--	0.65	--	--
MW-42-065	12/16/20	N	<0.2	<1	6	--	0.47	110 J	--	0.053 J	29 J	1.30	9.5 J	--
MW-42-065	04/27/21	N	<0.2	<1	3.5	--	--	--	--	--	--	0.92	--	--
MW-42-065	11/30/21	N	<0.2	<1	6.6 J	69	--	--	--	0.046	--	1.60	7.7	--
MW-42-065	03/10/22	N	<0.2	--	3.1	83	--	--	--	0.092	--	1.60	--	--
MW-42-065	05/05/22	N	<0.2	<1	1.4	98	--	--	--	0.13	--	2.20	--	--
MW-42-065	08/18/22	N	<0.2	--	1.6	110	--	--	--	0.41	--	2.30	--	--
MW-42-065	11/10/22	N	<0.2	<1	4	140	--	--	--	0.81	--	2.70	11	--
MW-43-025	12/08/20	N	<0.2	<1	32	--	0.56 J	140 J	--	5.40 J	55 J	0.36	6.7	--
MW-43-025	11/30/21	N	<0.2	<1	31 J	75	--	--	--	4.40	--	0.36	5.3	--
MW-43-025	03/08/22	N	<0.2	--	21 J	100	--	--	--	4.50 J	--	0.44	--	--
MW-43-025	05/03/22	N	<0.2	<1	20	91	--	--	--	3.50 J	--	0.44	--	--
MW-43-025	08/24/22	N	<0.2	--	29 J	80 J	--	--	--	5.30 J	--	0.55 J	--	--
MW-43-025	11/17/22	N	<0.2	<1	32	83	--	--	--	5.20	--	0.44	6.4	--
MW-43-075	12/08/20	N	<0.2	<1	13	--	1.3 J	170 J	--	4.50 J	160 J	0.58	16	--
MW-43-075	11/30/21	N	<0.2	<1	8.7 J	42	--	--	--	3.70	--	0.54	15	--
MW-43-075	03/08/22	N	<1	--	8.5 J	45	--	--	--	3.70 J	--	0.57	--	--
MW-43-075	05/03/22	N	<1	<1	5.7	48	--	--	--	3.20 J	--	0.42	--	--
MW-43-075	08/24/22	N	<1	--	7 J	52 J	--	--	--	3	--	0.67 J	--	--
MW-43-075	11/17/22	N	<1	<1	8.5 J	55	--	--	--	3 J	--	0.6 J	16	--
MW-43-090	12/08/20	N	<1	<1	3.1	--	0.92 J	390 J	--	1.40 J	110 J	0.42	30	--
MW-43-090	11/30/21	N	<1	<1	<0.1 J	55	--	--	--	1.20	--	0.52	29	--
MW-43-090	03/08/22	N	<1	--	<0.1 J	55	--	--	--	1.20 J	--	0.63	--	--
MW-43-090	05/03/22	N	<1	<1	<0.5	54	--	--	--	1.20 J	--	0.78	--	--
MW-43-090	08/24/22	N	<1	--	<0.1 J	54 J	--	--	--	1	--	0.64 J	--	--
MW-43-090	11/17/22	N	<0.2	<1	<0.1 J	52	--	--	--	0.94 J	--	0.69 J	28	--
MW-44-070	06/23/20	N	<0.2	<1	1.8	--	--	--	--	--	--	0.23	--	--
MW-44-070	12/11/20	N	<0.2	<1	2.7	--	0.2	72 J	--	0.41 J	18	0.19	8.8 J	--
MW-44-070	04/28/21	N	<0.2	<1	1.3	--	--	--	--	--	--	0.28	--	--
MW-44-070	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/10/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	09/23/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	11/02/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	12/08/21	N	<0.2	<1	2.4	31	--	--	--	0.14	--	0.12	7.6	--
MW-44-070	03/10/22	N	<0.2	--	1.7	43	--	--	--	0.45	--	0.28	--	--
MW-44-070	05/06/22	N	<0.2	<1	1.6	46 J	--	--	--	0.63 J	--	0.44 J	--	--
MW-44-070	08/23/22	N	<0.2	--	2.8	33 J	--	--	--	0.65 J	--	0.32 J	--	--
MW-44-070	11/08/22	N	<0.2	<1	3.2	38	--	--	--	0.89 J	--	0.32 J	11 J	--
MW-44-115	02/21/20	N	4.8	5.9	2.1	--	--	--	--	--	--	0.0064	62	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-42-065	06/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-065	12/16/20	N	<0.5	560 J	--	320	--	750	--	--	--	--	350	2,100
MW-42-065	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-065	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-42-065	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-42-065	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-42-065	08/18/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-42-065	11/10/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-025	12/08/20	N	<0.5	150 J	--	390	--	200	--	--	--	--	370	1,200
MW-43-025	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-43-025	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-025	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-025	08/24/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-025	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-43-075	12/08/20	N	<0.5	1,800 J	--	700	--	2,700	--	--	--	--	1,400	7,300
MW-43-075	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-43-075	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-075	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-075	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-43-075	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-43-090	12/08/20	N	<0.5	3,600 J	--	170	--	5,700	--	--	--	--	950	12,000
MW-43-090	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-43-090	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-090	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-43-090	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-43-090	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-44-070	06/23/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	12/11/20	N	<0.5	230	--	200	--	260	--	--	--	--	230	970
MW-44-070	04/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/10/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	09/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	09/23/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	12/08/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-44-070	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-44-070	05/06/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-44-070	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-44-070	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	<0.05	--	--
MW-44-115	02/21/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-42-065	06/18/20	N	--	--
MW-42-065	12/16/20	N	--	--
MW-42-065	04/27/21	N	--	--
MW-42-065	11/30/21	N	--	<1
MW-42-065	03/10/22	N	--	<1
MW-42-065	05/05/22	N	--	<1
MW-42-065	08/18/22	N	--	<1
MW-42-065	11/10/22	N	--	<1
MW-43-025	12/08/20	N	--	--
MW-43-025	11/30/21	N	--	1.2
MW-43-025	03/08/22	N	--	1.3
MW-43-025	05/03/22	N	--	2.2
MW-43-025	08/24/22	N	--	1.9
MW-43-025	11/17/22	N	--	1.9
MW-43-075	12/08/20	N	--	--
MW-43-075	11/30/21	N	--	<1
MW-43-075	03/08/22	N	--	<1
MW-43-075	05/03/22	N	--	<1
MW-43-075	08/24/22	N	--	<1
MW-43-075	11/17/22	N	--	<1
MW-43-090	12/08/20	N	--	--
MW-43-090	11/30/21	N	--	<1
MW-43-090	03/08/22	N	--	<1
MW-43-090	05/03/22	N	--	<50
MW-43-090	08/24/22	N	--	<1
MW-43-090	11/17/22	N	--	<1
MW-44-070	06/23/20	N	--	--
MW-44-070	12/11/20	N	--	--
MW-44-070	04/28/21	N	--	--
MW-44-070	06/29/21	N	--	--
MW-44-070	07/12/21	N	--	--
MW-44-070	07/27/21	N	--	--
MW-44-070	08/10/21	N	--	--
MW-44-070	08/10/21	FD	--	--
MW-44-070	08/26/21	N	--	--
MW-44-070	09/08/21	N	--	--
MW-44-070	09/23/21	N	--	--
MW-44-070	10/06/21	N	--	--
MW-44-070	10/20/21	N	--	--
MW-44-070	11/02/21	N	--	--
MW-44-070	11/19/21	N	--	--
MW-44-070	12/08/21	N	--	<1
MW-44-070	03/10/22	N	--	<1
MW-44-070	05/06/22	N	--	<1
MW-44-070	08/23/22	N	--	<1
MW-44-070	11/08/22	N	--	<1
MW-44-115	02/21/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-44-115	06/23/20	N	4	3.7	2.3	--	--	--	--	--	--	0.005	68	--
MW-44-115	10/01/20	N	3.4	4.1	2.2	--	--	--	--	--	--	0.0065	55 J	--
MW-44-115	10/01/20	FD	3.4	3.9	1.9	--	--	--	--	--	--	0.0059	84 J	--
MW-44-115	12/11/20	N	2.7	4.4	5.7	20	1.5	80 J	--	0.23 J	11	0.006	71 J	--
MW-44-115	02/26/21	N	2.5	4.9	1.2	--	--	--	--	--	--	0.013	71	--
MW-44-115	04/28/21	N	2.3	2.2	<0.1	--	--	--	--	--	--	0.0052	75	--
MW-44-115	06/29/21	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/12/21	N	2.5	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/27/21	N	2.1	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/27/21	FD	2.1	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	08/10/21	N	0.99	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	08/26/21	N	<1	<1	0.51 J	--	--	--	--	--	--	0.019	77	--
MW-44-115	09/08/21	N	1.4	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	09/23/21	N	1	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	09/23/21	FD	1	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	10/06/21	N	0.9	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	10/20/21	N	1.4	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	11/02/21	N	1.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	11/19/21	N	1.1	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	12/08/21	N	1.8	2.2	0.86	19	--	--	--	<0.02	--	0.01	77	--
MW-44-115	03/10/22	N	<1	--	0.64	22	--	--	--	<0.02	--	0.014	--	--
MW-44-115	05/06/22	N	<1	1.5	<0.1	20 J	--	--	--	0.037 J	--	0.04 J	--	--
MW-44-115	06/17/22	N	<1	--	<0.1 J	19	--	--	--	<0.02 J	--	0.014 J	--	--
MW-44-115	07/14/22	N	<0.2	--	4.7 J	19	--	--	--	<0.02	--	0.054 J	--	--
MW-44-115	07/14/22	FD	<0.2	--	<0.1 J	20	--	--	--	<0.02	--	0.058 J	--	--
MW-44-115	08/11/22	N	<1	--	<0.1 J	19	--	--	--	<0.02	--	0.046 J	--	--
MW-44-115	08/11/22	FD	<0.2	--	<0.1 J	21	--	--	--	<0.02	--	0.052 J	--	--
MW-44-115	09/13/22	N	0.66	--	<0.1	21	--	--	--	0.041 J	--	0.018	--	--
MW-44-115	09/13/22	FD	0.67	--	<0.1	20	--	--	--	0.037 J	--	0.018	--	--
MW-44-115	10/11/22	N	1.1	--	1.5 J	21 J	--	--	--	<0.02	--	0.017 J	--	--
MW-44-115	11/08/22	N	1	1.5	2	19	--	--	--	<0.02 J	--	0.022 J	46 J	--
MW-44-115	12/06/22	N	1.8	--	1.9	20	--	--	--	<0.02	--	0.013 J	--	--
MW-44-115	12/06/22	FD	1.7	--	1.7	20	--	--	--	<0.02	--	0.013 J	--	--
MW-44-125	06/23/20	N	<0.2	1	2.6	--	--	--	--	--	--	0.33	13	--
MW-44-125	12/11/20	N	<0.2	<1	2.5	--	0.32	65 J	--	0.31 J	17	0.17	27 J	--
MW-44-125	04/28/21	N	<0.2	<1	1.7	--	--	--	--	--	--	0.31	10	--
MW-44-125	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	09/23/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	11/02/21	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-44-115	06/23/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-44-115	10/01/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-44-115	10/01/20	FD	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-44-115	12/11/20	N	<0.5	2,300	6.6	120	--	2,900	--	--	--	<0.05	910	6,300
MW-44-115	02/26/21	N	<0.5	--	--	--	--	--	--	--	--	0.055	--	--
MW-44-115	04/28/21	N	<0.5	--	--	--	--	--	--	--	--	0.05	--	--
MW-44-115	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/27/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	08/26/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-44-115	09/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	09/23/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	09/23/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	12/08/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-44-115	03/10/22	N	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-44-115	05/06/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-44-115	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	1,000	--
MW-44-115	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-115	07/14/22	FD	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-115	08/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-115	08/11/22	FD	--	--	--	--	--	--	--	<0.5	--	--	940	--
MW-44-115	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-115	09/13/22	FD	--	--	--	--	--	--	--	<0.5	--	--	1,200	--
MW-44-115	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-115	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	1,100	--
MW-44-115	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-115	12/06/22	FD	--	--	--	--	--	--	--	<0.5	--	--	1,000	--
MW-44-125	06/23/20	N	<0.5	--	--	--	--	--	--	--	--	0.18	--	--
MW-44-125	12/11/20	N	<0.5	440	--	120	--	2,500	--	--	--	<0.05	600	5,000
MW-44-125	04/28/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-44-125	06/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	08/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	09/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	09/23/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-44-115	06/23/20	N	--	--
MW-44-115	10/01/20	N	--	--
MW-44-115	10/01/20	FD	--	--
MW-44-115	12/11/20	N	--	--
MW-44-115	02/26/21	N	--	--
MW-44-115	04/28/21	N	--	--
MW-44-115	06/29/21	N	--	--
MW-44-115	07/12/21	N	--	--
MW-44-115	07/27/21	N	--	--
MW-44-115	07/27/21	FD	--	--
MW-44-115	08/10/21	N	--	--
MW-44-115	08/26/21	N	--	--
MW-44-115	09/08/21	N	--	--
MW-44-115	09/23/21	N	--	--
MW-44-115	09/23/21	FD	--	--
MW-44-115	10/06/21	N	--	--
MW-44-115	10/20/21	N	--	--
MW-44-115	11/02/21	N	--	--
MW-44-115	11/19/21	N	--	--
MW-44-115	12/08/21	N	--	<1
MW-44-115	03/10/22	N	--	<1
MW-44-115	05/06/22	N	--	<1
MW-44-115	06/17/22	N	--	<50
MW-44-115	07/14/22	N	--	<1
MW-44-115	07/14/22	FD	--	<1
MW-44-115	08/11/22	N	--	<1
MW-44-115	08/11/22	FD	--	<1
MW-44-115	09/13/22	N	--	<1
MW-44-115	09/13/22	FD	--	<1
MW-44-115	10/11/22	N	--	<1
MW-44-115	11/08/22	N	--	<1
MW-44-115	12/06/22	N	--	<1
MW-44-115	12/06/22	FD	--	<1
MW-44-125	06/23/20	N	--	--
MW-44-125	12/11/20	N	--	--
MW-44-125	04/28/21	N	--	--
MW-44-125	06/29/21	N	--	--
MW-44-125	07/12/21	N	--	--
MW-44-125	07/27/21	N	--	--
MW-44-125	08/10/21	N	--	--
MW-44-125	08/26/21	N	--	--
MW-44-125	09/08/21	N	--	--
MW-44-125	09/23/21	N	--	--
MW-44-125	10/06/21	N	--	--
MW-44-125	10/20/21	N	--	--
MW-44-125	11/02/21	N	--	--
MW-44-125	11/19/21	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-44-125	12/08/21	N	<1	1.9	<0.1	55	--	--	--	0.3	--	0.39	230	--
MW-44-125	03/10/22	N	<1	--	1.1	52	--	--	--	0.27	--	0.41	--	--
MW-44-125	05/06/22	N	<1	<1	<0.1	46 J	--	--	--	0.46 J	--	0.55 J	--	--
MW-44-125	06/17/22	N	<1	--	<0.1 J	44	--	--	--	0.37 J	--	0.44 J	--	--
MW-44-125	07/14/22	N	<1	--	5.4	45	--	--	--	0.42	--	0.51 J	--	--
MW-44-125	08/11/22	N	<1	--	<0.1 J	46	--	--	--	0.39	--	0.54 J	--	--
MW-44-125	09/13/22	N	<1	--	<0.1	47	--	--	--	0.41 J	--	0.56	--	--
MW-44-125	10/11/22	N	<1	--	1.7 J	48 J	--	--	--	0.4 J	--	0.55 J	--	--
MW-44-125	11/08/22	N	<1	<1	2.5	44	--	--	--	0.37 J	--	0.53 J	120 J	--
MW-44-125	12/06/22	N	<1	--	2.1	45	--	--	--	0.37	--	0.59 J	--	--
MW-45-095a	12/01/21	N	<0.2	<1	<0.1	37	--	--	--	<0.02	--	0.26	14	--
MW-45-095A	03/08/22	N	<0.2	--	<0.1 J	31	--	--	--	<0.02 J	--	0.18	--	--
MW-45-095A	05/04/22	N	<0.2	<1	<0.1	24	--	--	--	<0.02	--	0.12	--	--
MW-45-095A	06/17/22	N	<0.2	--	<0.1 J	29	--	--	--	<0.02 J	--	0.37 J	--	--
MW-45-095A	07/14/22	N	<0.2	--	1.9	23	--	--	--	<0.02	--	0.12 J	--	--
MW-45-095A	08/11/22	N	<0.2	--	<0.1 J	28	--	--	--	<0.02	--	0.23 J	--	--
MW-45-095A	09/15/22	N	0.23	--	<0.1	27	--	--	--	<0.02	--	0.18	--	--
MW-45-095A	10/12/22	N	<1	--	<0.1	31 J	--	--	--	<0.02	--	0.36 J	--	--
MW-45-095A	11/09/22	N	<1	<1	0.94	34	--	--	--	<0.02	--	0.41	20	--
MW-45-095A	12/07/22	N	<0.2	--	1.1 J	42	--	--	--	0.045 J	--	0.53	--	--
MW-46-175	02/21/20	N	9.1	17	--	--	--	--	--	--	--	--	190	--
MW-46-175	06/23/20	N	5.3	23	--	--	--	--	--	--	--	--	180	--
MW-46-175	10/01/20	N	5.1	5.5	--	--	--	--	--	--	--	--	190	--
MW-46-175	12/15/20	N	7.9	9	--	--	4.2	100 J	--	<0.1	3.5	0.015	190	--
MW-46-175	02/25/21	N	5.1	7.6	--	--	--	--	--	--	--	--	180	--
MW-46-175	04/29/21	N	6.6	7	--	--	--	--	--	--	--	--	210	--
MW-46-175	06/30/21	N	6.5	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	07/12/21	N	5.7	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	07/26/21	N	4.8	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	08/10/21	N	5.3	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	08/26/21	N	5.3	7.2	--	--	--	--	--	--	--	--	200	--
MW-46-175	09/09/21	N	5.4	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	09/23/21	N	4.3	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/06/21	N	6.1	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/20/21	N	3.6	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/20/21	FD	3.6	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	11/02/21	N	5.2	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	11/19/21	N	4.2	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	12/08/21	N	2.1	36	<0.1	31	--	--	--	0.2	--	0.021	200	--
MW-46-175	03/03/22	N	5.4	--	<0.1	29	--	--	--	<0.1	--	0.013	--	--
MW-46-175	05/05/22	N	6.9	6.7	<0.1 J	23 J	--	--	--	<0.02	--	0.0095 J	--	--
MW-46-175	08/24/22	N	4.3	--	<0.1 J	28 J	--	--	--	0.1 J	--	0.0083 J	--	--
MW-46-175	11/17/22	N	8.7	8.1	<0.1	26	--	--	--	<0.02	--	0.013	160	--
MW-46-205	06/23/20	N	1.2	2.1	--	--	--	--	--	--	--	--	--	--
MW-46-205	12/15/20	N	<1	3.6	--	--	5.2	93 J	--	<0.1	3.1	0.053	340	--
MW-46-205	04/29/21	N	1.6	1.8	--	--	--	--	--	--	--	--	--	--
MW-46-205	12/08/21	N	<1	<1	<0.1	33	--	--	--	0.068	--	0.046	340	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-44-125	12/08/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-44-125	03/10/22	N	--	--	--	--	--	--	--	0.1	--	--	--	--
MW-44-125	05/06/22	N	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--
MW-44-125	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	1,100	--
MW-44-125	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,100	--
MW-44-125	08/11/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	1,100	--
MW-44-125	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,300	--
MW-44-125	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,100	--
MW-44-125	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	<0.05	1,200	--
MW-44-125	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,100	--
MW-45-095a	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-45-095A	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-45-095A	05/04/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-45-095A	06/17/22	N	--	--	--	--	--	--	--	<0.25	--	--	480	--
MW-45-095A	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	490	--
MW-45-095A	08/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	430	--
MW-45-095A	09/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	470	--
MW-45-095A	10/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	430	--
MW-45-095A	11/09/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	400	--
MW-45-095A	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	360	--
MW-46-175	02/21/20	N	<2.5	--	--	--	--	--	--	--	--	1	--	--
MW-46-175	06/23/20	N	0.55	--	--	--	--	--	--	--	--	1.1	--	--
MW-46-175	10/01/20	N	1	--	--	--	--	--	--	--	--	0.92	--	--
MW-46-175	12/15/20	N	<0.5	4,400	--	43	--	5,800	--	--	--	1	960	11,000
MW-46-175	02/25/21	N	0.62	--	--	--	--	--	--	--	--	1.1	--	--
MW-46-175	04/29/21	N	0.56	--	--	--	--	--	--	--	--	1	--	--
MW-46-175	06/30/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	07/12/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	07/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	08/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	08/26/21	N	0.79	--	--	--	--	--	--	--	--	0.94	--	--
MW-46-175	09/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	09/23/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/20/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/20/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	11/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	12/08/21	N	0.56	--	--	--	--	--	--	--	--	0.9	--	--
MW-46-175	03/03/22	N	--	--	--	--	--	--	--	0.76	--	--	--	--
MW-46-175	05/05/22	N	--	--	--	--	--	--	--	1	--	1	--	--
MW-46-175	08/24/22	N	--	--	--	--	--	--	--	1	--	1	--	--
MW-46-175	11/17/22	N	0.51	--	--	--	--	--	--	0.97	--	1.23	--	--
MW-46-205	06/23/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-205	12/15/20	N	0.91	4,700	--	48	--	7,200	--	--	--	--	900	13,000 J
MW-46-205	04/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-205	12/08/21	N	0.82	--	--	--	--	--	--	--	--	0.93	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-44-125	12/08/21	N	--	<1
MW-44-125	03/10/22	N	--	<1
MW-44-125	05/06/22	N	--	<1
MW-44-125	06/17/22	N	--	<1
MW-44-125	07/14/22	N	--	<1
MW-44-125	08/11/22	N	--	<1
MW-44-125	09/13/22	N	--	<1
MW-44-125	10/11/22	N	--	<1
MW-44-125	11/08/22	N	--	<1
MW-44-125	12/06/22	N	--	<1
MW-45-095a	12/01/21	N	--	<1
MW-45-095A	03/08/22	N	--	<1
MW-45-095A	05/04/22	N	--	<1
MW-45-095A	06/17/22	N	--	<1
MW-45-095A	07/14/22	N	--	<1
MW-45-095A	08/11/22	N	--	<1
MW-45-095A	09/15/22	N	--	<1
MW-45-095A	10/12/22	N	--	<1
MW-45-095A	11/09/22	N	--	<1
MW-45-095A	12/07/22	N	--	<1
MW-46-175	02/21/20	N	--	--
MW-46-175	06/23/20	N	--	--
MW-46-175	10/01/20	N	--	--
MW-46-175	12/15/20	N	--	--
MW-46-175	02/25/21	N	--	--
MW-46-175	04/29/21	N	--	--
MW-46-175	06/30/21	N	--	--
MW-46-175	07/12/21	N	--	--
MW-46-175	07/26/21	N	--	--
MW-46-175	08/10/21	N	--	--
MW-46-175	08/26/21	N	--	--
MW-46-175	09/09/21	N	--	--
MW-46-175	09/23/21	N	--	--
MW-46-175	10/06/21	N	--	--
MW-46-175	10/20/21	N	--	--
MW-46-175	10/20/21	FD	--	--
MW-46-175	11/02/21	N	--	--
MW-46-175	11/19/21	N	--	--
MW-46-175	12/08/21	N	--	<1
MW-46-175	03/03/22	N	--	<1
MW-46-175	05/05/22	N	--	<1
MW-46-175	08/24/22	N	--	<50
MW-46-175	11/17/22	N	--	<1
MW-46-205	06/23/20	N	--	--
MW-46-205	12/15/20	N	--	--
MW-46-205	04/29/21	N	--	--
MW-46-205	12/08/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-46-205	12/08/21	FD	<1	<1	<0.1	33	--	--	--	<0.1	--	0.042	340	--
MW-46-205	03/03/22	N	<1	--	<0.1	34	--	--	--	<0.1	--	0.038	--	--
MW-46-205	05/05/22	N	<1	10	<0.1 J	29 J	--	--	--	0.071	--	0.038 J	--	--
MW-46-205	08/24/22	N	<1	--	<0.1 J	34 J	--	--	--	<0.02 J	--	0.035 J	--	--
MW-46-205	08/24/22	FD	<1	--	<0.1 J	33 J	--	--	--	<0.02 J	--	0.035 J	--	--
MW-46-205	11/17/22	N	<1	<1	<0.1	32	--	--	--	<0.02	--	0.049	360	--
MW-47-055	06/25/20	N	16	16	0.17	--	--	--	--	--	--	<0.0005	--	--
MW-47-055	11/30/20	N	17	17	1.2	--	1.2 J	170 J	--	<0.02	41 J	0.00056	9.1	--
MW-47-055	04/28/21	N	14	15	<0.1	--	--	--	--	--	--	0.0014	--	--
MW-47-055	12/06/21	N	17	18 J	--	--	--	--	--	--	--	--	--	--
MW-47-055	03/03/22	N	17	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	06/07/22	N	16	16	--	--	--	--	--	--	--	--	--	--
MW-47-055	08/24/22	N	17	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	11/14/22	N	17	16	--	--	--	--	--	--	--	--	--	--
MW-47-115	06/25/20	N	24	24	--	--	--	--	--	--	--	--	--	--
MW-47-115	11/30/20	N	18	18	--	--	1.5 J	270 J	--	<0.02	46 J	0.0032	24	--
MW-47-115	04/28/21	N	24	23	--	--	--	--	--	--	--	--	--	--
MW-47-115	12/06/21	N	17	17 J	--	--	--	--	--	--	--	--	--	--
MW-47-115	03/03/22	N	20	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	06/07/22	N	22	24	--	--	--	--	--	--	--	--	--	--
MW-47-115	08/24/22	N	24	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	11/14/22	N	18	17	--	--	--	--	--	--	--	--	--	--
MW-48	05/01/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-48	12/16/20	N	<1	<1	--	--	1	350 J	--	0.025 J	35 J	0.0044	9.4 J	--
MW-48	05/28/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-48	12/15/21	N	<1	1.8	<0.1	--	--	--	--	--	--	0.034	9.9	--
MW-48	06/10/22	N	<1	<1 J	--	--	--	--	--	--	--	--	9.6	--
MW-48	06/10/22	FD	<1	<1 J	--	--	--	--	--	--	--	--	9.8	--
MW-48	12/02/22	N	1.1	1.5 J	<0.1	--	--	--	--	--	--	0.024	8.6	--
MW-49-135	12/04/20	N	8.6 J	11	<0.1	--	0.75 J	270	--	0.18 J	34 J	0.1	30	--
MW-49-135	12/02/21	N	6.1	7.3	--	--	--	--	--	--	--	--	--	--
MW-49-135	03/08/22	N	1.3	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	06/13/22	N	5	4.9 J	--	--	--	--	--	--	--	--	--	--
MW-49-135	08/23/22	N	7.7	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	11/16/22	N	2.8	2.9	--	--	--	--	--	--	--	--	--	--
MW-49-275	12/04/20	N	<1	<1	--	--	2.8 J	230	--	<0.1 J	8.2 J	0.31	260	--
MW-49-275	12/02/21	N	<1	2.2	--	--	--	--	--	--	--	--	--	--
MW-49-275	03/08/22	N	1.1	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	06/13/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-49-275	08/23/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	11/16/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-49-365	12/04/20	N	<1	<1	--	--	3.5 J	380	--	0.18 J	16 J	0.064	200	--
MW-49-365	12/02/21	N	<1	2.6	--	--	--	--	--	--	--	--	--	--
MW-49-365	03/08/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	06/13/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-49-365	08/23/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	11/16/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-46-205	12/08/21	FD	0.86	--	--	--	--	--	--	--	--	0.96	--	--
MW-46-205	03/03/22	N	--	--	--	--	--	--	--	0.57	--	--	--	--
MW-46-205	05/05/22	N	--	--	--	--	--	--	--	0.88	--	--	--	--
MW-46-205	08/24/22	N	--	--	--	--	--	--	--	0.82	--	--	--	--
MW-46-205	08/24/22	FD	--	--	--	--	--	--	--	0.83	--	--	--	--
MW-46-205	11/17/22	N	0.79	--	--	--	--	--	--	0.83	--	--	--	--
MW-47-055	06/25/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	11/30/20	N	0.86	730 J	--	65	--	1,500	--	--	--	--	280	3,100
MW-47-055	04/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	12/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	11/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	06/25/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	11/30/20	N	0.95	2,800 J	--	59	--	4,400	--	--	--	--	800	8,700
MW-47-115	04/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	12/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	11/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-48	05/01/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-48	12/16/20	N	<0.5	3,700 J	--	29	--	5,500	--	--	--	--	570	11,000
MW-48	05/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-48	12/15/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-48	06/10/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-48	06/10/22	FD	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-48	12/02/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-49-135	12/04/20	N	1.2	2,600	--	62	--	4,000	--	--	--	--	840	8,000
MW-49-135	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	03/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	08/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	11/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	12/04/20	N	<0.5	5,900	--	36	--	7,700	--	--	--	--	1,300	14,000
MW-49-275	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	03/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	08/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	11/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	12/04/20	N	<0.5	7,700	--	43	--	15,000	--	--	--	--	1,700	21,000
MW-49-365	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	03/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	06/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	08/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	11/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-46-205	12/08/21	FD	--	<1
MW-46-205	03/03/22	N	--	<1
MW-46-205	05/05/22	N	--	<1
MW-46-205	08/24/22	N	--	<1
MW-46-205	08/24/22	FD	--	<1
MW-46-205	11/17/22	N	--	<1
MW-47-055	06/25/20	N	--	--
MW-47-055	11/30/20	N	--	--
MW-47-055	04/28/21	N	--	--
MW-47-055	12/06/21	N	--	--
MW-47-055	03/03/22	N	--	--
MW-47-055	06/07/22	N	--	--
MW-47-055	08/24/22	N	--	--
MW-47-055	11/14/22	N	--	--
MW-47-115	06/25/20	N	--	--
MW-47-115	11/30/20	N	--	--
MW-47-115	04/28/21	N	--	--
MW-47-115	12/06/21	N	--	--
MW-47-115	03/03/22	N	--	--
MW-47-115	06/07/22	N	--	--
MW-47-115	08/24/22	N	--	--
MW-47-115	11/14/22	N	--	--
MW-48	05/01/20	N	--	--
MW-48	12/16/20	N	--	--
MW-48	05/28/21	N	--	--
MW-48	12/15/21	N	--	--
MW-48	06/10/22	N	--	--
MW-48	06/10/22	FD	--	--
MW-48	12/02/22	N	--	--
MW-49-135	12/04/20	N	--	--
MW-49-135	12/02/21	N	--	--
MW-49-135	03/08/22	N	--	--
MW-49-135	06/13/22	N	--	--
MW-49-135	08/23/22	N	--	--
MW-49-135	11/16/22	N	--	--
MW-49-275	12/04/20	N	--	--
MW-49-275	12/02/21	N	--	--
MW-49-275	03/08/22	N	--	--
MW-49-275	06/13/22	N	--	--
MW-49-275	08/23/22	N	--	--
MW-49-275	11/16/22	N	--	--
MW-49-365	12/04/20	N	--	--
MW-49-365	12/02/21	N	--	--
MW-49-365	03/08/22	N	--	--
MW-49-365	06/13/22	N	--	--
MW-49-365	08/23/22	N	--	--
MW-49-365	11/16/22	N	--	--

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-50-095	06/24/20	N	13	14	--	--	--	--	--	--	--	--	--	--
MW-50-095	12/07/20	N	13	14 J	--	--	1 J	130 J	--	0.064 J	16 J	0.0083	17 J	--
MW-50-095	05/26/21	N	13	13	--	--	--	--	--	--	--	--	--	--
MW-50-095	12/13/21	N	14	15	<0.1	--	--	--	--	--	--	<0.0005	--	--
MW-50-095	06/17/22	N	14	14	--	--	--	--	--	--	--	--	--	--
MW-50-095	11/30/22	N	14	15 J	1	--	--	--	--	--	--	<0.0005	--	--
MW-50-200	06/24/20	N	3,600	3,500	--	--	--	--	--	--	--	--	--	--
MW-50-200	12/07/20	N	2,300	2,100 J	3.8	44 J	2.1 J	550 J	--	0.11 J	49 J	<0.0005	44 J	--
MW-50-200	12/07/20	FD	2,300	2,100 J	3.8	45 J	3 J	430 J	--	<0.1 J	39 J	<0.0005	44 J	--
MW-50-200	05/26/21	N	3,300	3,400	--	--	--	--	--	--	--	--	--	--
MW-50-200	12/13/21	N	1,900	1,900	3.4	--	--	--	--	--	--	<0.0005	38	--
MW-50-200	06/17/22	N	1,800	2,400	--	--	--	--	--	--	--	--	--	--
MW-50-200	11/30/22	N	1,400	1,700 J	<0.1	--	--	--	--	--	--	0.0052	35	--
MW-51	04/27/20	N	3,200	3,200	<0.1	--	--	--	--	--	--	<0.0005	40	--
MW-51	04/27/20	FD	3,300	3,200	<0.1	--	--	--	--	--	--	<0.0005	42	--
MW-51	12/03/20	N	3,300	3,500	<0.1	43 J	1.5	190	--	0.081 J	21	<0.0005	40	--
MW-51	12/03/20	FD	3,300	3,700	<0.1	43 J	1.6	200	--	0.023 J	21	<0.0005	40	--
MW-51	05/20/21	N	2,600	2,600	<0.1	--	--	--	--	--	--	<0.0005	46	--
MW-51	12/15/21	N	2,900	3,100	<0.1	43	--	--	--	0.025 J	--	0.0011	42	--
MW-51	12/15/21	FD	2,900	3,000	<0.1	43	--	--	--	0.024 J	--	0.001	42	--
MW-51	02/02/22	N	2,600	--	<0.1	47	--	--	--	0.15	--	0.0053	--	--
MW-51	03/14/22	N	2,300	2,400	<0.1 J	37	--	--	--	<0.1	--	0.0063	49	--
MW-51	03/14/22	FD	2,300	2,300	<0.1 J	38	--	--	--	<0.1	--	0.0061	49	--
MW-51	04/13/22	N	1,800	--	<0.1	37	--	--	--	0.02 J	--	0.00082	--	--
MW-51	05/20/22	N	870	--	<0.1 J	29 J	--	--	--	<0.02	--	<0.0005	--	--
MW-51	06/14/22	N	450	540	<0.1	27 J	--	--	--	<0.02	--	0.0017	76	--
MW-51	07/13/22	N	490	--	<0.1	40	--	--	--	0.03 J	--	0.014	--	--
MW-51	08/12/22	N	390	450	<0.1 J	36	--	--	--	<0.02	--	<0.0005 J	57 J	--
MW-51	09/15/22	N	710	--	1.3	84	--	--	--	<0.02	--	0.017	--	--
MW-51	10/13/22	N	720	--	1.3 J	91 J	--	--	--	0.04 J	--	0.04 J	--	--
MW-51	10/13/22	FD	720	--	3.5 J	84 J	--	--	--	0.021 J	--	0.029 J	--	--
MW-51	11/11/22	N	580	740	1.5	150 J	--	--	--	0.023	--	0.11	33	--
MW-51	12/08/22	N	280	--	1.6	130	--	--	--	0.02 J	--	0.048	--	--
MW-51	12/08/22	FD	290	--	1.7	140	--	--	--	0.1 J	--	0.042	--	--
MW-52D	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.25	--	--
MW-52D	12/08/20	N	<1	<1	2.3	--	2.7 J	260 J	--	0.95 J	24 J	0.23	67	--
MW-52D	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.24	--	--
MW-52D	11/30/21	N	<1	<1	2 J	37	--	--	--	0.95	--	0.28	61	--
MW-52D	03/08/22	N	<1	--	2.1 J	39	--	--	--	0.53 J	--	0.21	--	--
MW-52D	05/03/22	N	<1	<1	<0.1	33	--	--	--	0.74 J	--	0.22	--	--
MW-52D	08/24/22	N	<1	--	<0.1 J	36 J	--	--	--	0.74	--	0.38 J	--	--
MW-52D	08/24/22	FD	<1	--	<0.1 J	35 J	--	--	--	0.7	--	0.33 J	--	--
MW-52D	11/17/22	N	<1	<1	<0.1 J	34	--	--	--	0.69 J	--	0.25 J	56	--
MW-52M	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.15	--	--
MW-52M	12/08/20	N	<1	<1	1.2	--	2.9 J	350 J	--	1.60 J	40 J	0.16	34	--
MW-52M	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.22	--	--
MW-52M	11/30/21	N	<1	<1	<0.1 J	54	--	--	--	1.40	--	0.21	30	--

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Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-50-095	06/24/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	12/07/20	N	0.76 J	910 J	--	52	--	1,800	--	--	--	--	300	3,600
MW-50-095	05/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	06/24/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	12/07/20	N	1.6 J	3,800 J	3.7 J	35	--	6,700	--	--	--	--	810	13,000
MW-50-200	12/07/20	FD	1.6 J	3,500 J	3.7 J	34	--	6,800	--	--	--	--	810	14,000
MW-50-200	05/26/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	12/13/21	N	1.5	--	--	--	--	--	--	--	--	1.9	--	--
MW-50-200	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	11/30/22	N	1.1	--	--	--	--	--	--	1.4	--	--	--	--
MW-51	04/27/20	N	19	--	--	--	--	--	--	--	--	9.2	--	--
MW-51	04/27/20	FD	20	--	--	--	--	--	--	--	--	9.2	--	--
MW-51	12/03/20	N	33 J	2,000	1.9	100	--	3,100	--	--	--	12	720	6,500
MW-51	12/03/20	FD	32 J	2,000	1.8	100	--	3,100	--	--	--	12	720	6,800
MW-51	05/20/21	N	12	--	--	--	--	--	--	--	--	6.4	--	--
MW-51	12/15/21	N	34 J	--	--	--	<0.2	--	--	--	<5	13	720	--
MW-51	12/15/21	FD	33 J	--	--	--	<0.2	--	--	--	<5	12	720	--
MW-51	02/02/22	N	--	--	--	--	--	--	--	6.8	--	--	660	--
MW-51	12/15/21	FD	33 J	--	--	--	<0.2	--	--	--	<5	12	720	--
MW-51	02/02/22	N	--	--	--	--	--	--	--	6.8	--	--	660	--
MW-51	03/14/22	N	17	--	--	--	<0.2	--	--	5.5	--	--	670	--
MW-51	03/14/22	FD	17	--	--	--	<0.2	--	--	5.5	--	--	680	--
MW-51	04/13/22	N	--	--	--	--	--	--	--	4.7	--	--	630	--
MW-51	05/20/22	N	--	--	--	--	--	--	--	2.1	--	--	590	--
MW-51	06/14/22	N	2.6 J	--	--	--	<0.2	--	--	1.2	<5	--	580	--
MW-51	07/13/22	N	--	--	--	--	--	--	--	1.4	--	--	540	--
MW-51	08/12/22	N	2.9	--	--	--	<0.23	--	--	1	<5	--	530	--
MW-51	09/15/22	N	--	--	--	--	--	--	--	2.6	--	--	530	--
MW-51	10/13/22	N	--	--	--	--	--	--	--	2.2	--	--	460	--
MW-51	10/13/22	FD	--	--	--	--	--	--	--	2.1	--	--	500	--
MW-51	11/11/22	N	10	--	--	--	0.57 J	--	--	1.8	<5	--	390	--
MW-51	12/08/22	N	--	--	--	--	--	--	--	1.4	--	--	300	--
MW-51	12/08/22	FD	--	--	--	--	--	--	--	1.4	--	--	300	--
MW-52D	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-52D	12/08/20	N	<0.5	4,500 J	--	62	--	7,100	--	--	--	--	960	12,000
MW-52D	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-52D	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-52D	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-52D	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-52D	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-52D	08/24/22	FD	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-52D	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-52M	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-52M	12/08/20	N	<0.5	3,100 J	--	85	--	5,300	--	--	--	--	630	10,000
MW-52M	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-52M	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--

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Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-50-095	06/24/20	N	--	--
MW-50-095	12/07/20	N	--	--
MW-50-095	05/26/21	N	--	--
MW-50-095	12/13/21	N	--	--
MW-50-095	06/17/22	N	--	--
MW-50-095	11/30/22	N	--	--
MW-50-200	06/24/20	N	--	--
MW-50-200	12/07/20	N	--	--
MW-50-200	12/07/20	FD	--	--
MW-50-200	05/26/21	N	--	--
MW-50-200	12/13/21	N	--	--
MW-50-200	06/17/22	N	--	--
MW-50-200	11/30/22	N	--	--
MW-51	04/27/20	N	--	--
MW-51	04/27/20	FD	--	--
MW-51	12/03/20	N	--	--
MW-51	12/03/20	FD	--	--
MW-51	05/20/21	N	--	--
MW-51	12/15/21	N	--	<1
MW-51	12/15/21	FD	--	<1
MW-51	02/02/22	N	--	<1
MW-51	02/02/22	N	--	<1
MW-51	03/14/22	N	--	<1
MW-51	03/14/22	FD	--	<1
MW-51	04/13/22	N	--	<1
MW-51	05/20/22	N	--	<1
MW-51	06/14/22	N	--	<1
MW-51	07/13/22	N	--	<1
MW-51	08/12/22	N	--	<1
MW-51	09/15/22	N	--	<1
MW-51	10/13/22	N	<1 J	<20
MW-51	10/13/22	FD	4.6 J	<1
MW-51	11/11/22	N	--	<1
MW-51	12/08/22	N	8.9	1.1
MW-51	12/08/22	FD	9.2	1.1
MW-52D	06/16/20	N	--	--
MW-52D	12/08/20	N	--	--
MW-52D	04/27/21	N	--	--
MW-52D	11/30/21	N	--	<50
MW-52D	03/08/22	N	--	<1
MW-52D	05/03/22	N	--	<1
MW-52D	08/24/22	N	--	<1
MW-52D	08/24/22	FD	--	<1
MW-52D	11/17/22	N	--	<1
MW-52M	06/16/20	N	--	--
MW-52M	12/08/20	N	--	--
MW-52M	04/27/21	N	--	--
MW-52M	11/30/21	N	--	<1

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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-52M	03/08/22	N	<1	--	<0.1 J	56	--	--	--	1 J	--	0.18	--	--
MW-52M	05/03/22	N	<1	<1	<0.1	58	--	--	--	0.62 J	--	0.23	--	--
MW-52M	08/24/22	N	<1	--	<0.1 J	56 J	--	--	--	1.60	--	0.28 J	--	--
MW-52M	11/17/22	N	<1	<1	<0.1 J	58	--	--	--	1.10 J	--	0.18 J	31	--
MW-52S	06/16/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	1.30	--	--
MW-52S	12/08/20	N	<1	<1	1.7	--	2.8 J	730 J	--	27 J	860 J	1.20	25	--
MW-52S	04/27/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	1.30	--	--
MW-52S	11/30/21	N	<0.2	<1	<0.1 J	1,400	--	--	--	20	--	1.40	5.3	--
MW-52S	11/30/21	FD	<0.2	<1	<0.1 J	1,300	--	--	--	20	--	1.30	4.9	--
MW-52S	03/08/22	N	<1	--	<0.1 J	1,000	--	--	--	21 J	--	1.20	--	--
MW-52S	05/03/22	N	<1	<1	<0.1	400	--	--	--	26 J	--	1.40	--	--
MW-52S	08/24/22	N	<1	--	<0.1 J	850 J	--	--	--	20	--	1.30 J	--	--
MW-52S	11/17/22	N	<1	<1	<0.1 J	400	--	--	--	19 J	--	1.10 J	22	--
MW-53D	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	1.10	--	--
MW-53D	12/08/20	N	<1	<1	3.3	--	4.1 J	280 J	--	0.46 J	19 J	1.10	160	--
MW-53D	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.89	--	--
MW-53D	11/30/21	N	<1	<1	3.6 J	44	--	--	--	0.22	--	1.30	180	--
MW-53D	03/08/22	N	<1	--	2.3 J	44	--	--	--	0.25 J	--	1	--	--
MW-53D	05/03/22	N	<1	<1	<0.1	36	--	--	--	0.38 J	--	1.40	--	--
MW-53D	08/24/22	N	<1	--	<0.1 J	53 J	--	--	--	0.25	--	1.20 J	--	--
MW-53D	11/17/22	N	<1	<1	<0.1 J	44	--	--	--	0.18 J	--	0.65 J	130	--
MW-53M	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.45	--	--
MW-53M	12/08/20	N	<1	<1	0.77	--	3.2 J	370 J	--	0.55 J	37 J	0.41	61	--
MW-53M	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.63	--	--
MW-53M	11/30/21	N	<1	<1	<0.1 J	58	--	--	--	0.38	--	0.42	54	--
MW-53M	03/08/22	N	<1	--	<0.1 J	70	--	--	--	0.99 J	--	0.51	--	--
MW-53M	05/03/22	N	<1	<1	<0.1	55	--	--	--	0.27 J	--	0.4	--	--
MW-53M	08/24/22	N	<1	--	<0.1 J	65 J	--	--	--	0.44	--	0.42 J	--	--
MW-53M	11/17/22	N	<1	<1	<0.1 J	71	--	--	--	1.10 J	--	0.59 J	46	--
MW-53S	11/30/21	N	<0.2	<1	<0.1 J	200	--	--	--	5.40	--	1.20	1.6	--
MW-53S	03/08/22	N	<0.2	--	<0.1 J	200	--	--	--	5.40 J	--	1.20	--	--
MW-53S	05/03/22	N	<0.2	<1	<0.1	190	--	--	--	5 J	--	1.10	--	--
MW-53S	08/24/22	N	<0.2	--	<0.1 J	190 J	--	--	--	5.90	--	1.50 J	--	--
MW-53S	11/17/22	N	<0.2	<1	<0.1 J	210	--	--	--	5.10 J	--	1.10 J	3.1	--
MW-54-085	06/19/20	N	<0.2	<1	5.19	--	--	--	--	--	--	0.472	--	--
MW-54-085	12/09/20	N	<0.2	<10	<10	--	1.32	159	--	<0.0002	80.2	0.733	<100	--
MW-54-085	06/08/21	N	<1	<10	<10	56.9	--	125	--	--	63.8	0.537	47.8	11
MW-54-085	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.689	<100 J	--
MW-54-085	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-54-085	12/15/22	N	<0.2	<1	3.32	--	--	--	--	--	--	0.698	49.7	--
MW-54-140	06/19/20	N	<1	<1	2.66	--	--	--	--	--	--	0.106	--	--
MW-54-140	12/09/20	N	<1	<10	<10	--	1.86	144	--	<0.0002	15.3	<0.1	<100	--
MW-54-140	06/08/21	N	<1	<10	<10	43	--	154	--	--	18.1	<0.1	44.3	20.9
MW-54-140	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	<0.1	<100 J	--
MW-54-140	06/15/22	N	<1	<10	--	--	--	--	--	--	--	--	--	--
MW-54-140	12/15/22	N	<0.2	<1	2.4	--	--	--	--	--	--	0.0576	55.7	--
MW-54-195	06/19/20	N	<1	<1	<1	--	--	--	--	--	--	0.35	--	--

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Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-52M	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-52M	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-52M	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-52M	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-52S	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-52S	12/08/20	N	1.9	2,900 J	--	1,500	--	3,100	--	--	--	--	4,500	12,000
MW-52S	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-52S	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-52S	11/30/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-52S	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-52S	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-52S	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-52S	11/17/22	N	0.8	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53D	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-53D	12/08/20	N	<0.5	5,500 J	--	36	--	8,800	--	--	--	--	1,200	15,000
MW-53D	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-53D	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-53D	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-53D	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-53D	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53D	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53D	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53D	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53M	06/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-53M	12/08/20	N	<0.5	4,400 J	--	46	--	6,700	--	--	--	--	740	12,000
MW-53M	04/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-53M	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-53M	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-53M	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-53M	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53M	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53S	11/30/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-53S	03/08/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-53S	05/03/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-53S	08/24/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-53S	11/17/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-54-085	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-085	12/09/20	N	<100	1,870	--	155	--	2,910	--	--	--	--	562	5,780
MW-54-085	06/08/21	N	<10	1,670	<10	--	--	2,860	3	--	--	<0.2	439	5,640
MW-54-085	12/14/21	N	<100 J	--	--	--	--	--	--	<0.5	--	--	--	--
MW-54-085	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-085	12/15/22	N	<10	--	--	--	--	--	--	0.291	--	--	--	--
MW-54-140	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-140	12/09/20	N	<100	2,660	--	107	--	4,010	--	--	--	--	565	7,790
MW-54-140	06/08/21	N	<10	2,770	<10	--	--	4,740	2.57	--	--	0.646	565	6,980
MW-54-140	12/14/21	N	<100 J	--	--	--	--	--	--	0.605	--	--	--	--
MW-54-140	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-140	12/15/22	N	<10	--	--	--	--	--	--	0.631	--	--	--	--
MW-54-195	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-52M	03/08/22	N	--	<1
MW-52M	05/03/22	N	--	<1
MW-52M	08/24/22	N	--	<1
MW-52M	11/17/22	N	--	<1
MW-52S	06/16/20	N	--	--
MW-52S	12/08/20	N	--	--
MW-52S	04/27/21	N	--	--
MW-52S	11/30/21	N	--	1.3
MW-52S	11/30/21	FD	--	1.4
MW-52S	03/08/22	N	--	2.7
MW-52S	05/03/22	N	--	2.4
MW-52S	08/24/22	N	--	1.9
MW-52S	11/17/22	N	--	2.1
MW-53D	06/16/20	N	--	--
MW-53D	12/08/20	N	--	--
MW-53D	04/27/21	N	--	--
MW-53D	11/30/21	N	--	<1
MW-53D	03/08/22	N	--	<1
MW-53D	05/03/22	N	--	<1
MW-53D	08/24/22	N	--	<1
MW-53D	11/17/22	N	--	<1
MW-53M	06/16/20	N	--	--
MW-53M	12/08/20	N	--	--
MW-53M	04/27/21	N	--	--
MW-53M	11/30/21	N	--	<1
MW-53M	03/08/22	N	--	<50
MW-53M	05/03/22	N	--	<1
MW-53M	08/24/22	N	--	<1
MW-53M	11/17/22	N	--	<20
MW-53S	11/30/21	N	--	<1
MW-53S	03/08/22	N	--	<1
MW-53S	05/03/22	N	--	1.7
MW-53S	08/24/22	N	--	1.5
MW-53S	11/17/22	N	--	1.3
MW-54-085	06/19/20	N	--	--
MW-54-085	12/09/20	N	--	--
MW-54-085	06/08/21	N	--	--
MW-54-085	12/14/21	N	--	--
MW-54-085	06/15/22	N	--	--
MW-54-085	12/15/22	N	--	--
MW-54-140	06/19/20	N	--	--
MW-54-140	12/09/20	N	--	--
MW-54-140	06/08/21	N	--	--
MW-54-140	12/14/21	N	--	--
MW-54-140	06/15/22	N	--	--
MW-54-140	12/15/22	N	--	--
MW-54-195	06/19/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-54-195	12/09/20	N	<1	<10	<10	--	2.93	127	--	<0.0002	4.77	0.331	107	--
MW-54-195	06/08/21	N	<1	<10	<10	38	--	127	--	--	4.78	0.282	109	33.4
MW-54-195	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.285	111 J	--
MW-54-195	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-54-195	12/15/22	N	<0.2	<1	<1	--	--	--	--	--	--	0.366	111	--
MW-55-045	06/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-55-045	12/09/20	N	<0.2	<10	--	--	0.565	32.9	--	<0.0002	7.4	0.789	<100	--
MW-55-045	06/09/21	N	<0.2	<1	8.17 J	524	--	31.8	--	--	7.89	1 J	40.4	4.19
MW-55-045	12/14/21	N	<0.2	<1	6.35 J	--	--	--	--	--	--	0.625	--	--
MW-55-045	06/14/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-55-045	12/13/22	N	<0.2	5.6	6.11	--	--	--	--	--	--	0.57	--	--
MW-55-120	06/19/20	N	7.94	9.2	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/19/20	FD	7.99	9.23	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/09/20	N	7.51	<10	--	--	1.65	62.9	--	<0.0002	1.33	<0.1	<100	--
MW-55-120	06/09/21	N	7.47	<10	<10	41.4	--	64.6	--	--	1.43	--	36.4	18
MW-55-120	12/14/21	N	7.96	<10	<10	--	--	--	--	--	--	<0.1	--	--
MW-55-120	12/14/21	FD	7.95	<10	<10	--	--	--	--	--	--	<0.1	--	--
MW-55-120	06/14/22	N	7.7	<10	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/13/22	N	8.5	8.9	6.68	--	--	--	--	--	--	<0.05	--	--
MW-56D	06/19/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-56D	12/09/20	N	<1	<10	--	--	2.78	412	--	1.06	82.4	0.812	<100	--
MW-56D	06/19/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-56D	12/09/20	N	<1	<10	--	--	2.78	412	--	1.06	82.4	0.812	<100	--
MW-56D	06/09/21	N	<1	<10	<10	40.6	--	421	--	--	85.3	0.809 J	37.1	37.9
MW-56D	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.804	<100 J	--
MW-56D	06/14/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-56D	12/14/22	N	<0.2	<5	<5	--	--	--	--	--	--	0.749	<50	--
MW-56M	06/19/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-56M	12/09/20	N	<1	<10	--	--	1.82	377	--	2.97	99.6	0.675	<100	--
MW-56M	12/09/20	FD	<1	<10	--	--	1.83	375	--	2.95	96.7	0.654	<100	--
MW-56M	06/09/21	N	<1	<10	<10	48.9	--	374	--	--	99.3	0.657 J	<20	20.3
MW-56M	06/09/21	FD	<1	<10	<10	48.3	--	382	--	--	99.8	0.689 J	<20	20.5
MW-56M	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.784	<100 J	--
MW-56M	06/14/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-56M	12/14/22	N	<0.2	<5	<5	--	--	--	--	--	--	0.787	<50	--
MW-56S	06/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-56S	12/09/20	N	<0.2	<10	--	--	1.99	144	--	4.92	50.3	0.754	<100	--
MW-56S	06/09/21	N	<0.2	<10	<10	68.2	--	148	--	--	60.3	0.823 J	28.6	10.8
MW-56S	12/14/21	N	<0.2	<10	<10	--	--	--	--	--	--	1.25	<100 J	--
MW-56S	06/14/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-56S	12/14/22	N	<0.2	<5	<5	--	--	--	--	--	--	0.746	<50	--
MW-56S	12/14/22	FD	<0.2	<5	<5	--	--	--	--	--	--	0.802	<50	--
MW-57-070	06/22/20	N	610	530	1.3	--	--	--	--	--	--	0.0015	2.4	--
MW-57-070	12/04/20	N	630 J	660	1.3	--	0.4 J	250	--	<0.02 J	18 J	0.00098	2.6	--
MW-57-070	04/30/21	N	490	540	1.1	--	--	--	--	--	--	0.0034	3.5	--
MW-57-070	12/10/21	N	380	410	1.2	--	--	--	--	--	--	0.0011	4	--
MW-57-070	06/07/22	N	570	520	--	--	--	--	--	--	--	--	--	--
MW-57-070	11/18/22	N	280	310	1.9	--	--	--	--	--	--	0.11	3.3	--
MW-57-185	06/22/20	N	1.3	1.9	4.3	--	--	--	--	--	--	0.002	78	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-54-195	12/09/20	N	<100	2,980	--	62.6	--	6,090	--	--	--	--	869	11,500
MW-54-195	06/08/21	N	<10	4,420	<10	--	--	7,090	4.29	--	--	<0.5	884	11,400
MW-54-195	12/14/21	N	<100 J	--	--	--	--	--	--	<1	--	--	--	--
MW-54-195	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-195	12/15/22	N	<10	--	--	--	--	--	--	<0.5	--	--	--	--
MW-55-045	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-045	12/09/20	N	<100	231	--	155	--	258	--	--	--	--	76.4	751
MW-55-045	06/09/21	N	<1	231	1.19	--	--	274	6.01	--	--	<0.1	84.4	689
MW-55-045	12/14/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-045	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-045	12/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/19/20	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/09/20	N	<100	2,120	--	74.2	--	2,190	--	--	--	--	239	4,050
MW-55-120	06/09/21	N	<10	1,410	<10	--	--	2,170	4.93	--	--	1.28	245	3,750
MW-55-120	12/14/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/14/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56D	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56D	12/09/20	N	<100	4,650	--	136	--	7,370	--	--	--	--	1,270	14,200
MW-56D	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56D	12/09/20	N	<100	4,650	--	136	--	7,370	--	--	--	--	1,270	14,200
MW-56D	06/09/21	N	<10	4,860	<10	--	--	7,880	1.83	--	--	<0.5	1,340	13,300
MW-56D	12/14/21	N	<100 J	--	--	--	--	--	--	<1	--	--	--	--
MW-56D	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56D	12/14/22	N	<50	--	--	--	--	--	--	<1	--	--	--	--
MW-56M	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56M	12/09/20	N	<100	2,920	--	437	--	4,860	--	--	--	--	835	9,310
MW-56M	12/09/20	FD	<100	2,930	--	438	--	4,820	--	--	--	--	854	9,490
MW-56M	06/09/21	N	<10	2,920	<10	--	--	5,060	0.96	--	--	<0.2	876	9,050
MW-56M	06/09/21	FD	<10	2,900	<10	--	--	4,950	1.02	--	--	0.475	945	8,890
MW-56M	12/14/21	N	<100 J	--	--	--	--	--	--	<0.5	--	--	--	--
MW-56M	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56M	12/14/22	N	<50	--	--	--	--	--	--	2.25	--	--	--	--
MW-56S	06/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56S	12/09/20	N	<100	1,200	--	640	--	1,300	--	--	--	--	585	3,980
MW-56S	06/09/21	N	<10	1,230	<10	--	--	1,590	4.68	--	--	<0.2	650	3,840
MW-56S	12/14/21	N	<100 J	--	--	--	--	--	--	<0.2	--	--	--	--
MW-56S	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-56S	12/14/22	N	<50	--	--	--	--	--	--	<0.1	--	--	--	--
MW-56S	12/14/22	FD	<50	--	--	--	--	--	--	<0.1	--	--	--	--
MW-57-070	06/22/20	N	2.8	--	--	--	--	--	--	--	--	8.8	--	--
MW-57-070	12/04/20	N	3.2	75	--	110	--	550	--	--	--	8.5	110	1,300
MW-57-070	04/30/21	N	3.6	--	--	--	--	--	--	--	--	9.3	--	--
MW-57-070	12/10/21	N	3.7	--	--	--	--	--	--	--	--	11	--	--
MW-57-070	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-57-070	11/18/22	N	2.7	--	--	--	--	--	--	3.5	--	--	--	--
MW-57-185	06/22/20	N	<0.5	--	--	--	--	--	--	--	--	0.14	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-54-195	12/09/20	N	--	--
MW-54-195	06/08/21	N	--	--
MW-54-195	12/14/21	N	--	--
MW-54-195	06/15/22	N	--	--
MW-54-195	12/15/22	N	--	--
MW-55-045	06/19/20	N	--	--
MW-55-045	12/09/20	N	--	--
MW-55-045	06/09/21	N	--	--
MW-55-045	12/14/21	N	--	--
MW-55-045	06/14/22	N	--	--
MW-55-045	12/13/22	N	--	--
MW-55-120	06/19/20	N	--	--
MW-55-120	06/19/20	FD	--	--
MW-55-120	12/09/20	N	--	--
MW-55-120	06/09/21	N	--	--
MW-55-120	12/14/21	N	--	--
MW-55-120	12/14/21	FD	--	--
MW-55-120	06/14/22	N	--	--
MW-55-120	12/13/22	N	--	--
MW-56D	06/19/20	N	--	--
MW-56D	12/09/20	N	--	--
MW-56D	06/09/21	N	--	--
MW-56D	12/14/21	N	--	--
MW-56D	06/14/22	N	--	--
MW-56D	12/14/22	N	--	--
MW-56M	06/19/20	N	--	--
MW-56M	12/09/20	N	--	--
MW-56M	12/09/20	FD	--	--
MW-56M	06/09/21	N	--	--
MW-56M	06/09/21	FD	--	--
MW-56M	12/14/21	N	--	--
MW-56M	06/14/22	N	--	--
MW-56M	12/14/22	N	--	--
MW-56S	06/19/20	N	--	--
MW-56S	12/09/20	N	--	--
MW-56S	06/09/21	N	--	--
MW-56S	12/14/21	N	--	--
MW-56S	06/14/22	N	--	--
MW-56S	12/14/22	N	--	--
MW-56S	12/14/22	FD	--	--
MW-57-070	06/22/20	N	--	--
MW-57-070	12/04/20	N	--	--
MW-57-070	04/30/21	N	--	--
MW-57-070	12/10/21	N	--	--
MW-57-070	06/07/22	N	--	--
MW-57-070	11/18/22	N	--	--
MW-57-185	06/22/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-57-185	06/22/20	FD	1.4	2	4.1	--	--	--	--	--	--	0.0021	75	--
MW-57-185	12/04/20	N	4.4 J	5	5.4	--	2.4 J	330	--	<0.1 J	<500 J	0.0014	83	--
MW-57-185	04/30/21	N	4.2	4.3	<0.1	--	--	--	--	--	--	0.0011	83	--
MW-57-185	12/10/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.0032	78	--
MW-57-185	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-57-185	11/18/22	N	<1	<1	4.9	--	--	--	--	--	--	0.0018	65	--
MW-58BR	02/17/20	N	120	120	0.11	--	--	--	--	--	--	0.16	22	--
MW-58BR	05/01/20	N	43	41	1.9	--	--	--	--	--	--	0.14	24	--
MW-58BR	09/29/20	N	3.9	4.5	1	--	--	--	--	--	--	0.29	29	--
MW-58BR	11/30/20	N	5.2	5.7	2.4	--	1.3 J	320 J	--	<0.02	31 J	0.33	27	--
MW-58BR	02/15/21	N	4.2	5.2	2.1	--	--	--	--	--	--	0.32	26	--
MW-58BR	05/17/21	N	2.7	2.8	<0.1	--	--	--	--	--	--	0.31	28	--
MW-58BR	05/17/21	FD	2.3	2.2	<0.1	--	--	--	--	--	--	0.28	27	--
MW-58BR	08/26/21	N	16	17	<0.1 J	--	--	--	--	--	--	0.38	26	--
MW-58BR	12/09/21	N	6.4	7.3	<0.1 J	--	--	--	--	--	--	0.35	25	--
MW-58BR	06/21/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--
MW-58BR	12/08/22	N	0.82	1.1	0.46	--	--	--	--	--	--	0.46	25	--
MW-59-100	06/22/20	N	2,100	2,200	<0.1	--	--	--	--	--	--	0.01	9	--
MW-59-100	12/08/20	N	2,700	2,900	2.2	69	1.5 J	550 J	--	0.042 J	25 J	0.0015	4.8	--
MW-59-100	12/08/20	FD	2,700	2,800	2.2	70	3.4 J	670 J	--	0.27 J	27 J	0.0013	4.7	--
MW-59-100	02/17/21	N	2,500	2,800	--	--	--	--	--	--	--	--	6.6	--
MW-59-100	06/07/21	N	1,800	1,900	<0.1 J	--	--	--	--	--	--	0.002 J	11	--
MW-59-100	12/15/21	N	2,000	2,000	<0.1	--	--	--	--	--	--	0.0097	8	--
MW-59-100	06/09/22	N	1,700	1,700 J	--	--	--	--	--	--	--	--	--	--
MW-59-100	11/30/22	N	2,300	2,600 J	0.71 J	--	--	--	--	--	--	0.00058	4.4	--
MW-59-100	11/30/22	FD	2,300	2,500 J	0.41 J	--	--	--	--	--	--	0.00078	4.1	--
MW-60-125	06/24/20	N	660	630	<0.1	--	--	--	--	--	--	0.0047	17	--
MW-60-125	10/01/20	N	580	570	<0.1	--	0.82	450 J	--	<0.02	--	0.005	18	--
MW-60-125	05/27/21	N	390	390	<0.1 J	--	--	--	--	--	--	0.003	16	--
MW-60-125	12/16/21	N	480	480	<0.1	--	--	--	--	--	--	0.0061	19	--
MW-60-125	06/16/22	N	270	260	--	--	--	--	--	--	--	--	--	--
MW-60-125	11/29/22	N	36 J	70	<0.1	--	--	--	--	--	--	0.013 J	16	--
MW-60BR-245	02/20/20	N	52	44	6	--	--	--	--	--	--	0.007	57	--
MW-60BR-245	09/30/20	N	21	22	<0.1	--	--	--	--	--	--	0.002	63	--
MW-60BR-245	12/17/20	N	16	15	<0.1	--	2.4	390	--	<0.1	7 J	0.0016	65	--
MW-60BR-245	02/18/21	N	22	23 J	5.6	--	--	--	--	--	--	0.0015	70	--
MW-60BR-245	05/27/21	N	9.4	8.9	<0.1 J	--	--	--	--	--	--	<0.0005	64	--
MW-60BR-245	08/26/21	N	5.5	5.5	<0.1 J	--	--	--	--	--	--	<0.0005	64	--
MW-60BR-245	12/16/21	N	7.1	8.6	<0.1	--	--	--	--	--	--	0.0016	--	--
MW-60BR-245	06/16/22	N	10	10	--	--	--	--	--	--	--	--	--	--
MW-60BR-245	11/29/22	N	14 J	13	<0.1	--	--	--	--	--	--	<0.0005 J	--	--
MW-61-110	12/04/20	N	430 J	440	<0.1	--	2.4 J	610	--	<0.1 J	26 J	0.24	22	--
MW-61-110	05/27/21	N	160	150	<0.1 J	--	--	--	--	--	--	0.3	23	--
MW-61-110	12/10/21	N	370	390	<0.1	--	--	--	--	--	--	0.35	22	--
MW-61-110	06/16/22	N	310	280	--	--	--	--	--	--	--	--	--	--
MW-61-110	11/29/22	N	63	66 J	2.9	--	--	--	--	--	--	0.57 J	20	--
MW-61-110	11/29/22	FD	61	87 J	3.2	--	--	--	--	--	--	0.63 J	21	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-57-185	06/22/20	FD	<0.5	--	--	--	--	--	--	--	--	0.12	--	--
MW-57-185	12/04/20	N	<0.5	2,800	--	110	--	5,700	--	--	--	0.18	700	11,000
MW-57-185	04/30/21	N	<0.5	--	--	--	--	--	--	--	--	0.25	--	--
MW-57-185	12/10/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-57-185	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-57-185	11/18/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-58BR	02/17/20	N	2.7	--	--	--	--	--	--	--	--	1.8	--	--
MW-58BR	05/01/20	N	1.9	--	--	--	--	--	--	--	--	0.77	--	--
MW-58BR	09/29/20	N	2	--	--	--	--	--	--	--	--	0.39	--	--
MW-58BR	11/30/20	N	2.3	1,000 J	--	47	--	2,200	--	--	--	0.5	470	4,600
MW-58BR	02/15/21	N	2.1	--	--	--	--	--	--	--	--	0.46	--	--
MW-58BR	05/17/21	N	1.7	--	--	--	--	--	--	--	--	0.46 J	--	--
MW-58BR	05/17/21	FD	1.7	--	--	--	--	--	--	--	--	0.95 J	--	--
MW-58BR	08/26/21	N	2.2	--	--	--	--	--	--	--	--	0.71	--	--
MW-58BR	12/09/21	N	1.9	--	--	--	--	--	--	--	--	0.74	--	--
MW-58BR	06/21/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-58BR	12/08/22	N	1.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-59-100	06/22/20	N	1.9	--	--	--	--	--	--	--	--	2.1	--	--
MW-59-100	12/08/20	N	3.2 J	1,500 J	<1	110	--	3,100	--	--	--	3.4	570	6,700
MW-59-100	12/08/20	FD	4.1 J	1,400 J	<1	110	--	3,100	--	--	--	3.5	580	7,200
MW-59-100	02/17/21	N	4.3	--	--	--	--	--	--	--	--	3.6	--	--
MW-59-100	06/07/21	N	2	--	--	--	--	--	--	--	--	1.8	--	--
MW-59-100	12/15/21	N	2.1	--	--	--	--	--	--	--	--	2.3	--	--
MW-59-100	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-59-100	11/30/22	N	3.4	--	--	--	--	--	--	2.8	--	--	--	--
MW-59-100	11/30/22	FD	3.1	--	--	--	--	--	--	2.6	--	--	--	--
MW-60-125	06/24/20	N	5.2	--	--	--	--	--	--	--	--	3.8	--	--
MW-60-125	10/01/20	N	6.5	1,300	--	60	--	2,700	1.5	--	--	4.1	460	6,800
MW-60-125	05/27/21	N	6.5	--	--	--	--	--	--	--	--	3.9	--	--
MW-60-125	12/16/21	N	5.8	--	--	--	--	--	--	--	--	3.8	--	--
MW-60-125	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-60-125	11/29/22	N	5	--	--	--	--	--	--	2.6 J	--	--	--	--
MW-60BR-245	02/20/20	N	3	--	--	--	--	--	--	--	--	0.22	--	--
MW-60BR-245	09/30/20	N	3.4 J	--	--	--	--	--	--	--	--	0.18	--	--
MW-60BR-245	12/17/20	N	2.9	3,600 J	--	24	--	5,600	--	--	--	0.18	780	11,000
MW-60BR-245	02/18/21	N	3.1	--	--	--	--	--	--	--	--	0.25	--	--
MW-60BR-245	05/27/21	N	2.5	--	--	--	--	--	--	--	--	0.21	--	--
MW-60BR-245	08/26/21	N	3.8	--	--	--	--	--	--	--	--	0.12	--	--
MW-60BR-245	12/16/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-60BR-245	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-60BR-245	11/29/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-61-110	12/04/20	N	1.3	2,700	--	46	--	5,400	--	--	--	0.8	720	11,000
MW-61-110	05/27/21	N	0.83	--	--	--	--	--	--	--	--	0.38	--	--
MW-61-110	12/10/21	N	1.1	--	--	--	--	--	--	--	--	0.63	--	--
MW-61-110	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-61-110	11/29/22	N	0.87	--	--	--	--	--	--	0.4 J	--	--	--	--
MW-61-110	11/29/22	FD	0.97	--	--	--	--	--	--	0.46 J	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-57-185	06/22/20	FD	--	--
MW-57-185	12/04/20	N	--	--
MW-57-185	04/30/21	N	--	--
MW-57-185	12/10/21	N	--	--
MW-57-185	06/07/22	N	--	--
MW-57-185	11/18/22	N	--	--
MW-58BR	02/17/20	N	--	--
MW-58BR	05/01/20	N	--	--
MW-58BR	09/29/20	N	--	--
MW-58BR	11/30/20	N	--	--
MW-58BR	02/15/21	N	--	--
MW-58BR	05/17/21	N	--	--
MW-58BR	05/17/21	FD	--	--
MW-58BR	08/26/21	N	--	--
MW-58BR	12/09/21	N	--	--
MW-58BR	06/21/22	N	--	--
MW-58BR	12/08/22	N	--	--
MW-59-100	06/22/20	N	--	--
MW-59-100	12/08/20	N	--	--
MW-59-100	12/08/20	FD	--	--
MW-59-100	02/17/21	N	--	--
MW-59-100	06/07/21	N	--	--
MW-59-100	12/15/21	N	--	--
MW-59-100	06/09/22	N	--	--
MW-59-100	11/30/22	N	--	--
MW-59-100	11/30/22	FD	--	--
MW-60-125	06/24/20	N	--	--
MW-60-125	10/01/20	N	--	--
MW-60-125	05/27/21	N	--	--
MW-60-125	12/16/21	N	--	--
MW-60-125	06/16/22	N	--	--
MW-60-125	11/29/22	N	--	--
MW-60BR-245	02/20/20	N	--	--
MW-60BR-245	09/30/20	N	--	--
MW-60BR-245	12/17/20	N	--	--
MW-60BR-245	02/18/21	N	--	--
MW-60BR-245	05/27/21	N	--	--
MW-60BR-245	08/26/21	N	--	--
MW-60BR-245	12/16/21	N	--	--
MW-60BR-245	06/16/22	N	--	--
MW-60BR-245	11/29/22	N	--	--
MW-61-110	12/04/20	N	--	--
MW-61-110	05/27/21	N	--	--
MW-61-110	12/10/21	N	--	--
MW-61-110	06/16/22	N	--	--
MW-61-110	11/29/22	N	--	--
MW-61-110	11/29/22	FD	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-62-065	02/19/20	N	480	460	0.13	--	--	--	--	--	--	0.0035	13	--
MW-62-065	04/28/20	N	580	550	<0.1	--	--	--	--	--	--	0.0049	15	--
MW-62-065	09/30/20	N	590	610	<0.1	--	--	--	--	--	--	0.0033	13	--
MW-62-065	12/04/20	N	620	570	<0.1	--	0.88 J	180	--	<0.02 J	30 J	<0.0005	12	--
MW-62-065	02/18/21	N	530	580 J	1.5	--	--	--	--	--	--	0.0034	14	--
MW-62-065	05/27/21	N	670	640	<0.1 J	--	--	--	--	--	--	0.0011	12	--
MW-62-065	08/27/21	N	590	660	<0.1 J	--	--	--	--	--	--	0.0017	13	--
MW-62-065	08/27/21	FD	600	610	<0.1 J	--	--	--	--	--	--	0.0022	13	--
MW-62-065	12/15/21	N	580	610	<0.1	--	--	--	--	--	--	<0.0005	11	--
MW-62-065	06/09/22	N	650	660 J	--	--	--	--	--	--	--	--	--	--
MW-62-065	11/28/22	N	580	590 J	0.92	--	--	--	--	--	--	0.0022 J	16	--
MW-62-110	02/18/20	N	<0.2	<1	5.7	--	--	--	--	--	--	0.15	49	--
MW-62-110	04/29/20	N	<1	<1	2.9	--	--	--	--	--	--	0.13	71	--
MW-62-110	09/30/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.14	47	--
MW-62-110	12/02/20	N	<0.2	<1	8.1	--	1.5	140	--	0.35	9.2	0.21	50	--
MW-62-110	02/16/21	N	<0.2	<1	4.5 J	--	--	--	--	--	--	0.13	50	--
MW-62-110	06/08/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.16 J	64	--
MW-62-110	08/27/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.15	56	--
MW-62-110	12/01/21	N	<1	<1	5.2	--	--	--	--	--	--	0.18	38	--
MW-62-110	06/22/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-62-110	11/29/22	N	<1	2.2 J	6.5	--	--	--	--	--	--	0.45 J	50	--
MW-62-190	04/29/20	N	<1	<1	<0.5	--	--	--	--	--	--	0.7	41	--
MW-62-190	04/29/20	FD	<1	<1	<0.5	--	--	--	--	--	--	0.72	40	--
MW-62-190	12/02/20	N	<1	<1	3.4	--	2.9	290	--	1.40	18	0.9	43	--
MW-62-190	06/08/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.71 J	46	--
MW-62-190	12/01/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.57	29	--
MW-62-190	06/22/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-62-190	11/29/22	N	<1	<1 J	4	--	--	--	--	--	--	0.48 J	35	--
MW-63-065	02/19/20	N	1.2	2.5	<0.1	--	--	--	--	--	--	0.014	18	--
MW-63-065	02/19/20	FD	1.2	2.8	<0.1	--	--	--	--	--	--	0.017	18	--
MW-63-065	06/24/20	N	1.3	2.6	<0.1	--	--	--	--	--	--	0.01	15	--
MW-63-065	09/30/20	N	1.3	2.3	<0.1	--	--	--	--	--	--	0.0017	17	--
MW-63-065	12/07/20	N	1.7	2.7 J	<0.1	--	0.77 J	150 J	--	0.034 J	23 J	0.0014	16 J	--
MW-63-065	02/18/21	N	1.2	3.1 J	1.6	--	--	--	--	--	--	0.006	17	--
MW-63-065	05/27/21	N	1.2	3.3	<0.1 J	--	--	--	--	--	--	0.028	17	--
MW-63-065	08/26/21	N	1.3	1.7	<0.1 J	--	--	--	--	--	--	0.0033	16	--
MW-63-065	12/16/21	N	1.4	1.3	<0.1	--	--	--	--	--	--	<0.0005	16	--
MW-63-065	06/09/22	N	1.1	2.2 J	--	--	--	--	--	--	--	--	--	--
MW-63-065	11/29/22	N	1.5	1.5 J	1.4	--	--	--	--	--	--	0.0018 J	14	--
MW-64BR	02/21/20	N	<1	<1	3.2	--	--	--	--	--	--	0.91	61	--
MW-64BR	05/01/20	N	<0.2	1.8	0.77	--	--	--	--	--	--	0.16	37	--
MW-64BR	09/30/20	N	<1	<1	<0.1	--	--	--	--	--	--	1	66	--
MW-64BR	11/30/20	N	<1	<1	2.3	--	2 J	260 J	--	0.71 J	22 J	1	68	--
MW-64BR	02/18/21	N	<1	<1 J	1.9	--	--	--	--	--	--	1	65	--
MW-64BR	05/27/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.96	61	--
MW-64BR	08/26/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.97	60	--
MW-64BR	12/16/21	N	<1	<1	<0.1	--	--	--	--	--	--	1	58	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-62-065	02/19/20	N	3.8	--	--	--	--	--	--	--	--	5.1	--	--
MW-62-065	04/28/20	N	3.8	--	--	--	--	--	--	--	--	4.6	--	--
MW-62-065	09/30/20	N	4.7 J	--	--	--	--	--	--	--	--	5.1	--	--
MW-62-065	12/04/20	N	3.5	870	--	110	--	1,800	--	--	--	4.6	430	3,800
MW-62-065	02/18/21	N	3.8	--	--	--	--	--	--	--	--	4.8	--	--
MW-62-065	05/27/21	N	4.1	--	--	--	--	--	--	--	--	4.6	--	--
MW-62-065	08/27/21	N	3.9	--	--	--	--	--	--	--	--	5.2	--	--
MW-62-065	08/27/21	FD	3.6	--	--	--	--	--	--	--	--	4.9	--	--
MW-62-065	12/15/21	N	3.4	--	--	--	--	--	--	--	--	5	--	--
MW-62-065	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-065	11/28/22	N	3.7 J	--	--	--	--	--	--	5	--	--	--	--
MW-62-110	02/18/20	N	<0.5	--	--	--	--	--	--	--	--	0.055	--	--
MW-62-110	04/29/20	N	<0.5	--	--	--	--	--	--	--	--	3.3	--	--
MW-62-110	09/30/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-62-110	12/02/20	N	<0.5	1,600	--	83	--	2,900	--	--	--	<0.1	550	6,200
MW-62-110	02/16/21	N	<0.5	--	--	--	--	--	--	--	--	--	--	--
MW-62-110	06/08/21	N	<0.5	--	--	--	--	--	--	--	--	0.1	--	--
MW-62-110	08/27/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-62-110	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-62-110	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-110	11/29/22	N	0.86	--	--	--	--	--	--	<0.5 J	--	--	--	--
MW-62-190	04/29/20	N	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-62-190	04/29/20	FD	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-62-190	12/02/20	N	<0.5	2,800	--	57	--	6,000	--	--	--	<0.1	710	12,000
MW-62-190	06/08/21	N	<0.5	--	--	--	--	--	--	--	--	0.11	--	--
MW-62-190	12/01/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-62-190	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-190	11/29/22	N	<0.5	--	--	--	--	--	--	<0.25 J	--	--	--	--
MW-63-065	02/19/20	N	0.89	--	--	--	--	--	--	--	--	1	--	--
MW-63-065	02/19/20	FD	0.86	--	--	--	--	--	--	--	--	1.1	--	--
MW-63-065	06/24/20	N	0.89	--	--	--	--	--	--	--	--	1.8	--	--
MW-63-065	09/30/20	N	1.3 J	--	--	--	--	--	--	--	--	2.4	--	--
MW-63-065	12/07/20	N	1.2 J	950 J	--	200	--	1,900	--	--	--	2	570	4,400
MW-63-065	02/18/21	N	0.93	--	--	--	--	--	--	--	--	1.4	--	--
MW-63-065	05/27/21	N	0.99	--	--	--	--	--	--	--	--	1.3	--	--
MW-63-065	08/26/21	N	1.1	--	--	--	--	--	--	--	--	1.5	--	--
MW-63-065	12/16/21	N	0.74	--	--	--	--	--	--	--	--	1.3	--	--
MW-63-065	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-63-065	11/29/22	N	1	--	--	--	--	--	--	1.4 J	--	--	--	--
MW-64BR	02/21/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-64BR	05/01/20	N	<0.5	--	--	--	--	--	--	--	--	0.056	--	--
MW-64BR	09/30/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-64BR	11/30/20	N	<0.5	2,600 J	--	69	--	4,300	--	--	--	0.1	590	8,700
MW-64BR	02/18/21	N	<0.5	--	--	--	--	--	--	--	--	0.075	--	--
MW-64BR	05/27/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-64BR	08/26/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-64BR	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-62-065	02/19/20	N	--	--
MW-62-065	04/28/20	N	--	--
MW-62-065	09/30/20	N	--	--
MW-62-065	12/04/20	N	--	--
MW-62-065	02/18/21	N	--	--
MW-62-065	05/27/21	N	--	--
MW-62-065	08/27/21	N	--	--
MW-62-065	08/27/21	FD	--	--
MW-62-065	12/15/21	N	--	--
MW-62-065	06/09/22	N	--	--
MW-62-065	11/28/22	N	--	--
MW-62-110	02/18/20	N	--	--
MW-62-110	04/29/20	N	--	--
MW-62-110	09/30/20	N	--	--
MW-62-110	12/02/20	N	--	--
MW-62-110	02/16/21	N	--	--
MW-62-110	06/08/21	N	--	--
MW-62-110	08/27/21	N	--	--
MW-62-110	12/01/21	N	--	--
MW-62-110	06/22/22	N	--	--
MW-62-110	11/29/22	N	--	--
MW-62-190	04/29/20	N	--	--
MW-62-190	04/29/20	FD	--	--
MW-62-190	12/02/20	N	--	--
MW-62-190	06/08/21	N	--	--
MW-62-190	12/01/21	N	--	--
MW-62-190	06/22/22	N	--	--
MW-62-190	11/29/22	N	--	--
MW-63-065	02/19/20	N	--	--
MW-63-065	02/19/20	FD	--	--
MW-63-065	06/24/20	N	--	--
MW-63-065	09/30/20	N	--	--
MW-63-065	12/07/20	N	--	--
MW-63-065	02/18/21	N	--	--
MW-63-065	05/27/21	N	--	--
MW-63-065	08/26/21	N	--	--
MW-63-065	12/16/21	N	--	--
MW-63-065	06/09/22	N	--	--
MW-63-065	11/29/22	N	--	--
MW-64BR	02/21/20	N	--	--
MW-64BR	05/01/20	N	--	--
MW-64BR	09/30/20	N	--	--
MW-64BR	11/30/20	N	--	--
MW-64BR	02/18/21	N	--	--
MW-64BR	05/27/21	N	--	--
MW-64BR	08/26/21	N	--	--
MW-64BR	12/16/21	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-64BR	06/22/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-64BR	11/29/22	N	<1	<1 J	<0.1 J	--	--	--	--	--	--	1.60 J	31	--
MW-64BR	11/29/22	FD	<1	<1 J	0.92 J	--	--	--	--	--	--	1.40 J	28	--
MW-65-160	02/20/20	N	250	250	0.34	--	--	--	--	--	--	0.00052	28	--
MW-65-160	04/29/20	N	190	210	0.63	--	--	--	--	--	--	0.052	40	--
MW-65-160	09/29/20	N	240	240	0.35	--	--	--	--	--	--	0.029	26	--
MW-65-160	12/03/20	N	210	240	<0.1	--	1.1	280	--	0.62	50	0.051	27	--
MW-65-160	02/16/21	N	240	250 J	0.84 J	--	--	--	--	--	--	0.0054	25	--
MW-65-160	05/27/21	N	270	260	<0.1 J	--	--	--	--	--	--	<0.0005	26	--
MW-65-160	08/25/21	N	290	310	<0.1 J	--	--	--	--	--	--	0.00075	24	--
MW-65-160	12/08/21	N	300	310	<0.1	--	--	--	--	--	--	0.00097 J	23	--
MW-65-160	03/09/22	N	250	240	--	--	--	--	--	--	--	--	26	--
MW-65-160	06/21/22	N	270	330 J	--	--	--	--	--	--	--	--	25 J	--
MW-65-160	08/25/22	N	280	300	--	--	--	--	--	--	--	--	24	--
MW-65-160	11/30/22	N	280	260 J	0.23	--	--	--	--	--	--	0.0096	22	--
MW-65-225	02/20/20	N	460	470	0.34	--	--	--	--	--	--	0.0044	27	--
MW-65-225	04/29/20	N	280	260	<0.1	--	--	--	--	--	--	0.092	43	--
MW-65-225	09/29/20	N	260	250	<0.1	--	--	--	--	--	--	0.045	43	--
MW-65-225	12/03/20	N	360	350	<0.1	--	1.7	270	--	0.098	21	0.026	32	--
MW-65-225	02/16/21	N	330	340 J	2.3 J	--	--	--	--	--	--	0.008	33	--
MW-65-225	05/27/21	N	460	430	<0.1 J	--	--	--	--	--	--	0.0007	22	--
MW-65-225	08/25/21	N	200	210	<0.1 J	--	--	--	--	--	--	0.0074	39	--
MW-65-225	12/08/21	N	83	80	<0.1	--	--	--	--	--	--	0.043 J	50	--
MW-65-225	12/08/21	FD	83	81	<0.1	--	--	--	--	--	--	0.05 J	50	--
MW-65-225	03/09/22	N	350	340	--	--	--	--	--	--	--	--	32	--
MW-65-225	03/09/22	FD	340	330	--	--	--	--	--	--	--	--	33	--
MW-65-225	06/21/22	N	390	530 J	--	--	--	--	--	--	--	--	31 J	--
MW-65-225	06/21/22	FD	390	460 J	--	--	--	--	--	--	--	--	30 J	--
MW-65-225	08/25/22	N	430	510	--	--	--	--	--	--	--	--	28	--
MW-65-225	11/30/22	N	440	510 J	0.94	--	--	--	--	--	--	0.0016	24	--
MW-66-165	04/29/20	N	530	520	0.39	--	--	--	--	--	--	0.0077	6.2	--
MW-66-165	12/03/20	N	400	390	0.69 J	--	0.78	210	--	0.2 J	47 J	0.003	5.8	14 J
MW-66-165	12/03/20	FD	410	420	0.42	--	0.9	190	--	0.16	48	0.0031	5.5	--
MW-66-165	02/16/21	N	400	400 J	--	--	--	--	--	--	--	--	6.4	--
MW-66-165	05/05/21	N	520	500 J	<0.1	--	--	240	--	--	--	0.0022	5.8	20 J
MW-66-165	09/24/21	N	360	410	<0.1 J	--	--	230 J	--	--	37 J	0.0048	6.7	13
MW-66-165	12/07/21	N	350	350	0.49 J	--	--	--	--	--	--	<0.0005 J	5.4	--
MW-66-165	06/06/22	N	380	410	--	--	--	--	--	--	--	--	5.8 J	--
MW-66-165	11/29/22	N	420	670 J	1.9	--	--	--	--	--	--	0.024 J	4.5	--
MW-66-230	04/29/20	N	6,700	6,300	8.4	--	--	--	--	--	--	0.0023	79	--
MW-66-230	04/29/20	FD	6,600	6,600	8.7	--	--	--	--	--	--	0.0023	81	--
MW-66-230	12/03/20	N	6,500	6,400	8 J	--	3	350	--	<0.1 J	7.1 J	0.0013	72	68 J
MW-66-230	12/03/20	FD	6,300	6,500	8 J	--	2.7	360	--	<0.1 J	7.1 J	0.0014	75	--
MW-66-230	02/16/21	N	6,000	6,500 J	--	--	--	--	--	--	--	--	75	--
MW-66-230	05/05/21	N	6,000	6,200 J	<0.1	--	--	96	--	--	--	0.012	74	57 J
MW-66-230	09/24/21	N	4,800	5,400	3.4 J	--	--	570 J	--	--	5.3 J	0.014	76	56
MW-66-230	12/07/21	N	5,000	5,200	8.9 J	--	--	--	--	--	--	0.0081 J	67	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-64BR	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-64BR	11/29/22	N	<0.5	--	--	--	--	--	--	<0.25 J	--	--	--	--
MW-64BR	11/29/22	FD	<0.5	--	--	--	--	--	--	<0.25 J	--	--	--	--
MW-65-160	02/20/20	N	9.2	--	--	--	--	--	--	--	--	14	--	--
MW-65-160	04/29/20	N	7.2	--	--	--	--	--	--	--	--	10	--	--
MW-65-160	09/29/20	N	9.7	--	--	--	--	--	--	--	--	13	--	--
MW-65-160	12/03/20	N	9 J	460	--	130	--	990	--	--	--	11	540	2,600
MW-65-160	02/16/21	N	11	--	--	--	--	--	--	--	--	15	--	--
MW-65-160	05/27/21	N	10	--	--	--	--	--	--	--	--	15	--	--
MW-65-160	08/25/21	N	9.4	--	--	--	--	--	--	--	--	15	--	--
MW-65-160	12/08/21	N	10	--	--	--	--	--	--	--	--	16	--	--
MW-65-160	03/09/22	N	9.3	--	--	--	--	--	--	14	--	--	--	--
MW-65-160	06/21/22	N	9.4 J	--	--	--	--	--	--	13	--	--	--	--
MW-65-160	08/25/22	N	11	--	--	--	--	--	--	14	--	--	--	--
MW-65-160	11/30/22	N	9.8	--	--	--	--	--	--	13	--	--	--	--
MW-65-225	02/20/20	N	6.9	--	--	--	--	--	--	--	--	10	--	--
MW-65-225	04/29/20	N	3.7	--	--	--	--	--	--	--	--	4.9	--	--
MW-65-225	09/29/20	N	3.7	--	--	--	--	--	--	--	--	4	--	--
MW-65-225	12/03/20	N	5.2 J	1,800	--	88	--	3,200	--	--	--	6	690	6,600
MW-65-225	02/16/21	N	4.9	--	--	--	--	--	--	--	--	6.9	--	--
MW-65-225	05/27/21	N	6.7	--	--	--	--	--	--	--	--	8.3	--	--
MW-65-225	08/25/21	N	3	--	--	--	--	--	--	--	--	3.2	--	--
MW-65-225	12/08/21	N	1.8	--	--	--	--	--	--	--	--	2	--	--
MW-65-225	12/08/21	FD	1.7	--	--	--	--	--	--	--	--	1.9	--	--
MW-65-225	03/09/22	N	4.6	--	--	--	--	--	--	5.9	--	--	--	--
MW-65-225	03/09/22	FD	4.8	--	--	--	--	--	--	6	--	--	--	--
MW-65-225	06/21/22	N	4.7 J	--	--	--	--	--	--	6.4	--	--	--	--
MW-65-225	06/21/22	FD	4.6 J	--	--	--	--	--	--	6.4	--	--	--	--
MW-65-225	08/25/22	N	5.8	--	--	--	--	--	--	7.7	--	--	--	--
MW-65-225	11/30/22	N	7.4	--	--	--	--	--	--	9.3	--	--	--	--
MW-66-165	04/29/20	N	29	--	--	--	--	--	--	--	--	29	--	--
MW-66-165	12/03/20	N	19	420 J	--	120	--	880	--	--	--	24	420	2,200
MW-66-165	12/03/20	FD	19 J	390	--	110	--	870	--	--	--	23	420	2,200
MW-66-165	02/16/21	N	20	--	--	--	--	--	--	--	--	22 J	--	--
MW-66-165	05/05/21	N	24	530	--	--	--	940	--	--	--	24	450	2,300
MW-66-165	09/24/21	N	17	490	--	--	--	820	--	--	--	19	360	2,100
MW-66-165	12/07/21	N	11	--	--	--	--	--	--	--	--	19	--	--
MW-66-165	06/06/22	N	17	--	--	--	--	--	--	21	--	--	--	--
MW-66-165	11/29/22	N	13	--	--	--	--	--	--	10 J	--	--	--	--
MW-66-230	04/29/20	N	17	--	--	--	--	--	--	--	--	23	--	--
MW-66-230	04/29/20	FD	17	--	--	--	--	--	--	--	--	23	--	--
MW-66-230	12/03/20	N	12	4,000 J	--	31	--	6,100	--	--	--	13	1,100	13,000
MW-66-230	12/03/20	FD	12	3,500 J	--	32	--	6,300	--	--	--	14	1,100	14,000
MW-66-230	02/16/21	N	16	--	--	--	--	--	--	--	--	23 J	--	--
MW-66-230	05/05/21	N	7.6	5,300	--	--	--	6,600	--	--	--	11	1,000	12,000
MW-66-230	09/24/21	N	7.1	5,200	--	--	--	7,000	--	--	--	8.8	990	13,000
MW-66-230	12/07/21	N	6.9	--	--	--	--	--	--	--	--	10	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-64BR	06/22/22	N	--	--
MW-64BR	11/29/22	N	--	--
MW-64BR	11/29/22	FD	--	--
MW-65-160	02/20/20	N	--	--
MW-65-160	04/29/20	N	--	--
MW-65-160	09/29/20	N	--	--
MW-65-160	12/03/20	N	--	--
MW-65-160	02/16/21	N	--	--
MW-65-160	05/27/21	N	--	--
MW-65-160	08/25/21	N	--	--
MW-65-160	12/08/21	N	--	--
MW-65-160	03/09/22	N	--	--
MW-65-160	06/21/22	N	--	--
MW-65-160	08/25/22	N	--	--
MW-65-160	11/30/22	N	--	--
MW-65-225	02/20/20	N	--	--
MW-65-225	04/29/20	N	--	--
MW-65-225	09/29/20	N	--	--
MW-65-225	12/03/20	N	--	--
MW-65-225	02/16/21	N	--	--
MW-65-225	05/27/21	N	--	--
MW-65-225	08/25/21	N	--	--
MW-65-225	12/08/21	N	--	--
MW-65-225	12/08/21	FD	--	--
MW-65-225	03/09/22	N	--	--
MW-65-225	03/09/22	FD	--	--
MW-65-225	06/21/22	N	--	--
MW-65-225	06/21/22	FD	--	--
MW-65-225	08/25/22	N	--	--
MW-65-225	11/30/22	N	--	--
MW-66-165	04/29/20	N	--	--
MW-66-165	12/03/20	N	--	--
MW-66-165	12/03/20	FD	--	--
MW-66-165	02/16/21	N	--	--
MW-66-165	05/05/21	N	--	--
MW-66-165	09/24/21	N	--	--
MW-66-165	12/07/21	N	--	--
MW-66-165	06/06/22	N	--	--
MW-66-165	11/29/22	N	--	--
MW-66-230	04/29/20	N	--	--
MW-66-230	04/29/20	FD	--	--
MW-66-230	12/03/20	N	--	--
MW-66-230	12/03/20	FD	--	--
MW-66-230	02/16/21	N	--	--
MW-66-230	05/05/21	N	--	--
MW-66-230	09/24/21	N	--	--
MW-66-230	12/07/21	N	--	--

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-66-230	06/06/22	N	6,100	5,600	--	--	--	--	--	--	--	--	89 J	--
MW-66-230	11/29/22	N	7,000	6,500 J	13	--	--	--	--	--	--	0.024 J	93 J	--
MW-66-230	11/29/22	FD	7,000	7,000 J	12	--	--	--	--	--	--	0.019 J	73 J	--
MW-66BR-270	06/24/20	N	<1	<1	<0.1	--	--	--	--	--	--	6.70	1.1	--
MW-66BR-270	12/16/20	N	<1	1.2	<0.1	--	3	320	--	30	33 J	2.70	3.1	--
MW-66BR-270	12/16/20	FD	<1	<1	<0.1	--	2.6	280	--	27 J	30 J	2.80	3	--
MW-66BR-270	02/26/21	N	<1	<1	--	--	--	--	--	--	--	--	3.9	--
MW-66BR-270	05/05/21	N	<1	<1 J	<0.1	--	--	370	--	--	--	1	1.9	52 J
MW-66BR-270	10/08/21	N	<1	<1	0.11	--	--	280	--	--	18 J	0.04	12	38 J
MW-66BR-270	12/16/21	N	<1	1.9	<0.1	--	--	--	--	--	--	0.82	--	--
MW-66BR-270	06/20/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-66BR-270	12/13/22	N	<1	<1	<0.1	--	--	--	--	--	--	1.30	--	--
MW-67-185	04/30/20	N	2,000	2,000	<0.1	--	--	--	--	--	--	<0.0005	5.1	--
MW-67-185	10/06/20	N	2,000	2,000	--	--	--	--	--	--	--	--	--	--
MW-67-185	12/02/20	N	2,900	3,000	0.74	--	0.72	640	--	0.11	160	0.0027	14	--
MW-67-185	02/16/21	N	640	690 J	--	--	--	--	--	--	--	--	60	--
MW-67-185	05/04/21	N	2,000	2,000	<0.1	--	--	820	--	--	--	<0.0005	5.6	20
MW-67-185	05/04/21	FD	2,000	1,900	<0.1	--	--	720	--	--	--	<0.0005	5.6	20
MW-67-185	09/23/21	N	<100	<5 J	2.2 J	--	--	190 J	--	--	29	1.60	89 J	18
MW-67-185	12/07/21	N	<100	<1	<0.1 J	--	--	--	--	--	--	2 J	47	--
MW-67-185	05/20/22	N	<40	<5 J	--	--	--	--	--	--	--	1.30	42 J	--
MW-67-185	06/22/22	N	<40	<25 J	--	--	--	--	--	--	--	1.60 J	40 J	--
MW-67-185	06/22/22	FD	<40	<25 J	--	--	--	--	--	--	--	1.70 J	42 J	--
MW-67-185	07/13/22	N	<80	37	--	--	--	--	--	--	--	1.10 J	34	--
MW-67-185	08/18/22	N	<80	<5	--	--	--	--	--	--	--	0.8 J	39	--
MW-67-185	09/14/22	N	<80	<5	--	--	--	--	--	--	--	1.10	41	--
MW-67-185	10/13/22	N	150	180 J	--	--	--	--	--	--	--	1.40	24	--
MW-67-185	11/10/22	N	<80	120	<0.5	--	--	--	--	--	--	1.20	23	--
MW-67-185	12/07/22	N	<80	<5 J	--	--	--	--	--	--	--	1.20	33 J	--
MW-67-225	04/30/20	N	3,000	3,200	1.3	--	--	--	--	--	--	0.0052	48	--
MW-67-225	12/02/20	N	3,800	4,000	5	--	1.5	92	--	2.30	7.1	0.058	58	--
MW-67-225	02/16/21	N	4,100	3,500 J	--	--	--	--	--	--	--	--	88	--
MW-67-225	05/04/21	N	3,400	3,400	0.81	--	--	150	--	--	--	0.0053	54	17
MW-67-225	09/24/21	N	2,100	2,400	<0.1 J	--	--	140 J	--	--	6.3 J	0.032	72	16
MW-67-225	12/07/21	N	2,800	3,000	<0.1 J	--	--	--	--	--	--	0.0012 J	42	--
MW-67-225	06/21/22	N	3,400	3,100 J	--	--	--	--	--	--	--	--	65 J	--
MW-67-225	11/30/22	N	4,300	4,600 J	0.64	--	--	--	--	--	--	0.005	58	--
MW-67-260	04/30/20	N	1,100	1,100	11	--	--	--	--	--	--	0.12	67	--
MW-67-260	12/02/20	N	250	250	1.6	--	0.68	370	--	0.18	<500	0.0015	24	--
MW-67-260	02/19/21	N	350	380	--	--	--	--	--	--	--	--	35	--
MW-67-260	05/04/21	N	920	940	<0.1	--	--	340	--	--	--	0.00072	63	67
MW-67-260	09/24/21	N	770	840	<0.1 J	--	--	340 J	--	--	0.11 J	0.00057	70	77
MW-67-260	12/07/21	N	810	760	<0.1 J	--	--	--	--	--	--	0.0017 J	60	--
MW-67-260	06/21/22	N	490	450 J	--	--	--	--	--	--	--	--	67 J	--
MW-67-260	11/30/22	N	620	750 J	3.2	--	--	--	--	--	--	<0.0005	76	--
MW-68-180	02/20/20	N	25,000	27,000	1.8	--	--	--	--	--	--	0.0061	63	--
MW-68-180	04/30/20	N	41,000	43,000	1.8	--	--	--	--	--	--	0.0096	53	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-66-230	06/06/22	N	12	--	--	--	--	--	--	13	--	--	--	--
MW-66-230	11/29/22	N	15	--	--	--	--	--	--	7.3 J	--	--	--	--
MW-66-230	11/29/22	FD	12	--	--	--	--	--	--	17 J	--	--	--	--
MW-66BR-270	06/24/20	N	<0.5	--	--	--	--	--	--	--	--	0.47	--	--
MW-66BR-270	12/16/20	N	<0.5	3,500 J	--	6.4	--	5,600	--	--	--	<0.05	250	12,000
MW-66BR-270	12/16/20	FD	<0.5	3,600 J	--	5.3	--	5,600	--	--	--	<0.05	250	11,000
MW-66BR-270	02/26/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-66BR-270	05/05/21	N	<0.5	4,700	--	--	--	6,200	--	--	--	<0.05	290	10,000
MW-66BR-270	10/08/21	N	<0.5	3,600	--	--	--	5,600	--	--	--	<0.1	250	9,200
MW-66BR-270	12/16/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-66BR-270	06/20/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-66BR-270	12/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-67-185	04/30/20	N	380	--	--	--	--	--	--	--	--	91	--	--
MW-67-185	10/06/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-67-185	12/02/20	N	330	420	--	80	--	1,900	--	--	--	89	640	4,900
MW-67-185	02/16/21	N	250	--	--	--	--	--	--	--	--	78 J	--	--
MW-67-185	05/04/21	N	430	920 J	--	--	--	2,300	--	--	--	100	590	5,300
MW-67-185	05/04/21	FD	430	940 J	--	--	--	2,300	--	--	--	95	580	6,100
MW-67-185	09/23/21	N	54	330	--	--	--	910	--	--	--	0.12	360	2,100
MW-67-185	12/07/21	N	26	--	--	--	--	--	--	--	--	8.5	--	--
MW-67-185	05/20/22	N	51	--	--	--	--	--	--	<10	--	--	--	--
MW-67-185	06/22/22	N	58	--	--	--	--	--	--	10	--	--	--	--
MW-67-185	06/22/22	FD	64	--	--	--	--	--	--	<10	--	--	--	--
MW-67-185	07/13/22	N	94	--	--	--	--	--	--	<20	--	--	--	--
MW-67-185	08/18/22	N	87	--	--	--	--	--	--	23	--	--	--	--
MW-67-185	09/14/22	N	81	--	--	--	--	--	--	<20	--	--	--	--
MW-67-185	10/13/22	N	180	--	--	--	--	--	--	25	--	--	--	--
MW-67-185	11/10/22	N	140	--	--	--	--	--	--	26	--	--	--	--
MW-67-185	12/07/22	N	160	--	--	--	--	--	--	25	--	--	--	--
MW-67-225	04/30/20	N	87	--	--	--	--	--	--	--	--	27	--	--
MW-67-225	12/02/20	N	100	1,100	--	160	--	1,300	--	--	--	28	1,300	4,300
MW-67-225	02/16/21	N	92	--	--	--	--	--	--	--	--	26 J	--	--
MW-67-225	05/04/21	N	89	1,600 J	--	--	--	1,500	--	--	--	26	1,100	4,700
MW-67-225	09/24/21	N	72	1,400	--	--	--	1,300	--	--	--	32	990	4,000
MW-67-225	12/07/21	N	50	--	--	--	--	--	--	--	--	15	--	--
MW-67-225	06/21/22	N	50 J	--	--	--	--	--	--	16	--	--	--	--
MW-67-225	11/30/22	N	62	--	--	--	--	--	--	15	--	--	--	--
MW-67-260	04/30/20	N	<2.5	--	--	--	--	--	--	--	--	0.62	--	--
MW-67-260	12/02/20	N	1.1	1,100	--	2,100	--	730	--	--	--	0.61	170	7,200
MW-67-260	02/19/21	N	1.1	--	--	--	--	--	--	--	--	0.71	--	--
MW-67-260	05/04/21	N	1.4	4,400 J	--	--	--	5,500	--	--	--	0.65	720	11,000
MW-67-260	09/24/21	N	1.4	4,500	--	--	--	5,300	--	--	--	0.61	690	11,000
MW-67-260	12/07/21	N	1.4	--	--	--	--	--	--	--	--	0.66	--	--
MW-67-260	06/21/22	N	1.1 J	--	--	--	--	--	--	0.3	--	--	--	--
MW-67-260	11/30/22	N	1.5	--	--	--	--	--	--	0.27	--	--	--	--
MW-68-180	02/20/20	N	15	--	--	--	--	--	--	--	--	29	--	--
MW-68-180	04/30/20	N	21	--	--	--	--	--	--	--	--	36	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-66-230	06/06/22	N	--	--
MW-66-230	11/29/22	N	--	--
MW-66-230	11/29/22	FD	--	--
MW-66BR-270	06/24/20	N	--	--
MW-66BR-270	12/16/20	N	--	--
MW-66BR-270	12/16/20	FD	--	--
MW-66BR-270	02/26/21	N	--	--
MW-66BR-270	05/05/21	N	--	--
MW-66BR-270	10/08/21	N	--	--
MW-66BR-270	12/16/21	N	--	--
MW-66BR-270	06/20/22	N	--	--
MW-66BR-270	12/13/22	N	--	--
MW-67-185	04/30/20	N	--	--
MW-67-185	10/06/20	N	--	--
MW-67-185	12/02/20	N	--	--
MW-67-185	02/16/21	N	--	--
MW-67-185	05/04/21	N	--	--
MW-67-185	05/04/21	FD	--	--
MW-67-185	09/23/21	N	--	--
MW-67-185	12/07/21	N	--	--
MW-67-185	05/20/22	N	--	--
MW-67-185	06/22/22	N	--	--
MW-67-185	06/22/22	FD	--	--
MW-67-185	07/13/22	N	--	--
MW-67-185	08/18/22	N	--	--
MW-67-185	09/14/22	N	--	--
MW-67-185	10/13/22	N	--	--
MW-67-185	11/10/22	N	--	--
MW-67-185	12/07/22	N	--	--
MW-67-225	04/30/20	N	--	--
MW-67-225	12/02/20	N	--	--
MW-67-225	02/16/21	N	--	--
MW-67-225	05/04/21	N	--	--
MW-67-225	09/24/21	N	--	--
MW-67-225	12/07/21	N	--	--
MW-67-225	06/21/22	N	--	--
MW-67-225	11/30/22	N	--	--
MW-67-260	04/30/20	N	--	--
MW-67-260	12/02/20	N	--	--
MW-67-260	02/19/21	N	--	--
MW-67-260	05/04/21	N	--	--
MW-67-260	09/24/21	N	--	--
MW-67-260	12/07/21	N	--	--
MW-67-260	06/21/22	N	--	--
MW-67-260	11/30/22	N	--	--
MW-68-180	02/20/20	N	--	--
MW-68-180	04/30/20	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-68-180	09/29/20	N	54,000	51,000	2.4	--	--	--	--	--	--	0.0069	57	--
MW-68-180	12/16/20	N	61,000	66,000	3.1	--	0.68	590	--	0.1 J	62 J	0.00079	53	17 J
MW-68-180	12/16/20	FD	61,000	63,000	3.1	--	<500	580	--	<0.1 J	60 J	0.0028	54	18 J
MW-68-180	02/19/21	N	63,000	66,000	3.2	--	--	--	--	--	--	<0.0005	53	--
MW-68-180	05/04/21	N	37,000	37,000	2	--	--	420	--	--	--	<0.0005	46	13
MW-68-180	06/28/21	N	62,000	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	07/27/21	N	65,000	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	08/16/21	N	47,000	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	09/09/21	N	48,000	60,000	1	--	--	--	--	--	--	0.0014	55	--
MW-68-180	09/23/21	N	46,000	56,000 J	1 J	--	--	680 J	--	--	65	<0.0005	58 J	18
MW-68-180	10/07/21	N	49,000	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	11/02/21	N	34,000	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	12/07/21	N	26,000	28,000	1.9 J	--	--	--	--	--	--	<0.0005 J	50	--
MW-68-180	03/09/22	N	34,000	37,000	--	--	--	--	--	--	--	--	53	--
MW-68-180	04/14/22	N	6,700	7,700 J	--	--	--	--	--	--	--	--	36 J	--
MW-68-180	05/20/22	N	4,500	4,100 J	--	--	--	--	--	--	--	--	42 J	--
MW-68-180	06/14/22	N	3,300	4,000 J	--	--	--	--	--	--	--	--	46 J	--
MW-68-180	06/14/22	FD	3,300	3,800 J	--	--	--	--	--	--	--	--	46 J	--
MW-68-180	07/13/22	N	5,000	4,900	--	--	--	--	--	--	--	--	45	--
MW-68-180	08/18/22	N	28,000	31,000	--	--	--	--	--	--	--	--	64	--
MW-68-180	09/14/22	N	36,000	40,000	--	--	--	--	--	--	--	--	45	--
MW-68-180	10/13/22	N	39,000	40,000 J	--	--	--	--	--	--	--	--	49	--
MW-68-180	11/10/22	N	19,000	19,000	2.1	--	--	--	--	--	--	<0.0025	56	--
MW-68-180	12/07/22	N	21,000	21,000 J	--	--	--	--	--	--	--	--	73 J	--
MW-68-240	04/30/20	N	2,000	2,000	<0.5	--	--	--	--	--	--	0.017	22	--
MW-68-240	12/16/20	N	2,000	2,000	1.7	--	2.2	420	--	<0.02 J	21 J	0.02	24	46 J
MW-68-240	12/16/20	FD	2,000	1,900	1.9	--	2.3	440 J	--	<0.02 J	22 J	0.019	24	43 J
MW-68-240	02/19/21	N	1,900	2,000	--	--	--	--	--	--	--	--	24	--
MW-68-240	02/19/21	FD	1,900	2,000	--	--	--	--	--	--	--	--	24	--
MW-68-240	05/04/21	N	2,000	2,000	<0.1	--	--	590	--	--	--	0.023	24	38
MW-68-240	09/23/21	N	1,800	2,000 J	<0.1 J	--	--	660 J	--	--	19	0.018	28 J	43
MW-68-240	12/07/21	N	1,900	2,000	<0.1 J	--	--	--	--	--	--	0.012 J	25	--
MW-68-240	12/07/21	FD	1,900	1,900	<0.1 J	--	--	--	--	--	--	0.012 J	24	--
MW-68-240	06/14/22	N	2,100	2,400 J	--	--	--	--	--	--	--	--	22 J	--
MW-68-240	11/30/22	N	1,800	2,000 J	<0.1	--	--	--	--	--	--	0.035	20	--
MW-68BR-280	04/30/20	N	<1	<1	0.36	--	--	--	--	--	--	0.11	13	--
MW-68BR-280	12/16/20	N	<1	<1	0.35	--	2.2	370	--	0.03 J	3.4 J	0.059	17 J	51 J
MW-68BR-280	12/16/20	FD	<1	1.4	0.46	--	2.5	400	--	0.027 J	3.7 J	0.06	18 J	53 J
MW-68BR-280	02/19/21	N	<1	<1	--	--	--	--	--	--	--	--	20	--
MW-68BR-280	05/04/21	N	<1	1.3	<0.1	--	--	410	--	--	--	0.055	24	44
MW-68BR-280	09/23/21	N	<1	<1 J	<0.1 J	--	--	340 J	--	--	2.7	0.068	27 J	47
MW-68BR-280	12/02/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.06	--	--
MW-68BR-280	06/14/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-68BR-280	11/30/22	N	<1	<1 J	<0.1	--	--	--	--	--	--	0.053	--	--
MW-69-195	02/25/20	N	150	140	2	--	--	--	--	--	--	0.0065	68	--
MW-69-195	05/01/20	N	170	170	1.6	--	--	--	--	--	--	0.012 J	53	--
MW-69-195	05/01/20	FD	180	170	1.6	--	--	--	--	--	--	0.0092 J	52	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-68-180	09/29/20	N	28	--	--	--	--	--	--	--	--	35	--	--
MW-68-180	12/16/20	N	22	740 J	--	110	--	840	--	--	--	24 J	1,700	4,200
MW-68-180	12/16/20	FD	24	740	--	100	--	850	--	--	--	10 J	1,700	4,300
MW-68-180	02/19/21	N	23	--	--	--	--	--	--	--	--	23	--	--
MW-68-180	05/04/21	N	14	550 J	--	--	--	740	--	--	--	15	1,100	3,000
MW-68-180	06/28/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	07/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	08/16/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	09/09/21	N	25	--	--	--	--	--	--	--	--	34	--	--
MW-68-180	09/23/21	N	25	680	--	--	--	1,100	--	--	--	34	1,400	4,300
MW-68-180	10/07/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	11/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	12/07/21	N	15	--	--	--	--	--	--	--	--	27	--	--
MW-68-180	03/09/22	N	17	--	--	--	--	--	--	25	--	--	--	--
MW-68-180	04/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	05/20/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	06/14/22	N	5.9	--	--	--	--	--	--	10	--	--	--	--
MW-68-180	06/14/22	FD	5.5	--	--	--	--	--	--	10	--	--	--	--
MW-68-180	07/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	08/18/22	N	28	--	--	--	--	--	--	24	--	--	--	--
MW-68-180	09/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	10/13/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	11/10/22	N	20	--	--	--	--	--	--	25	--	--	--	--
MW-68-180	12/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-240	04/30/20	N	3.7	--	--	--	--	--	--	--	--	4.1	--	--
MW-68-240	12/16/20	N	3.8	2,400	--	62	--	4,900	--	--	--	3.7	890	12,000
MW-68-240	12/16/20	FD	3.3	3,300	--	64	--	4,900	--	--	--	4	880	11,000
MW-68-240	02/19/21	N	5	--	--	--	--	--	--	--	--	4.6	--	--
MW-68-240	02/19/21	FD	4.2	--	--	--	--	--	--	--	--	4.4	--	--
MW-68-240	05/04/21	N	4.1	4,200 J	--	--	--	5,400	--	--	--	4.2	880	11,000
MW-68-240	09/23/21	N	4.4	4,300	--	--	--	5,400	--	--	--	4.8	890	11,000
MW-68-240	12/07/21	N	3.9	--	--	--	--	--	--	--	--	5.1	--	--
MW-68-240	12/07/21	FD	3.4	--	--	--	--	--	--	--	--	5.1	--	--
MW-68-240	06/14/22	N	4.1	--	--	--	--	--	--	4.2	--	--	--	--
MW-68-240	11/30/22	N	4	--	--	--	--	--	--	3.7	--	--	--	--
MW-68BR-280	04/30/20	N	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-68BR-280	12/16/20	N	<0.5	3,800 J	--	15	--	6,900	--	--	--	<0.1	680	13,000 J
MW-68BR-280	12/16/20	FD	<0.5	4,700	--	15	--	6,700	--	--	--	<0.05	680	12,000
MW-68BR-280	02/19/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-68BR-280	05/04/21	N	<0.5	5,400 J	--	--	--	7,300	--	--	--	<0.05	690	13,000
MW-68BR-280	09/23/21	N	<0.5	5,900	--	--	--	7,200	--	--	--	<0.1	670	13,000
MW-68BR-280	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68BR-280	06/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-68BR-280	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-69-195	02/25/20	N	7.9	--	--	--	--	--	--	--	--	11	--	--
MW-69-195	05/01/20	N	7	--	--	--	--	--	--	--	--	11	--	--
MW-69-195	05/01/20	FD	7.2	--	--	--	--	--	--	--	--	9.6	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-68-180	09/29/20	N	--	--
MW-68-180	12/16/20	N	--	--
MW-68-180	12/16/20	FD	--	--
MW-68-180	02/19/21	N	--	--
MW-68-180	05/04/21	N	--	--
MW-68-180	06/28/21	N	--	--
MW-68-180	07/27/21	N	--	--
MW-68-180	08/16/21	N	--	--
MW-68-180	09/09/21	N	--	--
MW-68-180	09/23/21	N	--	--
MW-68-180	10/07/21	N	--	--
MW-68-180	11/02/21	N	--	--
MW-68-180	12/07/21	N	--	--
MW-68-180	03/09/22	N	--	--
MW-68-180	04/14/22	N	--	--
MW-68-180	05/20/22	N	--	--
MW-68-180	06/14/22	N	--	--
MW-68-180	06/14/22	FD	--	--
MW-68-180	07/13/22	N	--	--
MW-68-180	08/18/22	N	--	--
MW-68-180	09/14/22	N	--	--
MW-68-180	10/13/22	N	--	--
MW-68-180	11/10/22	N	--	--
MW-68-180	12/07/22	N	--	--
MW-68-240	04/30/20	N	--	--
MW-68-240	12/16/20	N	--	--
MW-68-240	12/16/20	FD	--	--
MW-68-240	02/19/21	N	--	--
MW-68-240	02/19/21	FD	--	--
MW-68-240	05/04/21	N	--	--
MW-68-240	09/23/21	N	--	--
MW-68-240	12/07/21	N	--	--
MW-68-240	12/07/21	FD	--	--
MW-68-240	06/14/22	N	--	--
MW-68-240	11/30/22	N	--	--
MW-68BR-280	04/30/20	N	--	--
MW-68BR-280	12/16/20	N	--	--
MW-68BR-280	12/16/20	FD	--	--
MW-68BR-280	02/19/21	N	--	--
MW-68BR-280	05/04/21	N	--	--
MW-68BR-280	09/23/21	N	--	--
MW-68BR-280	12/02/21	N	--	--
MW-68BR-280	06/14/22	N	--	--
MW-68BR-280	11/30/22	N	--	--
MW-69-195	02/25/20	N	--	--
MW-69-195	05/01/20	N	--	--
MW-69-195	05/01/20	FD	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-69-195	09/29/20	N	350	380	3.3	--	--	--	--	--	--	0.16	58	--
MW-69-195	12/03/20	N	6	9.4	1.7	--	1.1	79	--	0.49	12	0.023	70	--
MW-69-195	02/15/21	N	29	59	2.8	--	--	--	--	--	--	0.0068	67	--
MW-69-195	02/15/21	FD	27	59	2.8	--	--	--	--	--	--	0.007	68	--
MW-69-195	05/27/21	N	610	650	0.61 J	--	--	--	--	--	--	0.0014	66	--
MW-69-195	05/27/21	FD	610	630	0.73 J	--	--	--	--	--	--	0.0013	64	--
MW-69-195	08/26/21	N	480	460	1.2 J	--	--	--	--	--	--	0.0022	62	--
MW-69-195	12/08/21	N	410	390	0.86	--	--	--	--	--	--	0.0021 J	54	--
MW-69-195	03/09/22	N	430	450	--	--	--	--	--	--	--	--	59	--
MW-69-195	06/20/22	N	360	370 J	--	--	--	--	--	--	--	--	54 J	--
MW-69-195	06/20/22	FD	360	370 J	--	--	--	--	--	--	--	--	52 J	--
MW-69-195	08/25/22	N	120	100	--	--	--	--	--	--	--	--	61	--
MW-69-195	11/30/22	N	140	110 J	1.9	--	--	--	--	--	--	0.012	57	--
MW-70-105	11/30/20	N	150	150	4.3	--	0.95 J	72 J	--	<0.02	11 J	0.048	84	--
MW-70-105	02/15/21	N	140	150	--	--	--	--	--	--	--	--	79	--
MW-70-105	05/17/21	N	150	140	2.7	--	--	--	--	--	--	0.035	86	--
MW-70-105	12/09/21	N	210	220	3 J	--	--	--	--	--	--	0.0028	62	--
MW-70-105	06/21/22	N	110	110 J	--	--	--	--	--	--	--	--	69 J	--
MW-70-105	11/28/22	N	180	170 J	2.5	--	--	--	--	--	--	0.002 J	49	--
MW-70BR-225	11/30/20	N	1,300	1,300	1.7	--	1.8 J	600 J	--	<0.02	32 J	0.0071	19	--
MW-70BR-225	05/17/21	N	1,200	1,200	<0.1	--	--	--	--	--	--	0.014	21	--
MW-70BR-225	12/09/21	N	1,400	1,400	<0.1 J	--	--	--	--	--	--	0.014	19	--
MW-70BR-225	06/21/22	N	1,400	1,300 J	--	--	--	--	--	--	--	--	17 J	--
MW-70BR-225	11/28/22	N	1,400	1,500 J	<0.1	--	--	--	--	--	--	0.0071 J	19	--
MW-70BR-287	07/24/20	N	<1	9.3	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	07/24/20	N	3.2	21	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	07/24/20	N	11	76	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	08/21/20	N	350	330	<0.1	88	1.7	530	0.82	0.071	2.5	0.0039	59	43
MW-70BR-287	08/21/20	N	370	330	<0.1	83	1.8	520	0.54	<0.02	4.6	0.021	55	43
MW-70BR-287	08/21/20	N	330 J	310	<0.1	88	1.6	580	0.31	0.04	12	0.088	47	43
MW-70BR-287	09/28/20	N	290	290	2.3 J	94	2.6 J	470 J	1.40 J	0.2 J	0.73 J	0.0069	55	43
MW-70BR-287	11/18/20	N	240	200 J	<0.1	120	2.4	330 J	4.20	<0.02	7.9	0.015	54	47
MW-70BR-287	11/18/20	N	270	240 J	<0.1	80	2.5	330 J	0.46	<0.02	2.2	0.0021	53	48
MW-70BR-287	11/18/20	N	270	240 J	<0.1	86	2.5	350 J	0.3	<0.02	1.8	0.0031	52	48
MW-70BR-287	12/02/20	N	120	110	2.1	140	2.4 J	340 J	2	<0.02	11 J	0.047	56	43 J
MW-70BR-287	01/25/21	N	100	100	<0.1 J	100	1.9	360 J	0.41	0.05 J	6.5	0.0047	50	47 J
MW-70BR-287	02/15/21	N	160	150	<0.1 J	93	1.7	310	0.12 J	0.03	3.5	0.0015 J	52 J	49 J
MW-70BR-287	02/15/21	FD	160	150	<0.1 J	85	1.6	350	0.15 J	0.082	3.8	0.0014 J	48 J	50 J
MW-70BR-287	05/17/21	N	220	200	<0.1	80	1.9	530	0.08	<0.02	0.56	0.0024	52	42 J
MW-70BR-287	08/19/21	N	280	310	<0.1	63 J	1.7	470 J	0.074 J	<0.02	2 J	0.0011	52	38
MW-70BR-287	12/09/21	N	350	340	<0.1 J	--	--	--	--	--	--	<0.0005	--	--
MW-70BR-287	06/21/22	N	380	430 J	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	11/28/22	N	360	520 J	<0.1	--	--	--	--	--	--	0.00098 J	--	--
MW-71-035	05/01/20	N	<1	<1	2.2	--	--	--	--	--	--	0.066	15	--
MW-71-035	12/15/20	N	<1	<1	1.3	--	3	790 J	--	<0.1	81	0.28	16	--
MW-71-035	05/26/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.2	15	--
MW-71-035	12/16/21	N	<1	<1	<0.1	42	--	--	--	0.031 J	--	0.071	15	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-69-195	09/29/20	N	10	--	--	--	--	--	--	--	--	20	--	--
MW-69-195	12/03/20	N	6 J	360	--	190	--	410	--	--	--	5.5	430	1,500
MW-69-195	02/15/21	N	8.3	--	--	--	--	--	--	--	--	4.7	--	--
MW-69-195	02/15/21	FD	7.8	--	--	--	--	--	--	--	--	4.9	--	--
MW-69-195	05/27/21	N	12	--	--	--	--	--	--	--	--	16	--	--
MW-69-195	05/27/21	FD	12	--	--	--	--	--	--	--	--	18	--	--
MW-69-195	08/26/21	N	11	--	--	--	--	--	--	--	--	17	--	--
MW-69-195	12/08/21	N	11	--	--	--	--	--	--	--	--	16	--	--
MW-69-195	03/09/22	N	12	--	--	--	--	--	--	18	--	--	--	--
MW-69-195	06/20/22	N	9.4 J	--	--	--	--	--	--	14	--	--	--	--
MW-69-195	06/20/22	FD	8.6 J	--	--	--	--	--	--	15	--	--	--	--
MW-69-195	08/25/22	N	6.1	--	--	--	--	--	--	8.4	--	--	--	--
MW-69-195	11/30/22	N	5.7	--	--	--	--	--	--	8.6	--	--	--	--
MW-70-105	11/30/20	N	3.2	500 J	--	98	--	840	--	--	--	2.9	240	1,900
MW-70-105	02/15/21	N	3.3	--	--	--	--	--	--	--	--	2.5	--	--
MW-70-105	05/17/21	N	3.3	--	--	--	--	--	--	--	--	3.3	--	--
MW-70-105	12/09/21	N	4.5	--	--	--	--	--	--	--	--	5.1	--	--
MW-70-105	06/21/22	N	4 J	--	--	--	--	--	--	3.7	--	--	--	--
MW-70-105	11/28/22	N	4.7 J	--	--	--	--	--	--	5.3 J	--	--	--	--
MW-70BR-225	11/30/20	N	2.2	2,000 J	--	47	--	3,900	--	--	--	3.2	720	8,300
MW-70BR-225	05/17/21	N	2.3	--	--	--	--	--	--	--	--	3.2	--	--
MW-70BR-225	12/09/21	N	2.2	--	--	--	--	--	--	--	--	3.4	--	--
MW-70BR-225	06/21/22	N	2.2 J	--	--	--	--	--	--	3	--	--	--	--
MW-70BR-225	11/28/22	N	2.4 J	--	--	--	--	--	--	3.7	--	--	--	--
MW-70BR-287	07/24/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	07/24/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	07/24/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	08/21/20	N	1.2	3,300	3.3	50	<0.2	5,100	4.6	--	--	2	810	12,000
MW-70BR-287	08/21/20	N	1.3	3,200	3	60	<0.2	5,100	4.3	--	--	1.9	820	12,000
MW-70BR-287	08/21/20	N	1.5	3,000	2.3	43	<0.2	5,100	4	--	--	2.1	810	12,000
MW-70BR-287	09/28/20	N	1.4	3,000	4	100	<0.2	5,100	10	--	--	1.8	790	11,000
MW-70BR-287	11/18/20	N	1.2	3,200	1.4	74	<0.2	5,300	4.6	--	--	1.7	840	10,000
MW-70BR-287	11/18/20	N	1.1	3,300	2.1	52	<0.2	5,200	3.9	--	--	1.4	820	11,000
MW-70BR-287	11/18/20	N	1.1	3,300	2.2	65	<0.2	5,100	3.9	--	--	1.4	810	11,000
MW-70BR-287	12/02/20	N	1.1	2,700	<1	26	0.21	5,100	4.4	--	--	1.5	840	9,500
MW-70BR-287	01/25/21	N	1.6	2,600 J	1.4	28	0.22	5,000	3.9	--	--	0.17	810	10,000
MW-70BR-287	02/15/21	N	1.3	2,700	1.6	30	<0.22	5,000	4.3	--	--	0.59 J	800	10,000
MW-70BR-287	02/15/21	FD	1.4	2,900	1.8	32	<0.22	5,000	4.4	--	--	1.5 J	810	11,000
MW-70BR-287	05/17/21	N	1.1	4,000 J	2.5	71	<0.2	5,200	4.5	--	--	0.99	800	11,000
MW-70BR-287	08/19/21	N	1	3,800 J	1.7	34	0.28	5,100	3.7	--	--	1.3	800	11,000
MW-70BR-287	12/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	06/21/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	11/28/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-71-035	05/01/20	N	<0.5	--	--	--	--	--	--	--	--	0.19	--	--
MW-71-035	12/15/20	N	<0.5	3,000	--	190	--	5,300	--	--	--	0.092	1,200	12,000
MW-71-035	05/26/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-71-035	12/16/21	N	<0.5	--	--	--	<0.2	--	--	--	<5	<0.1	1,200	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-69-195	09/29/20	N	--	--
MW-69-195	12/03/20	N	--	--
MW-69-195	02/15/21	N	--	--
MW-69-195	02/15/21	FD	--	--
MW-69-195	05/27/21	N	--	--
MW-69-195	05/27/21	FD	--	--
MW-69-195	08/26/21	N	--	--
MW-69-195	12/08/21	N	--	--
MW-69-195	03/09/22	N	--	--
MW-69-195	06/20/22	N	--	--
MW-69-195	06/20/22	FD	--	--
MW-69-195	08/25/22	N	--	--
MW-69-195	11/30/22	N	--	--
MW-70-105	11/30/20	N	--	--
MW-70-105	02/15/21	N	--	--
MW-70-105	05/17/21	N	--	--
MW-70-105	12/09/21	N	--	--
MW-70-105	06/21/22	N	--	--
MW-70-105	11/28/22	N	--	--
MW-70BR-225	11/30/20	N	--	--
MW-70BR-225	05/17/21	N	--	--
MW-70BR-225	12/09/21	N	--	--
MW-70BR-225	06/21/22	N	--	--
MW-70BR-225	11/28/22	N	--	--
MW-70BR-287	07/24/20	N	--	--
MW-70BR-287	07/24/20	N	--	--
MW-70BR-287	07/24/20	N	--	--
MW-70BR-287	08/21/20	N	--	<1
MW-70BR-287	08/21/20	N	--	<1
MW-70BR-287	08/21/20	N	--	<1
MW-70BR-287	09/28/20	N	--	<1 J
MW-70BR-287	11/18/20	N	--	<1 J
MW-70BR-287	11/18/20	N	--	<1 J
MW-70BR-287	11/18/20	N	--	<1 J
MW-70BR-287	12/02/20	N	--	<1
MW-70BR-287	01/25/21	N	--	<1
MW-70BR-287	02/15/21	N	--	<1 J
MW-70BR-287	02/15/21	FD	--	<1 J
MW-70BR-287	05/17/21	N	--	<1
MW-70BR-287	08/19/21	N	--	<1
MW-70BR-287	12/09/21	N	--	--
MW-70BR-287	06/21/22	N	--	--
MW-70BR-287	11/28/22	N	--	--
MW-71-035	05/01/20	N	--	--
MW-71-035	12/15/20	N	--	--
MW-71-035	05/26/21	N	--	--
MW-71-035	12/16/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-71-035	02/02/22	N	<1	--	<0.1	47	--	--	--	0.12	--	0.0057	--	--
MW-71-035	03/14/22	N	<1	<1	<0.1 J	47	--	--	--	0.036	--	0.02	13	--
MW-71-035	04/12/22	N	<1	--	<0.1 J	45	--	--	--	0.051	--	0.25	--	--
MW-71-035	04/12/22	FD	<1	--	<0.1 J	45	--	--	--	0.074	--	0.3	--	--
MW-71-035	05/18/22	N	<1	--	<0.1	41	--	--	--	0.058 J	--	0.045	--	--
MW-71-035	06/15/22	N	<1	<1	<0.1	58	--	--	--	0.15 J	--	1.40	21	--
MW-71-035	06/15/22	FD	<1	<1	<0.1	61	--	--	--	0.21 J	--	1.50	22	--
MW-71-035	07/13/22	N	<1	--	<0.1	49	--	--	--	0.036 J	--	0.7	--	--
MW-71-035	08/12/22	N	<1	<1	<0.1 J	52	--	--	--	0.38	--	2.20 J	23 J	--
MW-71-035	09/15/22	N	5.6	--	<0.1	41	--	--	--	<0.02	--	0.44	--	--
MW-71-035	10/12/22	N	<1	--	<0.1	50 J	--	--	--	<0.02	--	0.12 J	--	--
MW-71-035	11/10/22	N	<1	<1	<0.1	43	--	--	--	0.058	--	0.35	16	--
MW-71-035	11/10/22	FD	<1	<1	<0.1	42	--	--	--	0.055	--	0.32	16	--
MW-71-035	12/07/22	N	<1	--	<0.1 J	42	--	--	--	0.07 J	--	0.23	--	--
MW-71-035	12/07/22	FD	<1	--	<0.1 J	43	--	--	--	0.077 J	--	0.26	--	--
MW-72-080	02/20/20	N	96	85	12	--	--	--	--	--	--	0.015	75	--
MW-72-080	04/28/20	N	100	95	6.5	--	--	--	--	--	--	0.089	74	--
MW-72-080	09/29/20	N	79	75	6.8	--	--	--	--	--	--	0.086	81	--
MW-72-080	12/03/20	N	86	78	12 J	--	4.4	300	--	0.45 J	9.9 J	0.044	76	--
MW-72-080	02/18/21	N	70	72 J	11	--	--	--	--	--	--	0.12	82	--
MW-72-080	05/27/21	N	66	62	<0.1 J	--	--	--	--	--	--	0.05	81	--
MW-72-080	08/27/21	N	61	58	2.9 J	--	--	--	--	--	--	0.055	77	--
MW-72-080	12/09/21	N	71	66	4.4 J	--	--	--	--	--	--	0.031	72	--
MW-72-080	06/17/22	N	35	32	--	--	--	--	--	--	--	--	--	--
MW-72-080	11/29/22	N	77	73 J	12	--	--	--	--	--	--	0.064 J	82	--
MW-72BR-200	02/20/20	N	1.2	2.9	12	--	--	--	--	--	--	0.1	71	--
MW-72BR-200	04/28/20	N	<1	2.1	6.5	--	--	--	--	--	--	0.2	73	--
MW-72BR-200	09/29/20	N	<1	1.7	13	--	--	--	--	--	--	0.15	83	--
MW-72BR-200	12/03/20	N	<1	<1	14 J	--	5	270	--	<0.1 J	4.3 J	0.12	77	--
MW-72BR-200	02/18/21	N	<1	<1 J	14	--	--	--	--	--	--	0.12	79	--
MW-72BR-200	05/27/21	N	<1	<1	1.3 J	--	--	--	--	--	--	0.13	75	--
MW-72BR-200	05/27/21	FD	<1	<1	3.8 J	--	--	--	--	--	--	0.13	77	--
MW-72BR-200	08/27/21	N	<1	3	5.7 J	--	--	--	--	--	--	0.1	80	--
MW-72BR-200	12/09/21	N	<1	1.5	7.6 J	--	--	--	--	--	--	0.051	--	--
MW-72BR-200	06/17/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-72BR-200	11/29/22	N	<1	<1 J	8.2	--	--	--	--	--	--	0.33 J	--	--
MW-73-080	02/20/20	N	21	19	<0.1	--	--	--	--	--	--	0.0094	33	--
MW-73-080	04/28/20	N	26	24	<0.1	--	--	--	--	--	--	0.0045	36	--
MW-73-080	09/30/20	N	18	21	0.29	--	--	--	--	--	--	0.0083	47	--
MW-73-080	12/03/20	N	11	11	<0.1 J	--	1.2	290	--	0.025 J	33 J	0.0057	36	--
MW-73-080	02/18/21	N	11	12 J	2	--	--	--	--	--	--	0.0068	37	--
MW-73-080	05/27/21	N	24	23	<0.1 J	--	--	--	--	--	--	0.0091	35	--
MW-73-080	05/27/21	FD	25	23	<0.1 J	--	--	--	--	--	--	0.01	35	--
MW-73-080	08/27/21	N	19	22	<0.1 J	--	--	--	--	--	--	0.0028	35	--
MW-73-080	12/09/21	N	9.7	11	<0.1 J	--	--	--	--	--	--	0.018	35	--
MW-73-080	06/17/22	N	25	22	--	--	--	--	--	--	--	--	--	--
MW-73-080	11/29/22	N	14 J	14 J	1.3	--	--	--	--	--	--	0.024 J	47	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-71-035	02/02/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,100	--
MW-71-035	03/14/22	N	<0.5	--	--	--	<0.23	--	--	<0.5	--	--	1,200	--
MW-71-035	04/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,200	--
MW-71-035	04/12/22	FD	--	--	--	--	--	--	--	<0.5	--	--	1,200	--
MW-71-035	05/18/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,100	--
MW-71-035	06/15/22	N	0.51 J	--	--	--	<0.2	--	--	<0.5	<5	<0.1	1,200	--
MW-71-035	06/15/22	FD	<0.5 J	--	--	--	<0.2	--	--	<0.5	<5	<0.1	1,300	--
MW-71-035	07/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,300	--
MW-71-035	08/12/22	N	<0.5	--	--	--	<0.23	--	--	<0.5	<5	<0.1	1,300	--
MW-71-035	09/15/22	N	--	--	--	--	--	--	--	0.8	--	--	1,500	--
MW-71-035	10/12/22	N	--	--	--	--	--	--	--	0.5	--	--	1,200	--
MW-71-035	11/10/22	N	1.5	--	--	--	<0.43 J	--	--	<0.5	<5	0.42	1,100	--
MW-71-035	11/10/22	FD	1.6	--	--	--	<0.43 J	--	--	0.61	<5	0.43	1,100	--
MW-71-035	12/07/22	N	--	--	--	--	--	--	--	0.6	--	0.53	1,000	--
MW-71-035	12/07/22	FD	--	--	--	--	--	--	--	0.54	--	0.53	1,000	--
MW-72-080	02/20/20	N	<2.5	--	--	--	--	--	--	--	--	0.63	--	--
MW-72-080	04/28/20	N	1.3	--	--	--	--	--	--	--	--	1	--	--
MW-72-080	09/29/20	N	1.4	--	--	--	--	--	--	--	--	0.59	--	--
MW-72-080	12/03/20	N	1.6	3,200 J	--	46	--	5,000	--	--	--	1.3	690	10,000
MW-72-080	02/18/21	N	1.8	--	--	--	--	--	--	--	--	1	--	--
MW-72-080	05/27/21	N	1.3	--	--	--	--	--	--	--	--	0.85	--	--
MW-72-080	08/27/21	N	1.4	--	--	--	--	--	--	--	--	1.2	--	--
MW-72-080	12/09/21	N	1.5	--	--	--	--	--	--	--	--	1.2	--	--
MW-72-080	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-72-080	11/29/22	N	1.7	--	--	--	--	--	--	1.3 J	--	--	--	--
MW-72BR-200	02/20/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-72BR-200	04/28/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-72BR-200	09/29/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-72BR-200	12/03/20	N	<0.5	2,600 J	--	25	--	5,000	--	--	--	<0.1	700	9,400
MW-72BR-200	02/18/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-72BR-200	05/27/21	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-72BR-200	05/27/21	FD	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-72BR-200	08/27/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-72BR-200	12/09/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-72BR-200	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-72BR-200	11/29/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-73-080	02/20/20	N	3.7	--	--	--	--	--	--	--	--	2.9	--	--
MW-73-080	04/28/20	N	4.2	--	--	--	--	--	--	--	--	3.9	--	--
MW-73-080	09/30/20	N	4.6 J	--	--	--	--	--	--	--	--	4.5	--	--
MW-73-080	12/03/20	N	4.1	1,100 J	--	100	--	2,900	--	--	--	3.2	400	5,800
MW-73-080	02/18/21	N	4.3	--	--	--	--	--	--	--	--	3.4	--	--
MW-73-080	05/27/21	N	3.8	--	--	--	--	--	--	--	--	3	--	--
MW-73-080	05/27/21	FD	3.8	--	--	--	--	--	--	--	--	3.5	--	--
MW-73-080	08/27/21	N	4.5	--	--	--	--	--	--	--	--	3.5	--	--
MW-73-080	12/09/21	N	3.8	--	--	--	--	--	--	--	--	3.5	--	--
MW-73-080	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-73-080	11/29/22	N	2.2	--	--	--	--	--	--	1.4 J	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-71-035	02/02/22	N	--	<1
MW-71-035	03/14/22	N	--	<1
MW-71-035	04/12/22	N	--	<1
MW-71-035	04/12/22	FD	--	<1
MW-71-035	05/18/22	N	--	<1
MW-71-035	06/15/22	N	--	<1
MW-71-035	06/15/22	FD	--	<1
MW-71-035	07/13/22	N	--	<1
MW-71-035	08/12/22	N	--	<1
MW-71-035	09/15/22	N	--	<1
MW-71-035	10/12/22	N	--	<1
MW-71-035	11/10/22	N	--	<1
MW-71-035	11/10/22	FD	--	<1
MW-71-035	12/07/22	N	5.3	<1
MW-71-035	12/07/22	FD	5.4	<1
MW-72-080	02/20/20	N	--	--
MW-72-080	04/28/20	N	--	--
MW-72-080	09/29/20	N	--	--
MW-72-080	12/03/20	N	--	--
MW-72-080	02/18/21	N	--	--
MW-72-080	05/27/21	N	--	--
MW-72-080	08/27/21	N	--	--
MW-72-080	12/09/21	N	--	--
MW-72-080	06/17/22	N	--	--
MW-72-080	11/29/22	N	--	--
MW-72BR-200	02/20/20	N	--	--
MW-72BR-200	04/28/20	N	--	--
MW-72BR-200	09/29/20	N	--	--
MW-72BR-200	12/03/20	N	--	--
MW-72BR-200	02/18/21	N	--	--
MW-72BR-200	05/27/21	N	--	--
MW-72BR-200	05/27/21	FD	--	--
MW-72BR-200	08/27/21	N	--	--
MW-72BR-200	12/09/21	N	--	--
MW-72BR-200	06/17/22	N	--	--
MW-72BR-200	11/29/22	N	--	--
MW-73-080	02/20/20	N	--	--
MW-73-080	04/28/20	N	--	--
MW-73-080	09/30/20	N	--	--
MW-73-080	12/03/20	N	--	--
MW-73-080	02/18/21	N	--	--
MW-73-080	05/27/21	N	--	--
MW-73-080	05/27/21	FD	--	--
MW-73-080	08/27/21	N	--	--
MW-73-080	12/09/21	N	--	--
MW-73-080	06/17/22	N	--	--
MW-73-080	11/29/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-74-240	04/30/20	N	<0.2	1.5	11	--	--	--	--	--	--	0.017	20	--
MW-74-240	12/03/20	N	<0.2	<1	9.9 J	--	0.29	4.2	--	0.12 J	0.56 J	0.0043	26	--
MW-74-240	06/07/21	N	<0.2	<1	6.6 J	--	--	--	--	--	--	0.0055 J	44	--
MW-74-240	06/07/21	FD	<0.2	<1	6.8 J	--	--	--	--	--	--	0.0055 J	43	--
MW-74-240	12/08/21	N	<0.2	<1	6.5	--	--	--	--	--	--	0.0074 J	46	--
MW-74-240	06/20/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--
MW-74-240	11/30/22	N	<0.2	<1	7.5	--	--	--	--	--	--	0.0081	55 J	--
MW-75-033	01/30/20	N	27	30	2.9	61	0.81	120	3.10	0.6	25	0.19	16	8.5
MW-75-033	02/17/20	N	35	34	2.6	57 J	0.51	110	0.34 J	0.035	18	0.12	16	8.5
MW-75-033	03/16/20	N	31	31	2.1	53 J	0.52	100	0.17 J	0.14 J	19	0.035	13	7.7
MW-75-033	04/20/20	N	94	88	1.7	97	0.59	190	5.30	0.12 J	38	0.02	11	10
MW-75-033	05/18/20	N	54	51	1.1	86	0.56	190	0.57	0.05 J	39 J	0.002	11	11 J
MW-75-033	05/18/20	FD	54	50	1.1	83	0.55	190	0.56	0.044 J	40 J	0.0018	11	11 J
MW-75-033	06/15/20	N	19	20	0.85 J	87	0.65	200	1.40	0.049	42	0.0034	10	12 J
MW-75-033	07/21/20	N	22	24	0.85 J	91	0.6	170	0.61	<0.02 J	36	0.023	9.5	10 J
MW-75-033	08/17/20	N	30	29	0.78	80	1.4	230	4.90 J	3.80 J	40 J	0.018	9.8	10
MW-75-033	09/28/20	N	23	25	1.1 J	83	0.58 J	120 J	0.65 J	0.12 J	33 J	0.022	9.8	6.9
MW-75-033	10/19/20	N	28	64	7.3 J	170	0.59	150	5.70 J	4.10 J	31 J	0.9 J	8.1	11 J
MW-75-033	12/01/20	N	39	38	2.2	57	0.73 J	110 J	1.40	0.023 J	28 J	0.018	11	7.5 J
MW-75-033	12/01/20	FD	38	38	2.1	58	1 J	110 J	1.50	0.03 J	28 J	0.02	11	7.4 J
MW-75-033	02/16/21	N	34	35	0.88 J	51	0.6	90 J	0.24 J	0.031	20 J	0.018	12 J	6.9 J
MW-75-033	05/17/21	N	33	32	0.7	89	0.59	200	0.39	<0.02	38	0.017	9.4	9.2 J
MW-75-033	08/17/21	N	29	28	<0.1	64	0.57	160	0.22 J	<0.02	31 J	0.011	8.1	9.3 J
MW-75-033	11/29/21	N	42	39	--	--	--	--	--	--	--	--	--	--
MW-75-033	03/02/22	N	39	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	03/02/22	FD	40	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	06/07/22	N	27	26	--	--	--	--	--	--	--	--	--	--
MW-75-033	08/24/22	N	36	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	11/11/22	N	45	40	--	--	--	--	--	--	--	--	--	--
MW-75-117	01/30/20	N	5.1	5.4	<0.5	73	1	340	0.078	0.02	87	0.38	31	19
MW-75-117	02/17/20	N	4.8	4.8	1.2	77 J	0.9	300	0.4 J	0.036	67	0.39	31	19
MW-75-117	03/16/20	N	5.3	4.7	<0.1	67 J	0.81	240	0.092 J	0.088 J	61	0.36	32	18
MW-75-117	03/16/20	FD	5.3	5.1	<0.1	67 J	0.8	240	0.059 J	0.042 J	60	0.38	34	18
MW-75-117	04/20/20	N	8	7.7	<0.1	67	0.8	200	0.29	0.081 J	49	0.36	36	18
MW-75-117	05/18/20	N	5.4	7.4	<0.1	66	0.8	190	0.58	0.15 J	47 J	0.3	38	18 J
MW-75-117	06/15/20	N	4.9	5.8	<0.1 J	62	0.85	180	0.48	0.12	43	0.26	39	17 J
MW-75-117	07/20/20	N	8.4	8.6	<0.1 J	69	0.82	160	0.17	<0.02	42 J	0.3 J	41	15 J
MW-75-117	08/17/20	N	1.6	3	<0.1	70	1.5	220	0.46 J	<0.02 J	54 J	0.34	40	18
MW-75-117	09/28/20	N	2.1	2.8	<0.1 J	83	0.93 J	230 J	0.28 J	<0.02 J	50 J	0.33	39	14
MW-75-117	10/20/20	N	5.6	5.5	1.3 J	73	1	210	0.7 J	<0.02	58 J	0.29	33	31 J
MW-75-117	12/01/20	N	7.8	8.2	1.1	68	1.1 J	180 J	0.37	<0.02	75 J	0.19	33	20 J
MW-75-117	02/16/21	N	6.5	6.7	<0.1 J	61	0.77	170 J	0.15 J	0.022	62 J	0.087	35 J	27 J
MW-75-117	05/17/21	N	13	13	<0.1	60	0.83	190	0.098	<0.02	42	0.059	42	14 J
MW-75-117	08/17/21	N	7.4	7	<0.1	64	0.88	240	0.033 J	<0.02	55 J	0.15	33	24 J
MW-75-117	11/29/21	N	10	10	--	--	--	--	--	--	--	--	--	--
MW-75-117	03/02/22	N	2.7	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	06/07/22	N	7.4	6.7	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-74-240	04/30/20	N	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--
MW-74-240	12/03/20	N	<0.5	170 J	--	200	--	88	--	--	--	<0.1	61	480
MW-74-240	06/07/21	N	<0.5	--	--	--	--	--	--	--	--	0.064	--	--
MW-74-240	06/07/21	FD	<0.5	--	--	--	--	--	--	--	--	0.085	--	--
MW-74-240	12/08/21	N	<0.5	--	--	--	--	--	--	--	--	0.27	--	--
MW-74-240	06/20/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-74-240	11/30/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-75-033	01/30/20	N	1.8	670	4.5	100	0.14	920	3.3	--	--	2	220	1,900
MW-75-033	02/17/20	N	2	620	3.6	100	0.09 J	850	3.4	--	--	2.4	210	1,900
MW-75-033	03/16/20	N	1.9	560	3.3	100	0.12	900	3.1	--	--	2.4 J	210	2,000
MW-75-033	04/20/20	N	5.4	730	2.8	100	<0.1	1,300	2.4	--	--	2.4	290	3,200
MW-75-033	05/18/20	N	7	810	2.8	100	<0.2	1,400	2.4	--	--	2.9	300	3,100
MW-75-033	05/18/20	FD	6.8	840	2.8	99	<0.2	1,300	2.5	--	--	2.9	290	3,100
MW-75-033	06/15/20	N	2.6	840	2.9	88	<0.2	1,500	2.3	--	--	1.7 J	260	3,300
MW-75-033	07/21/20	N	2.8	810	2.9	81	<0.2	1,400	2.6	--	--	2.1 J	260	3,100
MW-75-033	08/17/20	N	2.6	780	3.2	82	<0.2	1,300	2.7	--	--	1.1	250	2,900
MW-75-033	09/28/20	N	2.4	630	3.3	83	<0.2	1,400	2.8	--	--	2.1	250	3,100
MW-75-033	10/19/20	N	2.3	760	24	78	<0.2	1,100	2.2	--	--	2.1	220	2,600
MW-75-033	12/01/20	N	2.2	490	3.1	91	<0.2	1,100	3.1	--	--	2.5	230	2,300
MW-75-033	12/01/20	FD	2.2	490	3.2	91	<0.2	1,100	3.1	--	--	2.7	230	2,300
MW-75-033	02/16/21	N	1.9	510 J	3.7	93	<0.2	1,000	3.1	--	--	2	220	2,100
MW-75-033	05/17/21	N	1.8	560 J	3.1	81	<0.2	1,400	2.7	--	--	2.2	250	3,000
MW-75-033	08/17/21	N	1.9	730 J	2.8	83	<0.2	1,300	2.5	--	--	2.2	240	3,000
MW-75-033	11/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	03/02/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	11/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	01/30/20	N	<2.5	3,000	1.1	73	0.09 J	4,200	3.2	--	--	2.1	640	8,500
MW-75-117	02/17/20	N	1.2	2,900	1.7	76	0.11	4,000	3.3	--	--	2.2	610	8,400
MW-75-117	03/16/20	N	1.2	2,400	1.1	74	0.11	3,700	3.3	--	--	1.8 J	570	8,200
MW-75-117	03/16/20	FD	1.2	2,300	1.2	75	<0.1	3,800	3.4	--	--	1.8 J	580	8,300
MW-75-117	04/20/20	N	1.5	2,400	1.4	75	<0.1	3,500	3.1	--	--	2.3	580	7,500
MW-75-117	05/18/20	N	1.4	2,600	1.6	72	<0.2	3,400	3.5	--	--	2.6	580	7,200
MW-75-117	06/15/20	N	1.4	2,300	1.6	73	--	3,300	3.5	--	--	2.5 J	550	7,300
MW-75-117	07/20/20	N	1.3	2,700	1.4	70	<0.2	3,400	3.2	--	--	2.5	540	7,400
MW-75-117	08/17/20	N	1.5	2,400	1.6	70	<0.2	3,600	3.4	--	--	2.4	520	7,800
MW-75-117	09/28/20	N	2	1,900	1.5	72	<0.2	3,700	3.8	--	--	2.8	530	7,800
MW-75-117	10/20/20	N	1.3	2,100	1.4	72	<0.2	3,800 J	3.3	--	--	2.2	550	7,800
MW-75-117	12/01/20	N	1.4	2,200	1.1	75	<0.2	3,800	3.5	--	--	2.5	610	8,400
MW-75-117	02/16/21	N	1.3	2,100 J	1.6	73	<0.22	3,800	3.6	--	--	1.8	570	7,600
MW-75-117	05/17/21	N	1.2	2,100 J	1.9	74	<0.2	3,200	3.6	--	--	2.6	530	7,000
MW-75-117	08/17/21	N	1.4	2,800 J	1.8	73	<0.2	3,700	3.1	--	--	2.3	540	7,500
MW-75-117	11/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-74-240	04/30/20	N	--	--
MW-74-240	12/03/20	N	--	--
MW-74-240	06/07/21	N	--	--
MW-74-240	06/07/21	FD	--	--
MW-74-240	12/08/21	N	--	--
MW-74-240	06/20/22	N	--	--
MW-74-240	11/30/22	N	--	--
MW-75-033	01/30/20	N	--	<1
MW-75-033	02/17/20	N	--	<10
MW-75-033	03/16/20	N	--	<1 J
MW-75-033	04/20/20	N	--	<1
MW-75-033	05/18/20	N	--	<1 J
MW-75-033	05/18/20	FD	--	<1 J
MW-75-033	06/15/20	N	--	<1
MW-75-033	07/21/20	N	--	<1
MW-75-033	08/17/20	N	--	<1 J
MW-75-033	09/28/20	N	--	<1 J
MW-75-033	10/19/20	N	--	<1 J
MW-75-033	12/01/20	N	--	<1
MW-75-033	12/01/20	FD	--	<1
MW-75-033	02/16/21	N	--	<10
MW-75-033	05/17/21	N	--	<1
MW-75-033	08/17/21	N	--	<1
MW-75-033	11/29/21	N	--	--
MW-75-033	03/02/22	N	--	--
MW-75-033	03/02/22	FD	--	--
MW-75-033	06/07/22	N	--	--
MW-75-033	08/24/22	N	--	--
MW-75-033	11/11/22	N	--	--
MW-75-117	01/30/20	N	--	<1
MW-75-117	02/17/20	N	--	<1
MW-75-117	03/16/20	N	--	<1 J
MW-75-117	03/16/20	FD	--	<1 J
MW-75-117	04/20/20	N	--	<1
MW-75-117	05/18/20	N	--	<1 J
MW-75-117	06/15/20	N	--	<20
MW-75-117	07/20/20	N	--	<1 J
MW-75-117	08/17/20	N	--	<10 J
MW-75-117	09/28/20	N	--	<1 J
MW-75-117	10/20/20	N	--	<1
MW-75-117	12/01/20	N	--	<1
MW-75-117	02/16/21	N	--	<1
MW-75-117	05/17/21	N	--	<1
MW-75-117	08/17/21	N	--	<1
MW-75-117	11/29/21	N	--	--
MW-75-117	03/02/22	N	--	--
MW-75-117	06/07/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-75-117	08/24/22	N	14	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	11/11/22	N	19	18	--	--	--	--	--	--	--	--	--	--
MW-75-202	01/30/20	N	<1	<5	<0.5	93	1.5	480	<0.1	0.025	60	1.90	58	23
MW-75-202	02/17/20	N	<1	<1	2.7	98 J	1.1	430	<0.1	0.046	49	2	61	22
MW-75-202	03/17/20	N	<1	<1	3.1	82 J	1.1	470	0.34 J	0.21 J	51	2.10	59	25
MW-75-202	04/21/20	N	<1	<1	4.2	98	1.1	440	0.17	0.2	41	2.60	62	23
MW-75-202	05/18/20	N	<1	2.2	3.7	93	1	400	0.16	0.19 J	52 J	2.70	61	25 J
MW-75-202	06/16/20	N	<1	<1	<0.1 J	100	1.1	380	0.21 J	0.21	62	2.50	67	25 J
MW-75-202	07/20/20	N	<1	1.1	2.5 J	81	1	380	0.077	0.036	51 J	2.20 J	59	21 J
MW-75-202	08/17/20	N	<1	<1	2.5	77	1	68	<0.02 J	<0.02 J	11 J	2	59	23
MW-75-202	09/28/20	N	<1	<1	1.8 J	76	1 J	440 J	<0.1 J	<0.1 J	59 J	1.80	54	21
MW-75-202	10/19/20	N	<1	<1	1.8 J	72	1.2	400	<0.02	<0.02	56 J	1.50 J	48	56 J
MW-75-202	12/01/20	N	<1	<1	1.8	71	1.2 J	340 J	0.33	<0.02	70 J	1.50	47	29 J
MW-75-202	02/16/21	N	<1	<1	<0.1 J	66	0.98	320 J	0.059 J	0.022	44 J	0.98	62 J	37 J
MW-75-202	05/17/21	N	<1	<1	<0.1	64	1.1	550	0.038	0.043	49	1.50	52	20 J
MW-75-202	08/17/21	N	<1	<1	<0.1	61	0.97	750	0.032 J	0.022	54 J	1.50	45	30 J
MW-75-202	08/17/21	FD	<1	<1	<0.1	59	0.98	620	0.032 J	0.025	54 J	1.50	44	27 J
MW-75-202	11/29/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-202	11/29/21	FD	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-202	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-202	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-202	08/25/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	08/25/22	FD	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	11/11/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-267	01/30/20	N	<1	<5	<0.5	79	2.5	350	<0.1	<0.1	17	0.93	120	61
MW-75-267	01/30/20	FD	<1	<5	<0.5	81	2.6	380	0.11	<0.1	18	0.95	120	66
MW-75-267	02/18/20	N	<1	<1	<0.5	82 J	1.8	330	0.19 J	0.11	13	0.9	130	62
MW-75-267	03/17/20	N	<1	<1	2.4	79 J	2.3	350	0.95 J	0.26 J	14	1.10	120	73
MW-75-267	04/21/20	N	<1	<1	3.8	82	1.8	360	0.25	0.23	14	1.40	98	60
MW-75-267	05/18/20	N	<1	<1	3.7	94	2.2	380	0.47	0.36 J	19 J	1.80	90	67 J
MW-75-267	06/16/20	N	<1	<1	<0.1 J	93	2	360	0.59 J	0.45	19	2.20	71	63 J
MW-75-267	06/16/20	FD	<1	<1	<0.1 J	92	2.2	390	0.57 J	0.49	21	2.10	71	69 J
MW-75-267	07/21/20	N	<1	<1	4.7 J	93	1.9	340	0.48	0.47 J	17	2.30	74	57 J
MW-75-267	08/17/20	N	<1	<1	4	72	2.9	370	0.49 J	0.38 J	27 J	1.80	83	580
MW-75-267	09/28/20	N	<1	<1	3.9 J	71	2.7 J	310 J	0.4 J	<0.1 J	21 J	1.40	90	69
MW-75-267	10/19/20	N	<1	<1	3.2 J	71	2.4	290	0.37 J	0.25 J	15 J	1.20 J	90	97 J
MW-75-267	12/01/20	N	<1	<1	2.3	67	3 J	270 J	0.28	0.22 J	18 J	1.10	110	86 J
MW-75-267	02/16/21	N	<1	<1	<0.1 J	62	3.4	240 J	0.14 J	0.065	11 J	0.78	130 J	79 J
MW-75-267	05/17/21	N	<1	<1	<0.1	68	2.1	400	0.27	0.19	13	1.40	100	53 J
MW-75-267	05/17/21	FD	<1	<1	<0.1	68	2	400	0.19	0.18	13	1.40	100	53 J
MW-75-267	08/17/21	N	<1	<1	<0.1	59	1.7	350	0.54 J	0.25	15 J	1.50	67	54 J
MW-75-267	11/29/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-267	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-267	08/25/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	11/11/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-337	01/30/20	N	<1	<5	<0.5	65	0.63	260	1	0.5	14	0.87	190	72

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-75-117	08/24/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	11/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	01/30/20	N	<2.5	4,300	<5	50	0.15	5,800	3.2	--	--	0.82	1,200	12,000
MW-75-202	02/17/20	N	<0.5	4,100	<1	52	0.09 J	5,500	3.7	--	--	0.62	1,100	12,000
MW-75-202	03/17/20	N	<0.5	3,800	<1	57	0.07 J	5,700	2.9	--	--	0.44 J	1,100	13,000
MW-75-202	04/21/20	N	<0.5	3,900	<1	61	0.06 J	5,800	2.9	--	--	<0.05	1,200	13,000
MW-75-202	05/18/20	N	<0.5	3,800	<1	61	0.24	5,800	2.8	--	--	0.25	1,100	12,000
MW-75-202	06/16/20	N	<0.5	4,300	<1	67	--	5,400	3.6	--	--	0.14	960	11,000
MW-75-202	07/20/20	N	<0.5	4,500	<1	57	<0.2	5,600	2.9	--	--	0.72	1,100	12,000
MW-75-202	08/17/20	N	0.59	3,800	<1	58	0.29	6,000	3.2	--	--	0.56	1,100	12,000
MW-75-202	09/28/20	N	<0.5	3,200	<1	58	0.2	5,600	4	--	--	1.1	1,100	12,000
MW-75-202	10/19/20	N	<0.5	4,700	<1	56	<0.2	5,700	3.7	--	--	0.98	1,100	13,000
MW-75-202	12/01/20	N	<0.5	3,200	<1	62	<0.2	5,600	3.5	--	--	1.1	1,100	12,000
MW-75-202	02/16/21	N	<0.5	3,300 J	1.2	51	<0.22	5,700	3.7	--	--	0.64	1,100	12,000
MW-75-202	05/17/21	N	<0.5	4,300 J	<1	62	<0.2	5,500	3.6	--	--	0.81	1,100	12,000
MW-75-202	08/17/21	N	<0.5	3,800 J	1.4	65	<0.2	5,600	3.1	--	--	0.9	1,000	13,000
MW-75-202	08/17/21	FD	<0.5	3,900 J	1.2	65	<0.2	5,600	3.5	--	--	0.89	1,100	12,000
MW-75-202	11/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	11/29/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	08/25/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	08/25/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	11/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	01/30/20	N	<2.5	6,100	<5	33	0.11	8,300	4.9	--	--	0.39	1,300	15,000
MW-75-267	01/30/20	FD	3.1	6,300	<5	34	0.11	8,500	5.2	--	--	0.45	1,300	15,000
MW-75-267	02/18/20	N	<2.5	6,400	<1	37	0.19	8,400	4	--	--	0.2	1,300	15,000 J
MW-75-267	03/17/20	N	<0.5	5,700	<1	49	0.1	7,500	3.4	--	--	--	1,200	15,000
MW-75-267	04/21/20	N	<2.5	6,700	<1	58	0.15	7,700	3.7	--	--	0.077	1,300	14,000
MW-75-267	05/18/20	N	<2.5	7,500	<1	49	0.35	7,500	3.4	--	--	<0.05	1,200	15,000
MW-75-267	06/16/20	N	<0.5	6,500	<1	55	0.22	7,500	3.3	--	--	0.073	1,200	14,000
MW-75-267	06/16/20	FD	<0.5	6,800	<1	56	0.23	7,600	3.3	--	--	<0.05	1,200	14,000
MW-75-267	07/21/20	N	<0.5	6,600	<1	60	0.24	7,300	3.5	--	--	0.25 J	1,200	14,000
MW-75-267	08/17/20	N	0.65	5,200	<1	54	0.39	8,300	4.4	--	--	0.074	1,400	14,000
MW-75-267	09/28/20	N	<0.5	5,500	<1	52	0.28	7,600	4.9	--	--	<0.05	1,200	14,000
MW-75-267	10/19/20	N	<0.5	6,700	<1	48	0.26	7,900	4.5	--	--	0.068	1,200	15,000
MW-75-267	12/01/20	N	<0.5	4,900	<1	39	0.23	7,900	4.8	--	--	0.22	1,300	14,000
MW-75-267	02/16/21	N	<0.5	6,500 J	<1	35	<0.22	7,900	4.2	--	--	0.14	1,200	16,000
MW-75-267	05/17/21	N	<0.5	6,600 J	<1	43	0.26	7,700	3.9	--	--	0.18	1,200	14,000
MW-75-267	05/17/21	FD	<0.5	6,000 J	<1	43	0.2	7,600	4.4	--	--	0.12	1,200	14,000
MW-75-267	08/17/21	N	<0.5	4,200 J	<1	46	0.22	7,500	3.8	--	--	<0.1	1,200	14,000
MW-75-267	11/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	08/25/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	11/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	01/30/20	N	3.2	8,300	<5	74	0.17	10,000	7.7	--	--	0.066	1,600	19,000 J

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-75-117	08/24/22	N	--	--
MW-75-117	11/11/22	N	--	--
MW-75-202	01/30/20	N	--	<1
MW-75-202	02/17/20	N	--	<1
MW-75-202	03/17/20	N	--	<1 J
MW-75-202	04/21/20	N	--	<1
MW-75-202	05/18/20	N	--	<1 J
MW-75-202	06/16/20	N	--	<50
MW-75-202	07/20/20	N	--	<20 J
MW-75-202	08/17/20	N	--	<1 J
MW-75-202	09/28/20	N	--	<1 J
MW-75-202	10/19/20	N	--	<1 J
MW-75-202	12/01/20	N	--	<1
MW-75-202	02/16/21	N	--	<1
MW-75-202	05/17/21	N	--	<1
MW-75-202	08/17/21	N	--	<1
MW-75-202	08/17/21	FD	--	<1
MW-75-202	11/29/21	N	--	--
MW-75-202	11/29/21	FD	--	--
MW-75-202	03/02/22	N	--	--
MW-75-202	06/07/22	N	--	--
MW-75-202	08/25/22	N	--	--
MW-75-202	08/25/22	FD	--	--
MW-75-202	11/11/22	N	--	--
MW-75-267	01/30/20	N	--	<1
MW-75-267	01/30/20	FD	--	<1
MW-75-267	02/18/20	N	--	<20 J
MW-75-267	03/17/20	N	--	<1 J
MW-75-267	04/21/20	N	--	<1
MW-75-267	05/18/20	N	--	<20 J
MW-75-267	06/16/20	N	--	<1
MW-75-267	06/16/20	FD	--	<1
MW-75-267	07/21/20	N	--	<1
MW-75-267	08/17/20	N	--	<1 J
MW-75-267	09/28/20	N	--	<1 J
MW-75-267	10/19/20	N	--	<50 J
MW-75-267	12/01/20	N	--	<1
MW-75-267	02/16/21	N	--	<1
MW-75-267	05/17/21	N	--	<1
MW-75-267	05/17/21	FD	--	<1
MW-75-267	08/17/21	N	--	<1
MW-75-267	11/29/21	N	--	--
MW-75-267	03/02/22	N	--	--
MW-75-267	06/07/22	N	--	--
MW-75-267	08/25/22	N	--	--
MW-75-267	11/11/22	N	--	--
MW-75-337	01/30/20	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-75-337	02/17/20	N	<1	1.1	<0.5	67 J	2.1	210	0.5 J	0.42	9.2	0.87	190	62
MW-75-337	03/16/20	N	<1	<1	4.6	65 J	2.6	250	6 J	0.58 J	8	0.95	200	74
MW-75-337	04/20/20	N	<1	<1	<0.5	64	2.2	250	1.50 J	0.57 J	6	0.83	200	68
MW-75-337	04/20/20	FD	<1	<1	<0.5	63	2.3	260	1.10 J	0.53 J	6.1	0.82	210	68
MW-75-337	05/18/20	N	<1	<1	<0.5	65	2.5	240	0.79	0.51 J	6.5 J	0.8	210	72 J
MW-75-337	06/15/20	N	<1	<1	<0.1 J	59	3.1	230	0.77	0.44	8	0.69	230	68 J
MW-75-337	07/21/20	N	<1	<1	4.4 J	62	2.2	210	0.35	0.28 J	5	0.61	220	66 J
MW-75-337	07/21/20	FD	<1	<1	4.3 J	62	2.9	230	0.74	0.35 J	7.1	0.62	230	70 J
MW-75-337	08/17/20	N	<1	1.1	4.7	60	3.9	220	0.6 J	0.48 J	8 J	0.59	230	65
MW-75-337	08/17/20	FD	<1	1.1	4.5	58	3.4	240	1.10 J	0.49 J	9.1 J	0.59	220	66
MW-75-337	09/28/20	N	<1	<1	4.7 J	58	4.9 J	220 J	0.58 J	0.28 J	8.7 J	0.59	230	85
MW-75-337	10/20/20	N	<1	<1	4.6 J	66	2.3	140	1.60 J	0.84 J	5 J	0.58	200	100 J
MW-75-337	12/01/20	N	<1	<1	5	54	3.7 J	180 J	0.77	0.4 J	8.1 J	0.6	220	98 J
MW-75-337	02/16/21	N	<1	<1	6 J	57	4	160 J	1.10 J	0.35	5.8 J	0.66	230 J	66 J
MW-75-337	05/17/21	N	<1	<1	3.9	55	2.5	260	0.42	0.26	4.4	0.46	240	58 J
MW-75-337	08/17/21	N	<1	1.4	<0.1	51	2.1	240	0.45 J	0.26	4.4 J	0.47	230	69 J
MW-75-337	11/29/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-337	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-337	08/25/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	11/11/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-76-039	01/29/20	N	44	43	0.38	69	0.66	160	0.63 J	0.05	26 J	0.003	15	8.3
MW-76-039	01/29/20	FD	44	45	0.21	71	0.65	170	0.95 J	0.053	26 J	0.003	16	8.8
MW-76-039	02/20/20	N	18	28 J	0.6 J	78	0.57	180	0.46 J	2 J	23	0.15 J	16	9.9
MW-76-039	02/20/20	FD	16	15 J	0.2 J	65	0.55	160	0.26 J	0.17 J	20	0.076 J	17	8
MW-76-039	03/17/20	N	120	110	0.31	57 J	0.45	130	0.1 J	0.086 J	19	0.0022	19	8
MW-76-039	04/21/20	N	35	34	<0.1	72	0.48	170	0.25	0.11	23	0.0048	14	9.3
MW-76-039	05/26/20	N	26	24	<0.1 J	75	0.44	170	0.78 J	0.042 J	23 J	0.013	12 J	10 J
MW-76-039	06/16/20	N	<1	<1	<0.1 J	79	1.2	340	0.21 J	0.073	37	0.16	32	26 J
MW-76-039	07/21/20	N	26	29	<0.1 J	94	0.56	180	0.071	<0.02 J	26	0.0036	17	10 J
MW-76-039	08/18/20	N	57	55	<0.1	74	0.49	170	0.11 J	0.044 J	25 J	0.004	18	9.7
MW-76-039	09/29/20	N	72	<1	<0.1	58	0.8 J	120 J	0.24 J	<0.1 J	21 J	0.22	34	5 J
MW-76-039	10/21/20	N	86	86	1.3	65	0.59	120 J	0.41	0.15	20	0.0097	21	12
MW-76-039	12/02/20	N	110	110	1.1	55	0.67	110 J	<0.02	<0.02	20	0.013	21	6.9
MW-76-039	02/17/21	N	36	37	<0.1	61	0.39	110	0.27 J	<0.02 J	20	0.011	16	11 J
MW-76-039	02/17/21	FD	36	37	<0.1	54	0.39	110	0.27 J	0.033 J	20	0.011	15	9.8 J
MW-76-039	05/21/21	N	27	26	<0.1 J	77	0.51	240 J	0.12 J	0.063 J	28 J	0.0076	13	11 J
MW-76-039	08/18/21	N	3.2	3.3	<0.1 J	49	1.4	420 J	0.069 J	0.023 J	25 J	0.11	28	25
MW-76-039	12/02/21	N	130	140	<0.1 J	39	--	--	--	<0.02 J	--	0.01	27	--
MW-76-039	01/31/22	N	36	--	<0.1	59	--	--	--	0.28	--	0.034	--	--
MW-76-039	03/07/22	N	41	39	<0.1 J	62 J	--	--	--	<0.1	--	0.011	15	--
MW-76-039	03/07/22	FD	40	41	<0.1 J	62 J	--	--	--	<0.1	--	0.011	16	--
MW-76-039	04/11/22	N	33	--	<0.1 J	61	--	--	--	0.034	--	0.005	--	--
MW-76-039	05/16/22	N	44	--	<0.1 J	70	--	--	--	<0.02	--	0.0014	--	--
MW-76-039	06/13/22	N	88	77 J	<0.1 J	66	--	--	--	<0.02 J	--	<0.0005	20	--
MW-76-039	06/13/22	FD	86	76 J	<0.1 J	63	--	--	--	<0.02 J	--	0.0007	19	--
MW-76-039	07/11/22	N	140	--	<0.1	74	--	--	--	0.11 J	--	0.012	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-75-337	02/17/20	N	<2.5	7,500	<1	66	0.14	9,700	6.9	--	--	<0.05	1,600	18,000 J
MW-75-337	03/16/20	N	<0.5	6,800	<1	68	0.17	9,900	6.8	--	--	--	1,600	19,000 J
MW-75-337	04/20/20	N	<2.5	7,100	<1	60	<0.1	10,000	4.8	--	--	<0.05	1,600	18,000
MW-75-337	04/20/20	FD	<2.5	7,200	<1	60	<0.1	9,700	5	--	--	<0.05	1,700	18,000
MW-75-337	05/18/20	N	<2.5	8,000	<1	53	0.35	10,000	5.3	--	--	<0.05	1,700	20,000 J
MW-75-337	06/15/20	N	<0.5	8,600	<1	49	0.45	10,000	4.9	--	--	1.8 J	1,600	18,000 J
MW-75-337	07/21/20	N	<0.5	9,400	<1	46	0.23	9,900	5.6	--	--	1.9 J	1,600	18,000 J
MW-75-337	07/21/20	FD	<0.5	10,000	<1	46	0.23	9,700	5.7	--	--	0.071	1,700	18,000 J
MW-75-337	08/17/20	N	1.2	7,700	<1	50	0.23	11,000	5	--	--	<0.05	1,700	19,000
MW-75-337	08/17/20	FD	1.2	7,300	<1	50	0.24	9,900	6.4	--	--	<0.05	1,600	19,000
MW-75-337	09/28/20	N	0.53	7,800	<1	48	0.23	9,400	6.4	--	--	<0.05	1,600	18,000 J
MW-75-337	10/20/20	N	<0.5	8,200	<1	61	2.1	9,500 J	6.5	--	--	<0.05	1,600	18,000
MW-75-337	12/01/20	N	<0.5	6,000	<1	49	0.23	9,800	7	--	--	<0.1	1,700	17,000 J
MW-75-337	02/16/21	N	<0.5	8,500 J	<1	54	<0.22	9,600	6.1	--	--	<0.05	1,600	22,000
MW-75-337	05/17/21	N	0.6	8,600 J	<1	44	<0.2	9,600	5.9	--	--	<0.05	1,600	18,000 J
MW-75-337	08/17/21	N	0.52 J	8,000 J	<1	44	0.2	10,000	4.4	--	--	<0.1	1,600	18,000
MW-75-337	11/29/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	08/25/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	11/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-76-039	01/29/20	N	1.7	550	1.7	85	<0.1	890	2.8	--	--	2.3	190	2,000
MW-76-039	01/29/20	FD	1.9	570	1.7	86	<0.1	900	2.8	--	--	2.6	190	2,000
MW-76-039	02/20/20	N	1.6	550	4.2 J	86	0.05 J	870	2.5	--	--	2.7 J	190	2,000
MW-76-039	02/20/20	FD	1.6	480	1.9 J	91	0.05 J	870	2.6	--	--	2.6 J	190	2,000
MW-76-039	03/17/20	N	2.5	480	2.4	94	0.11	850	3.1	--	--	2.9 J	190	1,900
MW-76-039	04/21/20	N	1.7	540	2.3	79	0.11	1,000	2.5	--	--	2.4	210	2,300
MW-76-039	05/26/20	N	1.4	510	2	75	<0.2	1,100	2.1	--	--	2.2	210	2,600
MW-76-039	06/16/20	N	0.98	4,000	2.4	64	<0.2	5,100	2.8	--	--	0.6	780	11,000
MW-76-039	07/21/20	N	1.7	640	2	90	<0.2	1,200	2.8	--	--	2 J	230	2,700
MW-76-039	08/18/20	N	2	630	3.5	91	<0.2	1,100	3.1	--	--	2.3	220	2,600
MW-76-039	09/29/20	N	0.99	410 J	3.6	92	<0.2	990	3.1	--	--	2.4	210	2,400
MW-76-039	10/21/20	N	2.3	580	2.3	95	<0.2	920	3.5	--	--	2.5	200	2,100
MW-76-039	12/02/20	N	2.4	460	2.7	95	2.6	870	3.6	--	--	2.8	190	1,800
MW-76-039	02/17/21	N	1.8	460	2.5	78	<0.22	950	2.8	--	--	2.8	190	2,000
MW-76-039	02/17/21	FD	1.8	490	2.4	83	<0.22	940	2.8	--	--	2.6	190	1,900
MW-76-039	05/21/21	N	1.5	560 J	2.3	79	0.29	1,200	2.8	--	--	2 J	230	2,600
MW-76-039	08/18/21	N	1	3,800 J	4.3	49	<0.2	5,200	2.2	--	--	1.8	770	11,000
MW-76-039	12/02/21	N	2.8	--	--	--	<0.2	--	--	--	<2.5	2.8	190	--
MW-76-039	01/31/22	N	--	--	--	--	--	--	--	2.5	--	--	200	--
MW-76-039	03/07/22	N	1.8	--	--	--	<0.2	--	--	2.4	--	--	190	--
MW-76-039	03/07/22	FD	1.8	--	--	--	<0.2	--	--	2.5	--	--	200	--
MW-76-039	04/11/22	N	--	--	--	--	--	--	--	2.1	--	--	210	--
MW-76-039	05/16/22	N	--	--	--	--	--	--	--	2.2	--	--	230	--
MW-76-039	06/13/22	N	3	--	--	--	0.078 J	--	--	2.5	<2.5	--	230	--
MW-76-039	06/13/22	FD	2.7	--	--	--	<0.22	--	--	2.5	<2.5	--	230	--
MW-76-039	07/11/22	N	--	--	--	--	--	--	--	2.5	--	--	280	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-75-337	02/17/20	N	--	<1
MW-75-337	03/16/20	N	--	<1 J
MW-75-337	04/20/20	N	--	<1
MW-75-337	04/20/20	FD	--	<1
MW-75-337	05/18/20	N	--	<1 J
MW-75-337	06/15/20	N	--	<1
MW-75-337	07/21/20	N	--	<1
MW-75-337	07/21/20	FD	--	<1
MW-75-337	08/17/20	N	--	<1 J
MW-75-337	08/17/20	FD	--	<1 J
MW-75-337	09/28/20	N	--	<20 J
MW-75-337	10/20/20	N	--	<1
MW-75-337	12/01/20	N	--	<1
MW-75-337	02/16/21	N	--	<1
MW-75-337	05/17/21	N	--	<1
MW-75-337	08/17/21	N	--	<1
MW-75-337	11/29/21	N	--	--
MW-75-337	03/02/22	N	--	--
MW-75-337	06/07/22	N	--	--
MW-75-337	08/25/22	N	--	--
MW-75-337	11/11/22	N	--	--
MW-76-039	01/29/20	N	--	<1
MW-76-039	01/29/20	FD	--	<1
MW-76-039	02/20/20	N	--	<1
MW-76-039	02/20/20	FD	--	<1
MW-76-039	03/17/20	N	--	<1 J
MW-76-039	04/21/20	N	--	<1
MW-76-039	05/26/20	N	--	<1
MW-76-039	06/16/20	N	--	<1
MW-76-039	07/21/20	N	--	<10
MW-76-039	08/18/20	N	--	<10
MW-76-039	09/29/20	N	--	<1 J
MW-76-039	10/21/20	N	--	<1 J
MW-76-039	12/02/20	N	--	<10
MW-76-039	02/17/21	N	--	<1
MW-76-039	02/17/21	FD	--	<1
MW-76-039	05/21/21	N	--	<1
MW-76-039	08/18/21	N	--	<20
MW-76-039	12/02/21	N	--	<1
MW-76-039	01/31/22	N	--	<1
MW-76-039	03/07/22	N	--	<1
MW-76-039	03/07/22	FD	--	<1
MW-76-039	04/11/22	N	--	<1
MW-76-039	05/16/22	N	--	<10
MW-76-039	06/13/22	N	--	<1
MW-76-039	06/13/22	FD	--	<1
MW-76-039	07/11/22	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-76-039	08/08/22	N	140	130	<0.1	53 J	--	--	--	<0.02 J	--	<0.0005 J	23 J	--
MW-76-039	09/12/22	N	93	--	<0.1	59	--	--	--	0.11	--	0.032	--	--
MW-76-039	09/12/22	FD	94	--	<0.1	60	--	--	--	0.078	--	0.029	--	--
MW-76-039	10/10/22	N	180	--	<0.1	54	--	--	--	<0.02	--	<0.0005 J	--	--
MW-76-039	11/07/22	N	200	200 J	0.42	47 J	--	--	--	<0.02	--	0.0016 J	24 J	--
MW-76-039	12/06/22	N	220	--	0.65	51	--	--	--	<0.02	--	<0.0005 J	--	--
MW-76-156	01/29/20	N	1.8	2	<0.5	68	1.5	480	<0.1	<0.1	69 J	0.22	31	27
MW-76-156	02/20/20	N	1	2	2.3	62	1.6	440	<0.1	<0.1	44	0.22	31	25
MW-76-156	03/17/20	N	3.3	3.8	2.1	59 J	1.1	390	<0.02	<0.02	39	0.23	29	27
MW-76-156	04/21/20	N	<1	1.7	2.5	65	1.2	450	0.71	0.17	41	0.25	30	26
MW-76-156	05/26/20	N	<1	1.5	2.2 J	59	1.1	370	0.13 J	<0.02	35 J	0.26	29 J	31 J
MW-76-156	05/26/20	FD	<1	1.6	2.2 J	59	1.2	390	0.083 J	0.024 J	37 J	0.28	30 J	29 J
MW-76-156	06/16/20	N	<1	<1	<0.1 J	68	1.3	380	0.091 J	0.025	39	0.28	29	29 J
MW-76-156	07/21/20	N	1.7	2.4	<0.1 J	64	1.3	360	0.055	0.044 J	37	0.22	33	25 J
MW-76-156	08/18/20	N	1.4	1.5	2.3	57	2.6	390	<0.1	<0.1 J	45 J	0.18	33	24
MW-76-156	09/29/20	N	<1	69	0.3	69	2 J	350 J	0.24 J	<0.02 J	41 J	0.015	18	24 J
MW-76-156	10/21/20	N	2.5	3.6	2.3	56	1.5	310 J	0.12	0.052	39	0.14	31	45
MW-76-156	10/21/20	FD	2.9	3.5	2.4	55	1.6	320 J	0.17	0.041	41	0.14	30	42
MW-76-156	12/02/20	N	4.2	4.6	2.2	53	2.8 J	360 J	<0.1	<0.1	55 J	0.12	31	25 J
MW-76-156	02/17/21	N	2.9	3.3	<0.1	46	1	280	0.042 J	0.023 J	40	0.094	32	26 J
MW-76-156	05/21/21	N	<1	1.1	<0.1 J	56	1.3	490	0.11 J	0.047 J	36 J	0.16	31	32 J
MW-76-156	08/18/21	N	2.3	2.6	<0.1 J	47	1.4	410 J	<0.02 J	<0.02 J	27 J	0.11	28	25
MW-76-156	12/02/21	N	4	4.5	<0.1 J	47	--	--	--	0.058 J	--	0.092	31	--
MW-76-156	01/31/22	N	<1	--	<0.1	60	--	--	--	<0.1	--	0.13	--	--
MW-76-156	03/07/22	N	2	2.5	<0.1 J	70 J	--	--	--	<0.1	--	0.16	25	--
MW-76-156	04/11/22	N	15	--	<0.1 J	55	--	--	--	<0.02	--	0.11	--	--
MW-76-156	05/16/22	N	5.5	--	<0.1 J	43	--	--	--	<0.1	--	0.071	--	--
MW-76-156	05/16/22	FD	5.5	--	<0.1 J	44	--	--	--	0.023	--	0.07	--	--
MW-76-156	06/13/22	N	13	12 J	<0.1 J	43	--	--	--	<0.02 J	--	0.033	28	--
MW-76-156	07/11/22	N	<1	--	<0.1	91	--	--	--	0.2 J	--	1.40	--	--
MW-76-156	08/08/22	N	8.9	8.5	<0.1	44 J	--	--	--	0.027 J	--	0.13 J	27 J	--
MW-76-156	09/12/22	N	13	--	<0.1	45	--	--	--	0.025	--	0.085	--	--
MW-76-156	10/10/22	N	<1	--	<0.1	98	--	--	--	0.24	--	1.30 J	--	--
MW-76-156	11/07/22	N	18	19 J	<0.1	38 J	--	--	--	<0.02	--	0.016 J	29 J	--
MW-76-156	12/06/22	N	17	--	<0.1	37	--	--	--	<0.02	--	0.011 J	--	--
MW-76-181	01/29/20	N	890	860	<0.5	91	1.5	570	<0.1	<0.1	96 J	0.93	33	28
MW-76-181	02/20/20	N	1,000	970	1.6	91	1.6	580	<0.1	<0.1	79	0.86	34	29
MW-76-181	03/17/20	N	1,100	1,100	1.5	78 J	1.1	580	0.1 J	0.025 J	84	0.7	33	32
MW-76-181	04/21/20	N	720	700	1.6	100	1	550	0.48	0.08	74	0.79	35	28
MW-76-181	05/26/20	N	1,200	1,100	1.7 J	70	0.95	540	0.31 J	<0.02	73 J	0.54	31 J	32 J
MW-76-181	06/16/20	N	710	660	<0.1 J	76	1.1	560	0.037 J	0.033	84	0.55	34	30 J
MW-76-181	07/21/20	N	1,100	1,100	<0.1 J	76	1.1	530	<0.02	<0.02	77	0.5	35	29 J
MW-76-181	08/18/20	N	800	760	1.7	70	2.8	570	<0.1	<0.1 J	99 J	0.5	34	29
MW-76-181	09/29/20	N	840	810	1.6	75	1.6 J	370 J	<0.1 J	<0.02 J	85 J	0.48	34	29 J
MW-76-181	10/21/20	N	1,300	1,200	1.5	73	1.4	450 J	<0.02	<0.02	83	0.39	30	63
MW-76-181	12/02/20	N	1,500	1,500	1.5	67	2.7	450 J	0.18 J	<0.1	90	0.31	29	32
MW-76-181	12/02/20	FD	1,500	1,600	1.4	68	1.7	580 J	0.31	<0.1	110	0.31	30	32

Appendix B
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-76-039	08/08/22	N	3.7	--	--	--	<0.2	--	--	2.8	<5	--	230	--
MW-76-039	09/12/22	N	--	--	--	--	--	--	--	3	--	--	250	--
MW-76-039	09/12/22	FD	--	--	--	--	--	--	--	3	--	--	250	--
MW-76-039	10/10/22	N	--	--	--	--	--	--	--	3.2	--	--	220	--
MW-76-039	11/07/22	N	4.3	--	--	--	<0.43 J	--	--	3.6	<5	--	220	--
MW-76-039	12/06/22	N	--	--	--	--	--	--	--	3.3	--	--	220	--
MW-76-156	01/29/20	N	<2.5	4,300	2.9	51	<0.1	5,300	2.8	--	--	1.6	840	11,000
MW-76-156	02/20/20	N	0.83	3,200	2.9	47	0.09 J	5,100	3.6	--	--	1.3 J	840	11,000
MW-76-156	03/17/20	N	0.86	3,200	2.6	51	0.09 J	5,200	2.8	--	--	1.6 J	820	11,000
MW-76-156	04/21/20	N	0.85	3,500	2.8	53	0.06 J	5,500	2.6	--	--	1.3	870	12,000
MW-76-156	05/26/20	N	0.81	4,300	2.7	51 J	<0.2	5,500	3.3	--	--	1.2	800	12,000
MW-76-156	05/26/20	FD	0.8	4,400	2.7	34 J	<0.2	5,400	3.1	--	--	1.2	820	12,000
MW-76-156	06/16/20	N	0.7	4,100	2.7	51	<0.2	5,400	2.9	--	--	1.2	770	11,000
MW-76-156	07/21/20	N	0.97	4,300	3.3	50	<0.2	5,200	2.9	--	--	1.7 J	800	11,000
MW-76-156	08/18/20	N	1.1	3,200	3.8	51	<0.2	5,700	3.1	--	--	1.8	780	11,000
MW-76-156	09/29/20	N	2.3	3,300 J	2.1	55	<0.2	5,000	3	--	--	1.5	760	11,000
MW-76-156	10/21/20	N	1.1	4,600	3.8	51	<0.2	5,200	3.4	--	--	1.7	810	12,000
MW-76-156	10/21/20	FD	1	4,100	3.8	51	<0.2	5,100	3.4	--	--	1.7	800	11,000
MW-76-156	12/02/20	N	1.2	2,600	3.6	53	<0.2	5,100	3.6	--	--	1.9	810	11,000
MW-76-156	02/17/21	N	0.93	3,900	3.8	52	<0.22	5,200	3.3	--	--	2	820	11,000
MW-76-156	05/21/21	N	0.79	4,000	3.8	52	<0.2	5,100	3.2	--	--	1.3 J	760	11,000
MW-76-156	08/18/21	N	1	4,800 J	4.6	51	<0.2	5,100	3.1	--	--	1.8	770	11,000
MW-76-156	12/02/21	N	1.1	--	--	--	<0.2	--	--	--	<5	2	780	--
MW-76-156	01/31/22	N	--	--	--	--	--	--	--	1.3	--	--	870	--
MW-76-156	03/07/22	N	0.93	--	--	--	<0.2	--	--	1.5	--	--	870	--
MW-76-156	04/11/22	N	--	--	--	--	--	--	--	1.7	--	--	860	--
MW-76-156	05/16/22	N	--	--	--	--	--	--	--	1.5	--	--	730	--
MW-76-156	05/16/22	FD	--	--	--	--	--	--	--	1.5	--	--	740	--
MW-76-156	06/13/22	N	0.8	--	--	--	<0.2	--	--	1.9	<5	--	740	--
MW-76-156	07/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	720	--
MW-76-156	08/08/22	N	0.93	--	--	--	<0.2	--	--	1.9	<5	--	710	--
MW-76-156	09/12/22	N	--	--	--	--	--	--	--	2.2	--	--	760	--
MW-76-156	10/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	660	--
MW-76-156	11/07/22	N	1.1	--	--	--	0.44 J	--	--	2.3	<5	--	760	--
MW-76-156	12/06/22	N	--	--	--	--	--	--	--	2.2	--	--	720	--
MW-76-181	01/29/20	N	<2.5	4,400	1.1	71	<0.1	6,600	2.8	--	--	2.2	950	14,000
MW-76-181	02/20/20	N	1.6	3,900	1.4	71	0.07 J	6,300	3.2	--	--	4.4 J	930	12,000
MW-76-181	03/17/20	N	1.7	4,000	1.2	70	0.07 J	6,400	2.1	--	--	2.2 J	910	14,000
MW-76-181	04/21/20	N	<2.5	3,900	1.1	69	0.05 J	6,500	2.7	--	--	1.6	920	14,000
MW-76-181	05/26/20	N	1.9	4,400	1.3	71	<0.2	6,500	3	--	--	2.6	940	14,000
MW-76-181	06/16/20	N	1.5	4,700	1.3	67	<0.2	6,700	2.3	--	--	1.7	910	14,000
MW-76-181	07/21/20	N	2	5,200	1.4	67	1.6	6,400	2.8	--	--	2.2	900	15,000
MW-76-181	08/18/20	N	1.8	4,300	1.7	69	<0.2	6,900	2.9	--	--	2	910	14,000
MW-76-181	09/29/20	N	2	5,300 J	1.4	72	<0.2	6,400	2.6	--	--	2.1	930	15,000
MW-76-181	10/21/20	N	2.1	5,800	1.5	68	<0.2	6,400	3.3	--	--	2.3	900	13,000
MW-76-181	12/02/20	N	2	4,500	1.3	70	<0.2	6,400	3.4	--	--	2.5	890	13,000
MW-76-181	12/02/20	FD	2	4,500	1.4	69	<0.2	6,500	3.2	--	--	2.5	920	13,000

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-76-039	08/08/22	N	--	<1
MW-76-039	09/12/22	N	--	<1
MW-76-039	09/12/22	FD	--	<1
MW-76-039	10/10/22	N	--	<1
MW-76-039	11/07/22	N	--	<10
MW-76-039	12/06/22	N	1.7	<1
MW-76-156	01/29/20	N	--	<1
MW-76-156	02/20/20	N	--	<1
MW-76-156	03/17/20	N	--	<10 J
MW-76-156	04/21/20	N	--	<1
MW-76-156	05/26/20	N	--	<1
MW-76-156	05/26/20	FD	--	<1
MW-76-156	06/16/20	N	--	<1
MW-76-156	07/21/20	N	--	<1
MW-76-156	08/18/20	N	--	<1
MW-76-156	09/29/20	N	--	<1 J
MW-76-156	10/21/20	N	--	<1 J
MW-76-156	10/21/20	FD	--	<1 J
MW-76-156	12/02/20	N	--	<1
MW-76-156	02/17/21	N	--	<1
MW-76-156	05/21/21	N	--	<50
MW-76-156	08/18/21	N	--	<1
MW-76-156	12/02/21	N	--	<1
MW-76-156	01/31/22	N	--	<1
MW-76-156	03/07/22	N	--	<1
MW-76-156	04/11/22	N	--	<1
MW-76-156	05/16/22	N	--	<1
MW-76-156	05/16/22	FD	--	<1
MW-76-156	06/13/22	N	--	<1
MW-76-156	07/11/22	N	--	<1
MW-76-156	08/08/22	N	--	<1
MW-76-156	09/12/22	N	--	<1
MW-76-156	10/10/22	N	--	<1
MW-76-156	11/07/22	N	--	<1
MW-76-156	12/06/22	N	<1	<1
MW-76-181	01/29/20	N	--	<1
MW-76-181	02/20/20	N	--	<1
MW-76-181	03/17/20	N	--	<1 J
MW-76-181	04/21/20	N	--	<1
MW-76-181	05/26/20	N	--	<1
MW-76-181	06/16/20	N	--	<1
MW-76-181	07/21/20	N	--	<1
MW-76-181	08/18/20	N	--	<1
MW-76-181	09/29/20	N	--	<1 J
MW-76-181	10/21/20	N	--	<1 J
MW-76-181	12/02/20	N	--	<1
MW-76-181	12/02/20	FD	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-76-181	02/17/21	N	1,500	1,600	<0.1	60	0.85	410	0.14 J	0.041 J	78	0.35	30	31 J
MW-76-181	05/21/21	N	1,500	1,500	<0.1 J	64	1.1	480 J	0.096 J	<0.02 J	76 J	0.2	29	34 J
MW-76-181	08/18/21	N	1,500	1,400	<0.1 J	65	1.3	570 J	0.097 J	<0.02 J	63 J	0.12	25	30
MW-76-181	12/02/21	N	1,500	1,500	1.5 J	67	--	--	--	0.052 J	--	0.089	27	--
MW-76-181	01/31/22	N	1,500	--	<0.1	71	--	--	--	<0.02	--	0.064	--	--
MW-76-181	03/07/22	N	1,600	1,500	<0.1 J	75 J	--	--	--	<0.1	--	0.15	27	--
MW-76-181	04/11/22	N	2,200	--	<0.1 J	58	--	--	--	<0.02	--	0.068	--	--
MW-76-181	05/16/22	N	2,000	--	<0.1 J	56	--	--	--	<0.1	--	0.016	--	--
MW-76-181	06/13/22	N	2,000	2,200	<0.1 J	58	--	--	--	<0.02	--	0.029	29	--
MW-76-181	07/11/22	N	1,700	--	<0.1	68	--	--	--	0.032 J	--	0.00074	--	--
MW-76-181	08/08/22	N	1,300	1,200	<0.1	54 J	--	--	--	<0.02 J	--	0.0096 J	30 J	--
MW-76-181	09/12/22	N	1,100	--	<0.1	65	--	--	--	<0.02	--	0.039	--	--
MW-76-181	10/10/22	N	1,100	--	<0.1	56	--	--	--	<0.02	--	0.049 J	--	--
MW-76-181	11/07/22	N	720	700 J	<0.1	38 J	--	--	--	<0.02	--	0.024 J	32 J	--
MW-76-181	11/07/22	FD	760	730 J	<0.1	39 J	--	--	--	<0.02	--	0.026 J	33 J	--
MW-76-181	12/06/22	N	610	--	<0.1	42	--	--	--	<0.02	--	0.029 J	--	--
MW-76-181	12/06/22	FD	610	--	<0.1	42	--	--	--	<0.02	--	0.03 J	--	--
MW-76-218	01/29/20	N	8.4	9.6	<0.5	95	2.5	290	<0.1	0.024	6.5 J	0.27	94	45
MW-76-218	02/20/20	N	2.8	4.7	4.4	86	2.9	260	0.1	0.18	7.1	0.25	90	51
MW-76-218	03/17/20	N	51	45	4.2	79 J	1.9	250	0.39 J	0.049 J	8.1	0.26	81	52
MW-76-218	04/21/20	N	2.1	4.2	4.6	87	2.1	260	0.3	0.12	6.1	0.25	87	46
MW-76-218	05/26/20	N	<1	<1	5.1 J	84	1.8	240	0.047 J	<0.02	7.9 J	0.32	78 J	60 J
MW-76-218	06/16/20	N	4.8	5.5	<0.1 J	100	2	290	0.039 J	<0.02	14	0.36	70	56 J
MW-76-218	06/16/20	FD	5.5	5.6	<0.1 J	100	1.9	280	0.24 J	<0.02	14	0.36	70	53 J
MW-76-218	07/21/20	N	23	27	4.7 J	94	2	230	0.039	<0.02 J	8.8	0.34	87	45 J
MW-76-218	08/18/20	N	5.5	6.2	4.5	89	3.6	280	<0.1	<0.1 J	14 J	0.31	81	48
MW-76-218	09/29/20	N	17	16	4.5	77	2.8 J	230 J	<0.1 J	<0.1 J	12 J	0.27	88	51 J
MW-76-218	09/29/20	FD	17	16	4.5	80	2.7 J	220 J	<0.1 J	<0.1 J	11 J	0.26	87	50 J
MW-76-218	10/21/20	N	46	44	4.5	76	2.5	150 J	0.11	<0.1	6.6	0.25	90	82
MW-76-218	12/02/20	N	81	71	4.2	67	3.2	300 J	<0.1	<0.1	14	0.24	86	57
MW-76-218	02/17/21	N	26	25	<0.1	61	1.8	170	0.1 J	0.03 J	6.2	0.2	93	57 J
MW-76-218	05/21/21	N	27	26	<0.1 J	76	1.9	380 J	0.05 J	0.044 J	13 J	0.37	61	70 J
MW-76-218	08/18/21	N	320	310	<0.1 J	70	2	390 J	0.023 J	<0.02 J	15 J	0.38	47	45
MW-76-218	08/18/21	FD	290	310	<0.1 J	73	1.9	370 J	0.034 J	<0.02 J	15 J	0.39	48	45
MW-76-218	12/02/21	N	270	280	3.9 J	66	--	--	--	<0.02 J	--	0.28	68	--
MW-76-218	01/31/22	N	370	--	<0.1	74	--	--	--	<0.1	--	0.35	--	--
MW-76-218	03/07/22	N	670	700	3.5 J	79 J	--	--	--	<0.1	--	0.27	54	--
MW-76-218	03/07/22	FD	680	620	3 J	73 J	--	--	--	<0.1	--	0.25	47	--
MW-76-218	04/11/22	N	460	--	<0.1 J	63	--	--	--	<0.02	--	0.15	--	--
MW-76-218	05/16/22	N	120	--	3.6 J	54	--	--	--	<0.1	--	0.14	--	--
MW-76-218	06/13/22	N	60	53 J	<0.5 J	46 J	--	--	--	<0.02 J	--	0.098 J	77 J	--
MW-76-218	07/11/22	N	36	--	<0.1	87	--	--	--	0.044 J	--	0.24	--	--
MW-76-218	08/08/22	N	2.3	2.3	<0.1	73 J	--	--	--	<0.02 J	--	0.35 J	33	--
MW-76-218	09/12/22	N	<1	--	<0.1	86	--	--	--	0.029	--	0.43	--	--
MW-76-218	10/10/22	N	<1	--	<0.1	78	--	--	--	<0.02	--	0.47 J	--	--
MW-76-218	11/07/22	N	<1	<1 J	<0.1	69 J	--	--	--	<0.02	--	0.43 J	26 J	--
MW-76-218	12/06/22	N	<1	--	<0.1	82	--	--	--	<0.02	--	0.5 J	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-76-181	02/17/21	N	1.7	4,400	1.5	71	<0.22	7,000	3	--	--	2.8	940	13,000
MW-76-181	05/21/21	N	2.2	4,000 J	1.8	70	<0.2	6,600	2.9	--	--	2.5 J	940	13,000
MW-76-181	08/18/21	N	1.8	5,100 J	2	64	<0.2	6,500	2.7	--	--	2.3	870	14,000
MW-76-181	12/02/21	N	1.7	--	--	--	<0.2	--	--	--	<5	2.3	870	--
MW-76-181	01/31/22	N	--	--	--	--	--	--	--	2.1	--	--	850	--
MW-76-181	03/07/22	N	1.9	--	--	--	<0.2	--	--	2.2	--	--	880	--
MW-76-181	04/11/22	N	--	--	--	--	--	--	--	3	--	--	930	--
MW-76-181	05/16/22	N	--	--	--	--	--	--	--	2.7	--	--	910	--
MW-76-181	06/13/22	N	2.4	--	--	--	<0.2	--	--	3	<5	--	970	--
MW-76-181	07/11/22	N	--	--	--	--	--	--	--	2.5	--	--	900	--
MW-76-181	08/08/22	N	1.2	--	--	--	<0.2	--	--	1.6	<5	--	780	--
MW-76-181	09/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	820	--
MW-76-181	10/10/22	N	--	--	--	--	--	--	--	1.5	--	--	940	--
MW-76-181	11/07/22	N	1.2	--	--	--	0.44 J	--	--	1.7	<5	--	920	--
MW-76-181	11/07/22	FD	<2.5	--	--	--	<0.43 J	--	--	1.9	<5	--	920	--
MW-76-181	12/06/22	N	--	--	--	--	--	--	--	1.2	--	--	820	--
MW-76-181	12/06/22	FD	--	--	--	--	--	--	--	1.1	--	--	810	--
MW-76-218	01/29/20	N	<2.5	5,400	1.3	40	<0.1	7,300	5	--	--	0.28	920	14,000
MW-76-218	02/20/20	N	0.6	5,200	1.6	37	0.17	7,100	5.1	--	--	0.52 J	900	14,000
MW-76-218	03/17/20	N	<0.5	5,000	1.2	39	0.07 J	7,300	4.3	--	--	0.46 J	920	14,000
MW-76-218	04/21/20	N	<2.5	5,000	1.4	39	0.05 J	7,700	4.5	--	--	0.54	920	14,000
MW-76-218	05/26/20	N	<0.5	5,500	<1	43	<0.2	7,300	4.9	--	--	<0.05	960	13,000
MW-76-218	06/16/20	N	0.57	3,900 J	1.4	56	0.24	6,800	4.6	--	--	0.15	900	14,000
MW-76-218	06/16/20	FD	0.7	5,800 J	1.3	66	0.22	6,600	3.9	--	--	0.14	870	14,000
MW-76-218	07/21/20	N	0.57	6,200	1.1	46	<0.2	7,200	4	--	--	0.33 J	900	13,000
MW-76-218	08/18/20	N	0.69	5,300	1.4	54	0.22	7,300	4.6	--	--	0.19	870	13,000
MW-76-218	09/29/20	N	0.63	4,200 J	1.4	40	<0.2	7,100	4.6	--	--	0.77	900	14,000
MW-76-218	09/29/20	FD	0.58	6,000 J	1.4	39	<0.2	7,100	5	--	--	0.68	910	15,000 J
MW-76-218	10/21/20	N	0.71	6,700	1.8	39	<0.2	7,200	4.3	--	--	0.72	890	13,000 J
MW-76-218	12/02/20	N	0.63	6,200	1.8	40	0.2	7,300	4.5	--	--	0.73	930	13,000
MW-76-218	02/17/21	N	0.65	5,900	2	36	<0.22	7,400	4.1	--	--	0.79	920	14,000
MW-76-218	05/21/21	N	0.89	5,100 J	1.8	48	<0.2	6,900	4.1	--	--	0.67 J	900	11,000 J
MW-76-218	08/18/21	N	1.3	5,600 J	3.2	43	<0.2	6,900	4	--	--	1.5	890	13,000
MW-76-218	08/18/21	FD	1.2	5,600 J	2.9	42	<0.2	7,100	4	--	--	1.5	920	13,000 J
MW-76-218	12/02/21	N	1	--	--	--	<0.2	--	--	--	<10	0.85	880	--
MW-76-218	01/31/22	N	--	--	--	--	--	--	--	1.3	--	--	870	--
MW-76-218	03/07/22	N	1.5	--	--	--	<0.2	--	--	1.6	--	--	890	--
MW-76-218	03/07/22	FD	1.2	--	--	--	<0.2	--	--	1.6	--	--	890	--
MW-76-218	04/11/22	N	--	--	--	--	--	--	--	1.5	--	--	910	--
MW-76-218	05/16/22	N	--	--	--	--	--	--	--	1.1	--	--	940	--
MW-76-218	06/13/22	N	0.98	--	--	--	<0.2	--	--	1.2	<50	--	940	--
MW-76-218	07/11/22	N	--	--	--	--	--	--	--	0.69	--	--	680	--
MW-76-218	08/08/22	N	0.74	--	--	--	<0.2	--	--	0.55	<5	--	640	--
MW-76-218	09/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	680	--
MW-76-218	10/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	650	--
MW-76-218	11/07/22	N	<0.5	--	--	--	<0.43 J	--	--	<0.5	<5	--	640	--
MW-76-218	12/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	620	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-76-181	02/17/21	N	--	<1
MW-76-181	05/21/21	N	--	<1
MW-76-181	08/18/21	N	--	<1
MW-76-181	12/02/21	N	--	<1
MW-76-181	01/31/22	N	--	<1
MW-76-181	03/07/22	N	--	<1
MW-76-181	04/11/22	N	--	<1
MW-76-181	05/16/22	N	--	<1
MW-76-181	06/13/22	N	--	<1
MW-76-181	07/11/22	N	--	<1
MW-76-181	08/08/22	N	--	<1
MW-76-181	09/12/22	N	--	<1
MW-76-181	10/10/22	N	--	<1
MW-76-181	11/07/22	N	--	<1
MW-76-181	11/07/22	FD	--	<1
MW-76-181	12/06/22	N	<1	<50
MW-76-181	12/06/22	FD	1.6	<1
MW-76-218	01/29/20	N	--	<1
MW-76-218	02/20/20	N	--	<1
MW-76-218	03/17/20	N	--	<1 J
MW-76-218	04/21/20	N	--	<1
MW-76-218	05/26/20	N	--	<1
MW-76-218	06/16/20	N	--	<1
MW-76-218	06/16/20	FD	--	<1
MW-76-218	07/21/20	N	--	<1
MW-76-218	08/18/20	N	--	<1
MW-76-218	09/29/20	N	--	<1 J
MW-76-218	09/29/20	FD	--	<1 J
MW-76-218	10/21/20	N	--	<1 J
MW-76-218	12/02/20	N	--	<1
MW-76-218	02/17/21	N	--	<1
MW-76-218	05/21/21	N	--	<1
MW-76-218	08/18/21	N	--	<1
MW-76-218	08/18/21	FD	--	<1
MW-76-218	12/02/21	N	--	<50
MW-76-218	01/31/22	N	--	<1
MW-76-218	03/07/22	N	--	<1
MW-76-218	03/07/22	FD	--	<50
MW-76-218	04/11/22	N	--	<1
MW-76-218	05/16/22	N	--	<1
MW-76-218	06/13/22	N	--	<100
MW-76-218	07/11/22	N	--	<1
MW-76-218	08/08/22	N	--	<1
MW-76-218	09/12/22	N	--	<1
MW-76-218	10/10/22	N	--	<1
MW-76-218	11/07/22	N	--	<1
MW-76-218	12/06/22	N	1.9	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-77-046	01/30/20	N	1.1	3.3	1.4	39	2	130	2.10	0.43	150	0.24	93	35
MW-77-046	02/18/20	N	0.9	1.8	0.56	38 J	1.8	120	0.24 J	0.17	120	0.19	100	31
MW-77-046	05/26/20	N	0.48	<1	2.8 J	51	0.99	85	0.22 J	0.049 J	46 J	0.35	120 J	14 J
MW-77-046	08/19/20	N	<0.2 J	<1	2.5	72	1.4	86 J	0.78	0.23 J	69	0.46	140	16
MW-77-046	12/02/20	N	<1	<1	3.6	95	2.9	140 J	0.69 J	0.37	180	0.44	93	45
MW-77-046	02/17/21	N	<0.2	<1	0.8	41	1.1	58	0.49 J	0.28 J	76	0.2	130	22 J
MW-77-046	05/18/21	N	<0.2	<1	2.1 J	49	1	87	6.10 J	0.33 J	45 J	0.39	140	11 J
MW-77-046	05/18/21	FD	<0.2	<1	2.1 J	49	0.99	87	6.70 J	0.43 J	44 J	0.38	140	11 J
MW-77-046	08/18/21	N	<0.2	<1	1.7 J	58	1.3	100 J	4.80 J	0.22 J	58 J	0.44	120	17
MW-77-046	12/02/21	N	<1	<1	<0.1 J	95	--	--	--	0.94 J	--	0.42	95	--
MW-77-046	03/01/22	N	<0.2	--	0.89	43	--	--	--	1.50	--	0.27	--	--
MW-77-046	05/02/22	N	<0.2	<1	0.89	50	--	--	--	0.54 J	--	0.31	--	--
MW-77-046	06/15/22	N	0.5	--	<0.1 J	54	--	--	--	0.13	--	0.43	--	--
MW-77-046	06/15/22	FD	0.53	--	0.69 J	54	--	--	--	0.13	--	0.45	--	--
MW-77-046	07/11/22	N	<0.2	--	1.2	55	--	--	--	0.13 J	--	0.48	--	--
MW-77-046	08/08/22	N	<0.2	--	2.3	97 J	--	--	--	0.027 J	--	0.8 J	--	--
MW-77-046	09/12/22	N	<0.2	--	3.7	59	--	--	--	0.076	--	0.47	--	--
MW-77-046	10/10/22	N	<0.2	--	2.5	56	--	--	--	<0.02	--	0.6 J	--	--
MW-77-046	11/07/22	N	<1	<1 J	3.1	60 J	--	--	--	<0.02	--	0.5 J	81 J	--
MW-77-046	12/05/22	N	<0.2	--	5.6 J	97	--	--	--	0.034	--	0.67	--	--
MW-77-102	02/18/20	N	0.57	<1	<0.1	51 J	1.4	290	0.14 J	0.032	37	0.064	4.1	17
MW-77-102	05/26/20	N	0.62	1.1	<0.1 J	40	1	210	0.028 J	<0.02	29 J	0.04	3.8 J	17 J
MW-77-102	08/19/20	N	0.61 J	1	<0.1	45	1.2	190 J	0.14	0.082 J	35	0.039	4.4	16
MW-77-102	12/02/20	N	1.6	1.6	1.3	45	1.4	200 J	0.089	<0.02	42	0.017	3.9	15
MW-77-102	02/17/21	N	0.61	1.5	<0.1	41	0.98	180	0.059 J	0.021 J	36	0.016	4.5	16 J
MW-77-102	05/18/21	N	1.1 J	1.9	<0.1 J	40	1.1	230	0.16 J	0.033 J	29 J	0.022	4.4	14 J
MW-77-102	08/18/21	N	0.55	<1	<0.1 J	39	1.2	58 J	0.029 J	<0.02 J	9 J	0.028	4.2	15
MW-77-102	12/02/21	N	0.67	<1	<0.1 J	40	--	--	--	0.039 J	--	0.02	4.4	--
MW-77-102	03/01/22	N	<0.2	--	<0.1	48	--	--	--	<0.1	--	0.029	--	--
MW-77-102	05/02/22	N	0.59	<1	<0.1	44	--	--	--	<0.02	--	0.047	--	--
MW-77-102	06/15/22	N	<1	--	<0.1	50	--	--	--	0.067	--	0.078	--	--
MW-77-102	07/11/22	N	<0.2	--	<0.1	59	--	--	--	0.26 J	--	0.11	--	--
MW-77-102	08/08/22	N	<0.2	--	<0.1	42 J	--	--	--	0.4 J	--	0.053 J	--	--
MW-77-102	09/12/22	N	0.31	--	<0.1	52	--	--	--	0.054	--	0.055	--	--
MW-77-102	10/10/22	N	<1	--	<0.1	56	--	--	--	<0.02	--	0.1 J	--	--
MW-77-102	11/07/22	N	<1	1.1 J	<0.1	64 J	--	--	--	<0.02	--	0.12 J	26 J	--
MW-77-102	12/05/22	N	<1	--	R	75	--	--	--	<0.02	--	0.12	--	--
MW-77-158	02/18/20	N	7.3	7	3.2	54 J	1.3	500	<0.1	<0.1	48	0.087	34	41
MW-77-158	05/26/20	N	8.1	7	2.7 J	44	1.1	470	0.025 J	<0.02	45 J	0.076	29 J	50 J
MW-77-158	08/19/20	N	8.3	8.1	3	48	<0.5	100 J	<0.1	<0.1	12	0.08	31	40
MW-77-158	12/02/20	N	10	10	2.8	45	2.3	540 J	<0.1	<0.1	72	0.04	33	47
MW-77-158	02/17/21	N	7.7	7.9	<0.1	43	1	340	0.066 J	0.04 J	49	0.036	32	45 J
MW-77-158	05/18/21	N	10 J	9.8	<0.1 J	44	1.2	640	0.11 J	0.044 J	47 J	0.029	28	40 J
MW-77-158	08/18/21	N	1.8	3.1	<0.1 J	46	2.6	580 J	0.1 J	0.026 J	31 J	0.079	34	38
MW-77-158	12/02/21	N	7.1	7.7	<0.1 J	43	--	--	--	0.048 J	--	0.06	32	--
MW-77-158	12/02/21	FD	6.9	7.9	<0.1 J	44	--	--	--	<0.02 J	--	0.062	33	--
MW-77-158	03/01/22	N	52	--	<0.1	49	--	--	--	<0.1	--	0.068	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-77-046	01/30/20	N	4	2,300	3.2	640	2.3	2,400	5.1	--	--	0.082	980	6,500
MW-77-046	02/18/20	N	4.2	2,000	2.7	650	2.2	2,400	4.8	--	--	0.06	970	6,300
MW-77-046	05/26/20	N	<0.5	1,600	8.5	250	0.56	1,600	5.9	--	--	<0.05	390	3,600
MW-77-046	08/19/20	N	<0.5	1,500	7.1	310	0.8	1,800	6.6	--	--	0.063 J	500	4,300
MW-77-046	12/02/20	N	1.9	2,400	2.7	850	2.9	3,000	5.5	--	--	<0.1	1,300	8,100
MW-77-046	02/17/21	N	0.58	1,200	1.7	390	1.5	1,900	5.8	--	--	0.11	610	4,400
MW-77-046	05/18/21	N	<0.5	1,100 J	6	280	0.41	1,500	6.7	--	--	<0.05	370	3,500
MW-77-046	05/18/21	FD	<0.5	1,100 J	6.3	280	0.4	1,500	6.7	--	--	<0.05	370	3,400
MW-77-046	08/18/21	N	<0.5	1,500 J	4.1	320	0.78	1,700	6.1	--	--	<0.1	510	3,900
MW-77-046	12/02/21	N	3	--	--	--	--	--	--	--	--	<0.1	--	--
MW-77-046	03/01/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-77-046	05/02/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-77-046	06/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	370	--
MW-77-046	06/15/22	FD	--	--	--	--	--	--	--	<0.5	--	--	370	--
MW-77-046	07/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	370	--
MW-77-046	08/08/22	N	--	--	--	--	--	--	--	<0.5	--	--	920	--
MW-77-046	09/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	530	--
MW-77-046	10/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	420	--
MW-77-046	11/07/22	N	2.2	--	--	--	--	--	--	<0.5	--	--	510	--
MW-77-046	12/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	990	--
MW-77-102	02/18/20	N	<0.5	1,700	5	160	0.11	2,300	3.4	--	--	0.54	580	4,900
MW-77-102	05/26/20	N	<0.5	1,900	5	150	<0.2	2,300	2.8	--	--	0.49	540	4,800
MW-77-102	08/19/20	N	<0.5	1,600	5.8	150	<0.2	2,200	3.2	--	--	0.63 J	520	5,000
MW-77-102	12/02/20	N	<0.5	1,500	5.9	170	<0.2	2,300	3.8	--	--	0.61	570	4,700
MW-77-102	02/17/21	N	<0.5	1,300	5.9	160	<0.22	2,300	3.2	--	--	0.71	590	5,200
MW-77-102	05/18/21	N	<0.5	1,400 J	5.7	150	<0.2	2,100	3.5	--	--	0.5	540	4,700
MW-77-102	08/18/21	N	<0.5	1,600 J	5.6	150	<0.2	2,200	3.1	--	--	0.52	550	4,700
MW-77-102	12/02/21	N	<0.5	--	--	--	--	--	--	--	--	0.59	--	--
MW-77-102	03/01/22	N	--	--	--	--	--	--	--	0.93	--	--	--	--
MW-77-102	05/02/22	N	--	--	--	--	--	--	--	0.63	--	--	--	--
MW-77-102	06/15/22	N	--	--	--	--	--	--	--	0.91	--	--	700	--
MW-77-102	07/11/22	N	--	--	--	--	--	--	--	0.93	--	--	710	--
MW-77-102	08/08/22	N	--	--	--	--	--	--	--	0.61	--	--	560	--
MW-77-102	09/12/22	N	--	--	--	--	--	--	--	0.9	--	--	590	--
MW-77-102	10/10/22	N	--	--	--	--	--	--	--	1.1	--	--	710	--
MW-77-102	11/07/22	N	<2.5	--	--	--	--	--	--	1.2	--	--	770	--
MW-77-102	12/05/22	N	--	--	--	--	--	--	--	0.89 J	--	--	680	--
MW-77-158	02/18/20	N	<2.5	4,700	3.4	49	0.07 J	6,100	2.8	--	--	1.5	1,200	13,000
MW-77-158	05/26/20	N	0.51	6,200	2.7	45	<0.2	6,200	3.1	--	--	1.5	1,100	14,000
MW-77-158	08/19/20	N	0.56	4,400	3.1	49	<0.2	6,200	2.9	--	--	1.6 J	1,200	14,000
MW-77-158	12/02/20	N	0.6	4,800	3	52	0.22	6,100	3.6	--	--	1.5	1,200	13,000
MW-77-158	02/17/21	N	<0.5	4,400	3.1	54	<0.2	6,400	3.3	--	--	1.6	1,200	14,000
MW-77-158	05/18/21	N	0.62	4,100 J	2.8	54	<0.2	6,000	3.2	--	--	1.4	1,200	13,000
MW-77-158	08/18/21	N	<0.5	4,900 J	3.4	55	<0.2	6,400	3.4	--	--	0.82	1,100	13,000
MW-77-158	12/02/21	N	0.53	--	--	--	--	--	--	--	--	1.5	--	--
MW-77-158	12/02/21	FD	0.78	--	--	--	--	--	--	--	--	1.5	--	--
MW-77-158	03/01/22	N	--	--	--	--	--	--	--	1.6	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, Californi

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-77-046	01/30/20	N	--	1
MW-77-046	02/18/20	N	--	1.1 J
MW-77-046	05/26/20	N	--	<1
MW-77-046	08/19/20	N	--	<10
MW-77-046	12/02/20	N	--	1.5
MW-77-046	02/17/21	N	--	<1
MW-77-046	05/18/21	N	--	<1
MW-77-046	05/18/21	FD	--	<1
MW-77-046	08/18/21	N	--	<1
MW-77-046	12/02/21	N	--	1.5
MW-77-046	03/01/22	N	--	<1
MW-77-046	05/02/22	N	--	<1
MW-77-046	06/15/22	N	--	<1
MW-77-046	06/15/22	FD	--	<1
MW-77-046	07/11/22	N	--	<1
MW-77-046	08/08/22	N	--	<1
MW-77-046	09/12/22	N	--	<1
MW-77-046	10/10/22	N	--	<1
MW-77-046	11/07/22	N	--	<1
MW-77-046	12/05/22	N	--	<1
MW-77-102	02/18/20	N	--	<1 J
MW-77-102	05/26/20	N	--	<1
MW-77-102	08/19/20	N	--	<1
MW-77-102	12/02/20	N	--	<1
MW-77-102	02/17/21	N	--	<1
MW-77-102	05/18/21	N	--	<1
MW-77-102	08/18/21	N	--	<1
MW-77-102	12/02/21	N	--	<1
MW-77-102	03/01/22	N	--	<1
MW-77-102	05/02/22	N	--	<1
MW-77-102	06/15/22	N	--	<1
MW-77-102	07/11/22	N	--	<1
MW-77-102	08/08/22	N	--	<1
MW-77-102	09/12/22	N	--	<1
MW-77-102	10/10/22	N	--	<1
MW-77-102	11/07/22	N	--	<1
MW-77-102	12/05/22	N	--	<1
MW-77-158	02/18/20	N	--	<1 J
MW-77-158	05/26/20	N	--	<50
MW-77-158	08/19/20	N	--	<1
MW-77-158	12/02/20	N	--	<1
MW-77-158	02/17/21	N	--	<1
MW-77-158	05/18/21	N	--	<1
MW-77-158	08/18/21	N	--	<1
MW-77-158	12/02/21	N	--	<1
MW-77-158	12/02/21	FD	--	<1
MW-77-158	03/01/22	N	--	<50

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-77-158	05/02/22	N	7.1	8.4	<0.1	47	--	--	--	0.024 J	--	0.018	--	--
MW-77-158	06/15/22	N	2.4	--	<0.1	36	--	--	--	<0.02	--	0.01	--	--
MW-77-158	07/11/22	N	<0.2	--	<0.1	30	--	--	--	0.36 J	--	0.019	--	--
MW-77-158	08/08/22	N	<1	--	<0.1	46 J	--	--	--	<0.02 J	--	0.064 J	--	--
MW-77-158	09/12/22	N	<0.2	--	2.4	31	--	--	--	0.029	--	0.039	--	--
MW-77-158	10/10/22	N	<0.2	--	0.65	30	--	--	--	0.023	--	0.027 J	--	--
MW-77-158	11/07/22	N	<1	<1 J	1.6	30 J	--	--	--	0.026	--	0.028 J	34 J	--
MW-77-158	12/05/22	N	<1	--	2.3 J	30	--	--	--	0.033	--	0.028	--	--
MW-77-187	02/18/20	N	1.6	2.2	3.9	53 J	2.5	130	<0.1	<0.1	3.5	0.076	260	46
MW-77-187	05/26/20	N	<1	<1	4.3 J	50	2.4	120	1.20 J	<0.02	3.3 J	0.11	250 J	48 J
MW-77-187	08/19/20	N	<1	1.2	4.4	47	0.66	24 J	<0.1	<0.1	1.1	0.08	260	41
MW-77-187	12/02/20	N	4.1	4.8	3.2	40	4	130 J	<0.1	<0.1	4.7	0.048	250	53
MW-77-187	02/17/21	N	2.3	2.7	<0.1	40	2.1	84	0.034 J	0.03 J	3.3	0.042	260	47 J
MW-77-187	02/17/21	FD	2.4	2.9	<0.1	42	2.1	81	0.04 J	0.028 J	3	0.043	260	46 J
MW-77-187	05/18/21	N	<1	<1	<0.1 J	43	3.4	130	0.044 J	0.037 J	3 J	0.062	260	41 J
MW-77-187	08/18/21	N	1.1	3	<0.1 J	42	4	180 J	<0.1 J	<0.1 J	6.6 J	0.065	210	41
MW-77-187	12/02/21	N	2.5	3.1	<0.1 J	40	--	--	--	0.05 J	--	0.05	250	--
MW-77-187	03/01/22	N	10	--	4.4	44	--	--	--	<0.5	--	0.035	--	--
MW-77-187	05/02/22	N	9.6	9.3	<0.1	41	--	--	--	<0.1	--	0.039	--	--
MW-77-187	06/15/22	N	33	--	<0.1	33	--	--	--	<0.02	--	0.017	--	--
MW-77-187	07/11/22	N	40	--	<0.1	32	--	--	--	0.33 J	--	0.017	--	--
MW-77-187	08/08/22	N	8.8	--	<0.1	30 J	--	--	--	0.061 J	--	0.028 J	--	--
MW-77-187	09/12/22	N	40	--	2.1	31	--	--	--	<0.02	--	0.013	--	--
MW-77-187	10/10/22	N	33	--	2.2	24	--	--	--	<0.02	--	0.009 J	--	--
MW-77-187	11/07/22	N	6.1	19 J	3.9	22 J	--	--	--	<0.02	--	0.013 J	150 J	--
MW-77-187	11/07/22	FD	6.2	20 J	4.1	22 J	--	--	--	<0.02	--	0.013 J	160 J	--
MW-77-187	12/05/22	N	10	--	5 J	22	--	--	--	<0.02	--	0.015	--	--
MW-78-070	02/19/20	N	3,100	3,300	0.96	35	0.9 J	120 J	0.35	0.072 J	21 J	0.0016	7.4	8.1 J
MW-78-070	05/21/20	N	3,100	3,100	0.84	34	0.64	91 J	0.76 J	0.1	21	0.003	6.4	10 J
MW-78-070	08/18/20	N	3,100	3,200	0.81	32	1	100	2.10 J	0.063 J	20 J	0.0054	6.7	8.6
MW-78-070	12/03/20	N	3,100	3,300	1.3	32	0.88	93 J	0.14 J	<0.02	21	<0.0005	7.2	8.8
MW-78-070	12/03/20	FD	3,100	3,400	1.4	33	0.9	92 J	0.13 J	<0.02	21	<0.0005	7.2	8.4
MW-78-070	02/18/21	N	2,300	2,600	0.82	32	0.68	82 J	0.4 J	<0.02	18	0.0036	6.1	6.9
MW-78-070	05/20/21	N	1,700 J	1,700	0.82	33	0.72	100	0.077 J	0.021	18 J	<0.0005	5.3	7.8 J
MW-78-070	08/19/21	N	3,500	4,300	0.71	35 J	0.65	110 J	0.058 J	<0.02	22 J	<0.0005	8.7	8
MW-78-070	12/15/21	N	4,400	4,500	0.85	40	--	--	--	<0.02 J	--	0.00063	13	--
MW-78-070	02/01/22	N	2,600	--	0.54	42	--	--	--	<0.02	--	0.003 J	--	--
MW-78-070	02/01/22	FD	2,700	--	0.56	42	--	--	--	<0.02	--	0.0032 J	--	--
MW-78-070	03/10/22	N	1,800	1,800	0.7	57	--	--	--	0.049	--	0.29	13	--
MW-78-070	04/13/22	N	1,900	--	<0.1	76	--	--	--	0.02 J	--	0.18	--	--
MW-78-070	05/19/22	N	660	--	<0.1	120	--	--	--	<0.02 J	--	0.47	--	--
MW-78-070	06/14/22	N	790	820	<0.1	160 J	--	--	--	<0.02	--	0.5	8.3	--
MW-78-070	06/14/22	FD	810	900	<0.1	140 J	--	--	--	<0.02	--	0.48	7.3	--
MW-78-070	07/14/22	N	190	--	0.91	160	--	--	--	<0.02	--	0.17 J	--	--
MW-78-070	08/11/22	N	1,200	1,300	<0.1 J	140	--	--	--	<0.02	--	0.088 J	8.2 J	--
MW-78-070	09/15/22	N	110	--	<0.1	180	--	--	--	<0.02	--	0.12	--	--
MW-78-070	09/15/22	FD	110	--	<0.1	200	--	--	--	<0.02	--	0.12	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-77-158	05/02/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-77-158	06/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	570	--
MW-77-158	07/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-77-158	08/08/22	N	--	--	--	--	--	--	--	<0.5	--	--	660	--
MW-77-158	09/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	600	--
MW-77-158	10/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	550	--
MW-77-158	11/07/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	540	--
MW-77-158	12/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	470	--
MW-77-187	02/18/20	N	<2.5	6,600	3.9	46	0.14	7,400	7.3	--	--	1.1	930	13,000
MW-77-187	05/26/20	N	0.62	6,500	3.1	46	<0.2	7,500	7.5	--	--	0.75	930	13,000 J
MW-77-187	08/19/20	N	0.67	5,800	3.4	46	<0.2	7,300	7.4	--	--	1 J	940	13,000 J
MW-77-187	12/02/20	N	0.72	6,300	3.1	56	<0.2	7,300	8.2	--	--	1.2	980	13,000 J
MW-77-187	02/17/21	N	0.76	6,200	3.2	48	<0.22	7,600	7.7	--	--	1.3	960	14,000
MW-77-187	02/17/21	FD	0.8	5,900	3.2	47	<0.22	7,600	7.8	--	--	1.3	950	14,000
MW-77-187	05/18/21	N	0.87	5,400 J	3.2	48	<0.2	7,200	7.7	--	--	1.1	930	12,000
MW-77-187	08/18/21	N	0.81	6,300 J	3.5	43	<0.2	6,700	6.6	--	--	1.4	920	12,000
MW-77-187	12/02/21	N	0.81	--	--	--	--	--	--	--	--	1.2	--	--
MW-77-187	03/01/22	N	--	--	--	--	--	--	--	1.4	--	--	--	--
MW-77-187	05/02/22	N	--	--	--	--	--	--	--	1.3	--	--	--	--
MW-77-187	06/15/22	N	--	--	--	--	--	--	--	1.2	--	--	940	--
MW-77-187	07/11/22	N	--	--	--	--	--	--	--	1.2	--	--	880	--
MW-77-187	06/15/22	N	--	--	--	--	--	--	--	1.2	--	--	940	--
MW-77-187	07/11/22	N	--	--	--	--	--	--	--	1.2	--	--	880	--
MW-77-187	08/08/22	N	--	--	--	--	--	--	--	0.95	--	--	860	--
MW-77-187	09/12/22	N	--	--	--	--	--	--	--	0.67	--	--	860	--
MW-77-187	10/10/22	N	--	--	--	--	--	--	--	0.57	--	--	740	--
MW-77-187	11/07/22	N	<2.5	--	--	--	--	--	--	<0.5	--	--	640	--
MW-77-187	11/07/22	FD	<2.5	--	--	--	--	--	--	<0.5	--	--	630	--
MW-77-187	12/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	580	--
MW-78-070	02/19/20	N	8.3	340	5.7	110	0.12	450	1.5	--	--	10	300	1,400
MW-78-070	05/21/20	N	8	320	6.7	110	<0.2	470	1.3	--	--	9.5	290	1,400
MW-78-070	08/18/20	N	8.2	350	7.1	110	<0.2	460	1.6	--	--	9.5	290	1,400
MW-78-070	12/03/20	N	8.2	320	6.4	120	<0.2	440	1.7	--	--	9.1	300	1,300
MW-78-070	12/03/20	FD	7.9	310	6.5	120	<0.2	440	1.7	--	--	9.4	300	1,400
MW-78-070	02/18/21	N	7.4	280	6.5	120	<0.22	450	1.6	--	--	9.1	280	1,300
MW-78-070	05/20/21	N	6.4	300 J	6.6	130	<0.2	430	1.7	--	--	7.6	250	1,200
MW-78-070	08/19/21	N	8.8	340 J	6.1	100	<0.2	460	1.6	--	--	11	320	1,400
MW-78-070	12/15/21	N	9.2 J	--	--	--	<0.2	--	--	--	<2.5	12	370	--
MW-78-070	02/01/22	N	--	--	--	--	--	--	--	7.1	--	--	310	--
MW-78-070	02/01/22	FD	--	--	--	--	--	--	--	7.2	--	--	300	--
MW-78-070	03/10/22	N	4.4	--	--	--	<0.2	--	--	4.8	--	--	270	--
MW-78-070	04/13/22	N	--	--	--	--	--	--	--	4.7	--	--	320	--
MW-78-070	05/19/22	N	--	--	--	--	--	--	--	1.6	--	--	360	--
MW-78-070	06/14/22	N	1.7 J	--	--	--	<0.2	--	--	1.6	<5	--	430	--
MW-78-070	06/14/22	FD	1.6 J	--	--	--	<0.2	--	--	1.5	<5	--	430	--
MW-78-070	07/14/22	N	--	--	--	--	--	--	--	<0.5	--	--	500	--
MW-78-070	08/11/22	N	2.5	--	--	--	<0.2	--	--	2.1	<5	--	440	--
MW-78-070	09/15/22	N	--	--	--	--	--	--	--	0.54	--	--	540	--
MW-78-070	09/15/22	FD	--	--	--	--	--	--	--	<0.5	--	--	540	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-77-158	05/02/22	N	--	<1
MW-77-158	06/15/22	N	--	<1
MW-77-158	07/11/22	N	--	<1
MW-77-158	08/08/22	N	--	<1
MW-77-158	09/12/22	N	--	<1
MW-77-158	10/10/22	N	--	<1
MW-77-158	11/07/22	N	--	<1
MW-77-158	12/05/22	N	--	<1
MW-77-187	02/18/20	N	--	<1 J
MW-77-187	05/26/20	N	--	<1
MW-77-187	08/19/20	N	--	<1
MW-77-187	12/02/20	N	--	<1
MW-77-187	02/17/21	N	--	<1
MW-77-187	02/17/21	FD	--	<1
MW-77-187	05/18/21	N	--	<1
MW-77-187	08/18/21	N	--	<1
MW-77-187	12/02/21	N	--	<1
MW-77-187	03/01/22	N	--	<1
MW-77-187	05/02/22	N	--	<1
MW-77-187	06/15/22	N	--	<50
MW-77-187	07/11/22	N	--	<1
MW-77-187	08/08/22	N	--	<50
MW-77-187	09/12/22	N	--	<1
MW-77-187	10/10/22	N	--	<1
MW-77-187	11/07/22	N	--	<1
MW-77-187	11/07/22	FD	--	<1
MW-77-187	12/05/22	N	--	<1
MW-78-070	02/19/20	N	--	<1 J
MW-78-070	05/21/20	N	--	<1 J
MW-78-070	08/18/20	N	--	<1
MW-78-070	12/03/20	N	--	<10
MW-78-070	12/03/20	FD	--	<1
MW-78-070	02/18/21	N	--	<1
MW-78-070	05/20/21	N	--	<1
MW-78-070	08/19/21	N	--	<1
MW-78-070	12/15/21	N	--	<1
MW-78-070	02/01/22	N	--	<1
MW-78-070	02/01/22	FD	--	<1
MW-78-070	03/10/22	N	--	<5
MW-78-070	04/13/22	N	--	<1
MW-78-070	05/19/22	N	--	<1
MW-78-070	06/14/22	N	--	<1
MW-78-070	06/14/22	FD	--	<1
MW-78-070	07/14/22	N	--	<1
MW-78-070	08/11/22	N	--	<1
MW-78-070	09/15/22	N	--	<1
MW-78-070	09/15/22	FD	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-78-070	10/13/22	N	14	--	<0.1	160 J	--	--	--	<0.02 J	--	0.62	--	--
MW-78-070	11/09/22	N	9.9	13	<0.1	160	--	--	--	<0.02	--	0.78	5.4	--
MW-78-070	12/07/22	N	63	--	<0.1	170	--	--	--	<0.02	--	0.17	--	--
MW-78-142	02/19/20	N	6,800	7,000	0.7	32	2.4 J	330 J	0.43	0.062 J	19 J	0.02	21	33 J
MW-78-142	05/21/20	N	6,100	6,400	<0.1	36	2.2	200 J	2.50 J	0.13	18	0.025	22	38 J
MW-78-142	08/18/20	N	5,700	5,800	<0.1	35	0.59	29	0.7 J	<0.02 J	2.1 J	0.013	24	31
MW-78-142	12/03/20	N	5,700	5,600	4	28	2.5	190 J	0.84 J	<0.02	19	0.0059	22	29
MW-78-142	02/18/21	N	5,400	5,800	4.3	30	1.8	200 J	1.30 J	0.11	18	0.0071	22	30
MW-78-142	05/20/21	N	5,600 J	5,400	<0.1	27	2.2	290	0.33 J	<0.02	16 J	0.0038	21	32 J
MW-78-142	05/20/21	FD	5,600 J	5,500	<0.1	28	2	290	0.35 J	0.035	16 J	0.0037	22	34 J
MW-78-142	08/19/21	N	5,200	6,400	<0.1	29 J	2	290 J	1.20 J	0.026	18 J	0.0082	21	28
MW-78-142	12/15/21	N	5,500	5,400	<0.1	31	--	--	--	0.031 J	--	0.0042	21	--
MW-78-142	02/01/22	N	5,800	--	<0.1	32	--	--	--	0.072	--	0.0064 J	--	--
MW-78-142	03/10/22	N	5,700	5,600	<0.1	29	--	--	--	0.052	--	0.0045	22	--
MW-78-142	03/10/22	FD	5,700	5,500	<0.1	29	--	--	--	0.045	--	0.0041	22	--
MW-78-142	04/13/22	N	4,900	--	<0.1	27	--	--	--	0.34 J	--	0.0062	--	--
MW-78-142	05/19/22	N	5,200	--	<0.1	26	--	--	--	<0.02 J	--	0.0016	--	--
MW-78-142	06/14/22	N	5,500	6,100	<0.1	27 J	--	--	--	<0.02	--	0.0012	22	--
MW-78-142	07/14/22	N	4,900	--	4.5	26	--	--	--	<0.02	--	0.0017 J	--	--
MW-78-142	07/14/22	FD	4,800	--	4.4	26	--	--	--	<0.02	--	0.0027 J	--	--
MW-78-142	08/11/22	N	5,300	6,100	<0.1 J	28	--	--	--	<0.02	--	0.0032 J	20 J	--
MW-78-142	09/15/22	N	4,600	--	1.9	27	--	--	--	<0.02	--	0.0037	--	--
MW-78-142	10/13/22	N	4,500	--	4.2	30 J	--	--	--	<0.02 J	--	0.0014	--	--
MW-78-142	11/09/22	N	2,300	2,600	2.7	24	--	--	--	<0.02	--	0.0012	21	--
MW-78-142	11/09/22	FD	2,300	2,500	2.8	24	--	--	--	<0.02	--	0.00097	22	--
MW-78-142	12/07/22	N	2,700	--	2.7	30	--	--	--	<0.02	--	0.0033	--	--
MW-79-058	02/21/20	N	1,800 J	980 J	2.5 J	260 J	0.77	210 J	2.90 J	2.60 J	42 J	0.24 J	5.9	16 J
MW-79-058	02/21/20	FD	620 J	1,700 J	1.1 J	190 J	0.76	210 J	1.40 J	0.48 J	41 J	0.11 J	6.2	14 J
MW-79-058	05/29/20	N	540	580	1.1	260	0.34	170	0.5	0.12	35	0.47	7.8	14
MW-79-058	05/29/20	FD	540	580	0.95	260	0.37	180	0.45	0.093	36	0.45	7.5	14
MW-79-058	08/18/20	N	2,000	2,000	0.68	180	0.78	200	0.12 J	0.025 J	42 J	0.11	7.5	16
MW-79-058	08/18/20	FD	2,000	2,000	0.74	180	0.71	180	0.14 J	<0.02 J	44 J	0.11	7.8	16
MW-79-058	12/03/20	N	2,700	2,900	1.3	130	0.95	170 J	0.084 J	<0.02	41	0.0087	7.8	14
MW-79-058	02/18/21	N	2,700	2,800	1.3	100	0.63	160 J	0.085 J	0.021	40	0.0022	6.8	12
MW-79-058	05/20/21	N	2,600 J	2,700	0.62	92	0.69	210	0.05 J	<0.02	40 J	0.0038	5.8	14 J
MW-79-058	08/19/21	N	2,600	2,700	<0.1	98 J	0.64	200 J	0.11 J	<0.02	45 J	<0.0005	10	13
MW-79-058	12/15/21	N	3,200	3,400	0.3	93	--	--	--	<0.02 J	--	0.00056	10	--
MW-79-058	02/01/22	N	2,900	--	0.7	96	--	--	--	<0.02	--	<0.0005 J	--	--
MW-79-058	03/14/22	N	2,900	3,000	0.34 J	84	--	--	--	0.077	--	0.0021	8.6	--
MW-79-058	04/13/22	N	2,800	--	0.27	80	--	--	--	0.02 J	--	<0.0005	--	--
MW-79-058	05/19/22	N	2,900	--	<0.1	76	--	--	--	<0.02 J	--	<0.0005	--	--
MW-79-058	06/14/22	N	2,800	3,200	<0.1	91 J	--	--	--	<0.02	--	<0.0005	8	--
MW-79-058	06/14/22	FD	2,900	2,900	<0.1	79 J	--	--	--	<0.02	--	<0.0005	7.1	--
MW-79-058	07/14/22	N	2,200	--	<0.1	140	--	--	--	<0.02	--	<0.0005	--	--
MW-79-058	08/11/22	N	2,100	2,100	<0.1 J	110	--	--	--	<0.02	--	0.013 J	20 J	--
MW-79-058	09/15/22	N	1,200	--	<0.1	210	--	--	--	<0.02	--	0.0052	--	--
MW-79-058	10/13/22	N	350	--	<0.1	280 J	--	--	--	<0.02 J	--	<0.0005	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-78-070	10/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	530	--
MW-78-070	11/09/22	N	<0.5	--	--	--	<0.43 J	--	--	<0.5	<5	--	510	--
MW-78-070	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	480	--
MW-78-142	02/19/20	N	22	2,600	1.8	93	0.12	3,800	3.3	--	--	8.8	930	8,400
MW-78-142	05/21/20	N	32	2,900	1.9	110	<0.2	3,500	3.2	--	--	8.8	870	8,200
MW-78-142	08/18/20	N	36	2,300	2.3	110	<0.2	3,200	3.2	--	--	9.9	850	7,700
MW-78-142	12/03/20	N	28	2,800	1.7	100	<0.2	3,400	3.5	--	--	8.7	860	7,600
MW-78-142	02/18/21	N	27	2,200	1.8	93	<0.22	3,600	2.9	--	--	9	880	8,000
MW-78-142	05/20/21	N	37	2,300 J	2.1	99	<0.2	3,400	3.5	--	--	9.1	880	7,600
MW-78-142	05/20/21	FD	38	2,400 J	2.1	98	<0.2	3,400	3.2	--	--	9.3	870	7,300
MW-78-142	08/19/21	N	38	2,700 J	1.9	98	<0.2	3,500	3.2	--	--	10	870	7,700
MW-78-142	12/15/21	N	33 J	--	--	--	<0.2	--	--	--	<5	9.9	900	--
MW-78-142	02/01/22	N	--	--	--	--	--	--	--	8.6	--	--	890	--
MW-78-142	03/10/22	N	36	--	--	--	<0.2	--	--	9.1	--	--	860	--
MW-78-142	03/10/22	FD	37	--	--	--	<0.2	--	--	9.1	--	--	880	--
MW-78-142	04/13/22	N	--	--	--	--	--	--	--	9.8	--	--	910	--
MW-78-142	05/19/22	N	--	--	--	--	--	--	--	9.6	--	--	910	--
MW-78-142	06/14/22	N	36 J	--	--	--	0.43	--	--	9.3	<5	--	870	--
MW-78-142	07/14/22	N	--	--	--	--	--	--	--	8.2	--	--	850	--
MW-78-142	07/14/22	FD	--	--	--	--	--	--	--	8.1	--	--	830	--
MW-78-142	08/11/22	N	35	--	--	--	<0.2	--	--	9	<5	--	840	--
MW-78-142	09/15/22	N	--	--	--	--	--	--	--	7.4	--	--	830	--
MW-78-142	10/13/22	N	--	--	--	--	--	--	--	6	--	--	760	--
MW-78-142	11/09/22	N	18	--	--	--	<0.44 J	--	--	4.4	<5	--	710	--
MW-78-142	11/09/22	FD	19	--	--	--	<0.44 J	--	--	4.5	<5	--	700	--
MW-78-142	12/07/22	N	--	--	--	--	--	--	--	4.5	--	--	710	--
MW-79-058	02/21/20	N	11	400	7.4 J	93	0.03 J	690	<1	--	--	10	380	1,900
MW-79-058	02/21/20	FD	10	380	1.3 J	91	0.05 J	690	<1	--	--	10	380	2,000
MW-79-058	05/29/20	N	5.4	240	3.1	85	<0.2	510	<1	--	--	4.6	270	1,600
MW-79-058	05/29/20	FD	5.6	290	3	83	<0.2	520	<1	--	--	4.5	270	1,500
MW-79-058	08/18/20	N	10	400	4.1	82	<0.2	690	<1	--	--	10	380	2,100
MW-79-058	08/18/20	FD	9.5	380	4	82	<0.2	690	<1	--	--	10	390	2,100
MW-79-058	12/03/20	N	11	370	3.7	86	<0.2	700	1	--	--	10	410	1,900
MW-79-058	02/18/21	N	10	340	3.7	89	<0.22	710	<1	--	--	10	400	1,900
MW-79-058	05/20/21	N	8.3	370 J	3.7	99	<0.2	670	<1	--	--	10	400	1,800
MW-79-058	08/19/21	N	10	350 J	3.7	190	<0.2	700	<1	--	--	10	410	2,000
MW-79-058	12/15/21	N	9.4 J	--	--	--	<0.2	--	--	--	<5	11	410	--
MW-79-058	02/01/22	N	--	--	--	--	--	--	--	9.3	--	--	400	--
MW-79-058	03/14/22	N	8.8	--	--	--	<0.2	--	--	9.7	--	--	400	--
MW-79-058	04/13/22	N	--	--	--	--	--	--	--	10	--	--	400	--
MW-79-058	05/19/22	N	--	--	--	--	--	--	--	11	--	--	410	--
MW-79-058	06/14/22	N	11 J	--	--	--	<0.2	--	--	11	<5	--	410	--
MW-79-058	06/14/22	FD	9.4 J	--	--	--	<0.2	--	--	11	<5	--	410	--
MW-79-058	07/14/22	N	--	--	--	--	--	--	--	7.1	--	--	440	--
MW-79-058	08/11/22	N	9.2	--	--	--	<0.23	--	--	6.9	<5	--	460	--
MW-79-058	09/15/22	N	--	--	--	--	--	--	--	4.2	--	--	510	--
MW-79-058	10/13/22	N	--	--	--	--	--	--	--	0.73	--	--	560	--

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-78-070	10/13/22	N	--	<1
MW-78-070	11/09/22	N	--	<1
MW-78-070	12/07/22	N	2.2	<1
MW-78-142	02/19/20	N	--	<10 J
MW-78-142	05/21/20	N	--	<1 J
MW-78-142	08/18/20	N	--	<1
MW-78-142	12/03/20	N	--	<1
MW-78-142	02/18/21	N	--	<1
MW-78-142	05/20/21	N	--	<1
MW-78-142	05/20/21	FD	--	<1
MW-78-142	08/19/21	N	--	<20
MW-78-142	12/15/21	N	--	<1
MW-78-142	02/01/22	N	--	<1
MW-78-142	03/10/22	N	--	<1
MW-78-142	03/10/22	FD	--	<1
MW-78-142	04/13/22	N	--	<1
MW-78-142	05/19/22	N	--	<1
MW-78-142	06/14/22	N	--	<1
MW-78-142	07/14/22	N	--	<1
MW-78-142	07/14/22	FD	--	<1
MW-78-142	08/11/22	N	--	<1
MW-78-142	09/15/22	N	--	<1
MW-78-142	10/13/22	N	--	<1
MW-78-142	11/09/22	N	--	<1
MW-78-142	11/09/22	FD	--	<1
MW-78-142	12/07/22	N	1.1	<1
MW-79-058	02/21/20	N	--	<1
MW-79-058	02/21/20	FD	--	<1
MW-79-058	05/29/20	N	--	<1
MW-79-058	05/29/20	FD	--	<10
MW-79-058	08/18/20	N	--	<1
MW-79-058	08/18/20	FD	--	<1
MW-79-058	12/03/20	N	--	<1
MW-79-058	02/18/21	N	--	<10
MW-79-058	05/20/21	N	--	<1
MW-79-058	08/19/21	N	--	<1
MW-79-058	12/15/21	N	--	<5
MW-79-058	02/01/22	N	--	<1
MW-79-058	03/14/22	N	--	<1
MW-79-058	04/13/22	N	--	<5
MW-79-058	05/19/22	N	--	<1
MW-79-058	06/14/22	N	--	<1
MW-79-058	06/14/22	FD	--	<1
MW-79-058	07/14/22	N	--	<1
MW-79-058	08/11/22	N	--	<1
MW-79-058	09/15/22	N	--	<1
MW-79-058	10/13/22	N	--	<1

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Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-79-058	11/11/22	N	200	170	<0.1	290 J	--	--	--	<0.02	--	<0.0005	4.9	--
MW-79-058	12/08/22	N	290	--	<0.1	180	--	--	--	0.023 J	--	<0.0005	--	--
MW-79-102	02/21/20	N	3,400	3,300	2.3	44	2.1	170 J	0.064	0.065 J	18 J	0.0059	28	19 J
MW-79-102	05/29/20	N	3,000	3,000	1.4	72	1.8	160	0.55	<0.1	22	0.054	28	20
MW-79-102	08/18/20	N	3,500 J	3,600	2	52	2.1	150	0.091 J	<0.02 J	19 J	0.021	31	18
MW-79-102	12/03/20	N	3,400	3,600	4.6	41	2.3	120 J	0.056 J	<0.02	20	0.0041	28	22
MW-79-102	02/18/21	N	3,200	3,400	4.8	37	1.6	110 J	0.033 J	<0.02	19	0.0016	28	17
MW-79-102	05/20/21	N	3,500 J	3,500	1.2	36	1.6	190	0.034 J	<0.02	18 J	0.00052	30	20 J
MW-79-102	08/19/21	N	2,400	2,500	1.3	32 J	1.6	140 J	0.12 J	<0.02	17 J	0.017	28	16
MW-79-102	12/15/21	N	2,800	2,800	1.5	37	--	--	--	<0.02 J	--	0.0052	29	--
MW-79-102	02/01/22	N	3,500	--	0.94	41	--	--	--	0.39	--	0.0031 J	--	--
MW-79-102	03/14/22	N	3,600	3,500	0.78 J	38	--	--	--	0.07	--	0.0042	29	--
MW-79-102	03/14/22	FD	3,600	3,600	0.75 J	38	--	--	--	0.073	--	0.0041	29	--
MW-79-102	04/13/22	N	2,400	--	0.9	33	--	--	--	0.051 J	--	0.0014	--	--
MW-79-102	05/19/22	N	2,300	--	<0.1	40	--	--	--	<0.02 J	--	<0.0005	--	--
MW-79-102	05/19/22	FD	2,200	--	<0.1	39	--	--	--	<0.02 J	--	<0.0005	--	--
MW-79-102	06/14/22	N	2,200	2,400	<0.1	38 J	--	--	--	<0.02	--	<0.0005	26	--
MW-79-102	07/14/22	N	1,000	--	4.1	40	--	--	--	<0.02	--	0.0019	--	--
MW-79-102	08/11/22	N	2,000	2,200	<0.1 J	46	--	--	--	0.022	--	<0.0005 J	27 J	--
MW-79-102	09/15/22	N	880	--	1.1	41	--	--	--	<0.02	--	0.0072	--	--
MW-79-102	10/13/22	N	170	--	1	45 J	--	--	--	<0.02 J	--	0.003	--	--
MW-79-102	11/11/22	N	330	330	1.9	43 J	--	--	--	<0.02	--	0.0069	28	--
MW-79-102	11/11/22	FD	330	360	2	44 J	--	--	--	<0.02	--	0.0074	29	--
MW-79-102	12/08/22	N	78	--	1.2	42	--	--	--	0.15 J	--	0.0085	--	--
MW-80-057	02/24/20	N	750	770	2	41	1	100	0.3 J	0.079 J	12	0.0028	33	11 J
MW-80-057	05/21/20	N	800	780	1.1	79	0.84	96 J	0.26 J	0.11	17	0.005	32	16 J
MW-80-057	08/18/20	N	690	700	1.9	63	1.1	97	0.066 J	<0.02 J	15 J	0.08	33	11
MW-80-057	12/03/20	N	780	780	3.2	51	1.2	75 J	0.08 J	<0.02	14	0.013	29	10
MW-80-057	12/03/20	FD	770	790	3.3	51	1.2	77 J	0.052 J	<0.02	14	0.013	29	10
MW-80-057	02/18/21	N	680	740	1.6	46	0.72	73 J	0.033 J	<0.02	13	0.0073	30	8.5
MW-80-057	05/20/21	N	840 J	800	1.5	47	0.83	120	0.15 J	<0.02	14 J	0.0017	30	11 J
MW-80-057	08/19/21	N	680	760	1.2	50 J	0.82	95 J	0.058 J	<0.02	13 J	0.0018	34	9.5
MW-80-057	12/15/21	N	710	710	1.3	51	--	--	--	<0.02 J	--	0.0047	36	--
MW-80-057	02/01/22	N	780	--	1	54	--	--	--	<0.02	--	0.0028 J	--	--
MW-80-057	03/14/22	N	690	680	1 J	53	--	--	--	0.034	--	0.0041	46	--
MW-80-057	04/12/22	N	840	--	0.4 J	44	--	--	--	<0.02	--	0.0013	--	--
MW-80-057	05/18/22	N	1,000	--	<0.1	61	--	--	--	0.05 J	--	0.0059	--	--
MW-80-057	06/14/22	N	950	1,000	<0.1	51 J	--	--	--	<0.02	--	0.002	31	--
MW-80-057	06/14/22	FD	950	1,000	<0.1	51 J	--	--	--	<0.02	--	0.0022	31	--
MW-80-057	07/14/22	N	750	--	1.9	65	--	--	--	<0.02	--	0.007	--	--
MW-80-057	08/11/22	N	650	690	<0.1 J	55	--	--	--	<0.02	--	0.018 J	25 J	--
MW-80-057	09/15/22	N	880	--	0.61	65	--	--	--	<0.02	--	0.0099	--	--
MW-80-057	10/13/22	N	640	--	<0.1	83 J	--	--	--	<0.02 J	--	0.01	--	--
MW-80-057	11/10/22	N	600	780	0.71	94	--	--	--	<0.02	--	0.0043	21	--
MW-80-057	12/07/22	N	690	--	0.65	77	--	--	--	<0.02	--	0.00052	--	--
MW-80-082	02/24/20	N	1,900	1,900	1.7	41	1.3	230	0.091 J	0.059 J	19	0.00065	18	25 J
MW-80-082	02/24/20	FD	1,900	1,800	1.6	39	1.3	230	0.056 J	0.037 J	20	0.00061	17	25 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-79-058	11/11/22	N	0.75	--	--	--	<0.44 J	--	--	0.54	<5	--	540	--
MW-79-058	12/08/22	N	--	--	--	--	--	--	--	1.1	--	--	530	--
MW-79-102	02/21/20	N	74	1,800	2.8	110	0.04 J	2,100	2.3	--	--	15	870	5,400
MW-79-102	05/29/20	N	70	1,700	3.1	130	<0.2	2,200	2.2	--	--	6.9	880	5,300
MW-79-102	08/18/20	N	79	1,800	3.5	130	<0.2	2,100	2.9	--	--	17	870	5,400
MW-79-102	12/03/20	N	74	1,700	2.9	130	<0.2	2,200	2.9	--	--	16	880	5,400
MW-79-102	02/18/21	N	72	1,500	2.9	130	<0.22	2,200	2.3	--	--	17	900	5,300
MW-79-102	05/20/21	N	75	1,900 J	3.2	130	<0.2	2,100	2.9	--	--	17	870	5,200
MW-79-102	08/19/21	N	67	1,900 J	3.4	170	<0.2	1,800	2.7	--	--	15	860	4,400
MW-79-102	12/15/21	N	57 J	--	--	--	<0.2	--	--	--	<5	16	870	--
MW-79-102	02/01/22	N	--	--	--	--	--	--	--	16	--	--	890	--
MW-79-102	03/14/22	N	65	--	--	--	<0.2	--	--	15	--	--	880	--
MW-79-102	03/14/22	FD	64	--	--	--	<0.2	--	--	15	--	--	850	--
MW-79-102	04/13/22	N	--	--	--	--	--	--	--	12	--	--	810	--
MW-79-102	05/19/22	N	--	--	--	--	--	--	--	7.5	--	--	690	--
MW-79-102	05/19/22	FD	--	--	--	--	--	--	--	7.5	--	--	700	--
MW-79-102	06/14/22	N	13 J	--	--	--	<0.2	--	--	5	<5	--	660	--
MW-79-102	07/14/22	N	--	--	--	--	--	--	--	2.2	--	--	610	--
MW-79-102	08/11/22	N	11	--	--	--	<0.22	--	--	3.6	<5	--	660	--
MW-79-102	09/15/22	N	--	--	--	--	--	--	--	1.5	--	--	620	--
MW-79-102	10/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	550	--
MW-79-102	11/11/22	N	2.6	--	--	--	<0.44 J	--	--	0.53	<5	--	580	--
MW-79-102	11/11/22	FD	3	--	--	--	<0.44 J	--	--	<0.5	<5	--	580	--
MW-79-102	12/08/22	N	--	--	--	--	--	--	--	<0.5	--	--	500	--
MW-80-057	02/24/20	N	30	1,100	4.3	120	0.12	1,200	3.5	--	--	16	480	3,200
MW-80-057	05/21/20	N	28	1,200	4.1	120	<0.2	1,400	2.8	--	--	22	490	3,400
MW-80-057	08/18/20	N	34	1,000	3.5	130	0.99	1,300	3.1	--	--	17	490	3,200
MW-80-057	12/03/20	N	32	940	4.3	130	<0.2	1,300	3.2	--	--	16	510	3,100
MW-80-057	12/03/20	FD	33	940	4.3	120	<0.2	1,300	3.2	--	--	16	500	3,100
MW-80-057	02/18/21	N	34	870	4.5	120	<0.22	1,300	2.9	--	--	17	490	3,200
MW-80-057	05/20/21	N	36	910 J	4.4	110	<0.2	1,300	3	--	--	17	520	3,300
MW-80-057	08/19/21	N	41	1,300 J	4.3	110	<0.2	1,300	3.3	--	--	16	490	3,200
MW-80-057	12/15/21	N	31 J	--	--	--	<0.2	--	--	--	<5	17	520	--
MW-80-057	02/01/22	N	--	--	--	--	--	--	--	16	--	--	510	--
MW-80-057	03/14/22	N	26	--	--	--	<0.2	--	--	11	--	--	490	--
MW-80-057	04/12/22	N	--	--	--	--	--	--	--	15	--	--	500	--
MW-80-057	05/18/22	N	--	--	--	--	--	--	--	11	--	--	520	--
MW-80-057	06/14/22	N	24 J	--	--	--	<0.2	--	--	13	<5	--	490	--
MW-80-057	06/14/22	FD	25 J	--	--	--	<0.2	--	--	13	<5	--	500	--
MW-80-057	07/14/22	N	--	--	--	--	--	--	--	8.2	--	--	490	--
MW-80-057	08/11/22	N	20	--	--	--	<0.2	--	--	12	<5	--	440	--
MW-80-057	09/15/22	N	--	--	--	--	--	--	--	11	--	--	510	--
MW-80-057	10/13/22	N	--	--	--	--	--	--	--	6.3	--	--	510	--
MW-80-057	11/10/22	N	13	--	--	--	<0.43 J	--	--	7.5	<5	--	530	--
MW-80-057	12/07/22	N	--	--	--	--	--	--	--	7.2	--	--	500	--
MW-80-082	02/24/20	N	12	1,900	1.2	100	0.13	2,500	2.5	--	--	10	520	5,800
MW-80-082	02/24/20	FD	12	1,800	1.2	99	0.08 J	2,500	2.5	--	--	9.8	530	5,600

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-79-058	11/11/22	N	--	<20
MW-79-058	12/08/22	N	<1	<1
MW-79-102	02/21/20	N	--	<1
MW-79-102	05/29/20	N	--	<1
MW-79-102	08/18/20	N	--	<1
MW-79-102	12/03/20	N	--	<1
MW-79-102	02/18/21	N	--	<1
MW-79-102	05/20/21	N	--	<1
MW-79-102	08/19/21	N	--	<1
MW-79-102	12/15/21	N	--	<1
MW-79-102	02/01/22	N	--	<1
MW-79-102	03/14/22	N	--	<1
MW-79-102	03/14/22	FD	--	<1
MW-79-102	04/13/22	N	--	<1
MW-79-102	05/19/22	N	--	<1
MW-79-102	05/19/22	FD	--	<1
MW-79-102	06/14/22	N	--	<1
MW-79-102	07/14/22	N	--	<1
MW-79-102	08/11/22	N	--	<1
MW-79-102	09/15/22	N	--	<20
MW-79-102	10/13/22	N	--	<1
MW-79-102	11/11/22	N	--	<1
MW-79-102	11/11/22	FD	--	<1
MW-79-102	12/08/22	N	<1	<1
MW-80-057	02/24/20	N	--	<1
MW-80-057	05/21/20	N	--	<1 J
MW-80-057	08/18/20	N	--	<1
MW-80-057	12/03/20	N	--	<1
MW-80-057	12/03/20	FD	--	<1
MW-80-057	02/18/21	N	--	<1
MW-80-057	05/20/21	N	--	<1
MW-80-057	08/19/21	N	--	<1
MW-80-057	12/15/21	N	--	<1
MW-80-057	02/01/22	N	--	<1
MW-80-057	03/14/22	N	--	<1
MW-80-057	04/12/22	N	--	<1
MW-80-057	05/18/22	N	--	<10
MW-80-057	06/14/22	N	--	<1
MW-80-057	06/14/22	FD	--	<1
MW-80-057	07/14/22	N	--	<1
MW-80-057	08/11/22	N	--	<1
MW-80-057	09/15/22	N	--	<1
MW-80-057	10/13/22	N	--	<1
MW-80-057	11/10/22	N	--	<1
MW-80-057	12/07/22	N	1.6	<1
MW-80-082	02/24/20	N	--	<1
MW-80-082	02/24/20	FD	--	<1

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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-80-082	05/21/20	N	1,600	1,600	1.2	43	1	180 J	1.10 J	<0.02	22	0.0043	17	27 J
MW-80-082	05/21/20	FD	1,600	1,600	1.2	43	0.96	170 J	1 J	0.038	21	0.0044	17	27 J
MW-80-082	08/18/20	N	1,600	1,600	1.4	37	1.6	210	0.037 J	<0.02 J	23 J	0.01	20	21
MW-80-082	12/03/20	N	1,600	1,700	3.6	40	1.4	180 J	0.049 J	<0.02	23	0.00092	16	36
MW-80-082	02/18/21	N	1,800	1,900	4.2	39	0.93	160 J	0.034 J	<0.02	22	0.00074	16	21
MW-80-082	02/18/21	FD	1,800	2,000	4.2	40	1	170 J	0.048 J	0.022	23	0.00092	17	21
MW-80-082	05/20/21	N	2,100 J	2,100	0.76	38	1	260	0.02 J	<0.02	20 J	<0.0005	18	25 J
MW-80-082	08/19/21	N	1,300	1,600	<0.1	32 J	1	180 J	0.064 J	<0.02	18 J	<0.0005	24	19
MW-80-082	12/15/21	N	1,200	1,200	1.5	33	--	--	--	<0.02 J	--	0.00087	26	--
MW-80-082	02/01/22	N	2,000	--	0.54	44	--	--	--	<0.02	--	0.00071 J	--	--
MW-80-082	02/01/22	FD	2,000	--	0.58	44	--	--	--	<0.02	--	0.00071 J	--	--
MW-80-082	03/14/22	N	2,200	2,300	0.22 J	42	--	--	--	<0.02	--	0.00078	19	--
MW-80-082	03/14/22	FD	2,300	2,300	0.31 J	43	--	--	--	<0.02	--	0.00089	19	--
MW-80-082	04/12/22	N	1,700	--	<0.1 J	39	--	--	--	<0.02	--	0.0018	--	--
MW-80-082	04/12/22	FD	1,700	--	1.1 J	39	--	--	--	<0.02	--	0.0014	--	--
MW-80-082	05/18/22	N	470	--	<0.1	42	--	--	--	<0.02 J	--	0.004	--	--
MW-80-082	06/14/22	N	980	1,100	<0.1	40 J	--	--	--	0.1	--	0.0015	29	--
MW-80-082	07/14/22	N	120	--	5.5	39	--	--	--	<0.02	--	0.009	--	--
MW-80-082	08/11/22	N	200	240	<0.1 J	48	--	--	--	0.033	--	0.0095 J	52 J	--
MW-80-082	09/15/22	N	160	--	1.8	42	--	--	--	<0.02	--	0.0034 J	--	--
MW-80-082	09/15/22	FD	160	--	1.8	44	--	--	--	<0.02	--	0.0051 J	--	--
MW-80-082	10/13/22	N	20	--	2.5	46 J	--	--	--	<0.02 J	--	0.00097	--	--
MW-80-082	10/13/22	FD	20	--	2.6	44 J	--	--	--	<0.02 J	--	0.00093	--	--
MW-80-082	11/10/22	N	11	12	2.8	46	--	--	--	<0.02	--	0.014	61	--
MW-80-082	12/07/22	N	8.3	--	1.9	56	--	--	--	<0.02	--	0.28	--	--
MW-81-043	01/08/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-81-043	01/28/20	N	1.8	3.8	1.9 J	320 J	0.9	170 B	1	0.6 J	46 J	0.6 J	24 J	11 J
MW-81-043	02/18/20	N	4.4	6.9	2.9	250 J	0.83	210	0.36 J	0.38	46	0.35	26	14
MW-81-043	03/18/20	N	2.1	3.7	2.9	220	0.89	180	2.20	0.16 J	44 J	0.32	25	12 J
MW-81-043	04/21/20	N	7.4	10	0.85	160	0.94	230	0.49	0.28	46	0.21	21	13
MW-81-043	05/21/20	N	2.4	4.9	1.4	190	0.96	180 J	1.80 J	0.38	59	0.32	27	16 J
MW-81-043	08/18/20	N	1.5	4.3	2.6	180	1.5	220	2.20 J	0.48 J	61 J	0.36	30	14
MW-81-043	12/03/20	N	7.8	8.7	3.4	120	1.1	170 J	3.20 J	0.028	58	0.22	29	18
MW-81-043	02/24/21	N	13	13	2	100 J	1.1	220	1.80 J	0.022	54	0.11	28	11 J
MW-81-043	05/18/21	N	8.8 J	9.5	1.1 J	95	0.94	210	0.16 J	0.16 J	49 J	0.14	26	11 J
MW-81-043	08/17/21	N	7.3	7.7	0.73	93	0.99	230	0.35 J	0.079	52 J	0.18	21	15 J
MW-81-043	12/13/21	N	8.7	9.2	0.75	110	--	--	--	<0.02 J	--	0.16	24	--
MW-81-043	03/01/22	N	17	--	<0.1	110	--	--	--	<0.02	--	0.15	--	--
MW-81-043	05/06/22	N	12	14	<0.1	86 J	--	--	--	0.12 J	--	0.088 J	--	--
MW-81-043	06/16/22	N	4.4	--	<0.1	78 J	--	--	--	0.093 J	--	0.064	--	--
MW-81-043	07/12/22	N	6.4	--	3.1	77	--	--	--	0.16 J	--	0.14	--	--
MW-81-043	08/10/22	N	3	--	1.2 J	110	--	--	--	0.09 J	--	0.045	--	--
MW-81-043	09/13/22	N	10	--	2.4	69	--	--	--	0.053 J	--	0.024	--	--
MW-81-043	10/11/22	N	13	--	3.3 J	76 J	--	--	--	0.046 J	--	0.041 J	--	--
MW-81-043	11/08/22	N	14	15	4.6	72	--	--	--	0.056 J	--	0.049 J	22 J	--
MW-81-043	12/06/22	N	17	--	5	81	--	--	--	0.029	--	0.05 J	--	--
MW-81-098	01/28/20	N	<0.2	<1	<0.1 J	93 J	1.2	250 B	0.47	0.21 J	44 J	0.45 J	3.9 J	15 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-80-082	05/21/20	N	8.2	2,000	1.2	96	<0.2	2,500	2.3	--	--	8.2	480	5,200
MW-80-082	05/21/20	FD	7.8	2,000	1.2	97	<0.2	2,600	2.2	--	--	8.3	480	5,400
MW-80-082	08/18/20	N	15	1,600	1.2	100	<0.2	2,400	2.7	--	--	11	500	5,400
MW-80-082	12/03/20	N	11	1,600	1	110	<0.2	2,500	2.3	--	--	8.8	520	5,300
MW-80-082	02/18/21	N	12	1,500	<1	100	<0.2	2,600	2.4	--	--	11	530	5,800
MW-80-082	02/18/21	FD	13	1,400	<1	98	<0.22	2,600	2.3	--	--	9.9	540	5,800
MW-80-082	05/20/21	N	11	1,800 J	1.2	95	<0.2	2,600	2.5	--	--	9.9	540	5,600
MW-80-082	08/19/21	N	29	1,800 J	1.5	110	<0.2	2,200	2.7	--	--	14	530	4,800
MW-80-082	12/15/21	N	24 J	--	--	--	<0.2	--	--	--	<5	13	570	--
MW-80-082	02/01/22	N	--	--	--	--	--	--	--	10	--	--	550	--
MW-80-082	02/01/22	FD	--	--	--	--	--	--	--	10	--	--	550	--
MW-80-082	03/14/22	N	12	--	--	--	<0.2	--	--	9.4	--	--	580	--
MW-80-082	03/14/22	FD	12	--	--	--	<0.2	--	--	9.3	--	--	580	--
MW-80-082	04/12/22	N	--	--	--	--	--	--	--	5.9	--	--	550	--
MW-80-082	04/12/22	FD	--	--	--	--	--	--	--	6.2	--	--	550	--
MW-80-082	05/18/22	N	--	--	--	--	--	--	--	1.9	--	--	560	--
MW-80-082	06/14/22	N	4.2 J	--	--	--	<0.2	--	--	4.4	<5	--	560	--
MW-80-082	07/14/22	N	--	--	--	--	--	--	--	0.59	--	--	550	--
MW-80-082	08/11/22	N	1.3	--	--	--	<0.22	--	--	1.2	<5	--	530	--
MW-80-082	09/15/22	N	--	--	--	--	--	--	--	0.81	--	--	610	--
MW-80-082	09/15/22	FD	--	--	--	--	--	--	--	0.87	--	--	600	--
MW-80-082	10/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	530	--
MW-80-082	10/13/22	FD	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-80-082	11/10/22	N	<0.5	--	--	--	<0.43 J	--	--	<0.5	<5	--	520	--
MW-80-082	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-81-043	01/08/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-81-043	01/28/20	N	1.8	1,200	4.7	120	0.08 J	1,800	4	--	--	0.74	360	3,800
MW-81-043	02/18/20	N	1.9	1,200	6.1	130	0.07 J	1,700	<1	--	--	0.68	340	3,600
MW-81-043	03/18/20	N	2.1	1,200	4.8	410	0.13	1,700	3.7	--	--	0.64	350	3,800
MW-81-043	04/21/20	N	1.6	1,300	7.5	130	0.11	1,900	3.7	--	--	0.85	440	4,300
MW-81-043	05/21/20	N	1.3	1,500	7.3	160	<0.2	2,000	4	--	--	0.62	430	4,600
MW-81-043	08/18/20	N	1.5	1,300	5.7	170	<0.2	1,900	4.5	--	--	0.53	440	4,500
MW-81-043	12/03/20	N	3.2	1,100	8.6	150	<0.2	1,900	4.9	--	--	0.62	450	4,100
MW-81-043	02/24/21	N	2.1	1,200 J	14	120	<0.2	1,800	4.8	--	--	0.63	390	3,600
MW-81-043	05/18/21	N	1.2	1,100 J	12	170	<0.2	1,900	4.1	--	--	0.57	450	4,000
MW-81-043	08/17/21	N	1.3	1,300 J	10	180	<0.2	2,000	3.8	--	--	0.53	480	4,400
MW-81-043	12/13/21	N	2.6	--	--	--	--	--	--	--	--	0.48	--	--
MW-81-043	03/01/22	N	--	--	--	--	--	--	--	0.99	--	--	--	--
MW-81-043	05/06/22	N	--	--	--	--	--	--	--	0.98	--	--	--	--
MW-81-043	06/16/22	N	--	--	--	--	--	--	--	0.98	--	--	380	--
MW-81-043	07/12/22	N	--	--	--	--	--	--	--	1.2	--	--	350	--
MW-81-043	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	460	--
MW-81-043	09/13/22	N	--	--	--	--	--	--	--	1.7	--	--	330	--
MW-81-043	10/11/22	N	--	--	--	--	--	--	--	1.3	--	--	300	--
MW-81-043	11/08/22	N	1.5	--	--	--	--	--	--	1.7 J	--	--	290	--
MW-81-043	12/06/22	N	--	--	--	--	--	--	--	1.2	--	--	300	--
MW-81-098	01/28/20	N	<0.5	1,800	1.7	160	0.06 J	2,500	2.4	--	--	0.22	590	5,300

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-80-082	05/21/20	N	--	<1 J
MW-80-082	05/21/20	FD	--	<1 J
MW-80-082	08/18/20	N	--	<1
MW-80-082	12/03/20	N	--	<1
MW-80-082	02/18/21	N	--	<1
MW-80-082	02/18/21	FD	--	<1
MW-80-082	05/20/21	N	--	<1
MW-80-082	08/19/21	N	--	<1
MW-80-082	12/15/21	N	--	<1
MW-80-082	02/01/22	N	--	<1
MW-80-082	02/01/22	FD	--	<1
MW-80-082	03/14/22	N	--	<1
MW-80-082	03/14/22	FD	--	<1
MW-80-082	04/12/22	N	--	<1
MW-80-082	04/12/22	FD	--	<1
MW-80-082	05/18/22	N	--	<1
MW-80-082	06/14/22	N	--	<1
MW-80-082	07/14/22	N	--	<1
MW-80-082	08/11/22	N	--	<1
MW-80-082	09/15/22	N	--	<1
MW-80-082	09/15/22	FD	--	<1
MW-80-082	09/15/22	N	--	<1
MW-80-082	09/15/22	FD	--	<1
MW-80-082	10/13/22	N	--	<1
MW-80-082	10/13/22	FD	--	<1
MW-80-082	11/10/22	N	--	<1
MW-80-082	12/07/22	N	1.1	<1
MW-81-043	01/08/20	N	--	--
MW-81-043	01/28/20	N	--	<1 J
MW-81-043	02/18/20	N	--	<1 J
MW-81-043	03/18/20	N	--	<1 J
MW-81-043	04/21/20	N	--	<10
MW-81-043	05/21/20	N	--	<1 J
MW-81-043	08/18/20	N	--	<1
MW-81-043	12/03/20	N	--	<1
MW-81-043	02/24/21	N	--	<1
MW-81-043	05/18/21	N	--	<1
MW-81-043	08/17/21	N	--	<1
MW-81-043	12/13/21	N	--	<1
MW-81-043	03/01/22	N	--	<1
MW-81-043	05/06/22	N	--	<1
MW-81-043	06/16/22	N	--	<1
MW-81-043	07/12/22	N	--	<1
MW-81-043	08/10/22	N	--	<10
MW-81-043	09/13/22	N	--	<1
MW-81-043	10/11/22	N	--	<1
MW-81-043	11/08/22	N	--	<1
MW-81-043	12/06/22	N	--	<1
MW-81-098	01/28/20	N	--	<1 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-81-098	02/18/20	N	<0.2	<1	<0.1	87 J	1.1	280	0.17 J	0.092	40	0.28	3.6	15
MW-81-098	03/18/20	N	0.31	<1	<0.1	69	1.2	270	0.13	0.075 J	37 J	0.23	3.1	16 J
MW-81-098	04/21/20	N	<0.2	<1	<0.1	75	1.2	280	1.20	0.15	38	0.25	3.6	15
MW-81-098	05/21/20	N	0.29	<1	<0.1	74	1.1	200 J	7.30 J	0.15	41	0.23	3.7	17 J
MW-81-098	08/18/20	N	<1	<1	<0.1	73	1.8	260	1.20 J	0.023 J	45 J	0.16	3.8	15
MW-81-098	08/18/20	FD	<1	1	<0.1	71	1.7	260	1.40 J	0.037 J	45 J	0.16	3.5	15
MW-81-098	12/03/20	N	1.2	1.5	1	72	1.4	210 J	0.42 J	<0.02	45	0.12	3.1	18
MW-81-098	02/24/21	N	1.4	1.5	<0.1	72 J	1.3	310	0.22 J	<0.02	42	0.11	3.2	18 J
MW-81-098	05/18/21	N	2 J	2.3	<0.1 J	67	1.1	240	0.086 J	0.092 J	33 J	0.1	3.6	11 J
MW-81-098	08/17/21	N	0.56	<1	<0.1	65	1.2	270	0.32 J	0.025	39 J	0.11	3.8	18 J
MW-81-098	08/17/21	FD	0.59	<1	<0.1	63	1.1	250	0.27 J	0.036	36 J	0.11	3.5	15 J
MW-81-098	12/13/21	N	1.2	1.7	<0.1	70	--	--	--	0.041 J	--	0.14	3.4	--
MW-81-098	03/01/22	N	<1	--	<0.1	100	--	--	--	<0.1	--	0.12	--	--
MW-81-098	05/06/22	N	<1	<1	<0.1	51 J	--	--	--	<0.02 J	--	0.16 J	--	--
MW-81-098	06/16/22	N	1.8	--	<0.1	68 J	--	--	--	0.059 J	--	0.24	--	--
MW-81-098	07/12/22	N	1.3	--	<0.1	67	--	--	--	<0.02 J	--	0.22	--	--
MW-81-098	08/10/22	N	0.55	--	<0.1	59	--	--	--	<0.02 J	--	0.16	--	--
MW-81-098	09/13/22	N	<1	--	<0.1	80	--	--	--	0.19 J	--	0.13	--	--
MW-81-098	10/11/22	N	1.5	--	<0.1 J	59 J	--	--	--	0.043 J	--	0.16 J	--	--
MW-81-098	11/08/22	N	1.7	2.7	<0.1	58	--	--	--	0.027 J	--	0.14 J	25 J	--
MW-81-098	12/06/22	N	3.6	--	<0.1	56	--	--	--	<0.02	--	0.13 J	--	--
MW-82-046	02/27/20	N	<1	1	16	76 J	2.2	210	4.40 J	3.80 J	260	0.18	30	24
MW-82-046	05/28/20	N	<1	1.2	32	68	2.2	160	7.70	6.60	210	0.48	67	23 J
MW-82-046	08/25/20	N	<1	1.1	15	64	1.4	120 J	4.50	4	240	0.27	21 J	20 J
MW-82-046	12/01/20	N	<0.2	1.2	15	57	1.9 J	140 J	3.80	3 J	230 J	0.17	12	20 J
MW-82-046	02/25/21	N	<1	<1	13	73	2	220	4.90 J	3.30	260	0.17	22	21 J
MW-82-046	05/18/21	N	<1	<1	21 J	64	1.9	170	6.40 J	5.40 J	200 J	0.27	55	17 J
MW-82-046	08/17/21	N	<0.2	<1	13	53	1.3	140	3.70 J	3	190 J	0.16	15	18 J
MW-82-046	12/16/21	N	<0.2	<1	15	61	--	--	--	2.90 J	--	0.17	11	--
MW-82-046	12/16/21	FD	<0.2	<1	15	59	--	--	--	3.20 J	--	0.17	11	--
MW-82-046	03/01/22	N	<1	--	13	68	--	--	--	6.60	--	0.21	--	--
MW-82-046	05/02/22	N	<1	<5	27	66	--	--	--	6.40 J	--	0.32	--	--
MW-82-046	05/02/22	FD	<1	<5	25	56	--	--	--	6.20 J	--	0.27	--	--
MW-82-046	06/16/22	N	<0.2	--	17	56 J	--	--	--	5.80 J	--	0.26	--	--
MW-82-046	07/12/22	N	<1	--	24	73	--	--	--	7.30 J	--	0.36	--	--
MW-82-046	08/10/22	N	<1	--	25	52	--	--	--	6 J	--	0.31	--	--
MW-82-046	09/13/22	N	<0.2	--	23	51	--	--	--	5.50 J	--	0.26	--	--
MW-82-046	10/11/22	N	<1	--	21 J	59 J	--	--	--	6.10 J	--	0.24 J	--	--
MW-82-046	11/08/22	N	<1	<1	20	55	--	--	--	6.30 J	--	0.26 J	26 J	--
MW-82-046	12/05/22	N	<1	--	17 J	55	--	--	--	5.40	--	0.24	--	--
MW-82-046	12/05/22	FD	<1	--	19 J	60	--	--	--	5.70	--	0.26	--	--
MW-82-112	02/27/20	N	0.2 J	<1	<0.1	36 J	1.4	210	0.23 J	0.059 J	17	0.053	10	14
MW-82-112	05/28/20	N	<0.2	<1	<0.1	35	1.5	180	0.54	0.073	18	0.072	7.6	16 J
MW-82-112	08/25/20	N	<1	1.3	<0.1	35	1.4	130 J	0.089	0.042	17	0.053	9.6 J	18 J
MW-82-112	12/01/20	N	0.44	1.1	2	34	1.7 J	160 J	0.28	<0.02	22 J	0.027	9.3	16 J
MW-82-112	02/25/21	N	0.37	1.2	<0.1	34	1.5	220	0.098 J	0.021	19	0.024	9.1	15 J
MW-82-112	05/18/21	N	<0.2	1.3	<0.1 J	30	1.2	160	0.27 J	0.11 J	15 J	0.031	6.7	12 J

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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-81-098	02/18/20	N	<0.5	1,600	2.8	160	0.08 J	2,400	3	--	--	0.33	580	5,200
MW-81-098	03/18/20	N	<0.5	1,800	2.4	170	0.14	2,300	1.7	--	--	0.4	590	5,200
MW-81-098	04/21/20	N	<0.5	1,500	2.8	180	0.06 J	2,500	2.3	--	--	0.25	600	5,200
MW-81-098	05/21/20	N	<0.5	1,900	2.8	170	<0.2	2,300	2.3	--	--	0.31	570	5,200
MW-81-098	08/18/20	N	<0.5	1,600	4.1	180	<0.2	2,200	2.5	--	--	0.38	560	5,300
MW-81-098	08/18/20	FD	<0.5	1,500	3.7	170	<0.2	2,300	2.8	--	--	0.36	550	5,200
MW-81-098	12/03/20	N	<0.5	1,500	4.3	180	<0.2	2,300	2.5	--	--	0.48	580	5,100
MW-81-098	02/24/21	N	<0.5	1,700 J	4.8	170	<0.2	2,300	2.9	--	--	0.51	570	5,200
MW-81-098	05/18/21	N	<0.5	1,600 J	4.5	180	<0.22	2,300	2.5	--	--	0.53	570	5,000
MW-81-098	08/17/21	N	<0.5	1,500 J	4.4	170	<0.2	2,300	2.4	--	--	0.53	580	5,000
MW-81-098	08/17/21	FD	<0.5	1,500 J	4.1	180	<0.2	2,300	2.6	--	--	0.45	570	5,200
MW-81-098	12/13/21	N	<0.5	--	--	--	--	--	--	--	--	0.58	--	--
MW-81-098	03/01/22	N	--	--	--	--	--	--	--	0.94	--	--	--	--
MW-81-098	05/06/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-81-098	06/16/22	N	--	--	--	--	--	--	--	0.94	--	--	660	--
MW-81-098	07/12/22	N	--	--	--	--	--	--	--	0.82	--	--	680	--
MW-81-098	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	580	--
MW-81-098	09/13/22	N	--	--	--	--	--	--	--	0.87	--	--	650	--
MW-81-098	10/11/22	N	--	--	--	--	--	--	--	0.81	--	--	740	--
MW-81-098	11/08/22	N	0.65	--	--	--	--	--	--	1.1 J	--	--	730	--
MW-81-098	12/06/22	N	--	--	--	--	--	--	--	0.81	--	--	720	--
MW-82-046	02/27/20	N	0.67	3,800	2.5	1,300	7.7	3,400	2.4	--	--	<0.1	1,900	11,000
MW-82-046	05/28/20	N	0.72	3,100	2.1	1,200	6.2	3,100	4.4 J	--	--	0.058 J	1,500	9,400
MW-82-046	08/25/20	N	1.5	2,000	2.3	1,300	6.8	2,600	2.1	--	--	0.19	1,600	8,300
MW-82-046	12/01/20	N	4.7	1,700	1.3	980	5.3	2,000	2.3	--	--	<0.1	1,500	7,200
MW-82-046	02/25/21	N	1.2	2,700 J	2.6	1,200	8.2	3,100	2.3	--	--	0.29	1,900	9,600
MW-82-046	05/18/21	N	1.9	2,700 J	1.9	1,200	5.4	2,800	4.1	--	--	0.15	1,500	8,400
MW-82-046	08/17/21	N	1.7	2,000 J	1.8	1,100	6.5	2,300	2.6	--	--	<0.1	1,500	7,100
MW-82-046	12/16/21	N	2	--	--	--	--	--	--	--	--	<0.1	--	--
MW-82-046	12/16/21	FD	1.8	--	--	--	--	--	--	--	--	<0.1	--	--
MW-82-046	03/01/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-82-046	05/02/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-82-046	05/02/22	FD	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-82-046	06/16/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,200	--
MW-82-046	07/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,600	--
MW-82-046	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,600	--
MW-82-046	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,400	--
MW-82-046	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,500	--
MW-82-046	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	1,600	--
MW-82-046	12/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	1,600	--
MW-82-046	12/05/22	FD	--	--	--	--	--	--	--	<0.5	--	--	1,600	--
MW-82-112	02/27/20	N	<0.5	2,100	5.6	82	0.12	2,400	3	--	--	0.63	660	5,300
MW-82-112	05/28/20	N	<0.5	1,700	4.8	120	<0.2	2,300	2.5 J	--	--	0.29 J	550	4,900
MW-82-112	08/25/20	N	<0.5	2,000	6.8	100	<0.2	2,300	3.2	--	--	0.68	580	5,200
MW-82-112	12/01/20	N	<0.5	1,400	6.5	93	<0.2	2,400	3.3	--	--	0.74	610	5,700
MW-82-112	02/25/21	N	<0.5	1,500 J	7.3	89	<0.2	2,400	3.4	--	--	0.76	630	5,200
MW-82-112	05/18/21	N	<0.5	1,300 J	6.3	130	<0.2	2,100	2.5	--	--	0.51	530	4,500

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-81-098	02/18/20	N	--	<1 J
MW-81-098	03/18/20	N	--	<1 J
MW-81-098	04/21/20	N	--	<1
MW-81-098	05/21/20	N	--	<1 J
MW-81-098	08/18/20	N	--	<1
MW-81-098	08/18/20	FD	--	<1
MW-81-098	12/03/20	N	--	<1
MW-81-098	02/24/21	N	--	<20
MW-81-098	05/18/21	N	--	<20
MW-81-098	08/17/21	N	--	<1
MW-81-098	08/17/21	FD	--	<1
MW-81-098	12/13/21	N	--	<1
MW-81-098	03/01/22	N	--	<1
MW-81-098	05/06/22	N	--	<1
MW-81-098	06/16/22	N	--	<1
MW-81-098	07/12/22	N	--	<1
MW-81-098	08/10/22	N	--	<1
MW-81-098	09/13/22	N	--	<20
MW-81-098	10/11/22	N	--	<1
MW-81-098	11/08/22	N	--	<1
MW-81-098	12/06/22	N	--	<1
MW-82-046	02/27/20	N	--	<10
MW-82-046	05/28/20	N	--	2.3 J
MW-82-046	08/25/20	N	--	3.5
MW-82-046	12/01/20	N	--	2.1
MW-82-046	02/25/21	N	--	2.1
MW-82-046	05/18/21	N	--	2
MW-82-046	08/17/21	N	--	<20
MW-82-046	12/16/21	N	--	1.8
MW-82-046	12/16/21	FD	--	1.8
MW-82-046	03/01/22	N	--	3.4
MW-82-046	05/02/22	N	--	2.8
MW-82-046	05/02/22	FD	--	2.7
MW-82-046	06/16/22	N	--	1.8
MW-82-046	07/12/22	N	--	7
MW-82-046	08/10/22	N	--	2.2
MW-82-046	09/13/22	N	--	1.6
MW-82-046	10/11/22	N	--	1.9
MW-82-046	11/08/22	N	--	2
MW-82-046	12/05/22	N	--	<20
MW-82-046	12/05/22	FD	--	1.6
MW-82-112	02/27/20	N	--	<1
MW-82-112	05/28/20	N	--	<1
MW-82-112	08/25/20	N	--	<1
MW-82-112	12/01/20	N	--	<20
MW-82-112	02/25/21	N	--	<20
MW-82-112	05/18/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-82-112	08/17/21	N	0.28	<1	<0.1	29	1.4	180	0.051 J	<0.02	15 J	0.023	8.3	15 J
MW-82-112	12/16/21	N	0.88	2	<0.1	35	--	--	--	<0.02	--	0.027	8.7	--
MW-82-112	03/01/22	N	<0.2	--	<0.1	38	--	--	--	0.11 J	--	0.058	--	--
MW-82-112	05/02/22	N	<0.2	<1	<0.1	36	--	--	--	<0.02	--	0.054	--	--
MW-82-112	06/16/22	N	<1	--	<0.1	52 J	--	--	--	0.061 J	--	0.12	--	--
MW-82-112	07/12/22	N	<0.2	--	<0.1	57	--	--	--	<0.02 J	--	0.14	--	--
MW-82-112	08/10/22	N	<0.2	--	<0.1	36	--	--	--	<0.02 J	--	0.061	--	--
MW-82-112	09/13/22	N	0.29	--	<0.1	38	--	--	--	0.035 J	--	0.084	--	--
MW-82-112	10/11/22	N	<1	--	--	59 J	--	--	--	<0.02	--	0.15 J	--	--
MW-82-112	10/11/22	FD	<1	--	<0.1 J	61 J	--	--	--	<0.02	--	0.15 J	--	--
MW-82-112	11/08/22	N	<1	<1	<0.1	59	--	--	--	<0.02 J	--	0.19 J	23 J	--
MW-82-112	12/05/22	N	<1	--	R	63	--	--	--	<0.02	--	0.18	--	--
MW-82-168	02/27/20	N	1.2 J	2.6	1.7	49 J	1.5	580	0.12 J	<0.1 J	84	0.25	18	37
MW-82-168	05/28/20	N	1.9	3.9	1.9	57	1.1	480	0.12	0.048	79	0.31	20	46 J
MW-82-168	08/25/20	N	2.9	6.1	1.9	53	0.72	350 J	0.21	0.079	77	0.26	19 J	47 J
MW-82-168	12/01/20	N	4.7	6.5	1.7	49	1.4 J	440 J	2	0.094 J	100 J	0.16	17	48 J
MW-82-168	02/25/21	N	3.5	5.9	<0.1	49	1.5	740	0.23 J	<0.1	100	0.13	17	33 J
MW-82-168	05/18/21	N	3.1 J	5	<0.1 J	49	0.99	640	0.2 J	0.035 J	68 J	0.16	19	32 J
MW-82-168	08/17/21	N	<1	<1	<0.1	49	1	700	0.27 J	0.028	67 J	0.32	18	37 J
MW-82-168	12/16/21	N	7	7.5	<0.1	48	--	--	--	0.031 J	--	0.14	15	--
MW-82-168	03/01/22	N	1.2	--	1.9	50	--	--	--	<0.1	--	0.2	--	--
MW-82-168	05/02/22	N	<1	2.7	<0.1	47	--	--	--	<0.1	--	0.14	--	--
MW-82-168	06/16/22	N	1.2	--	<0.1	42 J	--	--	--	0.027 J	--	0.029	--	--
MW-82-168	07/12/22	N	0.28	--	<0.1	41	--	--	--	0.054 J	--	0.043	--	--
MW-82-168	07/12/22	FD	<1	--	<0.1	41	--	--	--	0.033 J	--	0.045	--	--
MW-82-168	08/10/22	N	<0.2	--	<0.1	38	--	--	--	0.024 J	--	0.041	--	--
MW-82-168	09/13/22	N	<0.2	--	<0.1	38	--	--	--	0.035 J	--	0.042	--	--
MW-82-168	09/13/22	FD	<0.2	--	<0.1	39	--	--	--	0.051 J	--	0.043	--	--
MW-82-168	10/11/22	N	<1	--	<0.1 J	35 J	--	--	--	0.049 J	--	0.038 J	--	--
MW-82-168	10/11/22	FD	<1	--	<0.1 J	31 J	--	--	--	0.043 J	--	0.033 J	--	--
MW-82-168	11/08/22	N	<1	<1	1.2	33	--	--	--	0.043 J	--	0.038 J	36 J	--
MW-82-168	11/08/22	FD	<1	<1	1.3	34	--	--	--	0.042 J	--	0.039 J	38 J	--
MW-82-168	12/05/22	N	<0.2	--	1 J	30	--	--	--	0.048	--	0.037	--	--
MW-82-198	02/27/20	N	<1	3.5	3.2	41 J	2.4	110	0.11 J	0.068 J	3	0.079	150	41
MW-82-198	05/21/20	N	<1	9	3.9	46	1.8	93 J	1.90 J	0.19	4.8	0.23	81	61 J
MW-82-198	08/25/20	N	<1	2.7	3.2	39	1.6	71 J	0.2	<0.1	3.4	0.1	120 J	57 J
MW-82-198	12/01/20	N	<1	<1	2.3	35	3 J	90 J	0.33	<0.1	3.6 J	0.07	160	63 J
MW-82-198	02/25/21	N	<1	3.3	<0.1	40	2.6	130	4.80 J	0.27	3.4	0.059	160	47 J
MW-82-198	05/18/21	N	<1	1	<0.1 J	36	1.9	130	0.4 J	0.038 J	2.7 J	0.11	74	45 J
MW-82-198	08/17/21	N	<1	<1	<0.1	42	1.6	150	0.23 J	0.02	4.8 J	0.21	75	41 J
MW-82-198	12/16/21	N	<1	2.9	<0.1	34	--	--	--	0.12 J	--	0.057	140	--
MW-82-198	03/01/22	N	2.9	--	3.1	52	--	--	--	<0.5	--	0.16	--	--
MW-82-198	05/02/22	N	1.2	2	<0.5	47	--	--	--	<0.1	--	0.098	--	--
MW-82-198	06/16/22	N	4.1	--	<0.1	44 J	--	--	--	0.048 J	--	0.11	--	--
MW-82-198	07/12/22	N	3.1	--	<0.1	46	--	--	--	<0.02 J	--	0.1	--	--
MW-82-198	08/10/22	N	<1	--	<0.1	39	--	--	--	0.025 J	--	0.15	--	--
MW-82-198	09/13/22	N	4.1	--	<0.1	42	--	--	--	<0.02	--	0.09	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-82-112	08/17/21	N	<0.5	1,600 J	6.6	100	<0.2	2,300	2.8	--	--	0.62	590	4,900
MW-82-112	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	0.72	--	--
MW-82-112	03/01/22	N	--	--	--	--	--	--	--	0.6	--	--	--	--
MW-82-112	05/02/22	N	--	--	--	--	--	--	--	0.58	--	--	--	--
MW-82-112	06/16/22	N	--	--	--	--	--	--	--	1.1	--	--	710	--
MW-82-112	07/12/22	N	--	--	--	--	--	--	--	0.91	--	--	710	--
MW-82-112	08/10/22	N	--	--	--	--	--	--	--	0.61	--	--	630	--
MW-82-112	09/13/22	N	--	--	--	--	--	--	--	0.92	--	--	670	--
MW-82-112	10/11/22	N	--	--	--	--	--	--	--	1	--	--	740	--
MW-82-112	10/11/22	FD	--	--	--	--	--	--	--	1.1	--	--	730	--
MW-82-112	11/08/22	N	<0.5	--	--	--	--	--	--	1.8 J	--	--	740	--
MW-82-112	12/05/22	N	--	--	--	--	--	--	--	1.1 J	--	--	740	--
MW-82-168	02/27/20	N	<0.5	4,900	1.9	63	0.13	6,000	2.8	--	--	1.4	1,200	13,000
MW-82-168	05/28/20	N	0.74	4,300	2	64	<0.2	6,200	2.5 J	--	--	1.5 J	1,100	14,000
MW-82-168	08/25/20	N	0.83	4,200	2.1	66	<0.2	6,100	2.8	--	--	1.9	1,100	14,000
MW-82-168	12/01/20	N	0.74	3,100	1.5	65	<0.2	6,200	3	--	--	1.6	1,200	12,000
MW-82-168	02/25/21	N	0.63	5,000 J	2.2	63	<0.22	6,300	2.7	--	--	1.5	1,100	12,000
MW-82-168	05/18/21	N	0.65	4,000 J	1.9	67	<0.2	6,100	3.1	--	--	1.4	1,100	14,000 J
MW-82-168	08/17/21	N	<0.5	4,200 J	2	78	<0.2	6,000	2.7	--	--	0.77	990	13,000
MW-82-168	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	1.6	--	--
MW-82-168	03/01/22	N	--	--	--	--	--	--	--	1.3	--	--	--	--
MW-82-168	05/02/22	N	--	--	--	--	--	--	--	1.1	--	--	--	--
MW-82-168	06/16/22	N	--	--	--	--	--	--	--	<0.5	--	--	570	--
MW-82-168	07/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	550	--
MW-82-168	07/12/22	FD	--	--	--	--	--	--	--	<0.5	--	--	550	--
MW-82-168	08/10/22	N	--	--	--	--	--	--	--	<0.5	--	--	520	--
MW-82-168	09/13/22	N	--	--	--	--	--	--	--	<0.5	--	--	570	--
MW-82-168	09/13/22	FD	--	--	--	--	--	--	--	<0.5	--	--	570	--
MW-82-168	10/11/22	N	--	--	--	--	--	--	--	<0.5	--	--	560	--
MW-82-168	10/11/22	FD	--	--	--	--	--	--	--	<0.5	--	--	540	--
MW-82-168	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	540	--
MW-82-168	11/08/22	FD	<0.5	--	--	--	--	--	--	<0.5	--	--	520	--
MW-82-168	12/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	500	--
MW-82-198	02/27/20	N	<0.5	6,700	2.5	43	0.09 J	6,700	5.8	--	--	1	1,100	13,000 J
MW-82-198	05/21/20	N	0.69	5,800	2	55	0.28	6,200	4.6	--	--	0.63	1,000	13,000
MW-82-198	08/25/20	N	0.91	5,600	3.1	39	<0.2	6,700	5.2	--	--	1.3	1,100	12,000 J
MW-82-198	12/01/20	N	0.79	5,500	2.4	45	0.36	6,900	6.6	--	--	1.2	1,100	12,000 J
MW-82-198	02/25/21	N	0.58	6,700 J	3.1	42	<0.2	7,100	6.1	--	--	1.2	1,100	14,000
MW-82-198	05/18/21	N	0.77	5,300 J	2.9	34	<0.2	6,500	3.9	--	--	1.4	1,100	13,000
MW-82-198	08/17/21	N	0.87	5,200 J	2.7	48	<0.2	6,100	4	--	--	1.1	1,000	12,000
MW-82-198	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	1.2	--	--
MW-82-198	03/01/22	N	--	--	--	--	--	--	--	1.7	--	--	--	--
MW-82-198	05/02/22	N	--	--	--	--	--	--	--	1.5	--	--	--	--
MW-82-198	06/16/22	N	--	--	--	--	--	--	--	1.5	--	--	1,100	--
MW-82-198	07/12/22	N	--	--	--	--	--	--	--	1.3	--	--	990	--
MW-82-198	08/10/22	N	--	--	--	--	--	--	--	0.76	--	--	1,000	--
MW-82-198	09/13/22	N	--	--	--	--	--	--	--	1.2	--	--	980	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-82-112	08/17/21	N	--	<1
MW-82-112	12/16/21	N	--	<1
MW-82-112	03/01/22	N	--	<1
MW-82-112	05/02/22	N	--	<1
MW-82-112	06/16/22	N	--	<1
MW-82-112	07/12/22	N	--	<1
MW-82-112	08/10/22	N	--	<1
MW-82-112	09/13/22	N	--	<1
MW-82-112	10/11/22	N	--	<1
MW-82-112	10/11/22	FD	--	<1
MW-82-112	11/08/22	N	--	<20
MW-82-112	12/05/22	N	--	<1
MW-82-168	02/27/20	N	--	<1
MW-82-168	05/28/20	N	--	<1
MW-82-168	08/25/20	N	--	<1
MW-82-168	12/01/20	N	--	<1
MW-82-168	02/25/21	N	--	<1
MW-82-168	05/18/21	N	--	<1
MW-82-168	08/17/21	N	--	<1
MW-82-168	12/16/21	N	--	<1
MW-82-168	03/01/22	N	--	<1
MW-82-168	05/02/22	N	--	<1
MW-82-168	06/16/22	N	--	<1
MW-82-168	07/12/22	N	--	<1
MW-82-168	07/12/22	FD	--	<1
MW-82-168	08/10/22	N	--	<1
MW-82-168	09/13/22	N	--	<1
MW-82-168	09/13/22	FD	--	<1
MW-82-168	10/11/22	N	--	<1
MW-82-168	10/11/22	FD	--	<1
MW-82-168	11/08/22	N	--	<1
MW-82-168	11/08/22	FD	--	<1
MW-82-168	12/05/22	N	--	<1
MW-82-198	02/27/20	N	--	<1
MW-82-198	05/21/20	N	--	<1 J
MW-82-198	08/25/20	N	--	<1
MW-82-198	12/01/20	N	--	<1
MW-82-198	02/25/21	N	--	<1
MW-82-198	05/18/21	N	--	<1
MW-82-198	08/17/21	N	--	<1
MW-82-198	12/16/21	N	--	<1
MW-82-198	03/01/22	N	--	<1
MW-82-198	05/02/22	N	--	<50
MW-82-198	06/16/22	N	--	<1
MW-82-198	07/12/22	N	--	<1
MW-82-198	08/10/22	N	--	<1
MW-82-198	09/13/22	N	--	<1

Appendix B
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Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-82-198	10/11/22	N	2.6	--	<0.1 J	36 J	--	--	--	0.02 J	--	0.067 J	--	--
MW-82-198	11/08/22	N	1.6	1.7	0.96	32	--	--	--	<0.02 J	--	0.074 J	40 J	--
MW-82-198	12/05/22	N	<1	--	1.5 J	34	--	--	--	0.053	--	0.063	--	--
MW-83-090	02/19/20	N	49	47	0.26	77	0.35 J	150 J	0.14	0.046 J	24 J	<0.0005	3.2	8.9 J
MW-83-090	05/28/20	N	44	43	<0.1	84	0.31	150	0.29 J	0.12 J	28	0.002	3	9.5 J
MW-83-090	05/28/20	FD	44	43	0.21	84	0.3	140	0.63 J	0.05 J	27	0.001	3	9.4 J
MW-83-090	08/26/20	N	49	48	<0.1	89	0.41 J	140	0.14 J	<0.02	31 J	<0.0005	3.5	9.1 J
MW-83-090	12/09/20	N	54	50	<0.1	82	0.43	150	0.075	<0.02	28	<0.0005	3.2	11
MW-83-090	12/09/20	FD	53	51	0.19	82	0.42	140	0.078	<0.02	27	<0.0005	3.2	10
MW-83-090	02/23/21	N	49	49	<0.1	80	0.5	210 J	0.36	<0.1	39 J	0.00099	3.5	9.4 J
MW-83-090	05/25/21	N	44	44	<0.1 J	93	0.29	170 J	0.69 J	0.094 J	29 J	0.0049 J	3.5	12 J
MW-83-090	05/25/21	FD	44	44	<0.1 J	90	0.28	170 J	0.79 J	0.078 J	29 J	0.0039 J	3.2	11 J
MW-83-090	08/23/21	N	52	55	<0.1	78	0.28	140	0.42 J	0.032 J	25 J	<0.0005	2.9	9.2 J
MW-83-090	12/16/21	N	67	65	0.3	--	--	--	--	--	--	0.0035	4	--
MW-83-090	06/22/22	N	38	34 J	--	--	--	--	--	--	--	--	--	--
MW-83-090	11/30/22	N	38	38	0.2	--	--	--	--	--	--	0.067	3.1 J	--
MW-83-180	01/29/20	N	7.7	7.8	1.3	49	1.7	330	0.14	0.022	24 J	0.0011	33	19
MW-83-180	02/19/20	N	8.4	8.3	1.4	50	1.6 J	280 J	0.042	0.043 J	20 J	0.00085	34	18 J
MW-83-180	03/17/20	N	8.8	7.7	0.7	47 J	1.4	280	0.035 J	0.033 J	20	<0.0005	31	22
MW-83-180	04/23/20	N	7.9	8.1	1.1	56	1.7	280	0.4	0.34 J	20	0.0077	34	19
MW-83-180	05/28/20	N	9.1	9.4	4.6	50	1.4	240	0.055	<0.02	19	0.0011	35	21 J
MW-83-180	06/15/20	N	6	5.6	<0.1 J	45	1.2	210	0.48	<0.02	17	0.0025	30	18 J
MW-83-180	07/22/20	N	8.5	8.8	0.5	51	1.5	250	0.033	<0.02	19 J	0.00094	35	20 J
MW-83-180	08/26/20	N	8.4	8.8	1.2	52	1.5 J	200	0.1 J	0.052 J	21 J	0.00057	37	23 J
MW-83-180	09/29/20	N	9.4	9.3	1.2	52	1.1 J	230 J	0.061 J	<0.02 J	18 J	0.0036	37	17 J
MW-83-180	10/21/20	N	9.8	10	4.7	52	1.7	210 J	0.035	<0.02	20	0.0012	34	28
MW-83-180	12/09/20	N	9.6	8.6	0.84	51	1.2	220	0.023	<0.02	21	<0.0005	36	19
MW-83-180	02/23/21	N	4.7	6.8	<0.1	47	1.9	370 J	0.46	<0.1	26 J	<0.0005	34	20 J
MW-83-180	05/25/21	N	5.1	5.4	<0.1 J	46	1.2	290 J	1.20 J	<0.02 J	18 J	0.00077	31	24 J
MW-83-180	08/23/21	N	3.9	7.3	<0.1	47	1.2	270	0.38 J	0.09 J	16 J	<0.0005	30	30 J
MW-83-180	12/16/21	N	6.2	8.4	<0.1	--	--	--	--	--	--	0.0011	33	--
MW-83-180	06/22/22	N	3.7	4.3 J	--	--	--	--	--	--	--	--	--	--
MW-83-180	11/30/22	N	7.9	8.3	2.2	--	--	--	--	--	--	<0.0005	31 J	--
MW-83-225	02/19/20	N	450	450	4.3	44	2.2 J	390 J	0.62	<0.02 J	22 J	0.0042	49	29 J
MW-83-225	05/28/20	N	510	490	3.9	43	1.7	320	0.59	<0.02	21	0.0044	49	30 J
MW-83-225	08/26/20	N	460	420	3.8	46	1.8 J	250	0.49 J	0.44 J	22 J	0.0042	55	31 J
MW-83-225	12/09/20	N	420	360	<0.1	40	1.7	290	0.27	<0.02	22	0.0029	50	30
MW-83-225	02/23/21	N	400	390	<0.1	37	3.1	530 J	0.54	<0.1	33 J	0.0019	51	26 J
MW-83-225	02/23/21	FD	390	380	<0.1	36	2.4	410 J	0.58	<0.1	26 J	0.0019	49	25 J
MW-83-225	05/25/21	N	400	390	<0.1 J	42	2.2	300 J	1 J	0.25 J	23 J	0.0032	51	32 J
MW-83-225	08/23/21	N	370	420	<0.1	38	1.5	350	1.10 J	0.082 J	15 J	0.0038	45	28 J
MW-83-225	12/16/21	N	250	220	<0.1	--	--	--	--	--	--	0.0053	47	--
MW-83-225	06/22/22	N	47	42 J	--	--	--	--	--	--	--	--	--	--
MW-83-225	11/30/22	N	12	12	1.1	--	--	--	--	--	--	0.0014	48 J	--
MW-83-245	02/19/20	N	1.7	2.3	5.5	120	2.5 J	390 J	0.024	0.024 J	13 J	0.088	63	43 J
MW-83-245	05/22/20	N	4.5	4.9	<0.1	96	1.9	340	3.40 J	0.025 J	12 J	0.064	65	55 J
MW-83-245	08/26/20	N	9.2	10	5.7	110	3.9 J	310	<0.1 J	<0.1	15 J	0.073	73	60 J

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-82-198	10/11/22	N	--	--	--	--	--	--	--	1.2	--	--	890	--
MW-82-198	11/08/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	680	--
MW-82-198	12/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	690	--
MW-83-090	02/19/20	N	3.6	230	2.8	100	0.05 J	500	1.6	--	--	4.9	160	1,300
MW-83-090	05/28/20	N	2.7	230	2.6	91	<0.2	580	1.5 J	--	--	3.8 J	150	1,700
MW-83-090	05/28/20	FD	2.9	220	2.6	89	<0.2	580	1.4 J	--	--	3.7 J	150	1,700
MW-83-090	08/26/20	N	3.1	300 J	3	88	<0.2	600	1.7	--	--	3.9 J	150	1,700
MW-83-090	12/09/20	N	2.8	250	2.6	88	<0.2	560	1.4	--	--	4.4	160	1,300
MW-83-090	12/09/20	FD	2.8	260	2.7	89	<0.2	560	1.5	--	--	4.5	160	1,300
MW-83-090	02/23/21	N	3.5	260	2.8	84	<0.2	560	1.8	--	--	4.9	150	1,200
MW-83-090	05/25/21	N	2.7	230 J	2.9	88	<0.2	580	1.5	--	--	3.9	150	1,400
MW-83-090	05/25/21	FD	2.7	240 J	2.8	83	<0.2	580	1.4	--	--	4	150	1,400
MW-83-090	08/23/21	N	1.9	230	3	96	<0.2	550	1.3	--	--	4.5	150	1,600
MW-83-090	12/16/21	N	3.1	--	--	--	--	--	--	--	--	5	--	--
MW-83-090	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-090	11/30/22	N	3.7	--	--	--	--	--	--	4.5	--	--	--	--
MW-83-180	01/29/20	N	0.72	2,400	8.7	39	<0.1	3,500	4.6	--	--	0.51	480	7,500
MW-83-180	02/19/20	N	0.63	2,200	9	41	0.05 J	3,400	4.8	--	--	0.5	490	7,200
MW-83-180	03/17/20	N	0.59	2,300	8.1	39	0.06 J	3,500	3.9	--	--	0.58 J	490	7,600
MW-83-180	04/23/20	N	0.58	2,200	8.7	34	0.05 J	3,700	4.3	--	--	0.53	500	7,500
MW-83-180	05/28/20	N	0.7	2,300	9.4	38	<0.2	3,700	5.2 J	--	--	0.55 J	500	7,800
MW-83-180	06/15/20	N	0.7	2,000	8.9	44	<0.2	3,300	4.4	--	--	0.68 J	460	7,100
MW-83-180	07/22/20	N	0.59	2,800	9.3	36	<0.2	3,500	5	--	--	0.64	500	7,800
MW-83-180	08/26/20	N	0.65	2,300 J	9.8	36	<0.2	3,500	4.4	--	--	0.6	500	8,200
MW-83-180	09/29/20	N	0.6	2,200 J	8.8	40	<0.2	3,400	4.4	--	--	0.66	480	7,400
MW-83-180	10/21/20	N	0.64	2,900	9.7	37	<0.2	3,500	4.5	--	--	0.54	500	7,900
MW-83-180	12/09/20	N	0.61	1,900	9.5	34	<0.2	3,600	4.7	--	--	0.61	500	6,800
MW-83-180	02/23/21	N	0.68	2,600	8.8	36	<0.2	3,700	4.6	--	--	0.66	490	7,300
MW-83-180	05/25/21	N	0.67	1,900 J	9.2	41	<0.2	3,400	4.6	--	--	0.69	470	6,900
MW-83-180	08/23/21	N	0.66	2,200	9.9	37	<0.2	3,600	4.1	--	--	0.6	490	7,400
MW-83-180	12/16/21	N	0.54	--	--	--	--	--	--	--	--	0.55	--	--
MW-83-180	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-180	11/30/22	N	0.72	--	--	--	--	--	--	0.63	--	--	--	--
MW-83-225	02/19/20	N	0.57	3,400	5.5	34	0.04 J	5,100	5	--	--	0.62	700	11,000
MW-83-225	05/28/20	N	0.67	3,400	6	31	<0.2	5,300	4.7 J	--	--	0.68 J	680	11,000
MW-83-225	08/26/20	N	0.58	4,400 J	6.6	31	<0.2	5,000	4.5	--	--	0.64	670	11,000
MW-83-225	12/09/20	N	0.6	2,600	5.7	30	<0.2	5,100	4.4	--	--	0.57	680	9,900
MW-83-225	02/23/21	N	0.57	4,700 J	5.8	33	<0.2	5,200	4.6	--	--	0.75	690	10,000
MW-83-225	02/23/21	FD	0.73	3,400 J	5.6	32	<0.2	5,100	4.5	--	--	0.73	700	11,000
MW-83-225	05/25/21	N	0.61	3,100 J	6.3	31	<0.2	5,100	4.2	--	--	0.7	690	10,000
MW-83-225	08/23/21	N	1.6	3,400	6.6	35	<0.2	5,100	4.2	--	--	0.72	710	10,000
MW-83-225	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	0.55	--	--
MW-83-225	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-225	11/30/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-83-245	02/19/20	N	<0.5	4,200	2.1	30	0.04 J	6,400	4.9	--	--	0.13	670	12,000
MW-83-245	05/22/20	N	<0.5	5,800 J	2.3	25	<0.2	6,700	5	--	--	0.12	670	14,000
MW-83-245	08/26/20	N	<0.5	5,700 J	2.2	24	<0.2	6,500	3.9	--	--	0.099	670	15,000 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-82-198	10/11/22	N	--	<1
MW-82-198	11/08/22	N	--	<1
MW-82-198	12/05/22	N	--	<1
MW-83-090	02/19/20	N	--	<1 J
MW-83-090	05/28/20	N	--	<1
MW-83-090	05/28/20	FD	--	<1
MW-83-090	08/26/20	N	--	<1 J
MW-83-090	12/09/20	N	--	<1
MW-83-090	12/09/20	FD	--	<1
MW-83-090	02/23/21	N	--	<1
MW-83-090	05/25/21	N	--	<1
MW-83-090	05/25/21	FD	--	<1
MW-83-090	08/23/21	N	--	<1
MW-83-090	12/16/21	N	--	--
MW-83-090	06/22/22	N	--	--
MW-83-090	11/30/22	N	--	--
MW-83-180	01/29/20	N	--	<1
MW-83-180	02/19/20	N	--	<1 J
MW-83-180	03/17/20	N	--	<1 J
MW-83-180	04/23/20	N	--	<1
MW-83-180	05/28/20	N	--	<1
MW-83-180	06/15/20	N	--	<1
MW-83-180	07/22/20	N	--	<1
MW-83-180	08/26/20	N	--	<10 J
MW-83-180	09/29/20	N	--	<1 J
MW-83-180	10/21/20	N	--	<20 J
MW-83-180	12/09/20	N	--	<1
MW-83-180	02/23/21	N	--	<1
MW-83-180	05/25/21	N	--	<1
MW-83-180	08/23/21	N	--	<1
MW-83-180	12/16/21	N	--	--
MW-83-180	06/22/22	N	--	--
MW-83-180	11/30/22	N	--	--
MW-83-225	02/19/20	N	--	<1 J
MW-83-225	05/28/20	N	--	<1
MW-83-225	08/26/20	N	--	<1 J
MW-83-225	12/09/20	N	--	<1
MW-83-225	02/23/21	N	--	<1
MW-83-225	02/23/21	FD	--	<1
MW-83-225	05/25/21	N	--	<1
MW-83-225	08/23/21	N	--	<1
MW-83-225	12/16/21	N	--	--
MW-83-225	06/22/22	N	--	--
MW-83-225	11/30/22	N	--	--
MW-83-245	02/19/20	N	--	<1 J
MW-83-245	05/22/20	N	--	<1
MW-83-245	08/26/20	N	--	<1 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-83-245	12/09/20	N	19	16	<0.1	100	1.7	290	0.025	<0.02	11	0.068	68	58
MW-83-245	02/23/21	N	23	21	<0.1	85	3	490 J	<0.1	<0.1	19 J	0.08	64	42 J
MW-83-245	05/25/21	N	14	13	<0.1 J	150	1.9	460 J	<0.1	<0.1 J	4.5 J	<0.0005	68	140 J
MW-83-245	08/23/21	N	17	17	<0.1	110	1.7	370	0.11 J	0.021 J	3.1 J	0.0019	60	87 J
MW-83-245	12/16/21	N	3.6	4.1	<0.1	--	--	--	--	--	--	0.042	64	--
MW-83-245	06/22/22	N	2,600	2,600 J	--	--	--	--	--	--	--	--	--	--
MW-83-245	11/30/22	N	3,100	3,000	1.3	--	--	--	--	--	--	0.027	56 J	--
MW-84-057	01/27/20	N	31	29	1.2	44	0.53	68	0.87 J	0.05 J	12	0.0022	19	6.4
MW-84-057	02/19/20	N	32	31	1.4	46	0.51 J	90 J	0.55	0.093 J	15 J	0.0034	20	7.8 J
MW-84-057	03/18/20	N	29	29	1.2	45 J	0.43	80	0.22 J	0.13 J	14	0.0029	19	7.4
MW-84-057	03/18/20	FD	29	29	1.2	44 J	0.43	82	0.37 J	0.12 J	14	0.0033	18	7.8
MW-84-057	04/22/20	N	30	30	1.3	47	0.38	78	0.23 J	0.089 J	13	0.0034 J	19	8.1
MW-84-057	04/22/20	FD	30	30	1.2	45	0.37	76	0.3 J	0.055 J	13	0.0026 J	18	8
MW-84-057	05/28/20	N	27	28	1.2	49	0.43	83	0.42	0.048	15	0.0089	18	8 J
MW-84-057	06/17/20	N	26	26	1.2 J	52	0.44	83	0.37	0.076	15	0.0032	17	7.9
MW-84-057	07/22/20	N	24	27	1.2	53	0.48	82	0.81	0.026	15 J	<0.0005	18	7.8 J
MW-84-057	08/21/20	N	28	28	1.2	54	0.23	80	1.60	0.075	17	0.0023	19	9
MW-84-057	09/29/20	N	0.42	<1	<0.1	220	0.44 J	290 J	0.045 J	<0.02 J	65 J	0.06	7.3	11 J
MW-84-057	10/20/20	N	28	27	1.2 J	49	0.42	73	0.42 J	<0.02	13 J	<0.0005	17	7.9 J
MW-84-057	12/10/20	N	31	32	1.2	45	0.32	72 J	0.57 J	0.046 J	15	0.00082	18	8.6
MW-84-057	02/19/21	N	32	34	1.6	47	0.42	64 J	0.5	<0.02	14	0.0021	19	6.1
MW-84-057	05/24/21	N	27	28	0.67 J	56	0.39	96 J	0.73 J	0.11 J	16 J	0.0047	17	8.5 J
MW-84-057	08/20/21	N	23	26	1.1	56	0.37	97	0.076 J	0.02 J	16 J	<0.0005	12	8 J
MW-84-057	11/29/21	N	27	27	0.9	--	--	--	--	--	--	0.0018	12	--
MW-84-057	06/06/22	N	24	25	--	--	--	--	--	--	--	--	--	--
MW-84-057	11/29/22	N	31 J	39 J	1.7	--	--	--	--	--	--	<0.0005 J	22	--
MW-84-095	01/27/20	N	1.2	1.3	<0.1	220	0.55	250	0.25 J	0.055 J	48	0.06	6.3	12
MW-84-095	02/19/20	N	0.53	<1	0.3	220	0.82 J	120 J	0.25	<0.1 J	21 J	0.052	7.1	19 J
MW-84-095	03/18/20	N	1.5	1.2	<0.1	220 J	0.44	330	0.78 J	0.053 J	58	0.02	6.3	14
MW-84-095	04/22/20	N	2.1	2.6	<0.1	220	0.43	320	0.52	0.059 J	55	0.021	5.9	13
MW-84-095	05/28/20	N	2.1	2.2	<0.1	220	0.47	310	2	0.028	61	0.028	6.5	15 J
MW-84-095	05/28/20	FD	2.1	2.2	<0.1	230	0.49	300	2	0.066	59	0.027	6.8	13 J
MW-84-095	06/17/20	N	1.7	1.7	<0.1 J	240	0.51	300	2.60	0.055	57	0.048	7	13
MW-84-095	07/22/20	N	2.7	3.1	<0.1	220	0.59	290	1.20	0.048	58 J	0.023	6.4	13 J
MW-84-095	08/20/20	N	2.9	2.8	<0.1	220	0.72 J	310	1.20	0.83 J	67	0.018	6.5	15
MW-84-095	08/20/20	FD	3 J	2.7	<0.1	200	0.47 J	320	1.20	0.25 J	67	0.018	6.4	15
MW-84-095	09/29/20	N	2.9	3.6	<0.1	230	0.52 J	240 J	1.60 J	0.12 J	58 J	0.024	6.2	11 J
MW-84-095	10/20/20	N	3.3	3.1	<0.1 J	210	0.5	300	0.31 J	<0.02	56 J	0.026	5.2	16 J
MW-84-095	12/10/20	N	3.4	3.7	<0.1	220	0.38	270 J	1.90 J	0.084 J	64	0.028	5.3	14
MW-84-095	12/10/20	FD	3.4	3.6	<0.1	210	0.36	270 J	2.20 J	0.074 J	63	0.027	5	14
MW-84-095	02/19/21	N	3.3	3.7	1.1	230	0.43	260 J	0.6	<0.02	64	0.034	5.3	12
MW-84-095	05/24/21	N	3.3	3.5	<0.1 J	250	0.45	460 J	1.30 J	0.19 J	69 J	0.017	5.3	17 J
MW-84-095	08/20/21	N	2.6	3.5	<0.1	180	0.41	320	0.76 J	<0.02 J	54 J	<0.0005	5.4	16 J
MW-84-095	11/29/21	N	3.4	4.2	<0.1	--	--	--	--	--	--	0.0058	5.4	--
MW-84-095	06/06/22	N	2.1	3	--	--	--	--	--	--	--	--	--	--
MW-84-095	11/29/22	N	2.8 J	1.6 J	0.29	--	--	--	--	--	--	0.00068 J	16	--
MW-84-132	01/27/20	N	<0.2	<1	<0.1	100	1.3	240	0.16 J	0.12 J	24	0.12	29	21

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-83-245	12/09/20	N	<0.5	3,400	3.1	23	<0.2	6,600	4.1	--	--	0.18	660	12,000 J
MW-83-245	02/23/21	N	<0.5	4,600	2.6	29	<0.22	6,700	4.3	--	--	0.29	690	13,000
MW-83-245	05/25/21	N	0.67	4,100 J	6.1	210	0.28	6,200	4.5	--	--	0.22	630	12,000
MW-83-245	08/23/21	N	<0.5	4,400	5.1	89	0.21	6,200	4	--	--	<0.1	630	12,000
MW-83-245	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-83-245	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-245	11/30/22	N	2.8	--	--	--	--	--	--	2.2	--	--	--	--
MW-84-057	01/27/20	N	5.2	240 J	6.7	86	0.11	360	1.9	--	--	9.9	210	1,100
MW-84-057	02/19/20	N	5.3	280	7.7	89	0.04 J	340	1.7	--	--	11	210	1,100
MW-84-057	03/18/20	N	5	260	7.4	84	<0.1	360	1.7	--	--	11 J	200	1,100
MW-84-057	03/18/20	FD	4.8	270	7.4	85	<0.1	360	1.8	--	--	11 J	200	1,100
MW-84-057	04/22/20	N	5.2	280	7.7	80	<0.1	390	1.7	--	--	10	210	1,100
MW-84-057	04/22/20	FD	5.1	270	7.5	81	<0.1	370	1.9	--	--	9.5	200	1,100
MW-84-057	05/28/20	N	4.2	310	7.7	77	<0.2	410	2.3 J	--	--	8.2 J	190	1,100
MW-84-057	06/17/20	N	4	280	7.8	82	<0.2	430	1.9	--	--	7.6 J	180	1,200
MW-84-057	07/22/20	N	4	290	7.7	78	<0.2	440	2	--	--	8.2	180	1,100
MW-84-057	08/21/20	N	4.1	300	8.7	79	<0.2	430	2.1	--	--	8.7	170	1,200
MW-84-057	09/29/20	N	0.9	630 J	4.1	51	<0.2	1,700	3	--	--	1.2	230	4,000
MW-84-057	10/20/20	N	4.2	230	7.5	81	<0.2	390 J	2.1	--	--	9.1	180	1,100
MW-84-057	12/10/20	N	5	250	8.9	82	<0.2	480	2	--	--	11	260	1,000
MW-84-057	02/19/21	N	4.8	200	8.2	90	<0.22	360	2.1	--	--	11	210	1,100
MW-84-057	05/24/21	N	3.9	240 J	8.6	80	<0.2	450	2.3	--	--	7.6	180	1,100
MW-84-057	08/20/21	N	3.4	300 J	8.6	77	<0.2	510	2	--	--	7.4	170	1,200
MW-84-057	11/29/21	N	3.7	--	--	--	--	--	--	--	--	8.7	--	--
MW-84-057	06/06/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-057	11/29/22	N	4.6	--	--	--	--	--	--	6.8 J	--	--	--	--
MW-84-095	01/27/20	N	0.88	640 J	3.7	54	0.15	1,700	3.1	--	--	1.1	230	3,800
MW-84-095	02/19/20	N	0.8	780	3.8	55	0.1	1,700	2.9	--	--	0.98	230	3,600
MW-84-095	03/18/20	N	0.87	760	4.1	56	<0.1	1,700	2.9	--	--	1.1 J	240	3,700
MW-84-095	04/22/20	N	1	830	4.5	52	<0.1	1,800	2.5	--	--	2.1	250	3,900
MW-84-095	05/28/20	N	0.88	730	4.7	49	<0.2	1,800	2.8 J	--	--	1.1 J	250	4,400
MW-84-095	05/28/20	FD	0.95	690	4.7	54	<0.2	1,800	3.1 J	--	--	1.3 J	250	4,600
MW-84-095	06/17/20	N	0.91	790	4.7	55	<0.2	1,800	2.9	--	--	1.1 J	250	4,600
MW-84-095	07/22/20	N	0.92	780	4.9	50	<0.2	1,700	3.2	--	--	1.3	250	4,300
MW-84-095	08/20/20	N	0.98	860	5.2	52	<0.2	1,700	2.6	--	--	1.4	240	4,500
MW-84-095	08/20/20	FD	1	860	5	52	<0.2	1,800	2.4	--	--	1.2	240	4,400
MW-84-095	09/29/20	N	0.95	690 J	4.8	54	<0.2	1,700	3	--	--	1.2	230	4,000
MW-84-095	10/20/20	N	1	730	4.5	53	<0.2	1,800 J	2.6	--	--	1.2	240	4,200
MW-84-095	12/10/20	N	0.91	750	5.2	50	<0.2	1,700	3.3	--	--	1.4	240	3,500
MW-84-095	12/10/20	FD	0.9	750	5	49	<0.2	1,700	3	--	--	1.3	240	3,600
MW-84-095	02/19/21	N	1.1	740	4.8	54	<0.2	1,800	2.9	--	--	1.3	240	3,400
MW-84-095	05/24/21	N	0.86	760 J	7.4	50	<0.2	1,900	3.1	--	--	1.1	250	4,100
MW-84-095	08/20/21	N	0.9	600 J	5.1	52	<0.2	1,700	2.8	--	--	1.3	230	3,900
MW-84-095	11/29/21	N	0.86	--	--	--	--	--	--	--	--	1.3	--	--
MW-84-095	06/06/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-095	11/29/22	N	1	--	--	--	--	--	--	1.6 J	--	--	--	--
MW-84-132	01/27/20	N	0.76	1,800 J	4.2	53	0.15	3,000	4.2	--	--	0.39	370	6,000

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-83-245	12/09/20	N	--	<1
MW-83-245	02/23/21	N	--	<1
MW-83-245	05/25/21	N	--	<1
MW-83-245	08/23/21	N	--	<1
MW-83-245	12/16/21	N	--	--
MW-83-245	06/22/22	N	--	--
MW-83-245	11/30/22	N	--	--
MW-84-057	01/27/20	N	--	<1 J
MW-84-057	02/19/20	N	--	<1 J
MW-84-057	03/18/20	N	--	<10 J
MW-84-057	03/18/20	FD	--	<1 J
MW-84-057	04/22/20	N	--	<1
MW-84-057	04/22/20	FD	--	<1
MW-84-057	05/28/20	N	--	<1
MW-84-057	06/17/20	N	--	<1
MW-84-057	07/22/20	N	--	<10
MW-84-057	08/21/20	N	--	<1
MW-84-057	09/29/20	N	--	<1 J
MW-84-057	10/20/20	N	--	<1
MW-84-057	12/10/20	N	--	<10
MW-84-057	02/19/21	N	--	<1
MW-84-057	05/24/21	N	--	<1
MW-84-057	08/20/21	N	--	<1
MW-84-057	11/29/21	N	--	--
MW-84-057	06/06/22	N	--	--
MW-84-057	11/29/22	N	--	--
MW-84-095	01/27/20	N	--	<1 J
MW-84-095	02/19/20	N	--	<10
MW-84-095	03/18/20	N	--	<1 J
MW-84-095	04/22/20	N	--	<1
MW-84-095	05/28/20	N	--	<1
MW-84-095	05/28/20	FD	--	<1
MW-84-095	06/17/20	N	--	<1
MW-84-095	07/22/20	N	--	<1
MW-84-095	08/20/20	N	--	<1
MW-84-095	08/20/20	FD	--	<1
MW-84-095	09/29/20	N	--	<1 J
MW-84-095	10/20/20	N	--	<1
MW-84-095	12/10/20	N	--	<1
MW-84-095	12/10/20	FD	--	<1
MW-84-095	02/19/21	N	--	<1
MW-84-095	05/24/21	N	--	<1
MW-84-095	08/20/21	N	--	<1
MW-84-095	11/29/21	N	--	--
MW-84-095	06/06/22	N	--	--
MW-84-095	11/29/22	N	--	--
MW-84-132	01/27/20	N	--	<10 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-84-132	02/19/20	N	0.26	<1	0.46	99	1.4 J	290 J	0.061	0.079 J	27 J	0.079	29	19 J
MW-84-132	03/18/20	N	0.5	<1	<0.1	80 J	0.97	280	0.044 J	0.043 J	30	0.054	24	20
MW-84-132	04/22/20	N	0.57	<1	<0.1	92	1.1	270	0.66	0.064 J	25	0.041	29	19
MW-84-132	05/28/20	N	0.44	1	0.32	88	1	240	0.95	0.06	28	0.035	26	22 J
MW-84-132	06/17/20	N	0.53	<1	0.43 J	92	1.1	260	0.054	<0.02	30	0.037	24	18
MW-84-132	07/22/20	N	0.79	1	<0.1	90	1.2	250	0.029	<0.02	29 J	0.022	28	19 J
MW-84-132	08/21/20	N	1.1	2.1	<0.1	88	0.96	230	0.035	0.034	33	0.019	29	21
MW-84-132	09/29/20	N	1.2	1.3	<0.1	84	0.88 J	250 J	0.08 J	<0.02 J	33 J	0.011	28	16 J
MW-84-132	10/20/20	N	1.4	1.5	<0.1 J	79	1.1	250	0.33 J	<0.02	29 J	0.013	23	23 J
MW-84-132	12/10/20	N	2	2.1	<0.1	74	1.1	200 J	0.22 J	0.17 J	26	0.0046	28	20
MW-84-132	02/19/21	N	2.3	2.8	2.4	70	1	200 J	0.053	0.025	31	0.0046	27	19
MW-84-132	05/24/21	N	2.2	3	<0.1 J	73	0.94	320 J	3.10 J	0.095 J	32 J	0.0067	23	22 J
MW-84-132	08/20/21	N	2.6	3.6	<0.1	76	0.83	300	0.047 J	0.026 J	33 J	<0.0005	18	18 J
MW-84-132	11/29/21	N	2.4	2.6	<0.1	--	--	--	--	--	--	0.00074	16	--
MW-84-132	06/06/22	N	1.8	2	--	--	--	--	--	--	--	--	--	--
MW-84-132	11/29/22	N	2.6	2.5 J	1.5	--	--	--	--	--	--	0.0021 J	9.3	--
MW-84-193	01/27/20	N	43	39	4.9	58	1.8	180	0.16 J	0.037 J	11	0.037	46	32
MW-84-193	02/19/20	N	63	56	1.5	54	1.9 J	210 J	0.16	0.031 J	11 J	0.019	47	30 J
MW-84-193	03/18/20	N	51	43	0.78	50 J	1.7	210	0.12 J	0.044 J	12	0.019	45	32
MW-84-193	04/22/20	N	62	61	1.2	57	1.6	210	1.70	0.17 J	9.4	0.028	48	30
MW-84-193	05/22/20	N	42	40	<0.1	55	1.4	160	0.56 J	0.11 J	9.6 J	0.016	50	30 J
MW-84-193	06/17/20	N	40	39	5.3 J	57	1.7	190	0.29	<0.02	10	0.0082	49	29
MW-84-193	07/22/20	N	52	54	1.1	56	1.8	190	0.084	<0.02	10 J	0.0065	55	30 J
MW-84-193	08/20/20	N	54 J	48	1.1	54	1.1	190	0.22	0.15 J	13	0.0051	54	32
MW-84-193	09/29/20	N	48	45	1.5	59	1.8 J	190 J	<0.1 J	<0.02 J	12 J	0.016	54	29 J
MW-84-193	10/20/20	N	51	45	2.7 J	49	1.9	190	0.29 J	<0.02	11 J	0.0026	47	41 J
MW-84-193	12/10/20	N	74	64	0.81	46	1.6	150 J	0.4 J	<0.02 J	12	0.0019	47	32
MW-84-193	02/19/21	N	86	87	5.8	47	1.5	150 J	0.093	<0.02	12	0.00085	50	30
MW-84-193	05/24/21	N	52	49	<0.1 J	49	1.6	230 J	0.05 J	0.07 J	9.7 J	0.0011	51	35 J
MW-84-193	08/20/21	N	23	25	<0.1	40	1.5	170	0.057 J	0.021 J	6.3 J	0.0012	50	28 J
MW-84-193	11/29/21	N	14	15	2.2	--	--	--	--	--	--	0.082	58	--
MW-84-193	06/06/22	N	3.9	4.7	--	--	--	--	--	--	--	--	--	--
MW-84-193	11/29/22	N	3.3 J	3.3 J	4.8	--	--	--	--	--	--	<0.0005 J	48	--
MW-85-129	02/18/20	N	150	150	0.79	72 J	0.6	130	0.37 J	0.1	27	0.0034	3.1	11
MW-85-129	02/18/20	FD	150	150	0.81	72 J	0.59	140	0.41 J	0.084	27	0.0031	2.9	11
MW-85-129	05/20/20	N	130 J	120	0.51	64	0.42	110	0.34	0.069	27	0.0029	2.7	10 J
MW-85-129	08/21/20	N	140	140	0.76	70	0.19	130	0.17	<0.02	29	<0.0005	2.9	10
MW-85-129	12/09/20	N	140	130	0.56	69	0.47	120	0.1	<0.02	28	<0.0005	3	9.1
MW-85-129	02/22/21	N	130	130	0.62	65 J	0.39	120	0.12	0.025 J	24	<0.0005	2.7	8.9 J
MW-85-129	05/21/21	N	120	110	0.32 J	71	0.45	140 J	0.21 J	0.22 J	27 J	<0.0005	2.8	9.9 J
MW-85-129	08/20/21	N	130	130	0.41	56	0.43	110	0.16 J	0.035 J	21 J	<0.0005	4.2	10 J
MW-85-129	11/30/21	N	130	140	0.65	--	--	--	--	--	--	<0.0005	5	--
MW-85-129	06/10/22	N	110	110 J	--	--	--	--	--	--	--	--	--	--
MW-85-129	12/01/22	N	190	180	0.86	--	--	--	--	--	--	0.00096 J	2.6 J	--
MW-85-217	02/18/20	N	1,100	1,100	6.5	29 J	2.2	260	0.46 J	0.2	11	0.045	93	31
MW-85-217	05/20/20	N	870 J	850	1.1	29	1.9	160	1.90	0.025	11	0.032	97	33 J
MW-85-217	08/21/20	N	1,100	970	1.9	27	1.8	170	1.10	0.034	12	0.014	100	30

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-84-132	02/19/20	N	0.73	1,700	4.8	57	0.05 J	2,700	3.9	--	--	0.47	350	5,600
MW-84-132	03/18/20	N	0.76	1,600	4.9	52	<0.1	2,600	3.1	--	--	0.59 J	340	5,400
MW-84-132	04/22/20	N	0.95	1,700	6.1	39	<0.1	3,000	3.7	--	--	0.72	380	5,700
MW-84-132	05/28/20	N	0.82	1,700	6	51	<0.2	2,700	3.5 J	--	--	0.8 J	340	5,800
MW-84-132	06/17/20	N	0.88	1,500	5.7	51	<0.2	2,600	3.7	--	--	0.77 J	320	5,700
MW-84-132	07/22/20	N	0.88	2,000	6.2	50	<0.2	2,700	3.4	--	--	0.84	340	5,700
MW-84-132	08/21/20	N	0.95	1,700	6.5	50	<0.2	2,700	3.8	--	--	0.74	340	6,100
MW-84-132	09/29/20	N	1.1	1,300 J	6.6	52	<0.2	2,500	3.5	--	--	1	310	5,400
MW-84-132	10/20/20	N	1	1,600	6	51	<0.2	2,700 J	4	--	--	0.83	340	5,700
MW-84-132	12/10/20	N	1.1	1,800	7.4	48	<0.2	3,700	3.6	--	--	0.94	480	5,500
MW-84-132	02/19/21	N	1.1	1,500	7.6	49	<0.22	2,800	3.9	--	--	1	360	5,800
MW-84-132	05/24/21	N	1.2	1,500 J	7.5	51	<0.2	2,600	3.7	--	--	0.91	320	5,100
MW-84-132	08/20/21	N	0.84	1,500 J	8.2	51	<0.2	2,600	3.4	--	--	1.1	330	5,600
MW-84-132	11/29/21	N	1.1	--	--	--	--	--	--	--	--	1.1	--	--
MW-84-132	06/06/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-132	11/29/22	N	1.4	--	--	--	--	--	--	1.5 J	--	--	--	--
MW-84-193	01/27/20	N	<2.5	3,200 J	6.7	46	0.07 J	4,100	4.7	--	--	1	530	8,000
MW-84-193	02/19/20	N	1	2,700	7.5	44	0.03 J	4,000	4.4	--	--	1.1	550	8,400
MW-84-193	03/18/20	N	0.89	2,600	6.8	47	<0.1	4,100	3.8	--	--	0.95 J	530	7,800
MW-84-193	04/22/20	N	<2.5	2,700	8.1	46	<0.1	4,400	3.4	--	--	1.6	560	8,300
MW-84-193	05/22/20	N	0.98	3,400 J	8.2	43	<0.2	4,100	5	--	--	0.93	530	8,600
MW-84-193	06/17/20	N	1.1	2,600	8.6	45	<0.2	4,100	4.2	--	--	0.99 J	520	8,200
MW-84-193	07/22/20	N	0.93	3,400	8.8	43	<0.2	4,100	4.1	--	--	1	530	8,200
MW-84-193	08/20/20	N	1.1	2,700	9	44	<0.2	4,000	4	--	--	1.1	520	8,400
MW-84-193	09/29/20	N	1	2,500 J	8.1	45	<0.2	3,900	4.2	--	--	0.89	490	8,200
MW-84-193	10/20/20	N	0.98	3,400	8	43	<0.2	3,900 J	4.1	--	--	0.95	510	8,400
MW-84-193	12/10/20	N	1.1	2,800	8.6	43	<0.2	5,500	4.3	--	--	1.1	740	7,900
MW-84-193	02/19/21	N	1.2	2,400	8.7	44	<0.2	4,100	3.6	--	--	1.1	530	8,200
MW-84-193	05/24/21	N	1.2	2,700 J	9.1	48	<0.2	4,000	4.4	--	--	0.97	510	8,000
MW-84-193	08/20/21	N	0.95	2,400 J	11	47	<0.2	3,900	3.7	--	--	0.84	530	7,700
MW-84-193	11/29/21	N	1.1	--	--	--	--	--	--	--	--	0.93	--	--
MW-84-193	06/06/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-193	11/29/22	N	1.5	--	--	--	--	--	--	1.4 J	--	--	--	--
MW-85-129	02/18/20	N	9.9	280	7.6	160	0.06 J	370	0.52	--	--	17	220	1,200
MW-85-129	02/18/20	FD	9.5	290	7.6	160	0.06 J	370	<0.5	--	--	18	220	1,200
MW-85-129	05/20/20	N	9.6	300	6.8	140	<0.2	380	0.62	--	--	18 J	220	1,300
MW-85-129	08/21/20	N	10	270	8.1	160	<0.2	380	0.67	--	--	22	220	1,300
MW-85-129	12/09/20	N	9.3	230	7.6	150	<0.2	400	0.71	--	--	22	230	1,200
MW-85-129	02/22/21	N	11	290 J	7.3	150	<0.2	400	0.65	--	--	15	230	1,200
MW-85-129	05/21/21	N	9.6	260 J	7.6	150	<0.2	390	0.62	--	--	18 J	230	1,300
MW-85-129	08/20/21	N	8.2	250 J	7.5	130	<0.2	380	0.56	--	--	16	220	1,200
MW-85-129	11/30/21	N	9.6	--	--	--	--	--	--	--	--	16	--	--
MW-85-129	06/10/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-85-129	12/01/22	N	9.8	--	--	--	--	--	--	20	--	--	--	--
MW-85-217	02/18/20	N	6.5	3,500	7	55	0.05 J	3,600	4.8	--	--	6.9	1,000	8,200
MW-85-217	05/20/20	N	4.8	3,300	6.2	54	<0.2	3,800	4.1	--	--	5.1 J	950	8,800
MW-85-217	08/21/20	N	5.7	2,800	6.7	54	<0.2	3,700	4.8	--	--	7.3	950	8,600

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-84-132	02/19/20	N	--	<1 J
MW-84-132	03/18/20	N	--	<1 J
MW-84-132	04/22/20	N	--	<1
MW-84-132	05/28/20	N	--	<1
MW-84-132	06/17/20	N	--	<1
MW-84-132	07/22/20	N	--	<1
MW-84-132	08/21/20	N	--	<1
MW-84-132	09/29/20	N	--	<1 J
MW-84-132	10/20/20	N	--	<1
MW-84-132	12/10/20	N	--	<1
MW-84-132	02/19/21	N	--	<1
MW-84-132	05/24/21	N	--	<1
MW-84-132	08/20/21	N	--	<1
MW-84-132	11/29/21	N	--	--
MW-84-132	06/06/22	N	--	--
MW-84-132	11/29/22	N	--	--
MW-84-193	01/27/20	N	--	<1 J
MW-84-193	02/19/20	N	--	<1 J
MW-84-193	03/18/20	N	--	<1 J
MW-84-193	04/22/20	N	--	<1
MW-84-193	05/22/20	N	--	<1
MW-84-193	06/17/20	N	--	<1
MW-84-193	07/22/20	N	--	<1
MW-84-193	08/20/20	N	--	<1
MW-84-193	09/29/20	N	--	<1 J
MW-84-193	10/20/20	N	--	<1
MW-84-193	12/10/20	N	--	<1
MW-84-193	02/19/21	N	--	<1
MW-84-193	05/24/21	N	--	<1
MW-84-193	08/20/21	N	--	<1
MW-84-193	11/29/21	N	--	--
MW-84-193	06/06/22	N	--	--
MW-84-193	11/29/22	N	--	--
MW-85-129	02/18/20	N	--	<1 J
MW-85-129	02/18/20	FD	--	<1 J
MW-85-129	05/20/20	N	--	<1 J
MW-85-129	08/21/20	N	--	<1
MW-85-129	12/09/20	N	--	<10
MW-85-129	02/22/21	N	--	<1
MW-85-129	05/21/21	N	--	<1
MW-85-129	08/20/21	N	--	<5
MW-85-129	11/30/21	N	--	--
MW-85-129	06/10/22	N	--	--
MW-85-129	12/01/22	N	--	--
MW-85-217	02/18/20	N	--	<1 J
MW-85-217	05/20/20	N	--	<1 J
MW-85-217	08/21/20	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-85-217	12/09/20	N	1,000	930	1.6	27	1.8	170	0.24	<0.02	11	0.0051	100	30
MW-85-217	02/22/21	N	1,100	37	1.1	25 J	3	290	<0.1	<0.1	14	0.002	95	27 J
MW-85-217	05/21/21	N	900	850	<0.1 J	26	2	250 J	1.40 J	0.041 J	10 J	0.0054	95	32 J
MW-85-217	08/20/21	N	520	580	<0.1	25	1.7	230	1.10 J	0.032 J	8.7 J	0.0022	81	27 J
MW-85-217	11/30/21	N	490	500	<0.1	--	--	--	--	--	--	0.003	86	--
MW-85-217	06/10/22	N	520	590 J	--	--	--	--	--	--	--	--	--	--
MW-85-217	12/01/22	N	570	480	3.4	--	--	--	--	--	--	0.0027 J	47 J	--
MW-85-237	02/18/20	N	2,100	1,900	5.5	55 J	2.5	460	0.031 J	0.045	15	0.044	77	38
MW-85-237	05/20/20	N	1,300 J	1,300	<0.1	49	2.2	250	0.11	0.027	14	0.041	83	44 J
MW-85-237	08/21/20	N	2,300	2,200	6.2	50	2.6	340	<0.1	<0.1	19	0.023	86	42
MW-85-237	12/09/20	N	2,100	2,000	<0.1	47	1.9	280	0.058	<0.02	13	0.0099	86	43
MW-85-237	02/22/21	N	2,100	2,100	<0.1	47 J	3.4	520	0.31	<0.1	21	0.0093	80	39 J
MW-85-237	05/21/21	N	390	370	<0.1 J	43	2.1	290 J	1.20 J	0.055 J	10 J	0.046	98	36 J
MW-85-237	08/20/21	N	1,400	1,500	<0.1	44	1.9	350	0.097 J	0.036 J	10 J	0.015	76	34 J
MW-85-237	11/30/21	N	240	250	<0.1	--	--	--	--	--	--	0.012	85	--
MW-85-237	06/10/22	N	1,700	2,200 J	--	--	--	--	--	--	--	--	--	--
MW-85-237	12/01/22	N	84	75	2	--	--	--	--	--	--	0.071 J	81 J	--
MW-86-030	02/27/20	N	<0.2	<1	5.5	140 J	0.33	83	1.80 J	1.40 J	25	0.31	8.7	5.1
MW-86-030	05/28/20	N	<0.2	<1	7.8	92	0.36	42	4.10	0.96	14	0.15	18	4.3 J
MW-86-030	08/25/20	N	<0.2	<1	2.5	98	0.14	83 J	1.70	<0.02	30	0.16	9.2 J	5.2 J
MW-86-030	12/01/20	N	<0.2	<1	3	110	0.19 J	89 J	1.50	0.61 J	31 J	0.34	8.2	5.2 J
MW-86-030	02/24/21	N	<0.2	<1	3.9	120 J	0.29	110	1.10 J	1	34	0.44	7.3	4.9 J
MW-86-030	05/18/21	N	<0.2	<1	5.1 J	99	0.22	87	0.62 J	0.47 J	29 J	0.32	12	3.6 J
MW-86-030	08/18/21	N	<0.2	<1	1.6 J	87	0.28	84 J	0.15 J	0.042 J	29 J	0.063	10	4
MW-86-030	08/18/21	FD	<0.2	<1	1.7 J	87	0.28	89 J	0.059 J	0.045 J	30 J	0.072	10	4.1
MW-86-030	12/14/21	N	<0.2	<1	2.6	95	--	--	--	0.033 J	--	0.42	8	--
MW-86-030	03/07/22	N	<0.2	--	5.4 J	97	--	--	--	0.36	--	0.26	--	--
MW-86-030	05/04/22	N	<0.2	<1	8.6	83	--	--	--	0.57 J	--	0.32	--	--
MW-86-030	08/23/22	N	<0.2	--	2.4 J	110 J	--	--	--	<0.02	--	0.088 J	--	--
MW-86-030	11/16/22	N	<0.2	<1	5	90	--	--	--	0.12	--	0.26 J	7	--
MW-86-066	02/27/20	N	<0.2	<1	1.1	78 J	0.77	210	0.33 J	0.42 J	35	1.10	22	12
MW-86-066	05/28/20	N	<0.2	<1	1.1	80	0.75	230	0.39	0.39	49	0.76	26	13 J
MW-86-066	08/25/20	N	<0.2	<1	0.63	79	0.62	150 J	0.62	0.4	43	0.72	31 J	12 J
MW-86-066	12/01/20	N	<0.2	<1	2	100	1.1 J	190 J	0.25	0.23 J	57 J	1	21	14 J
MW-86-066	02/24/21	N	<0.2	<1	<0.1	86 J	0.86	240	0.13 J	0.098	46	0.79	25	13 J
MW-86-066	02/24/21	FD	<0.2	<1	<0.1	83 J	0.89	240	0.12 J	0.11	48	0.77	25	16 J
MW-86-066	05/18/21	N	<0.2	<1	<0.1 J	67	0.75	220	0.22 J	0.16 J	41 J	0.64	28	10 J
MW-86-066	05/18/21	FD	<0.2	<1	<0.1 J	67	0.69	210	0.21 J	0.17 J	41 J	0.64	28	11 J
MW-86-066	08/18/21	N	<0.2	<1	<0.1 J	76	0.83	230 J	0.034 J	0.021 J	42 J	0.72	22	12
MW-86-066	12/14/21	N	<0.2	<1	<0.1	91	--	--	--	<0.02 J	--	0.76	16	--
MW-86-066	03/07/22	N	<0.2	--	<0.1 J	81	--	--	--	0.023	--	0.67	--	--
MW-86-066	05/04/22	N	<0.2	<1	<0.1	87	--	--	--	0.086 J	--	0.72	--	--
MW-86-066	08/23/22	N	<0.2	--	<0.1 J	78 J	--	--	--	0.042	--	0.69 J	--	--
MW-86-066	11/16/22	N	<0.2	<1	<0.1	80	--	--	--	<0.02	--	0.56 J	14	--
MW-86-120	02/27/20	N	<1	<1	<0.1	63 J	0.89	260	0.18 J	0.11 J	56	0.98	41	16
MW-86-120	05/28/20	N	<1	<1	1.3	52	0.81	260	0.79	<0.02	67	0.52	37	22 J
MW-86-120	08/25/20	N	<1	1	<0.1	51	0.69	180 J	0.24	0.044	67	0.45	41 J	25 J

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-85-217	12/09/20	N	5.4	2,200	6.5	54	<0.2	3,700	4.8	--	--	7.1	990	7,900
MW-85-217	02/22/21	N	6.9	3,100 J	6.6	49	<0.2	3,800	4.7	--	--	5.7	990	8,100
MW-85-217	05/21/21	N	5	2,500 J	6.7	53	<0.2	3,700	4.6	--	--	5.7 J	920	8,400
MW-85-217	08/20/21	N	3.9	3,000 J	6.7	51	<0.2	4,000	4.3	--	--	4.5	830	7,800
MW-85-217	11/30/21	N	3.4	--	--	--	--	--	--	--	--	2	--	--
MW-85-217	06/10/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-85-217	12/01/22	N	4.2	--	--	--	--	--	--	8.9	--	--	--	--
MW-85-237	02/18/20	N	2.8	4,200	4.1	44	0.05 J	5,700	5	--	--	3.6	870	11,000
MW-85-237	05/20/20	N	2.6	4,000	4.3	48	<0.2	5,100	3.8	--	--	3.4 J	850	11,000
MW-85-237	08/21/20	N	2.8	3,500	4.3	43	<0.2	5,600	4.6	--	--	3.9	860	12,000 J
MW-85-237	12/09/20	N	2.8	3,000	3.8	43	<0.2	5,700	4.5	--	--	4	860	11,000
MW-85-237	02/22/21	N	2.8	3,800 J	4	41	<0.2	5,800	5.1	--	--	2.8	870	11,000
MW-85-237	05/21/21	N	2.7	2,500 J	6	54	<0.2	4,400	4.9	--	--	2.7 J	800	9,500
MW-85-237	08/20/21	N	3	3,900 J	5.3	44	<0.2	5,300	4.5	--	--	3	820	10,000
MW-85-237	11/30/21	N	2.4	--	--	--	--	--	--	--	--	1.6	--	--
MW-85-237	06/10/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-85-237	12/01/22	N	1.2	--	--	--	--	--	--	1.6	--	--	--	--
MW-86-030	02/27/20	N	<0.5	170	<1	310	1.1	160	1	--	--	<0.1	180	860
MW-86-030	05/28/20	N	<0.5	210	2.1	350	1.7	120	3.4 J	--	--	--	120	760
MW-86-030	08/25/20	N	0.74	120	<1	230	0.29	130	1	--	--	0.17	300	910
MW-86-030	12/01/20	N	<0.5	120	<1	300	0.64	150	1.4	--	--	<0.1	270	900
MW-86-030	02/24/21	N	<0.5	180 J	<1	250	0.75	140	1.4	--	--	<0.05	260	880
MW-86-030	05/18/21	N	1.1	170 J	<1	300	0.59	130	1.8	--	--	<0.05	280	910
MW-86-030	08/18/21	N	1.1	220 J	<1	310	0.24	120	1.4	--	--	<0.1	240	870
MW-86-030	08/18/21	FD	0.69	190 J	<1	320	0.23	120	1.4	--	--	<0.1	250	860
MW-86-030	12/14/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-86-030	03/07/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-86-030	05/04/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-86-030	08/23/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
MW-86-030	11/16/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
MW-86-066	02/27/20	N	<0.5	1,500	<1	170	0.11	1,800	2.2	--	--	<0.1	400	4,200
MW-86-066	05/28/20	N	<0.5	1,200	<1	150	0.24	2,000	2.3 J	--	--	--	420	4,400
MW-86-066	08/25/20	N	<0.5	950	<1	160	0.21	1,900	2.2	--	--	0.11	390	4,300
MW-86-066	12/01/20	N	<0.5	1,200	<1	160	<0.2	2,100	2.4	--	--	<0.1	460	4,300
MW-86-066	02/24/21	N	<0.5	1,000 J	1.3	150	0.33	1,900	2.4	--	--	<0.05	400	4,000
MW-86-066	02/24/21	FD	<0.5	1,100 J	1.3	150	0.3	1,900	2.3	--	--	<0.05	400	3,400
MW-86-066	05/18/21	N	<0.5	1,200 J	1	150	<0.2	1,900	2.5	--	--	0.25	410	4,100
MW-86-066	05/18/21	FD	<0.5	1,100 J	1	160	<0.2	1,900	2.3	--	--	0.29	400	4,000
MW-86-066	08/18/21	N	<0.5	1,300 J	1.6	150	<0.2	2,000	2	--	--	<0.1	430	4,600
MW-86-066	12/14/21	N	<0.5	--	--	--	--	--	--	--	--	0.53	--	--
MW-86-066	03/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-066	05/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-066	08/23/22	N	--	--	--	--	--	--	--	0.65	--	--	--	--
MW-86-066	11/16/22	N	<0.5	--	--	--	--	--	--	0.76	--	--	--	--
MW-86-120	02/27/20	N	<0.5	3,100	<1	96	0.06 J	3,600	3	--	--	0.29	1,000	8,600
MW-86-120	05/28/20	N	<0.5	2,900	1	88	<0.2	3,400	3.1 J	--	--	0.64 J	1,000	8,300
MW-86-120	08/25/20	N	<0.5	3,100	1.4	89	<0.2	3,500	3	--	--	0.83	1,000	8,400

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-85-217	12/09/20	N	--	<1
MW-85-217	02/22/21	N	--	<1
MW-85-217	05/21/21	N	--	<1
MW-85-217	08/20/21	N	--	<1
MW-85-217	11/30/21	N	--	--
MW-85-217	06/10/22	N	--	--
MW-85-217	12/01/22	N	--	--
MW-85-237	02/18/20	N	--	<1 J
MW-85-237	05/20/20	N	--	<1 J
MW-85-237	08/21/20	N	--	<1
MW-85-237	12/09/20	N	--	<1
MW-85-237	02/22/21	N	--	<1
MW-85-237	05/21/21	N	--	<1
MW-85-237	08/20/21	N	--	<1
MW-85-237	11/30/21	N	--	--
MW-85-237	06/10/22	N	--	--
MW-85-237	12/01/22	N	--	--
MW-86-030	02/27/20	N	--	1.6
MW-86-030	05/28/20	N	--	3.4
MW-86-030	08/25/20	N	--	1.2
MW-86-030	12/01/20	N	--	1.5
MW-86-030	02/24/21	N	--	1.3
MW-86-030	05/18/21	N	--	1.1
MW-86-030	08/18/21	N	--	1.9
MW-86-030	08/18/21	FD	--	2.1
MW-86-030	12/14/21	N	--	1.5
MW-86-030	03/07/22	N	--	1.7
MW-86-030	05/04/22	N	--	3.7
MW-86-030	08/23/22	N	--	1.7
MW-86-030	11/16/22	N	--	2.5
MW-86-066	02/27/20	N	--	<1
MW-86-066	05/28/20	N	--	<10
MW-86-066	08/25/20	N	--	<10
MW-86-066	12/01/20	N	--	<1
MW-86-066	02/24/21	N	--	<1
MW-86-066	02/24/21	FD	--	<1
MW-86-066	05/18/21	N	--	<1
MW-86-066	05/18/21	FD	--	<1
MW-86-066	08/18/21	N	--	<1
MW-86-066	12/14/21	N	--	<1
MW-86-066	03/07/22	N	--	<1
MW-86-066	05/04/22	N	--	<1
MW-86-066	08/23/22	N	--	<1
MW-86-066	11/16/22	N	--	<1
MW-86-120	02/27/20	N	--	<1
MW-86-120	05/28/20	N	--	<1
MW-86-120	08/25/20	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-86-120	12/01/20	N	<1	<1	3.1	55	1.1 J	170 J	0.033	0.69 J	66 J	0.62	51	16 J
MW-86-120	02/24/21	N	<1	<1	<0.1	47 J	0.95	320	0.18 J	<0.02	68	0.45	35	16 J
MW-86-120	05/18/21	N	1.1 J	1.3	<0.1 J	39	0.79	270	0.11 J	0.039 J	57 J	0.25	35	22 J
MW-86-120	08/18/21	N	<1	<1	<0.1 J	36	0.93	270 J	0.21 J	0.058 J	52 J	0.26	33	16
MW-86-120	12/14/21	N	<1	<1	<0.1	42	--	--	--	<0.02 J	--	0.37	33	--
MW-86-120	03/07/22	N	<1	--	<0.1 J	42	--	--	--	<0.1	--	0.37	--	--
MW-86-120	05/04/22	N	1.3	1.5	<0.1	37	--	--	--	<0.02 J	--	0.25	--	--
MW-86-120	08/23/22	N	<1	--	<0.1 J	38 J	--	--	--	<0.02	--	0.3 J	--	--
MW-86-120	11/16/22	N	<1	<1	<0.1	40	--	--	--	<0.02	--	0.49 J	36	--
MW-86-140	02/27/20	N	<1	1.3	1.4	67 J	0.9	430	0.24 J	0.064 J	58	1.50	44	24
MW-86-140	05/22/20	N	<1	<1	<0.1	63	0.73	320	0.64 J	0.11 J	51 J	1.40	41	24 J
MW-86-140	08/25/20	N	<1	<1	1.4	74	1.1	250 J	0.21	0.14	60	1.10	44 J	24 J
MW-86-140	12/01/20	N	<1	<1	0.93	63	1.1 J	350 J	0.066	0.088 J	79 J	1	39	28 J
MW-86-140	02/24/21	N	<1	<1	<0.1	56 J	1.2	480	0.16 J	<0.1	69	1	36	23 J
MW-86-140	05/18/21	N	<1	<1	<0.1 J	51	0.86	380	0.15 J	0.06 J	50 J	0.69	39	22 J
MW-86-140	08/18/21	N	<1	<1	<0.1 J	49	1	350 J	1.20 J	0.53 J	41 J	0.87	31	23
MW-86-140	12/14/21	N	<1	<1	<0.1	55	--	--	--	<0.02 J	--	0.73	34	--
MW-86-140	03/07/22	N	<1	--	<0.1 J	50	--	--	--	<0.1	--	0.82	--	--
MW-86-140	05/04/22	N	<1	<1	<0.1	64	--	--	--	1 J	--	0.89	--	--
MW-86-140	05/04/22	FD	<1	<1	<0.1	61	--	--	--	1.10 J	--	0.9	--	--
MW-86-140	08/23/22	N	<1	--	<0.1 J	83 J	--	--	--	0.52	--	0.79 J	--	--
MW-86-140	11/16/22	N	<1	<1	<0.1	70	--	--	--	0.18	--	0.96 J	1.6	--
MW-87-109	01/27/20	N	28	27	0.74	98	0.44	90	1.30 J	1 J	13	0.032	10	7.8
MW-87-109	02/25/20	N	24	23	0.6	110	0.4	120	1.70 J	0.055 J	16	0.00074	9.4	9.3 J
MW-87-109	03/18/20	N	26	25	0.62	98 J	0.36	110	0.39 J	0.062 J	16	0.0022	9	9
MW-87-109	04/23/20	N	20	19	0.54	150	0.41	130	2.60	0.22 J	19	0.0074	7.8	10
MW-87-109	05/29/20	N	21	22	0.37	130	0.32	120	3.70	0.12	21	0.0049	8.3	10
MW-87-109	06/15/20	N	22	34	0.48 J	120	0.37	120	1	0.12	18	0.0049	8.6	12 J
MW-87-109	07/22/20	N	24	25	0.68	120	0.39	120	2.10	0.12	18 J	0.0072	8.6	9.4 J
MW-87-109	08/26/20	N	27	27	0.53	140	0.61 J	97	0.62 J	0.32 J	19 J	0.0011	8.2	10 J
MW-87-109	09/30/20	N	24	25	0.3	140	0.38	120	0.87	0.04 J	20 J	0.00072	8	10
MW-87-109	10/20/20	N	25	25	0.62 J	140	0.38	110	1.80 J	0.53 J	16 J	0.014	8.3	11 J
MW-87-109	12/17/20	N	28	27	0.43	120	0.23	120	1	<0.02	16 J	0.0044	8.3	8.8 J
MW-87-109	02/25/21	N	24	24	0.32	150	0.34	130	1.60 J	<0.02	18	0.0016	7.7	12 J
MW-87-109	05/20/21	N	33 J	32	0.4	120	0.33	140	0.13 J	<0.02	17 J	<0.0005	8	11 J
MW-87-109	08/23/21	N	27	28	<0.1	120	0.32	120	0.24 J	0.039 J	17 J	0.00092	6.8	10 J
MW-87-109	11/30/21	N	18	20	<0.1	--	--	--	--	--	--	<0.0005	5.5	--
MW-87-109	06/08/22	N	26	26	--	--	--	--	--	--	--	--	--	--
MW-87-109	11/18/22	N	22	20	0.63	--	--	--	--	--	--	0.055	8.5	--
MW-87-139	01/27/20	N	9.5	8.3	<0.1	270	0.68	370	0.038 J	<0.02	66	0.0072	4.4	16
MW-87-139	02/18/20	N	6.6	6	<0.1	260 J	<0.5	410	<0.1	<0.1	67	0.0072	5.4	17
MW-87-139	03/18/20	N	7.3	6.3	<0.1	250 J	0.63	430	0.035 J	<0.02	77	0.0027	4.7	16
MW-87-139	04/23/20	N	4.8	4.2	<0.1	250	0.8	430	0.85	0.068 J	72	0.037	5.2	16
MW-87-139	05/29/20	N	6.2	6.8	0.42	170	0.33	220	0.69	0.08	49	0.013	9.9	30
MW-87-139	06/15/20	N	6.6	6.5	<0.1 J	250	0.6	410	0.12	0.09	73	0.0021	5.1	16 J
MW-87-139	07/22/20	N	5.9	6.5	<0.1	260	0.63	410	1.20	0.051	72 J	0.034	5.4	16 J
MW-87-139	08/26/20	N	9.7	9.4	<0.1	280	0.64 J	330	0.89 J	0.24 J	91 J	<0.0005	5.2	18 J

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-86-120	12/01/20	N	<0.5	1,900	<1	100	<0.2	3,600	3.4	--	--	0.3	1,100	8,400
MW-86-120	02/24/21	N	<0.5	2,700 J	1.3	95	<0.2	3,700	2.9	--	--	0.42	1,000	8,300
MW-86-120	05/18/21	N	<0.5	2,400 J	1.2	90	<0.2	3,400	3.2	--	--	1.1	1,000	8,100
MW-86-120	08/18/21	N	<0.5	2,600 J	1.7	87	<0.2	3,500	3.1	--	--	0.67	1,000	8,200
MW-86-120	12/14/21	N	<0.5	--	--	--	--	--	--	--	--	0.41	--	--
MW-86-120	03/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-120	05/04/22	N	--	--	--	--	--	--	--	0.91	--	--	--	--
MW-86-120	08/23/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-120	11/16/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-140	02/27/20	N	<0.5	4,600	<1	79	0.07 J	5,200	2.4	--	--	0.17	1,000	12,000
MW-86-140	05/22/20	N	<0.5	3,800 J	<1	67	<0.2	4,900	3.5	--	--	0.48	950	11,000
MW-86-140	08/25/20	N	0.59	3,900	<1	82	<0.2	4,700	3	--	--	0.52	930	11,000 J
MW-86-140	12/01/20	N	<0.5	3,200	<1	74	<0.2	5,300	3.4	--	--	0.58	1,000	11,000
MW-86-140	02/24/21	N	<0.5	3,100 J	<1	75	<0.2	5,300	3.6	--	--	0.48	960	11,000
MW-86-140	05/18/21	N	<0.5	3,900 J	<1	83	<0.2	4,600	3	--	--	0.82	920	10,000
MW-86-140	08/18/21	N	<0.5	2,700 J	1.3	97	0.79	4,000	3.1	--	--	0.15	840	8,600
MW-86-140	12/14/21	N	<0.5	--	--	--	--	--	--	--	--	0.78	--	--
MW-86-140	03/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-140	05/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-140	05/04/22	FD	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-140	08/23/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
MW-86-140	11/16/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
MW-87-109	01/27/20	N	6.8	290	3.2	77	0.06 J	530	2.4	--	--	7.7	180	1,300
MW-87-109	02/25/20	N	5.4	330	3.2	77	0.04 J	570	2.1	--	--	7.8	170	1,400
MW-87-109	03/18/20	N	5.9	310	3.1	77	<0.1	530	2.2	--	--	9.4 J	170	1,400
MW-87-109	04/23/20	N	4.1	340	2.8	73	0.03 J	680	1.9	--	--	6.3	170	1,600
MW-87-109	05/29/20	N	4.6	350	3.1	79	<0.2	680	1.9	--	--	6.9	170	1,800
MW-87-109	06/15/20	N	4.7	340	3.1	79	<0.2	630	2.2	--	--	7.2 J	160	1,600
MW-87-109	07/22/20	N	4.7	340	3.4	72	<0.2	610	2.1	--	--	7.9	160	1,600
MW-87-109	08/26/20	N	5.7	340 J	3.6	73	<0.2	610	2.2	--	--	7.9 J	160	1,600
MW-87-109	09/30/20	N	5.2 J	340	3.3	68	<0.2	660	2	--	--	7.3	160	1,800
MW-87-109	10/20/20	N	5.9	350	3.1	73	<0.2	590 J	2.6	--	--	7.6	170	1,500
MW-87-109	12/17/20	N	5.3	320	3.4	74	0.35	580	2.3	--	--	8.5	170	1,400
MW-87-109	02/25/21	N	4.5	340 J	3.2	71	<0.2	710	2.3	--	--	7.3	170	1,500
MW-87-109	05/20/21	N	5.2	330 J	3.4	74	<0.2	610	2.6	--	--	6.3	170	1,400
MW-87-109	08/23/21	N	4.1	290	3.5	71	<0.2	610	2.3	--	--	8.5	170	1,600
MW-87-109	11/30/21	N	2.9	--	--	--	--	--	--	--	--	5.1	--	--
MW-87-109	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-109	11/18/22	N	3.5	--	--	--	--	--	--	7.1	--	--	--	--
MW-87-139	01/27/20	N	0.89	800 J	3.2	49	0.06 J	2,200	2.6	--	--	1.2	330	5,000
MW-87-139	02/18/20	N	0.86	1,200	3.7	48	0.07 J	2,200	2.7	--	--	1.1	350	5,100
MW-87-139	03/18/20	N	0.85	950	3	48	<0.1	2,200	2.3	--	--	1.1 J	340	4,900
MW-87-139	04/23/20	N	0.9	1,000	3.1	46	0.33	2,500	2.5	--	--	1.3	360	5,000
MW-87-139	05/29/20	N	0.59	740	5.5	92	<0.2	1,500	2.1	--	--	1.2	250	3,600
MW-87-139	06/15/20	N	0.92	990	3.3	50	<0.2	2,400	2.6	--	--	1.2 J	340	5,400
MW-87-139	07/22/20	N	0.9	940	3.4	46	<0.2	2,300	2.5	--	--	1.4	350	5,500
MW-87-139	08/26/20	N	0.98	1,200 J	3.9	47	<0.2	2,200	2.4	--	--	1.2 J	350	5,800

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-86-120	12/01/20	N	--	<1
MW-86-120	02/24/21	N	--	<1
MW-86-120	05/18/21	N	--	<1
MW-86-120	08/18/21	N	--	<1
MW-86-120	12/14/21	N	--	<1
MW-86-120	03/07/22	N	--	<1
MW-86-120	05/04/22	N	--	<1
MW-86-120	08/23/22	N	--	<20
MW-86-120	11/16/22	N	--	<20
MW-86-140	02/27/20	N	--	<1
MW-86-140	05/22/20	N	--	<1
MW-86-140	08/25/20	N	--	<1
MW-86-140	12/01/20	N	--	<1
MW-86-140	02/24/21	N	--	<1
MW-86-140	05/18/21	N	--	<1
MW-86-140	08/18/21	N	--	<1
MW-86-140	12/14/21	N	--	<1
MW-86-140	03/07/22	N	--	<1
MW-86-140	05/04/22	N	--	<1
MW-86-140	05/04/22	FD	--	<1
MW-86-140	08/23/22	N	--	<1
MW-86-140	11/16/22	N	--	<1
MW-87-109	01/27/20	N	--	<1 J
MW-87-109	02/25/20	N	--	<1
MW-87-109	03/18/20	N	--	<1 J
MW-87-109	04/23/20	N	--	<1
MW-87-109	05/29/20	N	--	<1
MW-87-109	06/15/20	N	--	<1
MW-87-109	07/22/20	N	--	<1
MW-87-109	08/26/20	N	--	<1 J
MW-87-109	09/30/20	N	--	<1
MW-87-109	10/20/20	N	--	<1
MW-87-109	12/17/20	N	--	<1
MW-87-109	02/25/21	N	--	<1
MW-87-109	05/20/21	N	--	<10
MW-87-109	08/23/21	N	--	<1
MW-87-109	11/30/21	N	--	--
MW-87-109	06/08/22	N	--	--
MW-87-109	11/18/22	N	--	--
MW-87-139	01/27/20	N	--	<1
MW-87-139	02/18/20	N	--	<1 J
MW-87-139	03/18/20	N	--	<1 J
MW-87-139	04/23/20	N	--	<1
MW-87-139	05/29/20	N	--	<1
MW-87-139	06/15/20	N	--	<1
MW-87-139	07/22/20	N	--	<1
MW-87-139	08/26/20	N	--	<1 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-87-139	09/30/20	N	9.9	10	<0.1	270	0.64	400	0.16	0.04 J	83 J	0.0011	4.9	17
MW-87-139	10/20/20	N	<0.2	1.3	0.34 J	200	0.45	280	0.35 J	0.2 J	49 J	0.33	2.9	35 J
MW-87-139	12/17/20	N	10	9.9	<0.1	250	0.65	430	0.17	0.078	74 J	0.0041	4.7	16 J
MW-87-139	02/26/21	N	9.5	9.4	<0.1	280	0.64	370	0.059 J	<0.02	79	<0.0005	4.7	19 J
MW-87-139	05/20/21	N	12 J	11	<0.1	260	0.47	570	0.099 J	<0.02	80 J	<0.0005	4.2	20 J
MW-87-139	08/23/21	N	11	11	<0.1	260	0.44	490	0.14 J	0.026 J	74 J	0.0032	3.9	19 J
MW-87-139	11/30/21	N	9.8	9.9	<0.1	--	--	--	--	--	--	<0.0005	4.7	--
MW-87-139	06/08/22	N	8.7	8.5	--	--	--	--	--	--	--	--	--	--
MW-87-139	11/18/22	N	8	7.6	<0.1	--	--	--	--	--	--	0.0026	4.5	--
MW-87-192	01/27/20	N	0.44	<1	<0.1	91	1.3	220	0.59 J	0.35 J	24	0.046	27	18
MW-87-192	02/18/20	N	0.58	<1	<0.1	95 J	1.4	310	0.14 J	0.049	28	0.026	26	19
MW-87-192	03/18/20	N	0.57	<1	<0.1	87 J	1.1	260	0.04 J	0.089 J	27	0.03	26	18
MW-87-192	04/22/20	N	0.76	<1	<0.1	90	1.1	260	0.082	0.021 J	24	0.016	25	16
MW-87-192	05/29/20	N	0.66	<1	<0.1	90	1.1	220	0.035	<0.02	30	0.014	25	18
MW-87-192	06/17/20	N	0.54	<1	<0.1 J	92	1.2	240	0.091	<0.02	25	0.017	26	16
MW-87-192	07/22/20	N	0.75	1.2	<0.1	93	1.2	240	0.056	<0.02	26 J	0.015	27	17 J
MW-87-192	08/26/20	N	1	1.1	<0.1	85	1.3 J	180	0.075 J	0.027 J	31 J	0.011	25	22 J
MW-87-192	09/30/20	N	0.77	1.2	<0.1	84	1.4	220	0.18	0.039 J	29 J	0.0064	27	18
MW-87-192	10/20/20	N	0.87	<1	<0.1 J	82	1.1	230	0.43 J	0.17 J	24 J	0.0086	25	23 J
MW-87-192	12/17/20	N	1.1	1.3	<0.1	69	1.2	260	0.021	<0.02	26 J	0.0033	26	17 J
MW-87-192	02/26/21	N	1.1	1.4	<0.1	72	1.3	200	0.04 J	0.033	29	0.0015	26	16 J
MW-87-192	05/20/21	N	1.5 J	1.5	<0.1	71	1.1	290	0.09 J	0.059	28 J	<0.0005	23	21 J
MW-87-192	08/23/21	N	1.4	2.1	<0.1	73	0.97	260	0.061 J	0.045 J	25 J	<0.0005	20	21 J
MW-87-192	11/30/21	N	1.7	2.2	<0.1	--	--	--	--	--	--	<0.0005	22	--
MW-87-192	06/08/22	N	1.2	1.3	--	--	--	--	--	--	--	--	--	--
MW-87-192	11/18/22	N	1.4	1.4	<0.1	--	--	--	--	--	--	<0.0005	27	--
MW-87-275	01/27/20	N	<1	<1	3.8	76	1.5	230	<0.02 J	<0.02	19	0.02	42	24
MW-87-275	02/18/20	N	<1	<1	0.79	83 J	1.6	300	0.071 J	<0.02	21	0.0092	41	23
MW-87-275	03/18/20	N	<1	<1	<0.1	71 J	1.6	280	0.039 J	0.15 J	23	0.093	41	23
MW-87-275	04/22/20	N	<1	<1	<0.1	72	1.4	270	0.16	0.066 J	19	0.0069	43	22
MW-87-275	05/29/20	N	<1	<1	<0.1	70	1.7	300	0.11	<0.1	28	0.017	42	26
MW-87-275	06/17/20	N	0.86	1.1	3.7 J	70	1.5	240	0.13	<0.02	20	0.0062	43	22
MW-87-275	07/22/20	N	0.85	1.1	<0.1	74	1.6	240	0.1	<0.02	20 J	0.021	47	20 J
MW-87-275	07/22/20	FD	<1	1.1	<0.1	74	1.6	240	0.06	<0.02	20 J	0.023	45	21 J
MW-87-275	08/26/20	N	<1	1	<0.1	79	1.4 J	180	0.14 J	0.052 J	23 J	0.026	48	27 J
MW-87-275	08/26/20	FD	<1	<1	<0.1	81	1.4 J	180	0.13 J	<0.02	23 J	0.026	48	24 J
MW-87-275	09/30/20	N	<1	<1	<0.1	71	1.5	230	0.12 J	<0.02 J	22 J	0.023	46	24
MW-87-275	09/30/20	FD	<1	<1	<0.1	71	1.4	230	0.17 J	0.095 J	21 J	0.023	45	22
MW-87-275	10/20/20	N	0.95	1.1	0.82 J	66	1.4	230	0.13 J	<0.02	19 J	0.0042	41	27 J
MW-87-275	10/20/20	FD	0.93	1.1	0.96 J	64	1.5	230	0.3 J	<0.02	20 J	0.0044	42	28 J
MW-87-275	12/17/20	N	1.1	1.3	<0.1	61	1.5	270	0.029	<0.02	21 J	0.003	45	22 J
MW-87-275	02/26/21	N	1	1.5	<0.1	60	1.6	200	0.063 J	0.061	23	0.00061	43	20 J
MW-87-275	05/20/21	N	1.1 J	1.2	<0.1	60	1.4	290	0.02 J	<0.02	20 J	0.0072	44	26 J
MW-87-275	08/23/21	N	<1	1.5	<0.1	58	1.3	270	0.21 J	0.025 J	19 J	0.028	41	19 J
MW-87-275	11/30/21	N	1.3	1.8	<0.1	--	--	--	--	--	--	<0.0005	43	--
MW-87-275	06/08/22	N	<1	1.2	--	--	--	--	--	--	--	--	--	--
MW-87-275	11/18/22	N	<1	1.3	1.6	--	--	--	--	--	--	<0.0005	41	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-87-139	09/30/20	N	0.95 J	1,000	3.7	48	<0.2	2,200	2.6	--	--	1.2	340	5,400
MW-87-139	10/20/20	N	<0.5	550	<1	120	0.44	1,400 J	2.1	--	--	0.11	220	3,700
MW-87-139	12/17/20	N	0.72	960	3.8	50	0.3	2,100	2.3	--	--	1.2	350	4,700
MW-87-139	02/26/21	N	0.87	1,000	3.2	44	<0.2	2,300	2.7	--	--	1.3	340	4,200
MW-87-139	05/20/21	N	0.88	860 J	3.2	46	<0.2	2,100	2.8	--	--	1.1	340	4,400
MW-87-139	08/23/21	N	0.71	680	3.7	49	<0.2	2,200	2.4	--	--	1.3	360	5,400
MW-87-139	11/30/21	N	1.1	--	--	--	--	--	--	--	--	1.3	--	--
MW-87-139	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-139	11/18/22	N	1	--	--	--	--	--	--	1.6	--	--	--	--
MW-87-192	01/27/20	N	0.96	2,000 J	5.7	50	0.05 J	2,800	3.9	--	--	0.66	340	5,500
MW-87-192	02/18/20	N	0.94	1,900	6.5	49	0.05 J	2,700	3.7	--	--	0.79	340	5,700
MW-87-192	03/18/20	N	1	1,700	5.7	47	<0.1	2,800	3.1	--	--	0.73 J	340	5,700
MW-87-192	04/22/20	N	1.2	1,700	6.5	44	<0.1	2,800	3	--	--	0.88	350	5,400
MW-87-192	05/29/20	N	1.1	1,700	6.4	45	<0.2	2,700	3.4	--	--	0.7	330	5,700
MW-87-192	06/17/20	N	0.93	1,600	6.3	50	<0.2	2,800	3.7	--	--	0.7 J	340	6,200
MW-87-192	07/22/20	N	1.1	1,900	6.7	48	<0.2	2,700	3.6	--	--	0.78	340	5,800
MW-87-192	08/26/20	N	1	2,400 J	6.7	48	<0.2	2,600	3.3	--	--	0.86 J	330	5,900
MW-87-192	09/30/20	N	1.8 J	1,700	6.8	47	<0.2	2,700	3.7	--	--	0.87	340	5,700
MW-87-192	10/20/20	N	1.1	2,000	6.4	55	<0.2	2,800 J	3.7	--	--	0.81	340	5,700
MW-87-192	12/17/20	N	1.1	1,600	7.1	47	<0.2	2,700	3.1	--	--	0.94	340	5,300
MW-87-192	02/26/21	N	1.1	1,900	7.3	44	<0.2	2,800	3.7	--	--	0.94	340	5,400
MW-87-192	05/20/21	N	1.1	1,600 J	7.5	47	<0.2	2,600	4	--	--	0.98	330	5,100
MW-87-192	08/23/21	N	2.6	1,500	8.2	48	<0.2	2,700	3.5	--	--	1	330	5,700
MW-87-192	11/30/21	N	1.3	--	--	--	--	--	--	--	--	1.1	--	--
MW-87-192	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-192	11/18/22	N	1.1	--	--	--	--	--	--	1.1	--	--	--	--
MW-87-275	01/27/20	N	1	2,700 J	4	44	0.04 J	3,500	4.5	--	--	0.77	430	7,100
MW-87-275	02/18/20	N	0.85	2,300	4.2	22	0.05 J	3,400	4.4	--	--	0.59	450	6,800
MW-87-275	03/18/20	N	0.66	2,200	3.3	43	<0.1	3,600	4.2	--	--	0.59 J	460	7,400
MW-87-275	04/22/20	N	1	2,300	3.9	29	<0.1	3,600	4.1	--	--	0.69	470	7,300
MW-87-275	05/29/20	N	0.82	2,400	3.9	42	<0.2	3,500	4.7	--	--	0.73	450	8,000
MW-87-275	06/17/20	N	1.1	2,300	4.2	46	<0.2	3,500	4	--	--	0.7 J	440	7,600
MW-87-275	07/22/20	N	0.9	1,900	4.3	42	<0.2	3,400	4.4	--	--	0.77	440	7,700
MW-87-275	07/22/20	FD	0.92	2,700	4.2	40	<0.2	3,400	4.5	--	--	0.82	440	7,600
MW-87-275	08/26/20	N	0.87	2,800 J	4.4	48	<0.2	3,400	4.2	--	--	0.67 J	430	7,700
MW-87-275	08/26/20	FD	0.94	2,200 J	4.3	45	<0.2	3,400	4	--	--	0.69 J	430	7,500
MW-87-275	09/30/20	N	2.3 J	2,300	4.3	44	<0.2	3,400	4.3	--	--	0.74	440	7,800
MW-87-275	09/30/20	FD	1.3 J	2,100	4.3	45	<0.2	3,500	3.7	--	--	0.64	440	7,400
MW-87-275	10/20/20	N	1	2,400	3.9	44	<0.2	3,400 J	4.1	--	--	0.78	440	7,600
MW-87-275	10/20/20	FD	0.97	2,400	3.9	47	<0.2	3,400 J	4.3	--	--	0.73	440	7,400
MW-87-275	12/17/20	N	1	2,000	4.5	46	<0.2	3,400	4.3	--	--	0.83	440	7,300
MW-87-275	02/26/21	N	1	2,100	4.1	39	<0.2	3,300	4	--	--	0.8	430	6,400
MW-87-275	05/20/21	N	0.91	2,100 J	4.6	45	<0.2	3,400	4.6	--	--	0.79	460	7,100
MW-87-275	08/23/21	N	0.72	1,800	5.1	47	<0.2	3,700	4.1	--	--	0.76	460	7,500
MW-87-275	11/30/21	N	1.1	--	--	--	--	--	--	--	--	1	--	--
MW-87-275	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-275	11/18/22	N	1	--	--	--	--	--	--	1.1	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-87-139	09/30/20	N	--	<1
MW-87-139	10/20/20	N	--	<1
MW-87-139	12/17/20	N	--	<1
MW-87-139	02/26/21	N	--	<1
MW-87-139	05/20/21	N	--	<1
MW-87-139	08/23/21	N	--	<1
MW-87-139	11/30/21	N	--	--
MW-87-139	06/08/22	N	--	--
MW-87-139	11/18/22	N	--	--
MW-87-192	01/27/20	N	--	<1
MW-87-192	02/18/20	N	--	<1 J
MW-87-192	03/18/20	N	--	<1 J
MW-87-192	04/22/20	N	--	<1
MW-87-192	05/29/20	N	--	<1
MW-87-192	06/17/20	N	--	<1
MW-87-192	07/22/20	N	--	<1
MW-87-192	08/26/20	N	--	<1 J
MW-87-192	09/30/20	N	--	<1
MW-87-192	10/20/20	N	--	<1
MW-87-192	12/17/20	N	--	<1
MW-87-192	02/26/21	N	--	<1
MW-87-192	05/20/21	N	--	<1
MW-87-192	08/23/21	N	--	<1
MW-87-192	11/30/21	N	--	--
MW-87-192	06/08/22	N	--	--
MW-87-192	11/18/22	N	--	--
MW-87-275	01/27/20	N	--	<1
MW-87-275	02/18/20	N	--	<1 J
MW-87-275	03/18/20	N	--	<1 J
MW-87-275	04/22/20	N	--	<1
MW-87-275	05/29/20	N	--	<1
MW-87-275	06/17/20	N	--	<50
MW-87-275	07/22/20	N	--	<1
MW-87-275	07/22/20	FD	--	<1
MW-87-275	08/26/20	N	--	<1 J
MW-87-275	08/26/20	FD	--	<1 J
MW-87-275	09/30/20	N	--	<50
MW-87-275	09/30/20	FD	--	<1
MW-87-275	10/20/20	N	--	<1
MW-87-275	10/20/20	FD	--	<1
MW-87-275	12/17/20	N	--	<1
MW-87-275	02/26/21	N	--	<1
MW-87-275	05/20/21	N	--	<1
MW-87-275	08/23/21	N	--	<1
MW-87-275	11/30/21	N	--	--
MW-87-275	06/08/22	N	--	--
MW-87-275	11/18/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-88-107	01/29/20	N	49	50	1.6	55	0.5	72	0.2	0.034 J	12 J	0.015	12	10
MW-88-107	02/25/20	N	59	54	1.5	53	0.43	70	0.29 J	0.044 J	9.6	0.015	10	9.6 J
MW-88-107	05/28/20	N	69	70	1.5	57	0.41	77	0.27	<0.02	12	0.0077	10	10 J
MW-88-107	08/19/20	N	76	75	1.6	51	0.5	67 J	1.50	0.095 J	11	0.009	11	9.6
MW-88-107	12/10/20	N	89	88	1.9	47	0.3	61 J	0.26 J	0.088 J	9.3	0.0027	8.7	9.4
MW-88-107	02/24/21	N	81	80	1.6	54 J	0.49	75	0.42 J	0.021	12	0.00074	9.2	9 J
MW-88-107	05/19/21	N	120	110	1.5	51	0.4	95	0.076 J	0.024	12 J	0.00066	8.7	11 J
MW-88-107	08/20/21	N	120	130	3.8 J	50	0.42	100	0.17 J	0.024 J	14 J	<0.0005	9.4	13 J
MW-88-107	08/20/21	FD	120	130	1 J	50	0.42	100	0.22 J	0.072 J	14 J	<0.0005	9.3	14 J
MW-88-107	12/08/21	N	130	140	1.7	--	--	--	--	--	--	0.002 J	--	--
MW-88-107	06/08/22	N	94	92	--	--	--	--	--	--	--	--	--	--
MW-88-107	11/30/22	N	120	130 J	1.9	--	--	--	--	--	--	0.002	--	--
MW-89-183	02/19/20	N	0.89	1.7	<0.1	180	0.79 J	400 J	0.23	0.078 J	66 J	0.0021	7.8	15 J
MW-89-183	05/20/20	N	0.76 J	<1	<0.1	160	0.72	270	1.40	0.052	65	0.004	10	16 J
MW-89-183	08/19/20	N	0.83	1.3	<0.1	150	0.73	290 J	0.52	0.048 J	64	0.0019	9.5	15
MW-89-183	12/10/20	N	0.72	1.1	<0.1	130	0.66	300 J	0.38 J	0.075 J	66	0.016	8.1	15
MW-89-183	02/24/21	N	0.64	2.1	<0.1	150 J	0.78	420	0.87 J	0.072	75	0.0071	7.4	14 J
MW-89-183	05/19/21	N	1	1.4	<0.1	120	0.79	400	0.1 J	<0.02	59 J	<0.0005	9.7	16 J
MW-89-183	08/25/21	N	0.93	1.5	<0.1	130	0.63	310	0.32 J	0.031 J	48	<0.0005 J	8.3	21 J
MW-89-183	12/06/21	N	0.98	1.2 J	<0.1	--	--	--	--	--	--	<0.0005 J	7	--
MW-89-183	06/16/22	N	1	1.1	--	--	--	--	--	--	--	--	--	--
MW-89-183	12/01/22	N	1	1.3	<0.1	--	--	--	--	--	--	<0.0005 J	6.7 J	--
MW-89-183	12/01/22	FD	1.1	1.2	<0.1	--	--	--	--	--	--	<0.0005 J	6.4 J	--
MW-89-273	02/19/20	N	0.86	1.7	4	32	1.4 J	140 J	0.15	0.058 J	7.9 J	0.0017	43	17 J
MW-89-273	05/20/20	N	0.58 J	1.9	3.3	36	1.2	100	2.80	0.057	8.6	0.0039	42	23 J
MW-89-273	08/19/20	N	0.61	1	3.5	32	1.2	100 J	0.03	0.025 J	8.6	<0.0005	39	18
MW-89-273	12/10/20	N	0.47	<1	3.3	30	1.1	100 J	0.52 J	0.064 J	8.8	0.0008	35	18
MW-89-273	02/24/21	N	0.43	<1	3.1	31 J	1.2	140	0.72 J	<0.02	8.2	0.00084	36	18 J
MW-89-273	05/19/21	N	0.58	<1	3	29	1.1	150	0.045 J	<0.02	7.7 J	0.00058	34	17 J
MW-89-273	08/25/21	N	0.51	<1	1.2	32	0.92	120	0.08 J	0.064 J	6.1	<0.0005 J	33	26 J
MW-89-273	12/06/21	N	0.52	1.4 J	3.5	--	--	--	--	--	--	0.0018 J	32	--
MW-89-273	06/16/22	N	0.58	1.1	--	--	--	--	--	--	--	--	--	--
MW-89-273	12/01/22	N	0.63	<1	4.6	--	--	--	--	--	--	<0.0005 J	35 J	--
MW-90-031	02/25/20	N	<1	1.6	<0.1	120	2.1	360	9.30 J	9.70 J	250	0.35	16	19 J
MW-90-031	05/26/20	N	<1	<1	3.7 J	97	1.4	300	8.80 J	8.80 J	220 J	0.3	14 J	17 J
MW-90-031	08/18/20	N	<1	<1	<0.1	100	1.5	210	11 J	6.90 J	180 J	0.3	16	16
MW-90-031	12/02/20	N	<1	<1	3.7	110	3.4 J	270 J	10	9.80 J	280 J	0.32	17	17 J
MW-90-031	02/17/21	N	<1	<1	<0.1	100	1.5	240	8.70 J	8.90 J	250	0.3	16	17 J
MW-90-031	05/25/21	N	<1	<1	<0.1 J	88	1.7	520 J	8 J	8.80 J	250 J	0.26	16	23 J
MW-90-031	08/18/21	N	<1	<1	<0.1 J	73	1.7	350 J	6.70 J	7.10 J	190 J	0.27	13	16
MW-90-031	12/08/21	N	<1	<1	<0.1	97	--	--	--	7	--	0.25	18	--
MW-90-031	03/04/22	N	<1	--	<0.1	97	--	--	--	3.60	--	0.24	--	--
MW-90-031	05/05/22	N	<1	<1	<0.1	87	--	--	--	6.20	--	0.25	--	--
MW-90-031	08/19/22	N	<1	--	<0.1	110	--	--	--	7.80	--	0.063 J	--	--
MW-90-031	11/16/22	N	<1	<1	1.2	140	--	--	--	7.70	--	0.42 J	15	--
MW-91-045	01/28/20	N	<0.2	<1	3.6 J	320 J	0.54	85 B	0.45	0.27 J	32 J	0.27 J	9.8 J	8.5 J
MW-91-045	02/26/20	N	<0.2	<1	5.4	200 J	0.61	65	0.41 J	0.14 J	20	0.17	9.8	7 J

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-88-107	01/29/20	N	4.4	300	8.6	140	<0.1	350	0.96	--	--	9.1	170	1,000
MW-88-107	02/25/20	N	4.4	290	9.9	140	0.05 J	360	0.81	--	--	10	170	1,100
MW-88-107	05/28/20	N	4	310	8.6	140	<0.2	380	1 J	--	--	10 J	180	1,100
MW-88-107	08/19/20	N	4	310	9	140	<0.2	360	1.1	--	--	11 J	170	1,100
MW-88-107	12/10/20	N	4.5	260	13	140	<0.2	350	1.1	--	--	11	170	1,100
MW-88-107	02/24/21	N	3.9	290 J	12	130	<0.2	380	1.2	--	--	10	170	1,100
MW-88-107	05/19/21	N	4.3	280	11	130	<0.2	420	1.1	--	--	11	180	1,200
MW-88-107	08/20/21	N	3.8	330 J	14	130	<0.2	490	1	--	--	12	200	1,300
MW-88-107	08/20/21	FD	4.4	270 J	13	120	<0.2	490	1	--	--	12	200	1,300
MW-88-107	12/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-88-107	06/08/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-88-107	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-89-183	02/19/20	N	1.9	1,100	3.1	55	0.08 J	2,100	2.9	--	--	2.2	460	4,700
MW-89-183	05/20/20	N	2.7	990	3.5	50	<0.2	2,100	3.4	--	--	2.6	490	5,100
MW-89-183	08/19/20	N	2.7	1,200	4	51	<0.2	2,100	3	--	--	3.3 J	480	5,200
MW-89-183	12/10/20	N	2.4	1,100	3.6	51	<0.2	2,100	3.6	--	--	2.8	500	4,300
MW-89-183	02/24/21	N	2.2	1,500 J	3.6	53	<0.2	2,100	3.4	--	--	2.6	480	4,400
MW-89-183	05/19/21	N	3.1	1,100	3.9	53	<0.2	2,000	3.8	--	--	2.9	490	4,400
MW-89-183	08/25/21	N	2.8	1,300	4.3	50	<0.2	2,100	3.2	--	--	2.7 J	490	5,000
MW-89-183	12/06/21	N	2.5	--	--	--	--	--	--	--	--	2.8	--	--
MW-89-183	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-89-183	12/01/22	N	2.6	--	--	--	--	--	--	3.9	--	2.8 J	--	--
MW-89-183	12/01/22	FD	2.7	--	--	--	--	--	--	4.4	--	2.8 J	--	--
MW-89-273	02/19/20	N	3.3	1,500	13	63	0.06 J	2,000	4.8	--	--	2.9	470	4,400
MW-89-273	05/20/20	N	3.5	1,600	14	58	<0.2	2,100	4.5	--	--	2.1 J	490	4,500
MW-89-273	08/19/20	N	3.9	1,600	17	55	<0.2	2,100	4.6	--	--	2.8 J	480	4,600
MW-89-273	12/10/20	N	3.5	1,400	16	57	<0.2	2,100	5.1	--	--	3	490	4,500
MW-89-273	02/24/21	N	3.5	1,200 J	16	57	<0.2	2,100	5.6	--	--	2.7	480	4,500
MW-89-273	05/19/21	N	3.6	1,600	16	62	<0.2	2,100	5	--	--	2.8	480	4,200
MW-89-273	08/25/21	N	3.7	1,600	17	59	<0.2	2,100	4.8	--	--	2.8 J	460	4,300
MW-89-273	12/06/21	N	3.7	--	--	--	--	--	--	--	--	2.7	--	--
MW-89-273	06/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-89-273	12/01/22	N	3.6	--	--	--	--	--	--	4	--	2.8 J	--	--
MW-90-031	02/25/20	N	0.68	3,600	2.2	820	8.9	4,400	1.6	--	--	0.082	1,600	11,000
MW-90-031	05/26/20	N	<0.5	3,600	1.9	830	9.7	3,900	1.7	--	--	0.14	1,500	10,000
MW-90-031	08/18/20	N	0.56	2,900	2.3	810	9.4	3,900	1.7	--	--	0.094	1,500	9,900
MW-90-031	12/02/20	N	0.58	2,600	2.2	870	10	4,100	2.1	--	--	<0.1	1,600	9,800
MW-90-031	02/17/21	N	<0.5	3,400	2.3	910	13	4,600	1.7	--	--	0.11	1,700	10,000
MW-90-031	05/25/21	N	<0.5	2,300 J	2.1	840	9	3,400	1.5	--	--	<0.05	1,500	8,600
MW-90-031	08/18/21	N	<0.5	2,900 J	2.8	820	9.2	3,300	1.6	--	--	<0.1	1,500	8,200
MW-90-031	12/08/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
MW-90-031	03/04/22	N	--	--	--	--	--	--	--	0.66	--	--	--	--
MW-90-031	05/05/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-90-031	08/19/22	N	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--
MW-90-031	11/16/22	N	<0.5	--	--	--	--	--	--	<0.5	--	0.03 J	--	--
MW-91-045	01/28/20	N	<0.5	480	<1	180	0.16	810	2.7	--	--	0.17	120	1,700
MW-91-045	02/26/20	N	<0.5	440	<1	170	<0.1	610	2.9	--	--	0.1	140	1,400

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-88-107	01/29/20	N	--	<1
MW-88-107	02/25/20	N	--	<1
MW-88-107	05/28/20	N	--	<1
MW-88-107	08/19/20	N	--	<1
MW-88-107	12/10/20	N	--	<1
MW-88-107	02/24/21	N	--	<1
MW-88-107	05/19/21	N	--	<1
MW-88-107	08/20/21	N	--	<1
MW-88-107	08/20/21	FD	--	<1
MW-88-107	12/08/21	N	--	--
MW-88-107	06/08/22	N	--	--
MW-88-107	11/30/22	N	--	--
MW-89-183	02/19/20	N	--	<1 J
MW-89-183	05/20/20	N	--	<10 J
MW-89-183	08/19/20	N	--	<1
MW-89-183	12/10/20	N	--	<1
MW-89-183	02/24/21	N	--	<1
MW-89-183	05/19/21	N	--	<1
MW-89-183	08/25/21	N	--	<1
MW-89-183	12/06/21	N	--	--
MW-89-183	06/16/22	N	--	--
MW-89-183	12/01/22	N	--	--
MW-89-183	12/01/22	FD	--	--
MW-89-273	02/19/20	N	--	<1 J
MW-89-273	05/20/20	N	--	<1 J
MW-89-273	08/19/20	N	--	<1
MW-89-273	12/10/20	N	--	<1
MW-89-273	02/24/21	N	--	<1
MW-89-273	05/19/21	N	--	<1
MW-89-273	08/25/21	N	--	<1
MW-89-273	12/06/21	N	--	--
MW-89-273	06/16/22	N	--	--
MW-89-273	12/01/22	N	--	--
MW-90-031	02/25/20	N	--	1.7
MW-90-031	05/26/20	N	--	1.5
MW-90-031	08/18/20	N	--	1.7
MW-90-031	12/02/20	N	--	2
MW-90-031	02/17/21	N	--	1.7
MW-90-031	05/25/21	N	--	<20
MW-90-031	08/18/21	N	--	2.5
MW-90-031	12/08/21	N	--	1.8
MW-90-031	03/04/22	N	--	1.8
MW-90-031	05/05/22	N	--	2
MW-90-031	08/19/22	N	--	2.2
MW-90-031	11/16/22	N	--	2.1
MW-91-045	01/28/20	N	--	<1 J
MW-91-045	02/26/20	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-91-045	05/19/20	N	<0.2	<1	6.1	150	0.43	45	0.71 J	0.13 J	15	0.12	10	7.3 J
MW-91-045	05/19/20	FD	<0.2	<1	5.8	140	0.46	48	2.50 J	0.073 J	16	0.12	10	6.9 J
MW-91-045	08/20/20	N	<0.2 J	<1	6.1	200	0.52	68	0.19	0.12 J	27	0.19	8.9	6.9
MW-91-045	12/08/20	N	<0.2	<1	6.9	150	0.6	46	0.68 J	0.095 J	17	0.14	9.1	4.1
MW-91-045	02/23/21	N	<0.2	<1	6.4	120	0.44	40 J	0.13	0.038 J	13 J	0.11	7.5	4.2 J
MW-91-045	05/26/21	N	<0.2	<1	6.5	100	0.59	37	0.49 J	<0.02	13 J	0.088	9.2 J	4.3 J
MW-91-045	06/08/21	N	<0.2	<10	<10	96	--	42	--	--	13.5	<0.1	<20	4.03
MW-91-045	08/24/21	N	<0.2	<1	5.1	110	0.44	36	0.51 J	<0.02 J	13	0.089 J	9.4	5.5 J
MW-91-045	12/14/21	N	<0.2	<1	7 J	--	--	--	--	--	--	0.144	<10 J	--
MW-91-045	06/15/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-91-045	12/15/22	N	<0.2	<1	7.96	--	--	--	--	--	--	0.125	<10	--
MW-91-120	01/28/20	N	4.4	6.8	1 J	36 J	1.1	210 B	0.46	0.083 J	26 J	0.26 J	16 J	13 J
MW-91-120	02/26/20	N	<0.2	<1	<0.1	35 J	1.4	230	0.82 J	0.068 J	38	0.48	23	11 J
MW-91-120	05/19/20	N	<0.2	2	<0.1	43	1.1	220	0.94 J	0.076 J	80	1.40	26	15 J
MW-91-120	08/20/20	N	<0.2	<1	<0.1	41	1.2	200	0.058	<0.02 J	100	1.80	32	15
MW-91-120	12/08/20	N	2.3	2.4	<0.1	33	1.1	190	0.055 J	<0.02	56	0.35	14	14
MW-91-120	02/23/21	N	<0.2	1.8	<0.1	31	1	230 J	0.27	0.054 J	37 J	0.24	21	13 J
MW-91-120	05/26/21	N	<0.2	<1	<0.1	33	1.3	180	1.10 J	<0.02	87 J	1.10	23 J	14 J
MW-91-120	06/08/21	N	<1	<10	<10	31.5	--	203	--	--	82.8	1.13	<20	11.2
MW-91-120	08/24/21	N	<0.2	<1	<0.1	33	0.94	190	0.064 J	<0.02 J	67	1 J	25	18 J
MW-91-120	12/14/21	N	7.67	<10	<10	--	--	--	--	--	--	0.162	<100 J	--
MW-91-120	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-91-120	12/15/22	N	16.7	17.9	<1	--	--	--	--	--	--	0.0875	11.7	--
MW-91-170	01/28/20	N	1.3	1.8	3.5 J	64 J	1.3	120 B	0.13	0.16 J	5.4 J	0.2 J	190 J	17 J
MW-91-170	02/26/20	N	<1	3.6	<0.1	55 J	1.7	140	0.48 J	0.24 J	4.6	0.14	180	16 J
MW-91-170	02/26/20	FD	<1	3.4	<0.1	56 J	1.6	130	0.73 J	0.22 J	4.2	0.14	180	16 J
MW-91-170	05/19/20	N	<0.2	<1	<0.1	67	1.2	130	0.26 J	0.061 J	5.8	0.27	120	17 J
MW-91-170	08/20/20	N	<0.2	<1	<0.1	66	1.3	130	0.057	<0.02 J	7.5	0.28	110	16
MW-91-170	12/08/20	N	2.1	2.5	<0.1	62	1.4	120	0.071 J	0.026 J	6.3	0.26	170	20
MW-91-170	02/23/21	N	1.6	2	<0.1	48	2.4	200 J	0.51	<0.1	6.8 J	0.14	180	14 J
MW-91-170	05/26/21	N	<1	<1	<0.1	55	1.6	130	1.60 J	0.041	6.3 J	0.31	110 J	16 J
MW-91-170	06/08/21	N	<1	<10	<10	51.9	--	161	--	--	6.72	0.261	80.5	13.2
MW-91-170	08/24/21	N	<1	<1	<0.1	55	1	150	0.14 J	0.2 J	5.1	0.27 J	94	24 J
MW-91-170	12/14/21	N	1.66	<10	<10	--	--	--	--	--	--	0.256	130 J	--
MW-91-170	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-91-170	12/15/22	N	2.3	3.41	2.83	--	--	--	--	--	--	0.194	157	--
MW-91-320	01/28/20	N	<1	<1	<0.5 J	190 J	3.2	310 B	0.55	0.53 J	27 J	0.78 J	39 J	64 J
MW-91-320	02/26/20	N	<1	3.1	3.1	160 J	3.6	350	0.82 J	0.59 J	24	0.8	39	78 J
MW-91-320	05/19/20	N	<1	<1	<0.5	130	3	390	0.73 J	0.53 J	22	1	43	79 J
MW-91-320	08/20/20	N	<1	<1	6.4	120	4.4	300	0.99	1 J	25	0.98	51	76
MW-91-320	12/08/20	N	<0.2	<1	5.2	91	4	370	0.81 J	0.8 J	29	0.9	54	78
MW-91-320	02/23/21	N	<1	<1	6.2	77	4.4	480 J	0.93	0.81 J	29 J	0.96	56	75 J
MW-91-320	05/26/21	N	<1	<1	<0.1	72	4.7	370	1.90 J	2	28 J	1.70	46 J	76 J
MW-91-320	06/08/21	N	<2	<10	<10	69.1	--	421	--	--	24.1	1.89	41.4	61.5
MW-91-320	08/24/21	N	<1	<1	<0.1	77	2.5	410	0.77 J	0.66 J	13	1.50 J	60	89 J
MW-91-320	12/14/21	N	<2	<10	<10	--	--	--	--	--	--	1.42	<100 J	--
MW-91-320	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-91-045	05/19/20	N	<0.5	440	<1	160	<0.2	470	2.7	--	--	<0.05	130	1,200
MW-91-045	05/19/20	FD	<0.5	450	<1	150	<0.2	470	2.7	--	--	<0.05	130	1,200
MW-91-045	08/20/20	N	<0.5	410	<1	170	<0.2	580	2.6	--	--	<0.05	120	1,400
MW-91-045	12/08/20	N	<0.5	300 J	1.5	160	<0.2	450	3	--	--	0.53	110	1,100
MW-91-045	02/23/21	N	0.82	330	2	150	<0.2	390	3.2	--	--	0.44	110	960
MW-91-045	05/26/21	N	<0.5	290	1.7	150	<0.2	350	3.5	--	--	0.19	100	890
MW-91-045	06/08/21	N	<10	285	<10	--	--	391	2.81	--	--	<0.1	113	986
MW-91-045	08/24/21	N	<0.5	310	2.1	150	<0.2	360	3.2	--	--	0.19	100	910
MW-91-045	12/14/21	N	<10 J	--	--	--	--	--	--	0.303	--	--	--	--
MW-91-045	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-91-045	12/15/22	N	<10	--	--	--	--	--	--	0.632	--	--	--	--
MW-91-120	01/28/20	N	0.99	2,400	<1	130	0.11	3,000	2.4	--	--	1.8	770	6,400
MW-91-120	02/26/20	N	<0.5	2,000	<1	150	<0.1	2,900	2	--	--	0.54	890	7,200
MW-91-120	05/19/20	N	<0.5	2,500	1.3	170	<0.2	2,700	2.3	--	--	0.66	910	7,000
MW-91-120	08/20/20	N	<0.5	1,900	2	170	<0.2	2,600	2.4	--	--	0.82	880	6,600
MW-91-120	12/08/20	N	<0.5	1,800 J	<1	140	<0.2	2,900	2.2	--	--	1.2	850	6,700
MW-91-120	02/23/21	N	<0.5	2,300	<1	140	<0.22	3,000	2.4	--	--	0.89	850	7,100
MW-91-120	05/26/21	N	<0.5	1,900	2.1	160	<0.2	2,600	2.7	--	--	1.2	850	5,800
MW-91-120	06/08/21	N	<10	1,840	<10	--	--	3,180	1.41	--	--	1.16	869	4,820
MW-91-120	08/24/21	N	<0.5	2,100	1.7	150	<0.2	2,600	2.5	--	--	0.83	850	6,500
MW-91-120	12/14/21	N	<100 J	--	--	--	--	--	--	1.3	--	--	--	--
MW-91-120	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-91-120	12/15/22	N	<10	--	--	--	--	--	--	1.77	--	--	--	--
MW-91-170	01/28/20	N	<2.5	3,200	<1	43	0.08 J	3,900	6	--	--	0.85	640	8,000
MW-91-170	02/26/20	N	0.81	3,400	1.1	40	<0.1	3,700	5.4	--	--	0.93	620	7,700
MW-91-170	02/26/20	FD	0.78	3,300	1	41	<0.1	3,800	5.5	--	--	0.84	640	7,900
MW-91-170	05/19/20	N	<0.5	3,600	<1	51	0.21	3,600	4.2	--	--	0.39	600	8,000
MW-91-170	08/20/20	N	<0.5	2,200	<1	55	<0.2	3,400	4.2	--	--	0.39	580	7,600
MW-91-170	12/08/20	N	<0.5	2,500 J	<1	47	<0.2	3,800	5	--	--	0.72	630	7,700
MW-91-170	02/23/21	N	0.95	2,900	1.4	42	<0.2	3,800	5.8	--	--	1.3	630	8,200
MW-91-170	05/26/21	N	0.56	2,400	1.1	52	<0.2	3,500	4.1	--	--	0.78	590	7,200
MW-91-170	06/08/21	N	<10	2,550	<10	--	--	3,970	2.84	--	--	0.857	618	6,660
MW-91-170	08/24/21	N	<0.5	2,900	1.1	55	<0.2	3,500	3.9	--	--	0.2	590	7,500
MW-91-170	12/14/21	N	<100 J	--	--	--	--	--	--	0.655	--	--	--	--
MW-91-170	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-91-170	12/15/22	N	<10	--	--	--	--	--	--	1.33	--	--	--	--
MW-91-320	01/28/20	N	<2.5	7,600	<1	75	0.2	11,000	6.9	--	--	<0.05	1,400	19,000 J
MW-91-320	02/26/20	N	<2.5	10,000	<1	69	<0.1	11,000	5.2	--	--	<0.1	1,500	19,000 J
MW-91-320	05/19/20	N	<2.5	9,200	<1	70	0.31	10,000	3.7	--	--	0.21	1,600	20,000
MW-91-320	08/20/20	N	<0.5	7,300	<1	64	0.27	10,000	4.9	--	--	<0.05	1,600	19,000
MW-91-320	12/08/20	N	<0.5	6,400 J	<1	61	0.26	11,000	5.1	--	--	<0.05	1,600	20,000
MW-91-320	02/23/21	N	<0.5	8,500	<1	53	0.3	11,000	4.5	--	--	0.059	1,800	21,000
MW-91-320	05/26/21	N	<0.5	8,400	<1	100	0.27	10,000	4.8	--	--	<0.05	1,700	19,000
MW-91-320	06/08/21	N	<10	7,310	<10	--	--	11,900	2.28	--	--	<0.5	1,870	17,200
MW-91-320	08/24/21	N	<0.5	7,900	<1	66	0.27	12,000	2.9	--	--	<0.1	1,800	19,000
MW-91-320	12/14/21	N	<100 J	--	--	--	--	--	--	<2	--	--	--	--
MW-91-320	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-91-045	05/19/20	N	--	<1
MW-91-045	05/19/20	FD	--	<1
MW-91-045	08/20/20	N	--	<1
MW-91-045	12/08/20	N	--	<1
MW-91-045	02/23/21	N	--	<1
MW-91-045	05/26/21	N	--	<1
MW-91-045	06/08/21	N	--	--
MW-91-045	08/24/21	N	--	<1
MW-91-045	12/14/21	N	--	--
MW-91-045	06/15/22	N	--	--
MW-91-045	12/15/22	N	--	--
MW-91-120	01/28/20	N	--	<1 J
MW-91-120	02/26/20	N	--	<1
MW-91-120	05/19/20	N	--	<1
MW-91-120	08/20/20	N	--	<1
MW-91-120	12/08/20	N	--	<1
MW-91-120	02/23/21	N	--	<1
MW-91-120	05/26/21	N	--	<1
MW-91-120	06/08/21	N	--	--
MW-91-120	08/24/21	N	--	<1
MW-91-120	12/14/21	N	--	--
MW-91-120	08/24/21	N	--	<1
MW-91-120	12/14/21	N	--	--
MW-91-120	06/15/22	N	--	--
MW-91-120	12/15/22	N	--	--
MW-91-170	01/28/20	N	--	<1 J
MW-91-170	02/26/20	N	--	<1
MW-91-170	02/26/20	FD	--	<1
MW-91-170	05/19/20	N	--	<1
MW-91-170	08/20/20	N	--	<1
MW-91-170	12/08/20	N	--	<1
MW-91-170	02/23/21	N	--	<1
MW-91-170	05/26/21	N	--	<1
MW-91-170	06/08/21	N	--	--
MW-91-170	08/24/21	N	--	<1
MW-91-170	12/14/21	N	--	--
MW-91-170	06/15/22	N	--	--
MW-91-170	12/15/22	N	--	--
MW-91-320	01/28/20	N	--	<20 J
MW-91-320	02/26/20	N	--	<1
MW-91-320	05/19/20	N	--	<1
MW-91-320	08/20/20	N	--	<1
MW-91-320	12/08/20	N	--	<1
MW-91-320	02/23/21	N	--	<1
MW-91-320	05/26/21	N	--	<1
MW-91-320	06/08/21	N	--	--
MW-91-320	08/24/21	N	--	<1
MW-91-320	12/14/21	N	--	--
MW-91-320	06/15/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-91-320	12/15/22	N	<0.2	<1	9.7	--	--	--	--	--	--	1.35	48.8	--
MW-92-037	01/28/20	N	<0.2	<1	21 J	14 J	0.54	8.1 B	0.34	0.057 J	1.2 J	0.0074 J	14 J	4.1 J
MW-92-037	02/26/20	N	<1	<1	22	18 J	0.61	7.5	0.33 J	0.053 J	1.1	0.0068	14	5 J
MW-92-037	05/19/20	N	0.25	<1	21	22	0.43	7.6	0.19 J	0.045 J	0.99	0.0094	15	5.1 J
MW-92-037	08/20/20	N	<0.2	<1	25	35	0.59	8.9	0.44	0.056 J	1.3	0.013	17	5.2
MW-92-037	12/08/20	N	<0.2	<1	22	60	0.58	9.5	0.14 J	0.032 J	1.3	0.02	16	3.6
MW-92-037	02/23/21	N	<0.2	<1	21	53	0.55	10 J	0.091	<0.02	1.4 J	0.027	16	4.2 J
MW-92-037	05/26/21	N	0.5	<1	12	99	0.71	19	0.15 J	0.045	2.8 J	0.057	26 J	4.5 J
MW-92-037	05/26/21	FD	0.49	<1	12	97	0.82	19	0.2 J	0.042	3.2 J	0.057	25 J	4.3 J
MW-92-037	06/08/21	N	<0.2	<10	13.7 J	75.9	--	18.8	--	--	2.8	<0.1	<20	3.33
MW-92-037	08/24/21	N	0.21	<1	19	45	0.51	8.9	0.069 J	0.041 J	1.3	0.022 J	16	5 J
MW-92-037	12/14/21	N	<0.2	<1	22.2 J	--	--	--	--	--	--	0.0327	12.9 J	--
MW-92-037	06/15/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-92-037	12/15/22	N	<0.2	<1	23.8	--	--	--	--	--	--	0.0586	13.5	--
MW-92-037	12/15/22	FD	<0.2	<1	24.1	--	--	--	--	--	--	0.0586	13.3	--
MW-92-072	01/28/20	N	<0.2	<1	17 J	60 J	0.64	15 B	0.079	0.089 J	1.4 J	0.014 J	20 J	8.1 J
MW-92-072	01/28/20	FD	<0.2	<1	17 J	62 J	0.66	15 B	0.085	0.094 J	1.5 J	0.015 J	20 J	7.8 J
MW-92-072	02/26/20	N	<0.2	<1	18	54 J	0.75	17	0.11 J	0.027 J	1.3	0.013	21	8.9 J
MW-92-072	05/19/20	N	<0.2	<1	17	53	0.56	14	0.08 J	0.04 J	1.2	0.011 J	22	9.2 J
MW-92-072	05/19/20	FD	<0.2	<1	17	55	0.54	14	0.068 J	0.068 J	1.2	0.017 J	22	9.4 J
MW-92-072	08/20/20	N	<0.2	<1	19	60	0.91	16	0.11	0.058 J	1.7	0.012	24	9.7
MW-92-072	12/08/20	N	<0.2	<1	17	71	0.69	15	0.035 J	<0.02	1.5	0.016	21	8.5
MW-92-072	02/23/21	N	<0.2	<1	17	69	0.57	16 J	0.03	0.022 J	1.4 J	0.017	21	8.8 J
MW-92-072	05/26/21	N	<0.2	<1	16	65	0.72	16	0.026 J	<0.02	1.5 J	0.014	22 J	8.7 J
MW-92-072	06/08/21	N	<0.2	<10	17.6 J	63.3	--	19.5	--	--	1.54	<0.1	<20	8.45
MW-92-072	08/24/21	N	<0.2	<1	16	72	0.59	16	0.032 J	<0.02 J	1.4	0.014 J	23	14 J
MW-92-072	12/14/21	N	<0.2	<1	17.1 J	--	--	--	--	--	--	0.0194	19 J	--
MW-92-072	06/15/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-92-072	12/15/22	N	<0.2	<1	17.5	--	--	--	--	--	--	0.022	20.3	--
MW-92-102	01/28/20	N	<0.2	<1	9.9 J	120 J	0.91	17 B	0.058	0.03 J	1.6 J	0.0096 J	42 J	10 J
MW-92-102	02/26/20	N	<0.2	<1	10	110 J	1.1	22	0.31 J	0.087 J	1.5	0.0084	41	12 J
MW-92-102	05/19/20	N	<0.2	<1	9.4	110	0.83	20	0.19 J	0.033 J	1.8	0.01	42	13 J
MW-92-102	08/20/20	N	<0.2	<1	10	120	0.98	19	0.31	0.031 J	1.8	0.0097	47	12
MW-92-102	12/08/20	N	1.3	1.4	18	100	1	15	0.18 J	0.03 J	1.3	0.0067	46	11
MW-92-102	02/23/21	N	2.9	2.9	15	95	0.81	18 J	0.038	0.033 J	1.2 J	0.0051	42	10 J
MW-92-102	05/26/21	N	0.3	<1	13	86	1.1	18	0.05 J	0.058	1.5 J	0.01	48 J	10 J
MW-92-102	06/08/21	N	<0.2	<10	11.6 J	74.7	--	22.2	--	--	1.53	<0.1	38.1	9.88
MW-92-102	06/08/21	FD	<0.2	<10	11.1 J	76.2	--	22	--	--	1.55	<0.1	37.4	9.89
MW-92-102	08/24/21	N	1	1.3	0.55 J	4.8 J	0.77	16	<0.02 J	<0.02 J	1.1	<0.0005 J	1.5 J	11 J
MW-92-102	08/24/21	FD	1	1.1	14 J	85 J	0.77	17	0.043 J	<0.02 J	1.2	0.005 J	45 J	13 J
MW-92-102	12/14/21	N	4.85	5.18 J	18.7 J	--	--	--	--	--	--	<0.01	33.3 J	--
MW-92-102	06/15/22	N	3.93	3.87	--	--	--	--	--	--	--	--	--	--
MW-92-102	12/15/22	N	5.16	5.99	20.4	--	--	--	--	--	--	<0.01	37	--
MW-92-122	01/28/20	N	<1	<1	4.6 J	92 J	3.5	59 B	0.25	0.28 J	5.4 J	0.19 J	210 J	31 J
MW-92-122	02/26/20	N	<1	<1	4.4	91 J	3.2	71	0.44 J	0.14 J	3.9	0.2	220	30 J
MW-92-122	05/19/20	N	<1	<1	1.9	93	2.6	65	0.33 J	0.27 J	4.7	0.15	230	37 J
MW-92-122	08/20/20	N	<1	3.8	3.8	96	2.9	76	2.40	0.27 J	7	0.17	230	36

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-91-320	12/15/22	N	<10	--	--	--	--	--	--	<1	--	--	--	--
MW-92-037	01/28/20	N	<0.5	290	<1	130	0.07 J	370	4.2	--	--	<0.05	81	870
MW-92-037	02/26/20	N	<0.5	300	<1	120	<0.1	360	4.1	--	--	<0.1	83	870
MW-92-037	05/19/20	N	<0.5	390	<1	110	<0.2	340	4.1	--	--	<0.05	94	870
MW-92-037	08/20/20	N	<0.5	310	<1	130	0.22	350	4.4	--	--	<0.05	81	870
MW-92-037	12/08/20	N	<0.5	300 J	<1	120	<0.2	390	4.1	--	--	0.067	83	930
MW-92-037	02/23/21	N	<0.5	340	<1	140	<0.2	370	4.8	--	--	<0.05	89	890
MW-92-037	05/26/21	N	<2.5	480	1.2	270	0.38	460	7.5	--	--	<0.05	120	1,300
MW-92-037	05/26/21	FD	<0.5	440	1.2	270	0.37	460	7.4	--	--	<0.05	120	1,300
MW-92-037	06/08/21	N	<10	429	<10	--	--	494	6.18	--	--	<0.1	111	1,310
MW-92-037	08/24/21	N	<0.5	330	<1	140	0.24	330	4.4	--	--	<0.1	80	810
MW-92-037	12/14/21	N	<10 J	--	--	--	--	--	--	<0.1	--	--	--	--
MW-92-037	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-037	12/15/22	N	<10	--	--	--	--	--	--	<0.1	--	--	--	--
MW-92-037	12/15/22	FD	<10	--	--	--	--	--	--	<0.1	--	--	--	--
MW-92-072	01/28/20	N	0.61	410	7	110	0.06 J	560	4.8	--	--	0.68	95	1,200
MW-92-072	01/28/20	FD	0.56	410	6.7	120	0.05 J	570	4.8	--	--	0.67	95	1,200
MW-92-072	02/26/20	N	0.58	460	6.4	120	<0.1	540	4.7	--	--	0.65	94	1,200
MW-92-072	05/19/20	N	0.57	450	6.7	120	<0.2	530	4.7	--	--	0.65 J	95	1,200
MW-92-072	05/19/20	FD	<0.5	450	6.7	120	<0.2	520	4.4	--	--	0.37 J	94	1,200
MW-92-072	08/20/20	N	0.61	450	7.7	120	<0.2	540	4.9	--	--	0.44	97	1,200
MW-92-072	08/20/20	FD	0.61	450	7.7	120	<0.2	540	4.9	--	--	0.44	97	1,200
MW-92-072	12/08/20	N	0.7	380 J	7.4	110	<0.2	600	4.6	--	--	0.77	100	1,300
MW-92-072	02/23/21	N	0.8	420	8.3	110	<0.2	570	5.2	--	--	0.57	97	1,200
MW-92-072	05/26/21	N	<0.5	450	6.1	120	<0.2	570	5.3	--	--	0.1	98	1,200
MW-92-072	06/08/21	N	<10	456	<10	--	--	615	4.41	--	--	<0.1	106	1,300
MW-92-072	08/24/21	N	<0.5	540	7.2	120	<0.2	580	4.5	--	--	0.26	100	1,200
MW-92-072	12/14/21	N	<10 J	--	--	--	--	--	--	0.469	--	--	--	--
MW-92-072	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-072	12/15/22	N	<10	--	--	--	--	--	--	0.418	--	--	--	--
MW-92-102	01/28/20	N	0.57	700	5.1	110	0.05 J	1,000	5.6	--	--	0.49	130	2,100
MW-92-102	02/26/20	N	<0.5	820	5.2	110	<0.1	1,000	5.4	--	--	0.42	140	2,100
MW-92-102	05/19/20	N	<0.5	840	3	120	<0.2	1,000	5.1	--	--	0.1	130	2,100
MW-92-102	08/20/20	N	<0.5	760	6.2	110	<0.2	1,000	5.3	--	--	0.27	130	2,100
MW-92-102	12/08/20	N	0.74	660 J	13	120	<0.2	1,000	5.7	--	--	0.95	130	2,000
MW-92-102	02/23/21	N	0.82	770	13	120	<0.2	960	6	--	--	0.76	130	1,900
MW-92-102	05/26/21	N	<0.5	710	7.3	120	0.28	930	6	--	--	0.2	130	1,800
MW-92-102	06/08/21	N	<10	706	<10	--	--	1,060	5.09	--	--	0.238	132	2,090
MW-92-102	06/08/21	FD	<10	695	<10	--	--	1,080	5	--	--	<0.1	133	2,000
MW-92-102	08/24/21	N	<0.5	560	1 J	110	<0.2	950	5.6	--	--	0.84	130	1,900
MW-92-102	08/24/21	FD	0.77	700	12 J	130	<0.2	940	5.4	--	--	0.86	130	1,900
MW-92-102	12/14/21	N	<10 J	--	--	--	--	--	--	1.23	--	--	--	--
MW-92-102	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-102	12/15/22	N	<10	--	--	--	--	--	--	1	--	--	--	--
MW-92-122	01/28/20	N	<2.5	4,000	<1	84	0.05 J	4,800	7.5	--	--	0.062	350	9,400
MW-92-122	02/26/20	N	<0.5	3,300	<1	91	<0.1	4,700	7	--	--	<0.1	360	8,900
MW-92-122	05/19/20	N	<0.5	4,300	<1	110	<0.2	4,500	6.7	--	--	<0.05	370	9,400
MW-92-122	08/20/20	N	<0.5	3,200	<1	97	<0.2	4,800	7	--	--	<0.05	380	9,600

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-91-320	12/15/22	N	--	--
MW-92-037	01/28/20	N	--	<1 J
MW-92-037	02/26/20	N	--	<10
MW-92-037	05/19/20	N	--	<10
MW-92-037	08/20/20	N	--	<10
MW-92-037	12/08/20	N	--	<1
MW-92-037	02/23/21	N	--	<10
MW-92-037	05/26/21	N	--	<1
MW-92-037	05/26/21	FD	--	<1
MW-92-037	06/08/21	N	--	--
MW-92-037	08/24/21	N	--	<5
MW-92-037	12/14/21	N	--	--
MW-92-037	06/15/22	N	--	--
MW-92-037	12/15/22	N	--	--
MW-92-037	12/15/22	FD	--	--
MW-92-072	01/28/20	N	--	<1 J
MW-92-072	01/28/20	FD	--	<1 J
MW-92-072	02/26/20	N	--	<1
MW-92-072	05/19/20	N	--	<1
MW-92-072	05/19/20	FD	--	<1
MW-92-072	08/20/20	N	--	<1
MW-92-072	08/20/20	FD	--	<1
MW-92-072	08/20/20	N	--	<1
MW-92-072	12/08/20	N	--	<1
MW-92-072	02/23/21	N	--	<1
MW-92-072	05/26/21	N	--	<1
MW-92-072	06/08/21	N	--	--
MW-92-072	08/24/21	N	--	<1
MW-92-072	12/14/21	N	--	--
MW-92-072	06/15/22	N	--	--
MW-92-072	12/15/22	N	--	--
MW-92-102	01/28/20	N	--	<1 J
MW-92-102	02/26/20	N	--	<1
MW-92-102	05/19/20	N	--	<1
MW-92-102	08/20/20	N	--	<1
MW-92-102	12/08/20	N	--	<1
MW-92-102	02/23/21	N	--	<1
MW-92-102	05/26/21	N	--	<1
MW-92-102	06/08/21	N	--	--
MW-92-102	06/08/21	FD	--	--
MW-92-102	08/24/21	N	--	<1
MW-92-102	08/24/21	FD	--	<1
MW-92-102	12/14/21	N	--	--
MW-92-102	06/15/22	N	--	--
MW-92-102	12/15/22	N	--	--
MW-92-122	01/28/20	N	--	<1 J
MW-92-122	02/26/20	N	--	<1
MW-92-122	05/19/20	N	--	<1
MW-92-122	08/20/20	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-92-122	12/08/20	N	<1	<1	5.3	88	2.4	55	0.49 J	0.14 J	4.8	0.13	230	41
MW-92-122	02/23/21	N	<1	<1	3.1	93	3.8	85 J	0.66	0.2 J	6.2 J	0.14	200	34 J
MW-92-122	05/26/21	N	<1	<1	2.3	96	3.3	60	0.23 J	0.19	4.5 J	0.17	200 J	28 J
MW-92-122	06/08/21	N	<1	<10	<10	98.1	--	80	--	--	4.76	0.188	174	30.4
MW-92-122	08/24/21	N	<1	<1	<0.1	100	2.4	77	0.16 J	0.16 J	3.5	0.19 J	210	46 J
MW-92-122	12/14/21	N	<1	<10	10.4 J	--	--	--	--	--	--	0.188	180 J	--
MW-92-122	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--
MW-92-122	12/15/22	N	<0.2	<1	10.9	--	--	--	--	--	--	0.184	195	--
MW-93-050	06/03/20	N	0.29	<1	--	--	--	--	--	--	--	--	--	--
MW-93-050	06/18/20	N	2.2	2.4	0.71 J	42	0.62	91	0.65 J	0.12	27 J	0.59	38	9
MW-93-050	07/21/20	N	0.81	1	<0.1 J	65	0.58	130	0.18	<0.02 J	33	0.17	27	11 J
MW-93-050	08/19/20	N	3.2 J	3.2	<0.1	70	0.54	130 J	0.48	<0.02	38	0.038	25	11
MW-93-050	09/29/20	N	3.5	3.6	<0.1	70	0.51 J	140 J	0.21 J	0.072 J	37 J	0.0024	24	7.6 J
MW-93-050	10/21/20	N	4.5	4.5	1.2	66	0.73	130 J	0.11	0.06	33	0.0049	25	14
MW-93-050	11/16/20	N	6.3	6.2 J	<0.1	53	1	110 J	1	<0.02	32	0.0051	28	11
MW-93-050	12/09/20	N	7.9	7.4	<0.1	59	0.82	130	0.14	<0.02	31	0.0033	26	6.8
MW-93-050	02/15/21	N	8.3	8	<0.1 J	60	0.5	100	0.51 J	0.026	29 J	0.0055 J	23 J	8.7 J
MW-93-050	05/18/21	N	12 J	11	<0.1 J	54	0.49	120	0.24 J	<0.02 J	28 J	<0.0005	30	8.2 J
MW-93-050	08/19/21	N	12	13	<0.1	58 J	0.5	140 J	0.18 J	0.046	35 J	0.0015	22	9.5
MW-93-050	12/13/21	N	17	19	<0.1	--	--	--	--	--	--	0.0053	--	--
MW-93-050	06/23/22	N	19	18	--	--	--	--	--	--	--	--	--	--
MW-93-050	11/29/22	N	24 J	23 J	1.3	--	--	--	--	--	--	<0.0005 J	--	--
MW-93-213	06/04/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/18/20	N	<1	<1	4.4 J	99	1	230	2.60 J	0.41	43 J	0.85	89	20
MW-93-213	07/21/20	N	<1	<1	<0.1 J	110	1.1	280	0.43	0.095 J	52	1	80	22 J
MW-93-213	08/19/20	N	<1	2.6	<0.1	96	1.8	350 J	4.90	0.88 J	56	0.83	77	22
MW-93-213	09/29/20	N	<1	<1	0.62	90	0.65 J	130 J	0.59 J	0.36 J	40 J	0.84	99	19 J
MW-93-213	10/21/20	N	4.3	4.6	1	69	1.3	260 J	0.13	0.048	57	0.42	71	35
MW-93-213	11/16/20	N	2	2.8 J	<0.1	64	1.4	270 J	1.10	0.057 J	65	0.33	68	26
MW-93-213	12/09/20	N	8.3	7.8	<0.1	56	0.85	260	0.59	<0.02	60	0.17	68	18
MW-93-213	02/15/21	N	4.7	5.8	<0.1 J	50	0.8	230	0.59 J	0.066	59 J	0.14 J	69 J	27 J
MW-93-213	02/15/21	FD	4.7	5.6	<0.1 J	53	0.78	240	0.39 J	0.095	59 J	0.15 J	70 J	24 J
MW-93-213	05/18/21	N	<1	<1	<0.1 J	55	0.92	260	0.11 J	0.025 J	40 J	0.33	71	19 J
MW-93-213	08/19/21	N	<1	1.5	<0.1	55 J	0.84	320 J	0.13 J	0.025	55 J	0.25	66	18
MW-93-213	12/13/21	N	4.7	6.8	<0.1	--	--	--	--	--	--	0.14	--	--
MW-93-213	06/23/22	N	<1	1.6	--	--	--	--	--	--	--	--	--	--
MW-93-213	11/29/22	N	<1	<1 J	<0.1	--	--	--	--	--	--	0.1 J	--	--
MW-95-113	06/10/20	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-95-113	06/18/20	N	0.32	<1	0.62 J	38	0.28	97	0.8 J	0.097	26 J	0.22	9	10
MW-95-113	07/21/20	N	0.44	1.2	0.59 J	40	0.26	100	0.19	0.049 J	26	0.049	6.4	10 J
MW-95-113	08/19/20	N	0.76	1.8	0.71	42	0.31	96 J	2.80	0.66 J	27	0.04	4.9	12
MW-95-113	09/30/20	N	1.4	1.6	0.51	42	0.31	100	2.10	0.11 J	30 J	0.019	4.5	9.7
MW-95-113	10/20/20	N	1.4	2.1	0.87 J	40	0.25	89	0.95 J	0.9 J	23 J	0.017	3.9	13 J
MW-95-113	11/18/20	N	1.6	1.7 J	0.93	39	0.37	88 J	0.75	0.12 J	27	0.0024	4.6	10
MW-95-113	12/15/20	N	<0.2	<1	1.1	35	0.17	72 J	3.50 J	0.12 J	22	0.13	6.4	9.6
MW-95-113	02/25/21	N	1.6	1.6	0.84	42	0.23	94	3 J	<0.02	23	0.019	4.2	8.4 J
MW-95-113	05/19/21	N	0.82	1.6	2.2	46	0.22	110	1 J	0.18	26 J	0.25	4.1	10 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-92-122	12/08/20	N	<0.5	2,900 J	<1	91	<0.2	5,000	7.5	--	--	0.069	380	8,700
MW-92-122	02/23/21	N	<0.5	3,800	<1	100	0.25	4,800	7.8	--	--	<0.05	380	8,300
MW-92-122	05/26/21	N	<0.5	3,200	<1	120	0.34	4,600	7.6	--	--	<0.05	390	8,700
MW-92-122	06/08/21	N	<10	3,270	<10	--	--	5,100	5.18	--	--	<0.2	412	8,720
MW-92-122	08/24/21	N	<0.5	4,400	<1	110	0.2	4,700	6.6	--	--	<0.1	410	8,500
MW-92-122	12/14/21	N	<100 J	--	--	--	--	--	--	<0.5	--	--	--	--
MW-92-122	06/15/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-122	12/15/22	N	<10	--	--	--	--	--	--	<0.2	--	--	--	--
MW-93-050	06/03/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-050	06/18/20	N	1.6	580	1.7	130	<0.2	990	2.6	--	--	1.6 J	210	2,200
MW-93-050	07/21/20	N	1.2	790	1.5	110	<0.2	1,300	2.5	--	--	1.3 J	220	2,800
MW-93-050	08/19/20	N	1.3	840	2	100	<0.2	1,300	2.4	--	--	2.1 J	220	3,000
MW-93-050	09/29/20	N	1.5	690 J	2.2	100	<0.2	1,300	2.3	--	--	2	210	3,000
MW-93-050	10/21/20	N	1.7	830	2.3	110	<0.2	1,200	2.2	--	--	2.1	210	2,700
MW-93-050	11/16/20	N	1.8	680	2.1	110	<0.2	1,200	2.4	--	--	2.3	200	2,500
MW-93-050	12/09/20	N	1.4	610	2.6	100	<0.2	1,300	2.5	--	--	2	220	2,600
MW-93-050	02/15/21	N	1.4	690 J	2.7	93	<0.22	1,300	2.6	--	--	2.2	210	2,600
MW-93-050	05/18/21	N	1.6	500 J	2.8	110	<0.2	1,100	3.1	--	--	2.6	200	2,400
MW-93-050	08/19/21	N	1.5	580 J	2.8	100	<0.2	1,300	2.8	--	--	2.6	220	2,900
MW-93-050	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-050	06/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-050	11/29/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/04/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/18/20	N	<0.5	2,400	<1	65	0.31	4,200	3.6	--	--	0.43 J	630	8,600
MW-93-213	07/21/20	N	0.8	4,000	<1	59	0.21	4,600	3.7	--	--	0.74 J	800	9,600
MW-93-213	08/19/20	N	0.91	3,300	1.3	57	0.2	4,600	2.9	--	--	1.3 J	820	10,000
MW-93-213	09/29/20	N	<0.5	2,300 J	<1	79	0.54	3,600	4	--	--	<0.05	550	7,900
MW-93-213	10/21/20	N	1.3	4,200	<1	58	<0.2	4,600	4	--	--	1.7	830	11,000
MW-93-213	11/16/20	N	1.2	3,100	<1	58	<0.2	4,800	3.5	--	--	1.4	850	10,000
MW-93-213	12/09/20	N	1	2,400	<1	59	<0.2	4,800	3.6	--	--	1.8	900	10,000
MW-93-213	02/15/21	N	1.2	2,700	<1	56	<0.22	4,700	3.6	--	--	2	880	10,000
MW-93-213	02/15/21	FD	1.1	2,700	<1	56	<0.22	4,700	3.5	--	--	2.1	880	11,000
MW-93-213	05/18/21	N	1.3	3,000 J	<1	61	<0.2	4,200	3.8	--	--	1.7	710	8,800
MW-93-213	08/19/21	N	0.99	3,300 J	<1	60	<0.2	4,600	3.6	--	--	1.5	790	9,200
MW-93-213	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	11/29/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-113	06/10/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-113	06/18/20	N	4.9	140	3.6	100	<0.2	310	0.56	--	--	5 J	150	1,000
MW-95-113	07/21/20	N	5.5	140	4.1	110	<0.2	290	<0.5	--	--	5.7 J	150	950
MW-95-113	08/19/20	N	5.3	150	5.8	120	<0.2	290	0.58	--	--	5.6 J	150	970
MW-95-113	09/30/20	N	5.2 J	140	6.2	110	<0.2	290	<0.5	--	--	5.7	150	930
MW-95-113	10/20/20	N	5.4	140	6.6	110	<0.2	280 J	<0.5	--	--	4.8	150	930
MW-95-113	11/18/20	N	4.8	140	5.5	120	<0.2	280	<0.5	--	--	5.2 J	150	840
MW-95-113	12/15/20	N	3.8	130	4.4	120	<0.2	250	0.71	--	--	4.4	130	730
MW-95-113	02/25/21	N	4.8	180 J	6.6	110	<0.2	280	0.62	--	--	5.7	150	810
MW-95-113	05/19/21	N	5	160	7	110	<0.22	300	0.62	--	--	5.6	150	850

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-92-122	12/08/20	N	--	<1
MW-92-122	02/23/21	N	--	<1
MW-92-122	05/26/21	N	--	<1
MW-92-122	06/08/21	N	--	--
MW-92-122	08/24/21	N	--	<1
MW-92-122	12/14/21	N	--	--
MW-92-122	06/15/22	N	--	--
MW-92-122	12/15/22	N	--	--
MW-93-050	06/03/20	N	--	--
MW-93-050	06/18/20	N	--	<1
MW-93-050	07/21/20	N	--	<1
MW-93-050	08/19/20	N	--	<1
MW-93-050	09/29/20	N	--	<1 J
MW-93-050	10/21/20	N	--	<1 J
MW-93-050	11/16/20	N	--	<1 J
MW-93-050	12/09/20	N	--	<1
MW-93-050	02/15/21	N	--	<1 J
MW-93-050	05/18/21	N	--	<1
MW-93-050	08/19/21	N	--	<1
MW-93-050	12/13/21	N	--	--
MW-93-050	06/23/22	N	--	--
MW-93-050	11/29/22	N	--	--
MW-93-213	06/04/20	N	--	--
MW-93-213	06/18/20	N	--	<1
MW-93-213	07/21/20	N	--	<1
MW-93-213	08/19/20	N	--	<1
MW-93-213	09/29/20	N	--	<1 J
MW-93-213	10/21/20	N	--	<1 J
MW-93-213	11/16/20	N	--	<1 J
MW-93-213	12/09/20	N	--	<1
MW-93-213	02/15/21	N	--	<1 J
MW-93-213	02/15/21	FD	--	<1 J
MW-93-213	05/18/21	N	--	<1
MW-93-213	08/19/21	N	--	<1
MW-93-213	12/13/21	N	--	--
MW-93-213	06/23/22	N	--	--
MW-93-213	11/29/22	N	--	--
MW-95-113	06/10/20	N	--	--
MW-95-113	06/18/20	N	--	<1
MW-95-113	07/21/20	N	--	<1
MW-95-113	08/19/20	N	--	<1
MW-95-113	09/30/20	N	--	<1
MW-95-113	10/20/20	N	--	<1
MW-95-113	11/18/20	N	--	<1 J
MW-95-113	12/15/20	N	--	<10
MW-95-113	02/25/21	N	--	<1
MW-95-113	05/19/21	N	--	<1

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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-95-113	08/25/21	N	2.1	2.3	0.97	44	0.24	80	0.82 J	0.031 J	21	0.018 J	4	12 J
MW-95-113	12/08/21	N	0.95	2.5	1.4	--	--	--	--	--	--	0.13 J	4.3	--
MW-95-113	06/22/22	N	3.5	3.7	--	--	--	--	--	--	--	--	--	--
MW-95-113	12/08/22	N	1.2	1.8 J	1.3	--	--	--	--	--	--	0.05 J	4.2	--
MW-95-113	12/08/22	FD	1.2	1.3 J	1.2	--	--	--	--	--	--	0.071 J	4.3	--
MW-95-157	06/09/20	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-95-157	06/25/20	N	0.63	16	<0.1	230	0.6	310	5	0.27	70	1.10	14	19
MW-95-157	07/21/20	N	2.3	2.6	<0.1 J	150	0.6	300	0.2	<0.02 J	67	0.16	8.5	19 J
MW-95-157	08/19/20	N	4.2 J	4	<0.1	120	0.67	250 J	0.66	0.027 J	72	0.087	7.4	18
MW-95-157	09/30/20	N	4.1	4.8	<0.1	110	0.64	270	0.076	0.044 J	72 J	0.038	6.8	17
MW-95-157	10/20/20	N	<0.2	<1	1.4 J	260	0.61	240	0.77 J	0.32 J	61 J	1	4.7	36 J
MW-95-157	11/18/20	N	<0.2	1.7 J	1.3	300	0.68 J	200 J	0.033	0.36 J	64	1.10	3.5 J	23
MW-95-157	11/18/20	FD	<0.2	3.4 J	1.5	270	0.87 J	230 J	<0.02	0.45 J	71	1	5 J	23
MW-95-157	12/15/20	N	5.5	5.6	<0.1	93	0.62	290 J	0.099 J	<0.02	62	0.027	5.7	18
MW-95-157	02/25/21	N	7.8	7.6	<0.1	89	0.54	290	0.25 J	0.031	62	0.016	5	18 J
MW-95-157	05/19/21	N	9.9	9.3	<0.1	81	0.53	330	0.043 J	<0.02	65 J	0.0085	4.8	20 J
MW-95-157	08/25/21	N	8.7	9.9	<0.1	75	0.49	280	0.079 J	0.056 J	57	0.002 J	4.1	27 J
MW-95-157	12/08/21	N	8.6	11	<0.1	--	--	--	--	--	--	0.0057 J	3.8	--
MW-95-157	06/22/22	N	3.7	7.1 J	--	--	--	--	--	--	--	--	--	--
MW-95-157	12/08/22	N	6.5	6.7 J	0.21	--	--	--	--	--	--	0.00091	10	--
MW-96-045	09/22/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-96-045	10/21/20	N	<0.2	<1	6.1	51	2.3	79 J	2.30	0.25	75	0.82	130	23
MW-96-045	11/17/20	N	<1	<1 J	1.1	39	2.9	90 J	4.50	0.067 J	110	0.64	120	13
MW-96-045	12/02/20	N	<0.2	<1	4.1	38	2.3 J	80 J	0.89	0.085 J	83 J	0.68	110	8.7 J
MW-96-045	12/02/20	FD	<0.2	<1	4.1	39	3.6 J	85 J	0.79	<0.1	72 J	0.69	110	6.2 J
MW-96-045	01/26/21	N	<1	<1	<0.1 J	34	2.5	92 J	2.70	0.13 J	140	0.81	110	15 J
MW-96-045	02/17/21	N	<1	<1	<0.1	30	1.8	83	0.56 J	0.047 J	80	0.59	110	12 J
MW-96-045	03/17/21	N	<1	<1	3.4	57	1.8 J	160	2.40 J	0.067 J	32 J	1	91	7.7
MW-96-045	04/26/21	N	<0.2	<1	<0.1	56	1.4	150	0.84	0.1	34	1.20	79	7.4
MW-96-045	05/18/21	N	<0.2	<1	<0.1 J	56	1.3	150	3.10 J	0.091 J	31 J	1.20	72	6.1 J
MW-96-045	06/09/21	N	<0.2	<1	3.5	52	1.6 J	180	1.60 J	0.032 J	33	1	78	7.3 J
MW-96-045	08/19/21	N	<0.2	<1	<0.1	47 J	1.6	140 J	0.52 J	0.044	58 J	0.094	93	7.7
MW-96-045	12/15/21	N	<1	1.5	--	--	--	--	--	--	--	--	--	--
MW-96-045	12/15/21	FD	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-96-045	03/02/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	06/09/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--
MW-96-045	08/11/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	11/17/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-96-217	09/16/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-96-217	10/21/20	N	<1	1.8	1.9	120	1.7	340 J	1.10	0.73	49	1.60	73	64
MW-96-217	11/17/20	N	<1	2.6 J	<0.1	130	1.7	290 J	0.87	0.4 J	48	1.50	75	36
MW-96-217	12/02/20	N	<1	1.4	1.5	110	1.5 J	300 J	0.62	0.22 J	52 J	1.20	74	35 J
MW-96-217	01/26/21	N	<1	<1	<0.1 J	85	1.4	290 J	0.46	0.18 J	47	0.78	68	37 J
MW-96-217	02/17/21	N	<1	<1	<0.1	69	0.97	310	0.37 J	0.053 J	46	0.83	66	35 J
MW-96-217	03/17/21	N	<1	<1	1.8	64	1.4 J	550	0.12 J	<0.1	51 J	0.93	65	30
MW-96-217	04/26/21	N	<1	<1	<0.1	63	1.7	610	0.13	<0.1	62	0.69	64	27
MW-96-217	05/18/21	N	<1	<1	<0.1 J	56	1	670	0.061 J	0.079 J	42 J	0.61	62	26 J

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-95-113	08/25/21	N	4.7	160	11	92	<0.2	280	<0.5	--	--	6.2 J	140	910
MW-95-113	12/08/21	N	5.3	--	--	--	--	--	--	--	--	6.1	--	--
MW-95-113	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-113	12/08/22	N	5.1	--	--	--	--	--	--	4.9	--	6 J	--	--
MW-95-113	12/08/22	FD	5.2	--	--	--	--	--	--	4.9	--	6.6 J	--	--
MW-95-157	06/09/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-157	06/25/20	N	5.4	700	1.9	75	<0.2	1,500	1.1	--	--	6.2	280	3,500
MW-95-157	07/21/20	N	6.3	720	2.7	76	<0.2	1,500	<1	--	--	6.7 J	290	3,800
MW-95-157	08/19/20	N	6.3	710	3.7	75	<0.2	1,500	<1	--	--	7.1 J	290	4,100
MW-95-157	09/30/20	N	7.7 J	630	4.2	75	<0.2	1,500	0.61	--	--	7.8	280	4,000
MW-95-157	10/20/20	N	<0.5	1,100	<1	120	0.38	1,300 J	1.1	--	--	<0.05	200	3,200
MW-95-157	11/18/20	N	0.55	580	<1	78 J	<0.2	1,500	<1	--	--	8 J	290 J	3,500 J
MW-95-157	11/18/20	FD	0.63	540	<1	110 J	<0.2	1,400	1.3	--	--	8.3	230 J	2,800 J
MW-95-157	12/15/20	N	5.7	710	4.4	76	<0.2	1,500	<1	--	--	7.8	290	3,200
MW-95-157	02/25/21	N	6.3	670 J	5.5	54	<0.2	1,500	1	--	--	8.9	300	3,100
MW-95-157	05/19/21	N	6.7	650	5.9	73	<0.22	1,500	<1	--	--	8.7	300	3,300
MW-95-157	08/25/21	N	7	910	7.4	69	<0.2	1,600	<1	--	--	9.3 J	300	4,000
MW-95-157	12/08/21	N	6.5	--	--	--	--	--	--	--	--	9.5	--	--
MW-95-157	06/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-157	12/08/22	N	5.9	--	--	--	--	--	--	5.6	--	5.8 J	--	--
MW-96-045	09/22/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	10/21/20	N	<0.5	2,300	4.6	250	0.21	2,800	7.4	--	--	0.33	1,200	7,600
MW-96-045	11/17/20	N	0.55	2,400	4.5	280	<0.2	2,900	7.4	--	--	0.54	1,200	7,200
MW-96-045	12/02/20	N	0.91	2,100	5.9	250	<0.2	2,700	7.4	--	--	0.7	1,000	6,900
MW-96-045	12/02/20	FD	0.79	1,900	5.9	250	<0.2	2,700	7.6	--	--	0.72	1,100	7,100
MW-96-045	01/26/21	N	0.81	2,300 J	5.9	250	<0.2	3,100	6.8	--	--	0.79	1,300	7,600
MW-96-045	02/17/21	N	0.71	2,000	6.1	240	<0.22	3,000	6.8	--	--	0.7	1,100	6,700
MW-96-045	03/17/21	N	0.81	2,000	6.5	240	<0.2	2,500	6.3	--	--	0.56	820	6,200
MW-96-045	04/26/21	N	0.71	1,800	7.2	200	<0.2	2,400	6.3	--	--	0.83	620	5,200
MW-96-045	05/18/21	N	0.67	1,700 J	6.7	220	<0.2	2,400	6.2	--	--	0.84	610	5,400
MW-96-045	06/09/21	N	0.6	2,400	7.6	220	<0.2	2,500	5.8	--	--	0.84	610	5,000
MW-96-045	08/19/21	N	1.1	2,600 J	9.9	240	<0.2	2,800	6.6	--	--	0.71	1,100	6,700
MW-96-045	12/15/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	12/15/21	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	08/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	11/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	09/16/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	10/21/20	N	<0.5	5,200	<1	51	0.24	5,800	3.8	--	--	0.13	1,000	13,000
MW-96-217	11/17/20	N	<0.5	3,900	<1	61	<0.2	5,500	3.6	--	--	<0.05	970	11,000
MW-96-217	12/02/20	N	<0.5	3,400	<1	62	<0.2	5,500	4.1	--	--	<0.1	1,000	11,000
MW-96-217	01/26/21	N	0.73	4,200 J	<1	54	<0.22	6,200	3.3	--	--	1	1,000	13,000
MW-96-217	02/17/21	N	<0.5	4,600	<1	49	<0.22	6,200	3.7	--	--	0.3	1,100	13,000
MW-96-217	03/17/21	N	<0.5	4,500	<1	45	<0.2	6,100	3.4	--	--	0.62	1,200	13,000 J
MW-96-217	04/26/21	N	<0.5	4,600	1.2	51	<0.2	6,100	3.5	--	--	0.67	1,200	12,000 J
MW-96-217	05/18/21	N	<0.5	4,700 J	<1	53	<0.2	6,000	3.8	--	--	0.72	1,200	12,000

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-95-113	08/25/21	N	--	<1
MW-95-113	12/08/21	N	--	--
MW-95-113	06/22/22	N	--	--
MW-95-113	12/08/22	N	--	--
MW-95-113	12/08/22	FD	--	--
MW-95-157	06/09/20	N	--	--
MW-95-157	06/25/20	N	--	<1
MW-95-157	07/21/20	N	--	<1
MW-95-157	08/19/20	N	--	<1
MW-95-157	09/30/20	N	--	<1
MW-95-157	10/20/20	N	--	<1
MW-95-157	11/18/20	N	--	<1 J
MW-95-157	11/18/20	FD	--	<1 J
MW-95-157	12/15/20	N	--	<1
MW-95-157	02/25/21	N	--	<1
MW-95-157	05/19/21	N	--	<1
MW-95-157	08/25/21	N	--	<1
MW-95-157	12/08/21	N	--	--
MW-95-157	06/22/22	N	--	--
MW-95-157	12/08/22	N	--	--
MW-96-045	09/22/20	N	--	--
MW-96-045	10/21/20	N	--	<1 J
MW-96-045	11/17/20	N	--	<1 J
MW-96-045	12/02/20	N	--	<1
MW-96-045	12/02/20	FD	--	<1
MW-96-045	01/26/21	N	--	<1 J
MW-96-045	02/17/21	N	--	<1
MW-96-045	03/17/21	N	--	<1
MW-96-045	04/26/21	N	--	<1
MW-96-045	05/18/21	N	--	<1
MW-96-045	06/09/21	N	--	<1
MW-96-045	08/19/21	N	--	<1
MW-96-045	12/15/21	N	--	--
MW-96-045	12/15/21	FD	--	--
MW-96-045	03/02/22	N	--	--
MW-96-045	06/09/22	N	--	--
MW-96-045	08/11/22	N	--	--
MW-96-045	11/17/22	N	--	--
MW-96-217	09/16/20	N	--	--
MW-96-217	10/21/20	N	--	<1 J
MW-96-217	11/17/20	N	--	<1 J
MW-96-217	12/02/20	N	--	<1
MW-96-217	01/26/21	N	--	<20 J
MW-96-217	02/17/21	N	--	<1
MW-96-217	03/17/21	N	--	<50
MW-96-217	04/26/21	N	--	<1
MW-96-217	05/18/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-96-217	06/09/21	N	<1	<1	1.8	48	1.2 J	570	0.12 J	<0.1	53	0.48	57	33 J
MW-96-217	08/19/21	N	<1	<1	<0.1	47 J	0.93	490 J	0.078 J	<0.02	49 J	0.51	59	22
MW-96-217	12/15/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-96-217	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	06/09/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-96-217	08/11/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	11/17/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-97-042	10/27/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
MW-97-042	11/17/20	N	<0.2	<1 J	5.5	25	1.1	40 J	0.22	<0.1	11	0.28	42	9.5
MW-97-042	12/10/20	N	<0.2	<1	6.1	26	0.54	44 J	1.60 J	0.32 J	13	0.29	34	7.7
MW-97-042	01/26/21	N	11	13	4.7 J	24	0.62	38 J	0.57 J	0.11 J	10	0.19	31	6.9 J
MW-97-042	01/26/21	FD	12	14	4.7 J	22	0.62	38 J	1.40 J	0.031 J	10	0.2	32	6.5 J
MW-97-042	02/15/21	N	0.25	<1	2.9 J	59	0.38	78	0.41 J	0.077	20 J	0.38 J	18 J	8.3 J
MW-97-042	03/17/21	N	<0.2	1	3.2	71	0.55 J	140	0.25 J	0.13 J	25 J	0.45	12	11
MW-97-042	03/17/21	FD	<0.2	1.2	3.5	74	0.5 J	140	0.24 J	0.085 J	24 J	0.47	13	11
MW-97-042	04/26/21	N	1.4	1.6	1.5	96	0.46	170	0.19	0.022	31	0.33	9.9	11
MW-97-042	04/26/21	FD	1.4	1.8	1.4	95	0.51	170	0.26	0.13	28	0.33	9.6	10
MW-97-042	05/17/21	N	3.1	3.4	0.84	100	0.51	180	0.56	0.038	27	0.24	9	9.3 J
MW-97-042	06/09/21	N	2.1	2.4	3.1	82	0.58 J	180	0.042 J	0.025 J	29	0.16	13	11 J
MW-97-042	08/17/21	N	3.3	3.4	1.6	61	0.57	120	0.17 J	0.045	21 J	0.11	16	8.9 J
MW-97-042	12/13/21	N	4.4	6	--	--	--	--	--	--	--	--	--	--
MW-97-042	08/17/21	N	3.3	3.4	1.6	61	0.57	120	0.17 J	0.045	21 J	0.11	16	8.9 J
MW-97-042	12/13/21	N	4.4	6	--	--	--	--	--	--	--	--	--	--
MW-97-042	03/02/22	N	6.7	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	06/07/22	N	20	19	--	--	--	--	--	--	--	--	--	--
MW-97-042	08/22/22	N	21	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	11/14/22	N	140	130	--	--	--	--	--	--	--	--	--	--
MW-97-202	10/22/20	N	7.9	26	--	--	--	--	--	--	--	--	--	--
MW-97-202	11/17/20	N	<1	<1 J	3	150	2	410 J	0.6	0.37 J	99	1	38	38
MW-97-202	12/10/20	N	<1	<1	7.1	140	0.89	350 J	0.59 J	0.45 J	85	1.30	36	29
MW-97-202	01/26/21	N	<1	<1	2.7 J	150	1.1	350 J	0.54	0.46 J	86	1.60	34	31 J
MW-97-202	02/15/21	N	<1	<1	<0.1 J	130	0.77	370	0.51 J	0.47	87 J	1.50 J	34 J	36 J
MW-97-202	03/16/21	N	<1	<1	5.9	130	1.6 J	640	0.83 J	0.58 J	110 J	1.40	35	31
MW-97-202	04/26/21	N	<1	<1	<0.1	130	1.1	630	0.48	0.53	87	1.40	35	28
MW-97-202	05/17/21	N	<1	<1	<0.1	130	1	590	0.46	0.42	83	1.40	34	24 J
MW-97-202	06/09/21	N	<1	<1	8.3	120	1.5 J	670	0.58 J	0.63 J	120	1.30	31	38 J
MW-97-202	08/17/21	N	<1	3	<0.1	120	0.96	560	0.47 J	0.52	65 J	1.70	30	31 J
MW-97-202	08/17/21	FD	<1	3	<0.1	120	0.87	560	0.47 J	0.46	63 J	1.70	29	26 J
MW-97-202	12/13/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-97-202	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	06/07/22	N	<1	3.8	--	--	--	--	--	--	--	--	--	--
MW-97-202	08/22/22	N	<1	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	11/14/22	N	230	240	--	--	--	--	--	--	--	--	--	--
MW-98-055	10/29/20	N	1.2	8.7	--	--	--	--	--	--	--	--	--	--
MW-98-055	10/29/20	FD	7.5	6.5	--	--	--	--	--	--	--	--	--	--
MW-98-055	11/17/20	N	3.1	7.1 J	2.5	110	1.1	79 J	0.44	0.094 J	30	0.25	47	18
MW-98-055	12/14/20	N	14	16	1.9	82	0.62	80 J	0.36	0.078 J	28	0.16	33	16
MW-98-055	01/25/21	N	11	15	1.6 J	82	0.64	80 J	1.80	0.11 J	23	0.16	22	13 J
MW-98-055	02/16/21	N	24	27	1.3 J	82	0.51	84 J	0.47 J	0.046	23 J	0.16	19 J	12 J

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-96-217	06/09/21	N	<0.5	4,900	1.4	51	<0.2	6,000	3.8	--	--	0.84	1,200	12,000
MW-96-217	08/19/21	N	<0.5	3,800 J	1.4	50	<0.2	6,200	3.5	--	--	0.86	1,200	13,000
MW-96-217	12/15/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	08/11/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	11/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	10/27/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	11/17/20	N	1.3	610	<1	130	0.24	810	3.6	--	--	0.59	210	1,800
MW-97-042	12/10/20	N	0.55	570	<1	120	0.26	900	3.5	--	--	0.37	230	1,800
MW-97-042	01/26/21	N	1.5	490 J	1.3	120	<0.22	780	3.4	--	--	0.83 J	200	1,700
MW-97-042	01/26/21	FD	1.5	480 J	1.2	130	0.25	790	3.2	--	--	0.57 J	200	1,700
MW-97-042	02/15/21	N	0.63	500	<1	98	<0.22	990	2.4	--	--	0.42	210	2,000
MW-97-042	03/17/21	N	0.8	630	<1	90	<0.2	1,000	2.2	--	--	0.59	220	2,200
MW-97-042	03/17/21	FD	0.76	600	<1	89	<0.22	1,100	2.2	--	--	0.65	220	2,200
MW-97-042	04/26/21	N	0.8	620	1.1	89	<0.2	1,100	2	--	--	0.63	220	2,300
MW-97-042	04/26/21	FD	0.72	620	1.1	82	<0.2	1,100	1.9	--	--	0.62	220	2,200
MW-97-042	05/17/21	N	0.87	590 J	1.3	85	<0.2	1,100	1.9	--	--	0.99	220	2,400
MW-97-042	06/09/21	N	0.7	650	2.1	92	<0.2	1,100	2.1	--	--	0.36	220	2,300
MW-97-042	08/17/21	N	<0.5	610 J	1.4	110	<0.2	940	2.1	--	--	0.47	210	2,100
MW-97-042	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	08/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	11/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	10/22/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	11/17/20	N	<0.5	3,500	<1	77	0.34	6,000	3.1	--	--	<0.05	950	12,000
MW-97-202	12/10/20	N	<0.5	3,500	<1	81	0.39	6,200	3.5	--	--	0.25	990	12,000
MW-97-202	01/26/21	N	<0.5	3,500 J	<1	100	0.37	5,900	2.7	--	--	0.072	990	12,000
MW-97-202	02/15/21	N	<0.5	3,300	<1	90	0.32	6,000	3	--	--	0.51	990	12,000
MW-97-202	03/16/21	N	<0.5	4,200	<1	75	0.27	6,100	3	--	--	0.42	970	12,000
MW-97-202	04/26/21	N	<0.5	4,200	<1	81	0.56	6,500	3.3	--	--	0.21	990	12,000
MW-97-202	05/17/21	N	<0.5	4,300 J	<1	81	0.55	6,200	3.2	--	--	0.32	960	13,000
MW-97-202	06/09/21	N	<0.5	5,600	<1	79	0.29	6,200	3.1	--	--	0.15	950	12,000
MW-97-202	08/17/21	N	<0.5	3,900 J	<1	97	0.31	6,100	2.9	--	--	0.21	970	13,000
MW-97-202	08/17/21	FD	<0.5	3,900 J	<1	94	0.26	6,100	3	--	--	0.18	980	14,000
MW-97-202	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	03/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	08/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	11/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	10/29/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	10/29/20	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	11/17/20	N	2.3	700	<1	170	0.35	900	1.9	--	--	1.5	470	2,400
MW-98-055	12/14/20	N	2.2	770	1.7	140	<0.2	870	2	--	--	1.8	430	2,200
MW-98-055	01/25/21	N	3.4	630 J	2.3	140	0.22	840	1.6	--	--	2.8	500	2,200
MW-98-055	02/16/21	N	3.4	530 J	2.4	120	<0.22	790	1.7	--	--	2.7	510	2,300

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-96-217	06/09/21	N	--	<50
MW-96-217	08/19/21	N	--	<1
MW-96-217	12/15/21	N	--	--
MW-96-217	03/02/22	N	--	--
MW-96-217	06/09/22	N	--	--
MW-96-217	08/11/22	N	--	--
MW-96-217	11/17/22	N	--	--
MW-97-042	10/27/20	N	--	--
MW-97-042	11/17/20	N	--	<1 J
MW-97-042	12/10/20	N	--	<1
MW-97-042	01/26/21	N	--	<1 J
MW-97-042	01/26/21	FD	--	<1 J
MW-97-042	02/15/21	N	--	<1 J
MW-97-042	03/17/21	N	--	<1
MW-97-042	03/17/21	FD	--	<1
MW-97-042	04/26/21	N	--	<1
MW-97-042	04/26/21	FD	--	<1
MW-97-042	05/17/21	N	--	<10
MW-97-042	06/09/21	N	--	<1
MW-97-042	08/17/21	N	--	<1
MW-97-042	12/13/21	N	--	--
MW-97-042	03/02/22	N	--	--
MW-97-042	06/07/22	N	--	--
MW-97-042	08/22/22	N	--	--
MW-97-042	11/14/22	N	--	--
MW-97-202	10/22/20	N	--	--
MW-97-202	11/17/20	N	--	<1 J
MW-97-202	12/10/20	N	--	<1
MW-97-202	01/26/21	N	--	<1 J
MW-97-202	02/15/21	N	--	<20 J
MW-97-202	03/16/21	N	--	<1
MW-97-202	04/26/21	N	--	<1
MW-97-202	05/17/21	N	--	<1
MW-97-202	06/09/21	N	--	<1
MW-97-202	08/17/21	N	--	<1
MW-97-202	08/17/21	FD	--	<1
MW-97-202	12/13/21	N	--	--
MW-97-202	03/02/22	N	--	--
MW-97-202	06/07/22	N	--	--
MW-97-202	08/22/22	N	--	--
MW-97-202	11/14/22	N	--	--
MW-98-055	10/29/20	N	--	--
MW-98-055	10/29/20	FD	--	--
MW-98-055	11/17/20	N	--	1 J
MW-98-055	12/14/20	N	--	<1
MW-98-055	01/25/21	N	--	<1
MW-98-055	02/16/21	N	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
MW-98-055	03/16/21	N	4	3.5	3.6	78	0.57 J	120	0.28 J	0.038 J	23 J	0.16	18	13
MW-98-055	04/26/21	N	50	53	1.4	72	0.58	140	0.46	0.04	25	0.094	16	10
MW-98-055	05/20/21	N	69 J	69	1.6	64	0.55	140	0.19 J	<0.02	24 J	0.081	15	12 J
MW-98-055	06/09/21	N	66	67	3.2	63	0.65 J	140	0.79 J	0.043 J	29	0.087	15	12 J
MW-98-055	06/09/21	FD	66	67	3	65	0.68 J	150	0.7 J	0.085 J	31	0.089	16	13 J
MW-98-055	08/20/21	N	84	93	<0.1	56	0.54	100	0.27 J	0.029 J	19 J	0.031	18	13 J
MW-98-055	12/16/21	N	240	230	2.8	--	--	--	--	--	--	0.0013	--	--
MW-98-055	06/09/22	N	130	120 J	--	--	--	--	--	--	--	--	--	--
MW-98-055	11/30/22	N	440	650 J	1.8	--	--	--	--	--	--	0.015	--	--
MW-98-077	10/30/20	FD	250	260	--	--	--	--	--	--	--	--	--	--
MW-98-077	10/30/20	N	260	230	--	--	--	--	--	--	--	--	--	--
MW-98-077	11/17/20	N	26	29 J	<0.1	200	1.8	300 J	0.71	0.066 J	17	0.52	18	44
MW-98-077	12/14/20	N	140	140	<0.1	140	1.5	270 J	0.52	0.085 J	14	0.31	14	37
MW-98-077	01/25/21	N	310	310	<0.1 J	110	1.5	250 J	0.19	<0.02 J	11	0.12	15	36 J
MW-98-077	02/16/21	N	360	340	<0.1 J	93	1.2	230 J	0.3 J	<0.02	9.6 J	0.071	16 J	47 J
MW-98-077	03/16/21	N	440	410	3.5	100	1.4 J	410	0.043 J	<0.02	10 J	0.12	11	38
MW-98-077	04/26/21	N	480	480	<0.1	83	1.5	350	0.41	<0.02	8.9	0.065	16	32
MW-98-077	05/20/21	N	490 J	470	<0.1	86	1.4	390	0.13 J	<0.02	9.5 J	0.039	14	40 J
MW-98-077	06/09/21	N	540	510	4.6	84	1.7 J	420	0.42 J	0.025 J	11	0.053	13	43 J
MW-98-077	08/20/21	N	340	390	4.3	38	0.77	63	0.085 J	0.03 J	3.9 J	0.002	28	9.3 J
MW-98-077	12/16/21	N	340	320	3	--	--	--	--	--	--	0.0028	--	--
MW-98-077	06/09/22	N	440	430 J	--	--	--	--	--	--	--	--	--	--
MW-98-077	11/30/22	N	300	360 J	4.6	--	--	--	--	--	--	0.0024	--	--
OW-01D	10/07/20	N	0.6	<1	--	--	--	--	--	--	--	--	18 J	--
OW-01D	10/07/20	FD	0.59	<1	--	--	--	--	--	--	--	--	18 J	--
OW-01D	12/15/21	N	0.5	2.8	<0.1	32	1.1 J	140	--	--	24 J	0.0047	23	17 J
OW-01D	11/28/22	N	<1	1	<0.1	31	1.9	180	--	--	24 J	<0.0005 J	24	13
OW-01M	10/07/20	N	2.3	5.1	--	--	--	--	--	--	--	--	18 J	--
OW-01M	12/15/21	N	1.2	4.1	<0.1	63	1 J	150	--	--	24 J	0.0048	24	15 J
OW-01M	11/28/22	N	1.3	1.4	<0.1	66	1.9	190	--	--	27 J	<0.0005 J	21	13
OW-01S	10/07/20	N	2.6	5.2	--	--	--	--	--	--	--	--	2.1 J	--
OW-01S	12/15/21	N	8.4	31	<0.1	110	0.88 J	350	--	--	54 J	0.026	8.9	17 J
OW-01S	11/28/22	N	7.7	7.3	<0.1	67 J	1.5	410 J	--	--	59 J	0.0062 J	5.2	15
OW-01S	11/28/22	FD	7.7	7.6	<0.1	110 J	1.5	590 J	--	--	68 J	0.0072 J	5.3	17
OW-02D	10/08/20	N	0.5	1.4	--	--	--	--	--	--	--	--	23	--
OW-02D	12/15/21	N	0.28	1.8	<0.1	24	1.1 J	190	--	--	31 J	0.0017	24	21 J
OW-02D	12/01/22	N	0.34	<1	0.41	24 J	1.3	210	--	--	31 J	<0.0005	23 J	18 J
OW-02M	10/08/20	N	2	3.2	--	--	--	--	--	--	--	--	20	--
OW-02M	12/15/21	N	1.1	1.6	<0.1	38	1.1 J	150	--	--	25 J	<0.0005	23	14 J
OW-02M	12/01/22	N	1.6	1.8	<0.1	40 J	1.2	170	--	--	24 J	<0.0005	22 J	19 J
OW-02M	12/01/22	FD	1.7	1.8	<0.1	38 J	1.2	170	--	--	25 J	<0.0005	21 J	15 J
OW-02S	10/08/20	N	16	16	--	--	--	--	--	--	--	--	22	--
OW-02S	12/15/21	N	15	15	<0.1	130	0.59 J	130	--	--	16 J	0.00083	21	11 J
OW-02S	12/01/22	N	21	22	0.73	96 J	0.67	110	--	--	12 J	<0.0005	25 J	15 J
OW-05D	10/08/20	N	0.63	1.8	3	25	1.2	110	0.085 J	0.096 J	30	0.00058	26	14
OW-05D	12/01/21	N	0.42	1.9	<0.1 J	28	1.1	200	--	--	31	<0.0005	29	17 J
OW-05D	12/01/22	N	0.88	1.3	1.3	31 J	1.2	180	--	--	27 J	<0.0005	26 J	17 J

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-98-055	03/16/21	N	5.1	670	2.3	120	<0.2	820	1.7	--	--	4.2	520	2,300
MW-98-055	04/26/21	N	4.8	650	3.6	110	<0.2	850	1.5	--	--	4.9	500	2,200
MW-98-055	05/20/21	N	4.9	610 J	3.4	100	<0.2	830	1.7	--	--	4.5	490	2,200
MW-98-055	06/09/21	N	4.9	700	3.6	110	<0.2	850	1.6	--	--	4.7	500	2,200
MW-98-055	06/09/21	FD	4.4	770	3.5	100	<0.2	850	1.6	--	--	5.1	490	2,200
MW-98-055	08/20/21	N	5.7	560 J	4.7	100	<0.2	870	1.4	--	--	6	470	2,200
MW-98-055	12/16/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	10/30/20	FD	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	10/30/20	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	11/17/20	N	17	2,400	1.1	70	0.23	4,000	2.2	--	--	2.8	630	8,200
MW-98-077	12/14/20	N	17	2,300	2.2	70	<0.2	3,700	2.2	--	--	4.3	650	7,900
MW-98-077	01/25/21	N	21	2,100 J	3.4	75	<0.22	3,500	2.1	--	--	5.5	610	7,400
MW-98-077	02/16/21	N	19	1,900 J	4.1	80	<0.22	3,200	2.2	--	--	5	580	6,400
MW-98-077	03/16/21	N	22	2,400	2.6	64	<0.2	4,000	1.8	--	--	4.3	640	8,300
MW-98-077	04/26/21	N	21	2,100	4.2	77	<0.2	3,300	2.3	--	--	5.5	590	6,800
MW-98-077	05/20/21	N	21	2,100 J	3.7	74	<0.2	3,500	2.6	--	--	4.6	640	7,300
MW-98-077	06/09/21	N	20	3,000	3.6	73	<0.2	3,600	2.2	--	--	5.2	610	7,800
MW-98-077	08/20/21	N	18	870 J	8	100	<0.2	1,100	2.6	--	--	7.9	470	2,600
MW-98-077	12/16/21	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	06/09/22	N	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	11/30/22	N	--	--	--	--	--	--	--	--	--	--	--	--
OW-01D	10/07/20	N	--	1,400	--	--	--	2,200	2.2	--	--	2.5	480	4,300
OW-01D	10/07/20	FD	--	1,400	--	--	--	2,200	2	--	--	2.5	480	4,300
OW-01D	12/15/21	N	8.2	1,400	3.2	86	--	2,000	2.3	--	--	7 J	510	4,100
OW-01D	11/28/22	N	7.8 J	1,400 J	3.7	83	--	1,900	2.5	--	--	6.8 J	510	4,500 J
OW-01M	10/07/20	N	--	1,400	--	--	--	2,200	2.2	--	--	2.7	490	4,300
OW-01M	12/15/21	N	8.2	1,500	3	110	--	2,000	2.1	--	--	7.8 J	510	4,100
OW-01M	11/28/22	N	6 J	1,400 J	3.4	120	--	2,000	2.2	--	--	5.8 J	510	4,700
OW-01S	10/07/20	N	--	1,400	--	--	--	2,100	1.3	--	--	2.9	470	4,500
OW-01S	12/15/21	N	2.9	1,000	2.5	270	--	1,700	1.4	--	--	3 J	360	4,000
OW-01S	11/28/22	N	3 J	830 J	2.4	250	--	1,700	1.2	--	--	3.1 J	380	4,400
OW-01S	11/28/22	FD	3.2 J	920 J	2.4	230	--	1,700	1.2	--	--	3 J	380	4,800
OW-02D	10/08/20	N	--	1,600	--	--	--	2,200	2.7	--	--	3.1	490	4,400
OW-02D	12/15/21	N	8.4	1,600	1.9	86	--	2,100	3.1	--	--	7.4 J	500	4,100
OW-02D	12/01/22	N	9.4	1,300 J	1.9	87	--	2,000	2.6	--	--	7.4 J	510	4,100
OW-02M	10/08/20	N	--	1,600	--	--	--	2,200	2.1	--	--	2.8	490	4,400
OW-02M	12/15/21	N	7.8	1,600	2.8	97	--	2,000	2.5	--	--	7.5 J	510	4,100
OW-02M	12/01/22	N	9.3	1,300 J	3.3	110	--	1,900	2.4	--	--	7.6 J	510	4,400
OW-02M	12/01/22	FD	9	1,400 J	3.1	110	--	1,900	2.3	--	--	7.3 J	510	4,200
OW-02S	10/08/20	N	--	670	--	--	--	1,100	3.2	--	--	3.2	180	2,600
OW-02S	12/15/21	N	2	640	3.4	58	--	1,100	2.7	--	--	3.2 J	180	2,200
OW-02S	12/01/22	N	2.9	350 J	4.5	72	--	860	3	--	--	4.3 J	170	1,800
OW-05D	10/08/20	N	4.3	1,600	2.3	71	<0.2	2,100	3	--	--	2.4	470	4,500
OW-05D	12/01/21	N	9.3	1,300	2.4	76	--	2,000	2.8	--	--	7.8	500	4,000
OW-05D	12/01/22	N	8.8	1,200 J	2.9	82	--	1,900	2.6	--	--	6.7 J	510	4,200

Appendix B
January 2020 to December 2022 Analytical Results
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
MW-98-055	03/16/21	N	--	<1
MW-98-055	04/26/21	N	--	<10
MW-98-055	05/20/21	N	--	<1
MW-98-055	06/09/21	N	--	<1
MW-98-055	06/09/21	FD	--	<1
MW-98-055	08/20/21	N	--	<1
MW-98-055	12/16/21	N	--	--
MW-98-055	06/09/22	N	--	--
MW-98-055	11/30/22	N	--	--
MW-98-077	10/30/20	FD	--	--
MW-98-077	10/30/20	N	--	--
MW-98-077	11/17/20	N	--	<20 J
MW-98-077	12/14/20	N	--	<1
MW-98-077	01/25/21	N	--	<1
MW-98-077	02/16/21	N	--	<1
MW-98-077	03/16/21	N	--	<1
MW-98-077	04/26/21	N	--	<1
MW-98-077	05/20/21	N	--	<1
MW-98-077	06/09/21	N	--	<1
MW-98-077	08/20/21	N	--	<1
MW-98-077	12/16/21	N	--	--
MW-98-077	08/20/21	N	--	<1
MW-98-077	12/16/21	N	--	--
MW-98-077	06/09/22	N	--	--
MW-98-077	11/30/22	N	--	--
OW-01D	10/07/20	N	--	--
OW-01D	10/07/20	FD	--	--
OW-01D	12/15/21	N	--	--
OW-01D	11/28/22	N	--	--
OW-01M	10/07/20	N	--	--
OW-01M	12/15/21	N	--	--
OW-01M	11/28/22	N	--	--
OW-01S	10/07/20	N	--	--
OW-01S	12/15/21	N	--	--
OW-01S	11/28/22	N	--	--
OW-01S	11/28/22	FD	--	--
OW-02D	10/08/20	N	--	--
OW-02D	12/15/21	N	--	--
OW-02D	12/01/22	N	--	--
OW-02M	10/08/20	N	--	--
OW-02M	12/15/21	N	--	--
OW-02M	12/01/22	N	--	--
OW-02M	12/01/22	FD	--	--
OW-02S	10/08/20	N	--	--
OW-02S	12/15/21	N	--	--
OW-02S	12/01/22	N	--	--
OW-05D	10/08/20	N	--	--
OW-05D	12/01/21	N	--	--
OW-05D	12/01/22	N	--	--

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
OW-05M	10/08/20	N	0.49	16	1	33	1.1	97	2.90 J	0.23 J	26	0.016	23	11
OW-05M	12/01/21	N	0.59	1.1	<0.1 J	31	1.1	150	--	--	24	<0.0005	26	15 J
OW-05M	12/01/22	N	0.63	<1	<0.1	33 J	1.3	170	--	--	25 J	<0.0005	24 J	20 J
OW-05S	10/08/20	N	10	10	--	--	--	--	--	--	--	--	10	--
OW-05S	12/01/21	N	9.7	10	<0.1 J	130	0.34	430	--	--	69	<0.0005	7.6	17 J
OW-05S	12/01/22	N	13	13	<0.1	120 J	0.41	430	--	--	59 J	<0.0005	7.7 J	18 J
PGE-07BR	12/03/20	N	<1	<1	--	--	2.9	430	--	0.14	16	0.32	8.1	--
PGE-07BR	12/01/22	N	<1	<1	<0.1	--	--	--	--	--	--	0.33 J	--	--
PGE-08	12/09/20	N	<1	<1	--	--	3.2 J	150 J	--	0.08 J	3.8 J	0.45	110	--
PGE-08	12/08/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.47 J	--	--
PGE-08	06/10/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
PGE-08	12/02/22	N	<1	<1 J	<0.1	--	--	--	--	--	--	0.78	--	--
PM-03	12/14/20	N	9.6	9.5	--	--	0.11	76 J	--	0.11 J	19	0.0008	5.8	--
PM-03	12/12/22	N	8.9	8.9 J	0.86	--	--	90	--	<0.02	19 J	0.001	5.6	9.7 J
PM-04	12/14/20	N	16	16	--	--	0.33	110 J	--	0.039 J	34	0.0029	5.4	--
PM-04	12/12/22	N	15	17 J	0.2	--	--	150	--	<0.02	41 J	<0.0005	5.5	15 J
PT5D	12/16/21	N	31	29	1.5	20	--	--	--	<0.02	--	0.031	100	--
PT5D	03/04/22	N	5.5	--	1.6	27	--	--	--	0.05	--	0.11	--	--
PT5D	05/05/22	N	<0.2	2.1	2.3	22	--	--	--	0.027	--	0.1	--	--
PT5D	08/15/22	N	10	--	<0.1	29 J	--	--	--	<0.02	--	0.013 J	--	--
PT5D	11/16/22	N	40	39	2.5	34	--	--	--	0.022	--	0.022 J	130	--
PT5M	12/16/21	N	<0.2	<1	1.7	23	--	--	--	<0.02	--	0.94	11	--
PT5M	03/04/22	N	<0.2	--	1.1	32	--	--	--	0.14	--	1.20	--	--
PT5M	05/05/22	N	<0.2	<1	0.75	44	--	--	--	0.023	--	2.10	--	--
PT5M	08/15/22	N	<0.2	--	1.1	41 J	--	--	--	<0.02	--	1.10 J	--	--
PT5M	11/16/22	N	<0.2	<1	0.95	52	--	--	--	0.035	--	0.64 J	7.3	--
PT5S	12/16/21	N	<0.2	<1	13	84	--	--	--	0.65 J	--	0.21	6.1	--
PT5S	03/04/22	N	<0.2	--	9.5	90	--	--	--	0.87	--	0.24	--	--
PT5S	05/05/22	N	<0.2	<1	7	96	--	--	--	1.20	--	0.26	--	--
PT5S	08/15/22	N	<0.2	--	14	110 J	--	--	--	1.10	--	0.29 J	--	--
PT5S	11/16/22	N	<0.2	<1	13	92	--	--	--	0.97	--	0.22 J	7.1	--
PT8D	10/06/20	N	390	370	--	--	--	--	--	--	--	--	--	--
PT8D	05/04/21	N	240	230	<0.1	--	--	660	--	--	--	0.23	62	47
PT8D	12/10/21	N	200	200	<0.1	--	--	--	--	--	--	0.27	--	--
PT8D	06/23/22	N	220	250	--	--	--	--	--	--	--	--	--	--
PT8D	12/01/22	N	130	110	0.67	--	--	--	--	--	--	0.9 J	--	--
PT9D	10/06/20	N	5,200	5,200	--	--	--	--	--	--	--	--	--	--
PT9D	05/05/21	N	4,900	5,100 J	<0.1	--	--	100	--	--	--	0.0023	88	44 J
PT9D	12/10/21	N	7,000	6,100	<0.1	--	--	--	--	--	--	0.0035	90	--
PT9D	06/23/22	N	5,000	5,500	--	--	--	--	--	--	--	--	--	--
PT9D	12/01/22	N	4,000	4,400	1.1	--	--	--	--	--	--	0.024 J	29 J	--
PT9M	10/06/20	N	690	660	--	--	--	--	--	--	--	--	--	--
PT9M	05/05/21	N	570	580 J	<0.1	--	--	160	--	--	--	0.03	5.1	38 J
PT9M	12/10/21	N	64	87	<0.1	--	--	--	--	--	--	0.11	7.2	--
PT9M	06/23/22	N	310	340	--	--	--	--	--	--	--	--	--	--
PT9M	12/01/22	N	590	760	<0.1	--	--	--	--	--	--	0.051 J	5.2 J	--
PT9M	12/01/22	FD	600	550	<0.1	--	--	--	--	--	--	0.048 J	4.8 J	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
OW-05M	10/08/20	N	4.6	1,500	2	86	<0.2	2,100	2.6	--	--	3.1	490	4,400
OW-05M	12/01/21	N	9.2	1,400	1.8	79	--	1,900	3	--	--	9	510	4,000
OW-05M	12/01/22	N	9.7	1,300 J	2.4	84	--	1,900	2.4	--	--	8.4 J	510	4,200
OW-05S	10/08/20	N	--	660	--	--	--	1,700	1.7	--	--	3.2	350	4,600
OW-05S	12/01/21	N	2.4	660	2	48	--	1,700	1.7	--	--	2.8	360	4,000
OW-05S	12/01/22	N	2.3	580 J	2.7	54	--	1,400	1.4	--	--	3.1 J	310	3,100
PGE-07BR	12/03/20	N	<0.5 J	4,000	--	17	--	7,400	--	--	--	--	410	10,000
PGE-07BR	12/01/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PGE-08	12/09/20	N	<0.5	3,600 J	--	52	--	6,000	--	--	--	<0.05	2,000	14,000
PGE-08	12/08/21	N	--	--	--	--	--	--	--	--	--	--	--	--
PGE-08	06/10/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PGE-08	12/02/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PM-03	12/14/20	N	1.7	170	--	85	--	320	--	--	--	3.2	62	760
PM-03	12/12/22	N	1.7	200	--	89	<0.23	310	2	3.2	--	--	63	780
PM-04	12/14/20	N	1.4	320	--	64	--	650	--	--	--	2.2	180	1,500
PM-04	12/12/22	N	1.4	560	--	74	<0.23	820	1.2	1.9	--	--	260	1,800
PT5D	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
PT5D	03/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
PT5D	05/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
PT5D	08/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
PT5D	11/16/22	N	<0.5	--	--	--	--	--	--	1 J	--	--	--	--
PT5M	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
PT5M	03/04/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
PT5M	05/05/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
PT5M	08/15/22	N	--	--	--	--	--	--	--	<0.5	--	--	--	--
PT5M	11/16/22	N	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--
PT5S	12/16/21	N	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--
PT5S	03/04/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
PT5S	05/05/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
PT5S	08/15/22	N	--	--	--	--	--	--	--	<0.25	--	--	--	--
PT5S	11/16/22	N	<0.5	--	--	--	--	--	--	<0.25	--	--	--	--
PT8D	10/06/20	N	--	--	--	--	--	--	--	--	--	--	--	--
PT8D	05/04/21	N	0.76	5,500 J	--	--	--	7,200	--	--	--	0.76	780	12,000 J
PT8D	12/10/21	N	--	--	--	--	--	--	--	--	--	--	--	--
PT8D	06/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PT8D	12/01/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9D	10/06/20	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9D	05/05/21	N	3.3	5,200	--	--	--	6,700	--	--	--	3.5	960	13,000
PT9D	12/10/21	N	4.6	--	--	--	--	--	--	--	--	6.4	--	--
PT9D	06/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9D	12/01/22	N	6.1	--	--	--	--	--	--	8	--	--	--	--
PT9M	10/06/20	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9M	05/05/21	N	2.6	2,500	--	--	--	3,600	--	--	--	2.4	690	8,700
PT9M	12/10/21	N	5.7	--	--	--	--	--	--	--	--	7.2	--	--
PT9M	06/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9M	12/01/22	N	5.7	--	--	--	--	--	--	7.4	--	--	--	--
PT9M	12/01/22	FD	5.8	--	--	--	--	--	--	7.6	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
OW-05M	10/08/20	N	--	--
OW-05M	12/01/21	N	--	--
OW-05M	12/01/22	N	--	--
OW-05S	10/08/20	N	--	--
OW-05S	12/01/21	N	--	--
OW-05S	12/01/22	N	--	--
PGE-07BR	12/03/20	N	--	--
PGE-07BR	12/01/22	N	--	--
PGE-08	12/09/20	N	--	--
PGE-08	12/08/21	N	--	--
PGE-08	06/10/22	N	--	--
PGE-08	12/02/22	N	--	--
PM-03	12/14/20	N	--	--
PM-03	12/12/22	N	--	--
PM-04	12/14/20	N	--	--
PM-04	12/12/22	N	--	--
PT5D	12/16/21	N	--	<1
PT5D	03/04/22	N	--	<1
PT5D	05/05/22	N	--	<20
PT5D	08/15/22	N	--	<1
PT5D	11/16/22	N	--	<1
PT5M	12/16/21	N	--	<1
PT5M	03/04/22	N	--	<1
PT5M	05/05/22	N	--	<1
PT5M	08/15/22	N	--	<1
PT5M	11/16/22	N	--	<1
PT5S	12/16/21	N	--	3
PT5S	03/04/22	N	--	1.9
PT5S	05/05/22	N	--	1.1
PT5S	08/15/22	N	--	1.9
PT5S	11/16/22	N	--	2.5
PT8D	10/06/20	N	--	--
PT8D	05/04/21	N	--	--
PT8D	12/10/21	N	--	--
PT8D	06/23/22	N	--	--
PT8D	12/01/22	N	--	--
PT9D	10/06/20	N	--	--
PT9D	05/05/21	N	--	--
PT9D	12/10/21	N	--	--
PT9D	06/23/22	N	--	--
PT9D	12/01/22	N	--	--
PT9M	10/06/20	N	--	--
PT9M	05/05/21	N	--	--
PT9M	12/10/21	N	--	--
PT9M	06/23/22	N	--	--
PT9M	12/01/22	N	--	--
PT9M	12/01/22	FD	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
PT9S	10/06/20	N	42	58	--	--	--	--	--	--	--	--	--	--
PT9S	05/05/21	N	28	29 J	0.77	--	--	160	--	--	--	0.97	18	9.5 J
PT9S	12/10/21	N	34	35	<0.1	--	--	--	--	--	--	0.32	8.6	--
PT9S	06/23/22	N	41	40	--	--	--	--	--	--	--	--	--	--
PT9S	12/01/22	N	94	86	0.98	--	--	--	--	--	--	0.66 J	12 J	--
R-19	01/30/20	N	<0.2	<1	2.1	110	--	--	0.047	0.038 J	--	0.0025 J	4.7	--
R-19	02/20/20	N	<0.2	<1	2.1	120	--	--	0.093 J	0.027 J	--	0.0013	4.7 J	--
R-19	04/30/20	N	<0.2	<1	2.1	110	--	--	0.047	0.026 J	--	0.0014	4.4	--
R-19	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.041 J	<0.02 J	--	0.00072	4.5	--
R-19	11/19/20	N	<0.2	<1	2.4	110	--	--	<0.02	<0.02	--	0.0016	4.7	--
R-19	01/28/21	N	<0.2	<1	2.2	120	--	--	0.076	0.023	--	0.0018	4.7	--
R-19	01/28/21	FD	<0.2	<1	2.3	120	--	--	0.043	0.029	--	0.0016	4.5	--
R-19	02/18/21	N	<0.2	<1	2.5	120	--	--	0.035 J	<0.02 J	--	0.0014	4.7	--
R-19	05/20/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--
R-19	08/19/21	N	<0.2	<1	2.3	100	--	--	0.021	<0.02 J	--	<0.0005	4	--
R-19	08/19/21	FD	<0.2	<1	2.1	100	--	--	0.022	<0.02 J	--	<0.0005	4.1	--
R-19	11/18/21	N	<0.2	<1	3.1 J	--	--	--	--	--	--	0.00056	4.4	--
R-19	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--
R-19	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--
R-19	08/18/22	N	<0.2	--	2.5	--	--	--	--	--	--	0.0012	--	--
R-19	11/16/22	N	<0.2	<1	2.5	--	--	--	--	--	--	0.00098	4.6	--
R-28	01/29/20	N	<0.2	<1	2.2	120	--	--	0.18	<0.02	--	0.0026	4.7	--
R-28	02/19/20	N	<0.2	<1	2.1	120 J	--	--	0.15 J	0.063 J	--	0.0018	4.6	--
R-28	04/29/20	N	<0.2	<1	2.3	120	--	--	0.075 J	0.088 J	--	0.0016	4.5	--
R-28	08/19/20	N	<0.2	<1	2.5	110 J	--	--	0.038 J	0.041 J	--	0.00095	4.7	--
R-28	11/18/20	N	<0.2	<1	2.5	110	<100	58	0.04	<0.02	25	0.0015	4.5	4.7
R-28	11/18/20	FD	<0.2	<1	2.5	110	0.13	59	0.045	<0.02	25	0.0013	4.5	4.7
R-28	01/27/21	N	<0.2	<1	2.2	120	--	--	0.025	0.02 J	--	0.0023	4.7	--
R-28	02/17/21	N	<0.2	<1	2.4	120	--	--	0.085 J	<0.02 J	--	0.0016	4.8	--
R-28	05/19/21	N	<0.2	<1	1.9	100	--	--	<0.02	<0.02 J	--	0.00085	4.3	--
R-28	08/18/21	N	<0.2	<1	2.1	100	--	--	0.022 J	<0.02	--	<0.0005	4.3	--
R-28	11/17/21	N	<0.2	<1	3.3	--	--	--	--	--	--	0.00095	4.7 J	--
R-28	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--
R-28	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	0.00058	--	--
R-28	08/17/22	N	<0.2	--	2.2	--	--	--	--	--	--	0.0023 J	--	--
R-28	11/15/22	N	<0.2	<1	2.4 J	--	--	--	--	--	--	0.001	4.7	--
RRB	01/30/20	N	<0.2	<1	2.4	80	--	--	1.10	<0.1 J	--	0.021 J	7	--
RRB	02/20/20	N	<0.2	<1	2.1	97 J	--	--	0.16	0.021	--	0.0027	4.8	--
RRB	04/30/20	N	<0.2	<1	2.2	110	--	--	0.024	<0.02	--	0.0018	4.7	--
RRB	08/20/20	N	<0.2	<1	2.3	110 J	--	--	0.03 J	<0.02 J	--	0.0071	4.7	--
RRB	11/19/20	N	<0.2	<1	2.2	110	--	--	0.041	<0.02	--	0.0052	4.6	--
RRB	01/28/21	N	<0.2	<1	0.63	98	--	--	35	0.041	--	0.01	4.4	--
RRB	02/18/21	N	<0.2	<1	2.3	120	--	--	0.087 J	<0.02 J	--	0.0041	4.7	--
RRB	05/20/21	N	<0.2	<1	2.2	110	--	--	<0.02	<0.02	--	0.016	4.4	--
RRB	08/19/21	N	<0.2	<1	2.2	110	--	--	0.057	<0.02 J	--	0.0064	4.3	--
RRB	11/18/21	N	<0.2	<1	2.8 J	--	--	--	--	--	--	0.024	4.5	--
RRB	11/18/21	FD	<0.2	<1	2.9 J	--	--	--	--	--	--	0.025	4.4	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
PT9S	10/06/20	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9S	05/05/21	N	1.8	550	--	--	--	860	--	--	--	2.6	270	1,900
PT9S	12/10/21	N	6	--	--	--	--	--	--	--	--	5	--	--
PT9S	06/23/22	N	--	--	--	--	--	--	--	--	--	--	--	--
PT9S	12/01/22	N	1.5	--	--	--	--	--	--	2.8	--	--	--	--
R-19	01/30/20	N	1.6	--	--	--	--	--	--	--	--	0.37	--	--
R-19	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.33	--	--
R-19	04/30/20	N	1.5	--	--	--	--	--	--	--	--	0.38	--	--
R-19	08/20/20	N	1.5	--	--	--	--	--	--	--	--	0.36	--	--
R-19	11/19/20	N	1.4	--	--	--	--	--	--	--	--	--	--	--
R-19	01/28/21	N	1.7	--	--	--	--	--	--	--	--	0.4	--	--
R-19	01/28/21	FD	1.6	--	--	--	--	--	--	--	--	0.39	--	--
R-19	02/18/21	N	1.6	--	--	--	--	--	--	--	--	0.39	--	--
R-19	05/20/21	N	1.3	--	--	--	--	--	--	--	--	0.42	--	--
R-19	08/19/21	N	1.5	--	--	--	--	--	--	--	--	0.36	--	--
R-19	08/19/21	FD	1.5	--	--	--	--	--	--	--	--	0.35	--	--
R-19	11/18/21	N	1.9	--	--	--	--	--	--	--	--	0.31	--	--
R-19	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
R-19	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
R-19	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
R-19	11/16/22	N	1.4	--	--	--	--	--	--	0.3	--	--	--	--
R-28	01/29/20	N	1.6	--	--	--	--	--	--	--	--	0.32	--	--
R-28	02/19/20	N	1.6	--	--	--	--	--	--	--	--	0.33	--	--
R-28	04/29/20	N	1.7	--	--	--	--	--	--	--	--	0.41	--	--
R-28	08/19/20	N	1.5	--	--	--	--	--	--	--	--	0.37	--	--
R-28	11/18/20	N	1.6	86	--	140	--	88	--	--	--	0.28	210	580
R-28	11/18/20	FD	1.5	86	--	140	--	88	--	--	--	0.3	210	580
R-28	01/27/21	N	1.5	--	--	--	--	--	--	--	--	0.27	--	--
R-28	02/17/21	N	1.7	--	--	--	--	--	--	--	--	0.47	--	--
R-28	05/19/21	N	1.4	--	--	--	--	--	--	--	--	0.36	--	--
R-28	08/18/21	N	1.6	--	--	--	--	--	--	--	--	0.35	--	--
R-28	11/17/21	N	2	--	--	--	--	--	--	--	--	0.3	--	--
R-28	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
R-28	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
R-28	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
R-28	11/15/22	N	1.4	--	--	--	--	--	--	0.26 J	--	--	--	--
RRB	01/30/20	N	2.3	--	--	--	--	--	--	--	--	1.1	--	--
RRB	02/20/20	N	1.5	--	--	--	--	--	--	--	--	0.22	--	--
RRB	04/30/20	N	2.9	--	--	--	--	--	--	--	--	0.31	--	--
RRB	08/20/20	N	1.4	--	--	--	--	--	--	--	--	0.25	--	--
RRB	11/19/20	N	1.4	--	--	--	--	--	--	--	--	--	--	--
RRB	01/28/21	N	0.61	--	--	--	--	--	--	--	--	0.076	--	--
RRB	02/18/21	N	1.3	--	--	--	--	--	--	--	--	0.38	--	--
RRB	05/20/21	N	1.2	--	--	--	--	--	--	--	--	0.32	--	--
RRB	08/19/21	N	1.3	--	--	--	--	--	--	--	--	0.23	--	--
RRB	11/18/21	N	1.6	--	--	--	--	--	--	--	--	0.2	--	--
RRB	11/18/21	FD	1.5	--	--	--	--	--	--	--	--	0.22	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
PT9S	10/06/20	N	--	--
PT9S	05/05/21	N	--	--
PT9S	12/10/21	N	--	--
PT9S	06/23/22	N	--	--
PT9S	12/01/22	N	--	--
R-19	01/30/20	N	--	--
R-19	02/20/20	N	--	--
R-19	04/30/20	N	--	--
R-19	08/20/20	N	--	--
R-19	11/19/20	N	--	--
R-19	01/28/21	N	--	--
R-19	01/28/21	FD	--	--
R-19	02/18/21	N	--	--
R-19	05/20/21	N	--	--
R-19	08/19/21	N	--	--
R-19	08/19/21	FD	--	--
R-19	11/18/21	N	--	--
R-19	02/17/22	N	--	--
R-19	05/19/22	N	--	--
R-19	08/18/22	N	--	--
R-19	11/16/22	N	--	--
R-28	01/29/20	N	--	--
R-28	02/19/20	N	--	--
R-28	04/29/20	N	--	--
R-28	08/19/20	N	--	--
R-28	11/18/20	N	--	--
R-28	11/18/20	FD	--	--
R-28	01/27/21	N	--	--
R-28	02/17/21	N	--	--
R-28	05/19/21	N	--	--
R-28	08/18/21	N	--	--
R-28	11/17/21	N	--	--
R-28	02/16/22	N	--	--
R-28	05/18/22	N	--	--
R-28	08/17/22	N	--	--
R-28	11/15/22	N	--	--
RRB	01/30/20	N	--	--
RRB	02/20/20	N	--	--
RRB	04/30/20	N	--	--
RRB	08/20/20	N	--	--
RRB	11/19/20	N	--	--
RRB	01/28/21	N	--	--
RRB	02/18/21	N	--	--
RRB	05/20/21	N	--	--
RRB	08/19/21	N	--	--
RRB	11/18/21	N	--	--
RRB	11/18/21	FD	--	--

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
RRB	02/17/22	N	<0.2	--	1.5	--	--	--	--	--	--	0.014	--	--
RRB	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	0.0076	--	--
RRB	08/18/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.017	--	--
RRB	08/18/22	FD	<0.2	--	2.1	--	--	--	--	--	--	0.015	--	--
RRB	11/16/22	N	<0.2	<1	2.7	--	--	--	--	--	--	0.0077	5.2	--
SW1	01/29/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	02/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	04/30/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	08/20/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	11/18/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	01/27/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	02/17/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	05/19/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	08/18/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW1	11/17/21	N	<0.2	<1	2.2	--	--	--	--	--	--	0.0069	5.6 J	--
SW1	02/16/22	N	<0.2	--	1.4	--	--	--	--	--	--	0.021 J	--	--
SW1	05/18/22	N	<0.2	<1	1.6 J	--	--	--	--	--	--	0.011	--	--
SW1	08/17/22	N	<0.2	--	2.4	--	--	--	--	--	--	0.0077 J	--	--
SW1	11/15/22	N	<0.2	<1	2.1 J	--	--	--	--	--	--	0.001	9	--
SW1	11/15/22	FD	<0.2	<1	1.8 J	--	--	--	--	--	--	0.00072	8.5	--
SW2	01/29/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	02/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	04/30/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	08/20/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	11/18/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	01/27/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	02/17/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	05/19/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	08/18/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--
SW2	11/17/21	N	<0.2	<1	2.3	--	--	--	--	--	--	0.0076	5.1 J	--
SW2	02/16/22	N	<0.2	--	1.7	--	--	--	--	--	--	0.015 J	--	--
SW2	05/18/22	N	<0.2	<1	1.9 J	--	--	--	--	--	--	0.0018	--	--
SW2	08/17/22	N	<0.2	--	2.2	--	--	--	--	--	--	0.0091 J	--	--
SW2	11/15/22	N	<0.2	<1	1.5 J	--	--	--	--	--	--	0.0083	4.5	--
TOPOCK-2	09/20/21	N	11.8	13	12.1	51.9	0.557	37	--	<0.1	4.2	<0.01	19.1	6.71
TOPOCK-2	05/18/22	N	13.8	17.9	15.3	63.6	0.402	26.5	--	<1	3.94	<0.1	<20	5.37
TOPOCK-3	09/20/21	N	14.2	14.9	13.4	69.3	0.508	30.1	--	<0.1	4.1	<0.01	16.3	5.67
TOPOCK-3	05/18/22	N	11.4	14.9	12.1	58	0.527	37.9	--	2.29	4.55	<0.1	20.5	6.72
TW-01	11/04/20	N	1,400	1,400	0.71	26	1.6	170	0.065 J	<0.02	21	<0.0005	26	17 J
TW-01	06/10/21	N	1,400	1,500	<0.1	30	1.3 J	200	--	<0.02	17	<0.0005	25	18 J
TW-01	06/10/21	FD	1,400	1,500	<0.1	29	1.6 J	210	--	<0.02	19	<0.0005	24	19 J
TW-01	06/15/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--
TW-01	06/16/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--
TW-01	06/17/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--
TW-01	06/18/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--
TW-01	06/19/21	N	1,500	1,500	--	--	--	--	--	--	--	--	--	--
TW-01	06/20/21	N	1,500	1,500	--	--	--	--	--	--	--	--	--	--

Appendix B
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Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
RRB	02/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
RRB	05/19/22	N	--	--	--	--	--	--	--	--	--	--	--	--
RRB	08/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
RRB	08/18/22	FD	--	--	--	--	--	--	--	--	--	--	--	--
RRB	11/16/22	N	1.5	--	--	--	--	--	--	0.2	--	--	--	--
SW1	01/29/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	02/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	04/30/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	08/20/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	11/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	01/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	02/17/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	05/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	08/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	11/17/21	N	1.1	--	--	--	--	--	--	--	--	<0.05	--	--
SW1	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
SW1	11/15/22	N	0.97	--	--	--	--	--	--	<0.05	--	--	--	--
SW1	11/15/22	FD	0.89	--	--	--	--	--	--	<0.05	--	--	--	--
SW2	01/29/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	02/19/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	04/30/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	08/20/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	11/18/20	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	01/27/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	02/17/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	05/19/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	08/18/21	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	11/17/21	N	0.99	--	--	--	--	--	--	--	--	<0.05	--	--
SW2	02/16/22	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	05/18/22	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	08/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
SW2	11/15/22	N	<0.5	--	--	--	--	--	--	<0.05	--	--	--	--
TOPOCK-2	09/20/21	N	<1	259	17.9	--	--	343	4.22	--	--	--	83.9	765
TOPOCK-2	05/18/22	N	<10	190	24.6	104	--	246	4.45	--	--	--	72.1	630
TOPOCK-3	09/20/21	N	<1	203	18.1	--	--	333	4.21	--	--	--	72	549
TOPOCK-3	05/18/22	N	<10	266	22.2	91.5	--	404	4.61	--	--	--	97.9	814
TW-01	11/04/20	N	10	1,000	9.4	--	<0.2	--	2.9	--	--	13	520	3,500
TW-01	06/10/21	N	10	1,100	9.3	--	<0.2	1,600	2.6	--	--	14	550	3,600
TW-01	06/10/21	FD	10	1,200	9.3	--	<0.2	1,500	2.6	--	--	15	540	3,600
TW-01	06/15/21	N	--	--	--	--	--	--	--	--	--	--	--	3,600
TW-01	06/16/21	N	--	--	--	--	--	--	--	--	--	--	--	3,500
TW-01	06/17/21	N	--	--	--	--	--	--	--	--	--	--	--	3,600
TW-01	06/18/21	N	--	--	--	--	--	--	--	--	--	--	--	3,600
TW-01	06/19/21	N	--	--	--	--	--	--	--	--	--	--	--	3,600
TW-01	06/20/21	N	--	--	--	--	--	--	--	--	--	--	--	3,600

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
RRB	02/17/22	N	--	--
RRB	05/19/22	N	--	--
RRB	08/18/22	N	--	--
RRB	08/18/22	FD	--	--
RRB	11/16/22	N	--	--
SW1	01/29/20	N	--	--
SW1	02/19/20	N	--	--
SW1	04/30/20	N	--	--
SW1	08/20/20	N	--	--
SW1	11/18/20	N	--	--
SW1	01/27/21	N	--	--
SW1	02/17/21	N	--	--
SW1	05/19/21	N	--	--
SW1	08/18/21	N	--	--
SW1	11/17/21	N	--	--
SW1	02/16/22	N	--	--
SW1	05/18/22	N	--	--
SW1	08/17/22	N	--	--
SW1	11/15/22	N	--	--
SW1	11/15/22	FD	--	--
SW2	01/29/20	N	--	--
SW2	02/19/20	N	--	--
SW2	04/30/20	N	--	--
SW2	08/20/20	N	--	--
SW2	11/18/20	N	--	--
SW2	01/27/21	N	--	--
SW2	02/17/21	N	--	--
SW2	05/19/21	N	--	--
SW2	08/18/21	N	--	--
SW2	11/17/21	N	--	--
SW2	02/16/22	N	--	--
SW2	05/18/22	N	--	--
SW2	08/17/22	N	--	--
SW2	11/15/22	N	--	--
TOPOCK-2	09/20/21	N	--	--
TOPOCK-2	05/18/22	N	--	--
TOPOCK-3	09/20/21	N	--	--
TOPOCK-3	05/18/22	N	--	--
TW-01	11/04/20	N	--	<1
TW-01	06/10/21	N	--	<1
TW-01	06/10/21	FD	--	<1
TW-01	06/15/21	N	--	--
TW-01	06/16/21	N	--	--
TW-01	06/17/21	N	--	--
TW-01	06/18/21	N	--	--
TW-01	06/19/21	N	--	--
TW-01	06/20/21	N	--	--

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Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
TW-01	06/21/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--
TW-01	06/28/21	N	1,500	1,600	<0.1	32	1.2	200	--	0.023 J	20 J	<0.0005	34 J	17
TW-01	07/08/21	N	--	--	<0.1	--	--	210	--	--	24	<0.0005	35	19 J
TW-01	07/12/21	N	1,500	1,700	<0.1	--	--	210	--	--	22 J	--	35	20 J
TW-01	07/12/21	FD	1,500	1,700	<0.1	--	--	210	--	--	24 J	--	35	20 J
TW-01	07/20/21	N	--	--	<0.1	--	--	230	--	--	22	<0.0005	30	17 J
TW-01	07/26/21	N	1,400	1,500	<0.1	--	--	230	--	--	22	--	30	17 J
TW-01	08/03/21	N	--	--	<0.1	--	--	240	--	--	25	<0.0005	30	18
TW-01	08/16/21	N	1,400	1,400	<0.1	35	1.3	230	--	<0.02	24 J	<0.0005	30	17
TW-01	08/16/21	FD	1,400	1,500	<0.1	34	1.3	220	--	<0.02	24 J	<0.0005	29	24
TW-01	08/25/21	N	--	--	<0.1 J	--	--	250	--	--	23	<0.0005	31	18
TW-01	09/01/21	N	--	1,500 J	<0.1	--	--	240	--	--	23	<0.0005	22	18
TW-01	09/02/21	N	1,200	--	--	--	--	--	--	--	--	--	--	--
TW-01	09/09/21	N	1,200	1,300	<0.1	42	1.2	240	--	<0.02 J	23 J	<0.0005	39	18
TW-01	09/09/21	FD	1,300	1,500	<0.1	42	1.2	230	--	<0.02 J	23 J	<0.0005	38	17
TW-01	09/15/21	N	--	--	<0.1	--	--	240	--	--	23 J	<0.0005	37	20 J
TW-01	09/23/21	N	1,200	1,400 J	<0.1 J	--	--	280 J	--	--	25	<0.0005	38 J	19
TW-01	09/23/21	FD	1,200	1,400 J	<0.1 J	--	--	270 J	--	--	24	<0.0005	39 J	18
TW-01	09/30/21	N	--	--	<0.1 J	--	--	310 J	--	--	30	<0.0005	40	20
TW-01	10/07/21	N	1,300	1,300	0.79	37	1.4	260	--	<0.02	25 J	<0.0005	34	22 J
TW-01	10/07/21	FD	1,300	1,300	0.72	36	1.5	250	--	<0.02	26 J	<0.0005	34	21 J
TW-01	10/20/21	N	1,300	1,400	0.92	--	--	270 J	--	--	26	<0.0005	33	19
TW-01	10/20/21	FD	1,300	1,400	1	--	--	290 J	--	--	27	<0.0005	34	20
TW-01	11/02/21	N	1,300	1,300	1.1	38 J	1.4	280	--	<0.02	26 J	<0.0005	32	18 J
TW-01	11/02/21	FD	1,300	1,300	1	41 J	1.4	260	--	<0.02	25 J	<0.0005	31	18 J
TW-01	11/11/21	N	1,300	--	--	--	--	--	--	--	--	--	--	--
TW-01	11/15/21	N	1,300	1,300	1.7 J	--	--	240	--	--	24 J	--	32 J	18 J
TW-01	11/22/21	N	1,200	--	--	--	--	--	--	--	--	--	--	--
TW-01	12/02/21	N	1,200	--	--	--	--	--	--	--	--	--	--	--
TW-01	12/08/21	N	1,200	1,300	0.76	--	--	--	--	--	--	<0.0005 J	31	--
TW-01	12/15/22	N	3,300	3,200	<0.1	--	--	--	--	--	--	0.019	13	--
TW-02D	02/19/20	N	740	670	--	--	--	--	--	--	--	0.14	18	--
TW-02D	07/08/21	N	340	370	--	--	--	190	--	<0.02	28	0.067	--	--
TW-02D	08/04/21	N	350	360	--	--	--	170	--	<0.02	20	0.052	--	--
TW-02D	09/08/21	N	27	33	--	--	--	200	--	<0.02	34 J	0.13	18	--
TW-02D	09/08/21	FD	27	34	--	--	--	--	--	--	--	0.14	18	--
TW-02D	03/09/22	N	64	62	5.8	52	--	--	--	0.039 J	--	0.14	92	--
TW-02D	04/14/22	N	710	--	<0.1	43	--	--	--	0.024	--	0.12	--	--
TW-02D	05/19/22	N	8.5	--	<0.1	51	--	--	--	0.56 J	--	0.27	--	--
TW-02D	06/15/22	N	840	780	<0.1	34	--	--	--	<0.02	--	0.012 J	65	--
TW-02D	06/15/22	FD	840	800	<0.1	36	--	--	--	<0.02	--	0.015 J	68	--
TW-02D	07/13/22	N	490	--	<0.1	26	--	--	--	0.02 J	--	0.054	--	--
TW-02D	08/09/22	N	200	210	<0.1	24 J	--	--	--	<0.02 J	--	0.039 J	32 J	--
TW-02D	09/14/22	N	560	--	3.1	23	--	--	--	<0.02	--	0.0077	--	--
TW-02D	10/12/22	N	100	--	2.3	22 J	--	--	--	<0.02	--	0.0052 J	--	--
TW-02D	11/09/22	N	120	130	6.3	15	--	--	--	<0.02	--	0.027	110	--
TW-02D	11/09/22	FD	120	130	6.3	16	--	--	--	0.021	--	0.028	120	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
TW-01	06/21/21	N	--	--	--	--	--	--	--	--	--	--	--	3,300
TW-01	06/28/21	N	10	1,100	11	--	<0.2	1,500	3.5	--	--	14	530	3,600
TW-01	07/08/21	N	11	1,000	--	--	--	1,600	--	--	--	14	530	--
TW-01	07/12/21	N	10	1,000	--	--	--	1,600	--	--	--	14	520	3,800
TW-01	07/12/21	FD	9.8	1,100	--	--	--	1,600	--	--	--	15	520	3,700
TW-01	07/20/21	N	11	1,200	--	--	--	1,600	--	--	--	13	510	--
TW-01	07/26/21	N	10	1,200	--	--	--	1,600	--	--	--	14	510	3,900
TW-01	08/03/21	N	12	1,100	--	--	--	1,600	--	--	--	13	520	--
TW-01	08/16/21	N	12	1,100	10	--	<0.2	1,700	3.4	--	--	12	530	4,000
TW-01	08/16/21	FD	12	1,300	10	--	<0.2	1,700	3.2	--	--	13	530	3,900
TW-01	08/25/21	N	12	1,100	--	--	--	1,700	--	--	--	12	510	--
TW-01	09/01/21	N	9.2	1,200	--	--	--	1,700	3.5	--	--	12	510	4,000
TW-01	09/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	09/09/21	N	14	700 J	14	--	<0.2	1,700	3.5	--	--	12	510	4,000
TW-01	09/09/21	FD	14	1,300 J	14	--	<0.2	1,700	3.4	--	--	11	500	4,100
TW-01	09/15/21	N	14	1,200 J	--	--	--	1,700	--	--	--	12	520	--
TW-01	09/23/21	N	12	1,200	--	--	--	1,700	--	--	--	11	520	4,100
TW-01	09/23/21	FD	13	1,200	--	--	--	1,700	--	--	--	11	510	3,900
TW-01	09/30/21	N	14	1,300	--	--	--	1,700	--	--	--	15	540	--
TW-01	10/07/21	N	12	1,200	12	--	<0.2	1,800	3.9	--	--	11	520	3,800
TW-01	10/07/21	FD	12	1,200	12	--	<0.2	1,800	4.2	--	--	12	510	4,000
TW-01	10/20/21	N	13	1,200 J	--	--	--	1,800	--	--	--	11	510	3,900
TW-01	10/20/21	FD	14	1,300 J	--	--	--	1,800	--	--	--	11	520	3,900
TW-01	11/02/21	N	13	1,300 J	13	--	<0.2	1,800	3.8	--	--	11	510	3,900
TW-01	11/02/21	FD	14	1,600 J	13	--	<0.2	1,700	4.1	--	--	11	510	4,000
TW-01	11/11/21	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	11/15/21	N	13	1,200	--	--	--	1,800	--	--	--	11	500	3,800
TW-01	11/22/21	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	12/02/21	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	12/08/21	N	13	--	--	--	--	--	--	--	--	11	--	--
TW-01	12/15/22	N	24	--	--	--	--	--	--	8.6	--	--	--	--
TW-02D	02/19/20	N	3.4	--	--	260	--	1,400	--	--	--	--	390	3,400
TW-02D	07/08/21	N	--	1,400	--	150	--	2,100	--	--	--	2.4	470	4,400
TW-02D	08/04/21	N	--	1,300	--	160	--	2,100	--	--	--	2.4	480	4,500
TW-02D	09/08/21	N	0.92	1,500	--	190	--	1,900	--	--	--	1.1	460	4,200
TW-02D	09/08/21	FD	0.73	--	--	190	--	1,900	--	--	--	--	460	4,200
TW-02D	03/09/22	N	0.63	--	--	--	<0.2	--	--	1.1	--	--	940	--
TW-02D	04/14/22	N	--	--	--	--	--	--	--	1.8 J	--	--	950	--
TW-02D	05/19/22	N	--	--	--	--	--	--	--	0.36	--	--	400	--
TW-02D	06/15/22	N	0.98 J	--	--	--	<0.2	--	--	1.5	<5	--	850	--
TW-02D	06/15/22	FD	1.1 J	--	--	--	<0.2	--	--	1.4	<5	--	920	--
TW-02D	07/13/22	N	--	--	--	--	--	--	--	0.89	--	--	720	--
TW-02D	08/09/22	N	0.84	--	--	--	<0.2	--	--	1.5	<5	--	650	--
TW-02D	09/14/22	N	--	--	--	--	--	--	--	0.97	--	--	740	--
TW-02D	10/12/22	N	--	--	--	--	--	--	--	<0.5	--	--	690	--
TW-02D	11/09/22	N	<0.5	--	--	--	<0.43 J	--	--	<0.5	<5	--	630	--
TW-02D	11/09/22	FD	<0.5	--	--	--	<0.43 J	--	--	0.29 J	<2.5	--	630	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
TW-01	06/21/21	N	--	--
TW-01	06/28/21	N	--	<10
TW-01	07/08/21	N	--	--
TW-01	07/12/21	N	--	--
TW-01	07/12/21	FD	--	--
TW-01	07/20/21	N	--	--
TW-01	07/26/21	N	--	--
TW-01	08/03/21	N	--	--
TW-01	08/16/21	N	--	<5
TW-01	08/16/21	FD	--	<1
TW-01	08/25/21	N	--	--
TW-01	09/01/21	N	--	--
TW-01	09/02/21	N	--	--
TW-01	09/09/21	N	--	<1
TW-01	09/09/21	FD	--	<1
TW-01	09/15/21	N	--	--
TW-01	09/23/21	N	--	--
TW-01	09/23/21	FD	--	--
TW-01	09/30/21	N	--	--
TW-01	10/07/21	N	--	<1
TW-01	10/07/21	FD	--	<1
TW-01	10/07/21	N	--	<1
TW-01	10/07/21	FD	--	<1
TW-01	10/20/21	N	--	--
TW-01	10/20/21	FD	--	--
TW-01	11/02/21	N	--	<1
TW-01	11/02/21	FD	--	<1
TW-01	11/11/21	N	--	--
TW-01	11/15/21	N	--	--
TW-01	11/22/21	N	--	--
TW-01	12/02/21	N	--	--
TW-01	12/08/21	N	--	--
TW-01	12/15/22	N	--	--
TW-02D	02/19/20	N	--	--
TW-02D	07/08/21	N	--	--
TW-02D	08/04/21	N	--	--
TW-02D	09/08/21	N	--	--
TW-02D	09/08/21	FD	--	--
TW-02D	03/09/22	N	--	<50
TW-02D	04/14/22	N	--	<1
TW-02D	05/19/22	N	--	<1
TW-02D	06/15/22	N	--	<1
TW-02D	06/15/22	FD	--	<1
TW-02D	07/13/22	N	--	<1
TW-02D	08/09/22	N	--	<1
TW-02D	09/14/22	N	--	<1
TW-02D	10/12/22	N	--	<1
TW-02D	11/09/22	N	--	<1
TW-02D	11/09/22	FD	--	<1

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
TW-02D	12/07/22	N	54	--	6.1 J	14	--	--	--	0.038 J	--	0.0071	--	--
TW-02S	03/09/22	N	110	99	1.4	42	--	--	--	0.031 J	--	<0.0005	9.7	--
TW-02S	04/14/22	N	130	--	1.1	48	--	--	--	<0.02	--	<0.0005	--	--
TW-02S	05/19/22	N	97	--	0.57	52	--	--	--	<0.02 J	--	<0.0005	--	--
TW-02S	06/15/22	N	91	80	0.3	52	--	--	--	<0.02	--	<0.0005	8.9	--
TW-02S	07/13/22	N	100	--	0.52	66	--	--	--	<0.02	--	<0.0005	--	--
TW-02S	08/09/22	N	130	130	<0.1	77 J	--	--	--	<0.02 J	--	0.0015 J	8 J	--
TW-02S	09/14/22	N	130	--	0.81	110	--	--	--	<0.02	--	<0.0005	--	--
TW-02S	10/12/22	N	130	--	0.49	160 J	--	--	--	<0.02	--	<0.0005 J	--	--
TW-02S	11/09/22	N	120	130	0.62	190	--	--	--	<0.02	--	<0.0005	5.3	--
TW-02S	12/07/22	N	140	--	0.62 J	210	--	--	--	0.061 J	--	<0.0005	--	--
TW-03D	01/08/20	N	470	460	--	--	--	190	--	<0.02	36	0.02	--	--
TW-03D	02/05/20	N	460	480	--	--	--	210	--	<0.02	41 J	0.021	--	--
TW-03D	03/04/20	N	450	390	--	--	--	230	--	<0.02	33	0.019 J	--	--
TW-03D	04/07/20	N	440	420	--	--	--	200	--	<0.1 J	30	0.021	--	--
TW-03D	05/05/20	N	450	410	--	--	--	200	--	<0.02	27	0.019	--	--
TW-03D	07/23/20	N	390	410	--	--	--	170	--	<0.02	27	0.019	--	--
TW-03D	08/04/20	N	440	430	--	--	--	190	--	<0.1	26	0.019	--	--
TW-03D	09/01/20	N	430	420	--	--	--	200	--	0.036 J	29	0.02	--	--
TW-03D	10/07/20	N	420	400	--	--	--	190	--	0.093 J	37 J	0.019	--	--
TW-03D	11/03/20	N	440	420	--	--	--	160	--	0.079 J	30	0.019	--	--
TW-03D	12/03/20	N	440	430	--	--	--	160 J	--	<0.02	32	0.017	--	--
TW-03D	01/06/21	N	440	410	--	--	--	180	--	<0.02	29	0.018	--	--
TW-03D	02/03/21	N	420	430	--	--	--	150	--	0.093 J	26	0.019	--	--
TW-03D	03/03/21	N	400	420	--	--	--	170 J	--	0.12 J	36 J	0.019	--	--
TW-03D	04/07/21	N	410	400	--	--	--	180	--	0.027	24 J	0.019	--	--
TW-03D	05/05/21	N	390	360	--	--	--	200	--	0.18 J	24	0.019	--	--
TW-03D	06/02/21	N	390	370	--	--	--	160 J	--	<0.02	26 J	0.019	--	--
TW-03D	10/07/21	N	390	380	--	--	--	210	--	<0.02	28	0.0071	--	--
TW-03D	11/02/21	N	400	390	--	--	--	230 J	--	<0.02	30	0.01	--	--
TW-03D	12/16/21	N	400	390	<0.1	36	--	--	--	<0.02	--	0.013	22	--
TW-03D	03/09/22	N	920	840	<0.1	42	--	--	--	<0.02 J	--	0.03	65	--
TW-03D	04/14/22	N	780	--	<0.1	45	--	--	--	<0.02	--	0.14	--	--
TW-03D	05/19/22	N	610	--	<0.1	43	--	--	--	<0.02 J	--	0.15	--	--
TW-03D	06/15/22	N	700	750	<0.1	43	--	--	--	<0.02	--	0.11	72	--
TW-03D	06/15/22	FD	730	760	<0.1	41	--	--	--	<0.02	--	0.097	66	--
TW-03D	07/13/22	N	520	--	<0.1	32	--	--	--	<0.02	--	0.048	--	--
TW-03D	08/09/22	N	160	150	<0.1	45 J	--	--	--	<0.02 J	--	0.055 J	32 J	--
TW-03D	09/14/22	N	550	--	1.8	29	--	--	--	0.095 J	--	0.019	--	--
TW-03D	10/12/22	N	370	--	3.3	25 J	--	--	--	<0.02	--	0.041 J	--	--
TW-03D	11/09/22	N	260	270	4.1	21	--	--	--	<0.02	--	0.053	110	--
TW-03D	12/07/22	N	170	--	4.3 J	21	--	--	--	<0.02 J	--	0.029	--	--
TW-04	06/25/20	N	3.7	4.1	--	--	--	--	--	--	--	0.07	41	--
TW-04	11/30/20	N	6.4	6.6	--	--	3.2 J	330 J	--	<0.1	71 J	0.048	56	--
TW-04	06/07/21	N	7.9	7.4	--	--	--	--	--	--	--	0.0063 J	28	--
TW-04	12/06/21	N	9.1	9.3 J	--	--	--	--	--	--	--	--	--	--
TW-04	03/03/22	N	12	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
TW-02D	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	640	--
TW-02S	03/09/22	N	2.5	--	--	--	<0.2	--	--	4	--	--	180	--
TW-02S	04/14/22	N	--	--	--	--	--	--	--	3.6 J	--	--	190	--
TW-02S	05/19/22	N	--	--	--	--	--	--	--	3.4	--	--	190	--
TW-02S	06/15/22	N	1.9 J	--	--	--	<0.2	--	--	3.3	<10	--	190	--
TW-02S	07/13/22	N	--	--	--	--	--	--	--	2.8	--	--	180	--
TW-02S	08/09/22	N	2.2	--	--	--	<0.2	--	--	3	<5	--	170	--
TW-02S	09/14/22	N	--	--	--	--	--	--	--	2.6	--	--	230	--
TW-02S	10/12/22	N	--	--	--	--	--	--	--	1.7	--	--	300	--
TW-02S	11/09/22	N	1.1	--	--	--	<0.43 J	--	--	1.3 J	<5	--	370	--
TW-02S	12/07/22	N	--	--	--	--	--	--	--	1.1	--	--	400	--
TW-03D	01/08/20	N	--	1,800	--	160	--	2,100	--	--	--	2.6	510	4,500
TW-03D	02/05/20	N	--	1,300	--	150	--	2,200	--	--	--	2.5	510	4,500
TW-03D	03/04/20	N	--	1,400	--	160	--	2,100	--	--	--	2.9	500	4,600
TW-03D	04/07/20	N	--	1,500	--	170	--	2,100	--	--	--	2.9	500	4,700
TW-03D	05/05/20	N	--	1,400	--	160	--	2,300	--	--	--	3.4	500	4,700
TW-03D	07/23/20	N	--	1,400	--	150	--	2,100	--	--	--	2.3	490	4,500
TW-03D	08/04/20	N	--	1,300 J	--	150	--	2,100	--	--	--	2.5	490	4,600
TW-03D	09/01/20	N	--	1,400	--	150	--	2,000	--	--	--	2.9	470	4,500
TW-03D	10/07/20	N	--	1,500	--	150	--	2,100	--	--	--	2.8	480	4,400
TW-03D	11/03/20	N	--	1,500 J	--	150	--	2,000	--	--	--	2.5	470	4,300
TW-03D	12/03/20	N	--	1,600 J	--	160	--	2,000	--	--	--	--	480	4,500
TW-03D	01/06/21	N	--	1,500 J	--	150	--	2,100	--	--	--	2.8	470	4,400
TW-03D	02/03/21	N	--	1,300	--	150	--	2,100	--	--	--	3	500	4,400
TW-03D	03/03/21	N	--	1,500	--	140	--	2,100	--	--	--	2.6	480	4,400
TW-03D	04/07/21	N	--	1,500	--	150	--	2,100	--	--	--	2.8	490	4,400
TW-03D	05/05/21	N	--	1,400	--	160	--	2,100	--	--	--	2.6	470	4,400
TW-03D	06/02/21	N	--	1,600 J	--	160	--	2,000	--	--	--	2.7	480	4,300
TW-03D	10/07/21	N	--	1,500 J	--	150	--	2,100	--	--	--	2.4 J	480	4,400
TW-03D	11/02/21	N	--	1,400 J	--	150	--	2,100	--	--	--	2.6	480	4,500
TW-03D	12/16/21	N	3.4	--	--	--	<0.23	--	--	--	<5	2.4	500	--
TW-03D	03/09/22	N	1.1	--	--	--	<0.2	--	--	1.5	--	--	920	--
TW-03D	04/14/22	N	--	--	--	--	--	--	--	1.7 J	--	--	880	--
TW-03D	05/19/22	N	--	--	--	--	--	--	--	1.5	--	--	850	--
TW-03D	06/15/22	N	1.1 J	--	--	--	<0.2	--	--	1.4	--	--	870	--
TW-03D	06/15/22	FD	1 J	--	--	--	<0.2	--	--	1.4	--	--	870	--
TW-03D	07/13/22	N	--	--	--	--	--	--	--	0.95	--	--	750	--
TW-03D	08/09/22	N	0.94	--	--	--	<0.2	--	--	1.6	<5	--	660	--
TW-03D	09/14/22	N	--	--	--	--	--	--	--	1	--	--	790	--
TW-03D	10/12/22	N	--	--	--	--	--	--	--	0.55	--	--	710	--
TW-03D	11/09/22	N	<0.5	--	--	--	<0.43 J	--	--	<0.5	<5	--	700	--
TW-03D	12/07/22	N	--	--	--	--	--	--	--	<0.5	--	--	630	--
TW-04	06/25/20	N	0.58	--	--	--	--	--	--	--	--	--	--	--
TW-04	11/30/20	N	0.63	4,000 J	--	68	--	6,700	--	--	--	--	1,100	14,000
TW-04	06/07/21	N	<0.5	--	--	--	--	--	--	--	--	--	--	--
TW-04	12/06/21	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	03/03/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
TW-02D	12/07/22	N	<1	<1
TW-02S	03/09/22	N	--	<1
TW-02S	04/14/22	N	--	<1
TW-02S	05/19/22	N	--	<1
TW-02S	06/15/22	N	--	<1
TW-02S	07/13/22	N	--	<1
TW-02S	08/09/22	N	--	<1
TW-02S	09/14/22	N	--	<1
TW-02S	10/12/22	N	--	<1
TW-02S	11/09/22	N	--	<20
TW-02S	12/07/22	N	<1	<1
TW-03D	01/08/20	N	--	--
TW-03D	02/05/20	N	--	--
TW-03D	03/04/20	N	--	--
TW-03D	04/07/20	N	--	--
TW-03D	05/05/20	N	--	--
TW-03D	07/23/20	N	--	--
TW-03D	08/04/20	N	--	--
TW-03D	09/01/20	N	--	--
TW-03D	10/07/20	N	--	--
TW-03D	11/03/20	N	--	--
TW-03D	12/03/20	N	--	--
TW-03D	01/06/21	N	--	--
TW-03D	02/03/21	N	--	--
TW-03D	03/03/21	N	--	--
TW-03D	04/07/21	N	--	--
TW-03D	05/05/21	N	--	--
TW-03D	06/02/21	N	--	--
TW-03D	10/07/21	N	--	--
TW-03D	11/02/21	N	--	--
TW-03D	12/16/21	N	--	<1
TW-03D	03/09/22	N	--	<1
TW-03D	04/14/22	N	--	<1
TW-03D	05/19/22	N	--	<1
TW-03D	06/15/22	N	--	<1
TW-03D	06/15/22	FD	--	<1
TW-03D	07/13/22	N	--	<1
TW-03D	08/09/22	N	--	<1
TW-03D	09/14/22	N	--	<1
TW-03D	10/12/22	N	--	<1
TW-03D	11/09/22	N	--	<1
TW-03D	12/07/22	N	1.2	<1
TW-04	06/25/20	N	--	--
TW-04	11/30/20	N	--	--
TW-04	06/07/21	N	--	--
TW-04	12/06/21	N	--	--
TW-04	03/03/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)
TW-04	06/07/22	N	8.1	8.4	--	--	--	--	--	--	--	--	--	--
TW-04	08/22/22	N	12	--	--	--	--	--	--	--	--	--	--	--
TW-04	11/14/22	N	13	13	--	--	--	--	--	--	--	--	--	--
TW-05	06/25/20	N	12	12	--	--	--	--	--	--	--	0.0046	32	--
TW-05	12/07/20	N	18	16 J	--	--	2.5 J	380 J	--	<0.1 J	36 J	0.0015	25 J	--
TW-05	05/28/21	N	12	12	--	--	--	--	--	--	--	--	32	--
TW-05	12/13/21	N	14	15	<0.1	--	--	--	--	--	--	0.0014	--	--
TW-05	06/17/22	N	13	12	--	--	--	--	--	--	--	--	--	--
TW-05	11/28/22	N	13	12 J	1.5	--	--	--	--	--	--	<0.0005 J	--	--

Monitoring Well ID	Sample Date	Sample Type	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
TW-04	06/07/22	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	08/22/22	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	11/14/22	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	06/25/20	N	0.58	--	--	--	--	--	--	--	--	--	--	--
TW-05	12/07/20	N	0.96 J	2,600 J	--	38	--	5,200	--	--	--	--	600	11,000
TW-05	05/28/21	N	0.77	--	--	--	--	--	--	--	--	--	--	--
TW-05	12/13/21	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	06/17/22	N	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	11/28/22	N	--	--	--	--	--	--	--	--	--	--	--	--

Monitoring Well ID	Sample Date	Sample Type	Total Organic Carbon by Method 5310B (mg/L)	Total Organic Carbon by Method 5310C (mg/L)
TW-04	06/07/22	N	--	--
TW-04	08/22/22	N	--	--
TW-04	11/14/22	N	--	--
TW-05	06/25/20	N	--	--
TW-05	12/07/20	N	--	--
TW-05	05/28/21	N	--	--
TW-05	12/13/21	N	--	--
TW-05	06/17/22	N	--	--
TW-05	11/28/22	N	--	--

Appendix B
January 2020 to December 2022 Analytical Results
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Abbreviations:
-- = not applicable or not available
< = not detected at reporting limit, as shown
FD = field duplicate
J = estimated concentration
mg/L= milligram(s) per liter
N = primary sample
R = The data are not unusable. The result has been rejected
µg/L = microgram(s) per liter

Appendix C

Laboratory Reports, Fourth Quarter 2022

For additional help with the information provided in the lab reports, please contact Alison Schaffer, Arcadis Report Lead, at 303.471.3575

December 29, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054089

RE: PG&E Topock - DOM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 12, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - DOM, 30121866.4Q22GW
Lab Order: N054089

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for some analytes in QC samples N054021-008BMS, N054089-001C-MS2 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matriz Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N054021-008BMS, N054021-008BMSD, N054089-001C-MS2 and N054089-001C-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for Potassium in QC samples N054089-001C-MS2 and N054089-001C-MSD2 possibly due to matrix interference; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N054021-008BMS and N054021-008BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Selenium in QC sample N054021-008BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - DOM, 30121866.4Q22GW
Lab Order: N054089
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054089-001A	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-001B	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-001C	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-001D	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-002A	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022
N054089-002B	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022
N054089-002C	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022
N054089-002D	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221214F**	QC Batch: **97237**			PrepDate:	**12/14/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	780	10	10		mg/L	1	12/14/2022 03:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221214F**	QC Batch: **97237**			PrepDate:	**12/14/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	1800	25	25		mg/L	1	12/14/2022 03:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID **LCS-97237**	SampType: **LCS**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/14/2022**	RunNo: **168220**
Client ID: **LCSW**	Batch ID: **97237**	TestNo: **SM2540C**		Analysis Date: **12/14/2022**	SeqNo: **4971982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	970.000	10	1000	0	97.0	80	120				

Sample ID **MB-97237**	SampType: **MBLK**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/14/2022**	RunNo: **168220**
Client ID: **PBW**	Batch ID: **97237**	TestNo: **SM2540C**		Analysis Date: **12/14/2022**	SeqNo: **4971983**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID **N054089-002DDUP**	SampType: **DUP**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/14/2022**	RunNo: **168220**
Client ID: **ZZZZZZ**	Batch ID: **97237**	TestNo: **SM2540C**		Analysis Date: **12/14/2022**	SeqNo: **4971987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1755.000	25						1782	1.55	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220A**	QC Batch: **R168387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.9	0.024	0.20		µg/L	1	12/20/2022 10:14 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	8.9	0.035	1.0		µg/L	1	12/17/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220A** QC Batch: **R168387**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	15	0.12	1.0		µg/L	5	12/20/2022 10:24 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221216D** QC Batch: **97207**				PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	17	0.035	1.0		µg/L	1	12/17/2022 12:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168387	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387		
Client ID:	PBW	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982625		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R168387	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387		
Client ID:	LCSW	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982626		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.832	0.20	5.000	0	96.6	90	110						

Sample ID	N054046-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387		
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982630		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1.170	0.20	1.000	0.1577	101	90	110						

Sample ID	N054089-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387		
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982631		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	14.224	0.20	5.000	8.926	106	90	110						

Sample ID	N054089-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387		
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982632		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	14.266	0.20	5.000	8.926	107	90	110	14.22	0.298	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054089-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.995	1.0						15.28	1.87	20	

Sample ID	N054089-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	40.029	1.0	25.00	15.28	99.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270		
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976049		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	ND	1.0											

Sample ID	LCS-97207	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270		
Client ID:	LCSW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976050		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	9.521	1.0	10.00	0	95.2	85	115						

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168512		
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993281		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	3519.648	25	10.00	3110	4090	75	125				S		

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168512		
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993282		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	3179.439	25	10.00	3110	692	75	125	3520	10.2	20	S		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	168512
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993280

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3486.022	25	250.0	3110	150	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	89	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	74	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R168265**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **168265**
Client ID: **LCSW**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**	SeqNo: **4975315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	97.959	5.0	100.0	0	98.0	85	115				

Sample ID **MB-R168265**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **168265**
Client ID: **PBW**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**	SeqNo: **4975316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N054166-001DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **168265**
Client ID: **ZZZZZZ**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**	SeqNo: **4975321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	59.184	5.0						59.18	0	30	

Sample ID **N054166-001DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **168265**
Client ID: **ZZZZZZ**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**	SeqNo: **4975322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	155.102	5.0	100.0	59.18	95.9	75	125				

Sample ID **N054166-001DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **168265**
Client ID: **ZZZZZZ**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**	SeqNo: **4975323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	157.143	5.0	100.0	59.18	98.0	75	125	155.1	1.31	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Chloride	310	6.5	50		mg/L	100	12/13/2022 01:26 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Fluoride	2.0	0.025	0.20		mg/L	2	12/13/2022 09:45 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Sulfate	63	0.61	5.0		mg/L	10	12/13/2022 02:37 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.2	0.019	0.10		mg/L	2	12/13/2022 09:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PM-04-Q422
Lab Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW **Collection Date:** 12/12/2022 10:35:00 AM
Lab ID: N054089-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Chloride	820	13	100		mg/L	200	12/13/2022 04:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Fluoride	1.2	0.025	0.20		mg/L	2	12/13/2022 09:59 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Sulfate	260	1.2	10		mg/L	20	12/13/2022 04:32 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.019	0.10		mg/L	2	12/13/2022 09:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	MB-R168141_CL	SampType:	MBLK	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967800

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID	LCS-R168141_CL	SampType:	LCS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967801

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.097	0.50	2.000	0	105	90	110				

Sample ID	N054089-001DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	507.000	50	200.0	312.5	97.2	80	120				

Sample ID	N054089-001DMSD	SampType:	MSD	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967806

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	505.620	50	200.0	312.5	96.5	80	120	507.0	0.273	20	

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	168.735	25						170.6	1.09	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID	MB-R168141_F	SampType:	MBLK	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967777

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID	LCS-R168141_F	SampType:	LCS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967778

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.277	0.10	1.250	0	102	90	110				

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967784

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.406	0.50						0.4355	0	20	

Sample ID	N054085-001AMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967785

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.346	0.50	6.250	0.4355	94.6	80	120				

Sample ID	N054085-001AMSD	SampType:	MSD	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967786

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.445	0.50	6.250	0.4355	96.2	80	120	6.346	1.55	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R168141_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141		
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967843		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	ND	0.50											

Sample ID	LCS-R168141_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141		
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967844		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	3.949	0.50	4.000	0	98.7	90	110						

Sample ID	N054089-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141		
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967850		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	101.597	5.0	40.00	62.74	97.2	80	120						

Sample ID	N054089-001DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141		
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967851		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	101.417	5.0	40.00	62.74	96.7	80	120	101.6	0.177	20			

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141		
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967853		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1172.100	100						1170	0.200	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R168141_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.013	0.050									

Sample ID	LCS-R168141_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.296	0.050	1.250	0	104	90	110				

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967827

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.202	0.50						5.511	5.77	20	

Sample ID	N054085-001AMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.915	0.50	12.50	5.511	91.2	80	120				

Sample ID	N054085-001AMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.979	0.50	12.50	5.511	91.7	80	120	16.92	0.378	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 09:55 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222A**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Calcium	90	0.18	0.50		mg/L	1	12/22/2022 09:55 PM
Magnesium	19	0.017	0.10		mg/L	1	12/26/2022 01:56 PM
Potassium	9.7	0.69	2.5		mg/L	5	12/20/2022 02:34 PM
Sodium	200	42	62		mg/L	125	12/20/2022 04:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 10:08 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222A**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Calcium	150	0.18	0.50		mg/L	1	12/22/2022 10:08 PM
Magnesium	41	0.017	0.10		mg/L	1	12/26/2022 02:01 PM
Potassium	15	0.69	2.5		mg/L	5	12/20/2022 02:38 PM
Sodium	560	42	62		mg/L	125	12/20/2022 05:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435	
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986804	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		ND	20									

Sample ID	LCS1-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435	
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986805	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		89.042	20	100.0	0	89.0	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435	
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986820	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		143.515	20	100.0	0	144	75	125				S

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435	
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986821	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		124.948	20	100.0	0	125	75	125	143.5	13.8	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981756

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									
Sodium	ND	0.50									

Sample ID	LCS2-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	19.370	0.50	20.00	0	96.8	85	115				
Sodium	20.319	0.50	20.00	0	102	85	115				

Sample ID	N054089-001C-MS2	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981797

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	40.440	2.5	20.00	9.709	154	75	125				S

Sample ID	N054089-001C-MS2	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981798

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	165.661	62	20.00	196.9	-156	75	125				S

Sample ID	N054089-001C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981799

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	25.426	2.5	20.00	9.709	78.6	75	125	40.44	45.6	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	N054089-001C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981804		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	172.502	62	20.00	196.9	-122	75	125	165.7	4.05	20	S		

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988488		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	ND	0.50											

Sample ID	LCS1-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988489		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	9.765	0.50	10.00	0	97.7	85	115						

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988504		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	257.363	0.50	10.00	252.9	44.5	75	125				S		

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988505		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	260.171	0.50	10.00	252.9	72.6	75	125	257.4	1.09	20	S		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID **MB-97211**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/13/2022**	RunNo: **168476**
Client ID: **PBW**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/26/2022**	SeqNo: **4990487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.047	0.10									

Sample ID **LCS1-97211**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/13/2022**	RunNo: **168476**
Client ID: **LCSW**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/26/2022**	SeqNo: **4990488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	10.249	0.10	10.00	0	102	85	115				

Sample ID **N054021-008BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/13/2022**	RunNo: **168476**
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/26/2022**	SeqNo: **4990494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	27.908	0.10	10.00	18.75	91.5	75	125				

Sample ID **N054021-008BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/13/2022**	RunNo: **168476**
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/26/2022**	SeqNo: **4990495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	27.990	0.10	10.00	18.75	92.4	75	125	27.91	0.293	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:		RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986819

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	132.467	20	100.0	0	132	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	N054089-001C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168376		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981795		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	58.906	2.5	20.00	9.709	246	80	120				S		

Sample ID	N054089-001C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168376		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981796		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	165.902	62	20.00	196.9	-155	80	120				S		

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168434		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988503		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	259.174	0.50	10.00	252.9	62.7	80	120				S		

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168476		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/26/2022	SeqNo:	4990491		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Magnesium	28.086	0.10	10.00	18.75	93.3	80	120						

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	0.86	0.050	0.10		µg/L	1	12/17/2022 12:31 AM
Manganese	1.0	0.026	0.50		µg/L	1	12/17/2022 12:31 AM
Molybdenum	5.6	0.12	0.50		µg/L	1	12/17/2022 12:31 AM
Selenium	1.7	0.044	0.50		µg/L	1	12/17/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221223D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	0.20	0.050	0.10		µg/L	1	12/24/2022 12:24 AM
Manganese	ND	0.026	0.50		µg/L	1	12/17/2022 12:36 AM
Molybdenum	5.5	0.12	0.50		µg/L	1	12/17/2022 12:36 AM
Selenium	1.4	0.044	0.50		µg/L	1	12/24/2022 12:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-97207**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **PBW**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-97207**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **LCSW**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.775	0.10	10.00	0	97.7	85	115				
Manganese	93.606	0.50	100.0	0	93.6	85	115				
Molybdenum	10.238	0.50	10.00	0	102	85	115				
Selenium	8.832	0.50	10.00	0	88.3	85	115				

Sample ID **N054021-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.053	0.10	10.00	1.062	110	75	125				
Manganese	92.453	0.50	100.0	0.2358	92.2	75	125				
Molybdenum	19.951	0.50	10.00	9.484	105	75	125				
Selenium	47.634	0.50	10.00	41.88	57.5	75	125				S

Sample ID **N054021-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.823	0.10	10.00	1.062	97.6	75	125	12.05	10.8	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.050	0.50	100.0	0.2358	90.8	75	125	92.45	1.53	20	
Molybdenum	20.266	0.50	10.00	9.484	108	75	125	19.95	1.56	20	
Selenium	51.652	0.50	10.00	41.88	97.7	75	125	47.63	8.09	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976186

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.466	0.10	10.00	1.062	104	80	120				
Manganese	89.912	0.50	100.0	0.2358	89.7	80	120				
Molybdenum	20.126	0.50	10.00	9.484	106	80	120				
Selenium	47.276	0.50	10.00	41.88	53.9	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE	
			Geotracker		RWQCB	✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Labspec		CalTrans	
			Others	✓	LEVEL III	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Specify: RWQCB		LEVEL IV	
Submitted By: Nava Tay					Regulatory	
Title: Project Manager	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Global ID:		Specify State:	

Signature: 12/12/22 Date:
I hereby authorize ASSET Labs to perform the tests indicated below.

Project Name: PG&E Topock - DOM

Project Number: 30121866.4Q22GW

Sampled By: Nava Tay

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Signature: Date: 12/12/22

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		✓
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	

6. Method of Cooling: ICE

Sample Temp: 4.2°C

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Ammonia as nitrogen (SM4500 NH3D); H2SO4 (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Calcium, Iron, Potassium, Magnesium, Manganese, Sodium (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Dissolved Solids (SM2540C); 4°C (1 liter poly)	Chloride, Fluoride, Nitrate, Sulfate (EPA300.0); 4°C (1 liter poly)	Alkalinity, Total as CaCO3 (SM2320B); 4°C (1 liter poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N054089-001	PM-03-Q422	12/12/2022	10:05		X	X	X	X	X	X	X	X	E	4	P	BNS	
2	-002	PM-04-Q422	12/12/2022	10:35		X	X	X	X	X	X	X	X	E	4	P	BNS	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Nava Tay	12/12/22 1530	Dante Ortiz	12/12/22 15:30
Dante Ortiz Dante O.	12/12/22 17:55	Dante Ortiz	12/12/22 17:55

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are not 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/12/2022	Workorder:	N054089
Rep sample Temp (Deg C):	4.2	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/13/2022

Reviewed By: for: MBC 12/20/2022

ASSET Laboratories

WORK ORDER Summary

13-Dec-22

WorkOrder: N054089

Client ID: ARCUS02

Project: PG&E Topock - DOM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/12/2022 5:55 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054089-001A	PM-03-Q422	12/12/2022 10:05:00 AM	12/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054089-001B			12/20/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N054089-001C			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054089-001D			12/20/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/20/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/20/2022		SM 2320 B	ALKALINITY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N054089-002A	PM-04-Q422	12/12/2022 10:35:00 AM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054089-002B			12/20/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N054089-002C			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

13-Dec-22

WorkOrder: N054089

Client ID: ARCUS02

Project: PG&E Topock - DOM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/12/2022 5:55 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054089-002C	PM-04-Q422	12/12/2022 10:35:00 AM	12/20/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054089-002D			12/20/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/20/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/20/2022		SM 2320 B	ALKALINITY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N054089-003A	FOLDER	12/20/2022	12/20/2022		Folder	Folder	☐	☐	☐	LAB
			12/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/20/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Nara Tep

19-Dec-22

				Ammonia	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N054089-001B / PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	16OZP	1		
N054089-002B / PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N54089A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by:Standard TAT.

Please analyze for Ammonia by SM4500. EDD requirement Labspec7 edada.

GSO #: 558453045

		Date/Time		Date/Time
Relinquished by:	yRodriguez	12/19/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

ARCADIS

Project: PG&E Topock - DOM

Project No.: 30121866.4Q22GW

ASSET Laboratories Work Order:

N054089

ANALYTICAL and QC RESULTS
SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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December 29, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054089

RE: PG&E Topock - DOM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 12, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - DOM, 30121866.4Q22GW
Lab Order: N054089

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for some analytes in QC samples N054021-008BMS, N054089-001C-MS2 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matriz Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N054021-008BMS, N054021-008BMSD, N054089-001C-MS2 and N054089-001C-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS)/Matrix Spike Duplicate (MSD) is outside criteria for Potassium in QC samples N054089-001C-MS2 and N054089-001C-MSD2 possibly due to matrix interference; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N054021-008BMS and N054021-008BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Selenium in QC sample N054021-008BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *29-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - DOM, 30121866.4Q22GW
Lab Order: N054089
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054089-001A	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-001B	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-001C	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-001D	PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	12/12/2022	12/28/2022
N054089-002A	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022
N054089-002B	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022
N054089-002C	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022
N054089-002D	PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	12/12/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PM-03-Q422

Lab Order: N054089

Project: PG&E Topock - DOM, 30121866.4Q22GW **Collection Date:** 12/12/2022 10:05:00 AM

Lab ID: N054089-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221214F**	QC Batch: **97237**			PrepDate:	**12/14/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	780	10	10		mg/L	1	12/14/2022 03:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PM-04-Q422

Lab Order: N054089

Project: PG&E Topock - DOM, 30121866.4Q22GW **Collection Date:** 12/12/2022 10:35:00 AM

Lab ID: N054089-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221214F**	QC Batch: **97237**				PrepDate: **12/14/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	1800	25	25		mg/L	1	12/14/2022 03:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID	LCS-97237	SampType:	LCS	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	12/14/2022	RunNo:	168220
Client ID:	LCSW	Batch ID:	97237	TestNo:	SM2540C			Analysis Date:	12/14/2022	SeqNo:	4971982

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	970.000	10	1000	0	97.0	80	120				

Sample ID	MB-97237	SampType:	MBLK	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	12/14/2022	RunNo:	168220
Client ID:	PBW	Batch ID:	97237	TestNo:	SM2540C			Analysis Date:	12/14/2022	SeqNo:	4971983

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID	N054089-002DDUP	SampType:	DUP	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	12/14/2022	RunNo:	168220
Client ID:	ZZZZZZ	Batch ID:	97237	TestNo:	SM2540C			Analysis Date:	12/14/2022	SeqNo:	4971987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1755.000	25						1782	1.55	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220A**	QC Batch: **R168387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.9	0.024	0.20		µg/L	1	12/20/2022 10:14 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	8.9	0.035	1.0		µg/L	1	12/17/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PM-04-Q422

Lab Order: N054089

Project: PG&E Topock - DOM, 30121866.4Q22GW **Collection Date:** 12/12/2022 10:35:00 AM

Lab ID: N054089-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220A** QC Batch: **R168387**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	15	0.12	1.0		µg/L	5	12/20/2022 10:24 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221216D** QC Batch: **97207**				PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	17	0.035	1.0		µg/L	1	12/17/2022 12:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168387	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	PBW	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R168387	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	LCSW	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.832	0.20	5.000	0	96.6	90	110				

Sample ID	N054046-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.170	0.20	1.000	0.1577	101	90	110				

Sample ID	N054089-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.224	0.20	5.000	8.926	106	90	110				

Sample ID	N054089-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.266	0.20	5.000	8.926	107	90	110	14.22	0.298	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054089-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.995	1.0						15.28	1.87	20	

Sample ID	N054089-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168387
Client ID:	ZZZZZZ	Batch ID:	R168387	TestNo:	EPA 218.6			Analysis Date:	12/20/2022	SeqNo:	4982634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	40.029	1.0	25.00	15.28	99.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270	
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976049	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	ND	1.0										

Sample ID	LCS-97207	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270	
Client ID:	LCSW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976050	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	9.521	1.0	10.00	0	95.2	85	115					

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168512	
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993281	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	3519.648	25	10.00	3110	4090	75	125				S	

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168512	
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993282	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	3179.439	25	10.00	3110	692	75	125	3520	10.2	20	S	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	168512
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993280

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3486.022	25	250.0	3110	150	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	89	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	74	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R168265**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:			RunNo: **168265**			
Client ID: **LCSW**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**			SeqNo: **4975315**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	97.959	5.0	100.0	0	98.0	85	115				

Sample ID **MB-R168265**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:			RunNo: **168265**			
Client ID: **PBW**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**			SeqNo: **4975316**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N054166-001DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:			RunNo: **168265**			
Client ID: **ZZZZZZ**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**			SeqNo: **4975321**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	59.184	5.0						59.18	0	30	

Sample ID **N054166-001DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:			RunNo: **168265**			
Client ID: **ZZZZZZ**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**			SeqNo: **4975322**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	155.102	5.0	100.0	59.18	95.9	75	125				

Sample ID **N054166-001DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:			RunNo: **168265**			
Client ID: **ZZZZZZ**	Batch ID: **R168265**	TestNo: **SM 2320 B**		Analysis Date: **12/17/2022**			SeqNo: **4975323**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	157.143	5.0	100.0	59.18	98.0	75	125	155.1	1.31	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Chloride	310	6.5	50		mg/L	100	12/13/2022 01:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Fluoride	2.0	0.025	0.20		mg/L	2	12/13/2022 09:45 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Sulfate	63	0.61	5.0		mg/L	10	12/13/2022 02:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.2	0.019	0.10		mg/L	2	12/13/2022 09:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PM-04-Q422
Lab Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW **Collection Date:** 12/12/2022 10:35:00 AM
Lab ID: N054089-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Chloride	820	13	100		mg/L	200	12/13/2022 04:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Fluoride	1.2	0.025	0.20		mg/L	2	12/13/2022 09:59 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Sulfate	260	1.2	10		mg/L	20	12/13/2022 04:32 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221213A** QC Batch: **R168141**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.019	0.10		mg/L	2	12/13/2022 09:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	MB-R168141_CL	SampType:	MBLK	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967800

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID	LCS-R168141_CL	SampType:	LCS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967801

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.097	0.50	2.000	0	105	90	110				

Sample ID	N054089-001DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	507.000	50	200.0	312.5	97.2	80	120				

Sample ID	N054089-001DMSD	SampType:	MSD	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967806

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	505.620	50	200.0	312.5	96.5	80	120	507.0	0.273	20	

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	168.735	25						170.6	1.09	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID	MB-R168141_F	SampType:	MBLK	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967777

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID	LCS-R168141_F	SampType:	LCS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967778

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.277	0.10	1.250	0	102	90	110				

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967784

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.406	0.50						0.4355	0	20	

Sample ID	N054085-001AMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967785

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.346	0.50	6.250	0.4355	94.6	80	120				

Sample ID	N054085-001AMSD	SampType:	MSD	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967786

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.445	0.50	6.250	0.4355	96.2	80	120	6.346	1.55	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R168141_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R168141_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.949	0.50	4.000	0	98.7	90	110				

Sample ID	N054089-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967850

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	101.597	5.0	40.00	62.74	97.2	80	120				

Sample ID	N054089-001DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967851

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	101.417	5.0	40.00	62.74	96.7	80	120	101.6	0.177	20	

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1172.100	100						1170	0.200	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R168141_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	PBW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.013	0.050									

Sample ID	LCS-R168141_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	LCSW	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.296	0.050	1.250	0	104	90	110				

Sample ID	N054085-001ADUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967827

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.202	0.50						5.511	5.77	20	

Sample ID	N054085-001AMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.915	0.50	12.50	5.511	91.2	80	120				

Sample ID	N054085-001AMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168141
Client ID:	ZZZZZZ	Batch ID:	R168141	TestNo:	EPA 300.0			Analysis Date:	12/13/2022	SeqNo:	4967829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.979	0.50	12.50	5.511	91.7	80	120	16.92	0.378	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 09:55 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222A**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Calcium	90	0.18	0.50		mg/L	1	12/22/2022 09:55 PM
Magnesium	19	0.017	0.10		mg/L	1	12/26/2022 01:56 PM
Potassium	9.7	0.69	2.5		mg/L	5	12/20/2022 02:34 PM
Sodium	200	42	62		mg/L	125	12/20/2022 04:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PM-04-Q422
Lab Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW **Collection Date:** 12/12/2022 10:35:00 AM
Lab ID: N054089-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 10:08 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222A**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Calcium	150	0.18	0.50		mg/L	1	12/22/2022 10:08 PM
Magnesium	41	0.017	0.10		mg/L	1	12/26/2022 02:01 PM
Potassium	15	0.69	2.5		mg/L	5	12/20/2022 02:38 PM
Sodium	560	42	62		mg/L	125	12/20/2022 05:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	89.042	20	100.0	0	89.0	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	143.515	20	100.0	0	144	75	125				S

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	124.948	20	100.0	0	125	75	125	143.5	13.8	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981756

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									
Sodium	ND	0.50									

Sample ID	LCS2-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	19.370	0.50	20.00	0	96.8	85	115				
Sodium	20.319	0.50	20.00	0	102	85	115				

Sample ID	N054089-001C-MS2	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981797

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	40.440	2.5	20.00	9.709	154	75	125				S

Sample ID	N054089-001C-MS2	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981798

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	165.661	62	20.00	196.9	-156	75	125				S

Sample ID	N054089-001C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981799

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	25.426	2.5	20.00	9.709	78.6	75	125	40.44	45.6	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	N054089-001C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168376		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981804		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	172.502	62	20.00	196.9	-122	75	125	165.7	4.05	20	S		

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988488		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	ND	0.50											

Sample ID	LCS1-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988489		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	9.765	0.50	10.00	0	97.7	85	115						

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988504		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	257.363	0.50	10.00	252.9	44.5	75	125				S		

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168434		
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988505		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Calcium	260.171	0.50	10.00	252.9	72.6	75	125	257.4	1.09	20	S		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168476
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/26/2022	SeqNo:	4990487

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.047	0.10									

Sample ID	LCS1-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168476
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/26/2022	SeqNo:	4990488

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	10.249	0.10	10.00	0	102	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168476
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/26/2022	SeqNo:	4990494

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	27.908	0.10	10.00	18.75	91.5	75	125				

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/13/2022	RunNo:	168476
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/26/2022	SeqNo:	4990495

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	27.990	0.10	10.00	18.75	92.4	75	125	27.91	0.293	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N054021-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:				RunNo: **168435**			
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**				SeqNo: **4986819**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	132.467	20	100.0	0	132	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	N054089-001C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981795

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	58.906	2.5	20.00	9.709	246	80	120				S

Sample ID	N054089-001C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981796

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	165.902	62	20.00	196.9	-155	80	120				S

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168434
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4988503

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	259.174	0.50	10.00	252.9	62.7	80	120				S

Sample ID	N054021-008B-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168476
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/26/2022	SeqNo:	4990491

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	28.086	0.10	10.00	18.75	93.3	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-03-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:05:00 AM
Lab ID:	N054089-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Arsenic	0.86	0.050	0.10		µg/L	1	12/17/2022 12:31 AM
Manganese	1.0	0.026	0.50		µg/L	1	12/17/2022 12:31 AM
Molybdenum	5.6	0.12	0.50		µg/L	1	12/17/2022 12:31 AM
Selenium	1.7	0.044	0.50		µg/L	1	12/17/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PM-04-Q422
Lab Order:	N054089		
Project:	PG&E Topock - DOM, 30121866.4Q22GW	**Collection Date:**	12/12/2022 10:35:00 AM
Lab ID:	N054089-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221223D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	0.20	0.050	0.10		µg/L	1	12/24/2022 12:24 AM
Manganese	ND	0.026	0.50		µg/L	1	12/17/2022 12:36 AM
Molybdenum	5.5	0.12	0.50		µg/L	1	12/17/2022 12:36 AM
Selenium	1.4	0.044	0.50		µg/L	1	12/24/2022 12:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976173

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-97207	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	LCSW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976174

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.775	0.10	10.00	0	97.7	85	115				
Manganese	93.606	0.50	100.0	0	93.6	85	115				
Molybdenum	10.238	0.50	10.00	0	102	85	115				
Selenium	8.832	0.50	10.00	0	88.3	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976187

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.053	0.10	10.00	1.062	110	75	125				
Manganese	92.453	0.50	100.0	0.2358	92.2	75	125				
Molybdenum	19.951	0.50	10.00	9.484	105	75	125				
Selenium	47.634	0.50	10.00	41.88	57.5	75	125				S

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.823	0.10	10.00	1.062	97.6	75	125	12.05	10.8	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N054021-008BMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97207** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.050	0.50	100.0	0.2358	90.8	75	125	92.45	1.53	20	
Molybdenum	20.266	0.50	10.00	9.484	108	75	125	19.95	1.56	20	
Selenium	51.652	0.50	10.00	41.88	97.7	75	125	47.63	8.09	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N054021-008B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97207** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.466	0.10	10.00	1.062	104	80	120				
Manganese	89.912	0.50	100.0	0.2358	89.7	80	120				
Molybdenum	20.126	0.50	10.00	9.484	106	80	120				
Selenium	47.276	0.50	10.00	41.88	53.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace ✓
Submitted By: Nava Tay		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Project Manag	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 12/12/22	Sampled By: Nava Tay		Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - DOM	Signature: Date: 12/12/22				Sample Temp: 4.2°C
Project Number: 30121866.4Q22GW					Courier: Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Ammonia as nitrogen (SM4500 NH3D); H2SO4 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Calcium, Iron, Potassium, Magnesium, Manganese, Sodium 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Dissolved Solids (SM2540C); 4°C 1 liter poly	Chloride, Fluoride, Nitrate, Sulfate (EPA300.0); 4°C 1 liter poly	Alkalinity, Total as CaCO3 (SM2320B); 4°C 1 liter poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N054089-001	PM-03-Q422	12/12/2022	10:05		X	X	X	X	X	X	X	X	E	4	P	BNS	
2	-002	PM-04-Q422	12/12/2022	10:35		X	X	X	X	X	X	X	X	E	4	P	BNS	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Nava Tay	12/12/22 1530	Dante Ortiz	12/12/22 15:30
Dante Ortiz Dante O.	12/12/22 17:55	Dante Ortiz	12/12/22 17:55

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 12/12/2022 Workorder: N054089

Rep sample Temp (Deg C): 4.2 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/13/2022

Reviewed By: for: MBC 12/20/2022

ASSET Laboratories

WORK ORDER Summary

13-Dec-22

WorkOrder: N054089

Client ID: ARCUS02

Project: PG&E Topock - DOM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/12/2022 5:55 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054089-001A	PM-03-Q422	12/12/2022 10:05:00 AM	12/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054089-001B			12/20/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N054089-001C			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054089-001D			12/20/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/20/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/20/2022		SM 2320 B	ALKALINITY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N054089-002A	PM-04-Q422	12/12/2022 10:35:00 AM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054089-002B			12/20/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N054089-002C			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

13-Dec-22

WorkOrder: N054089

Client ID: ARCUS02

Project: PG&E Topock - DOM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/12/2022 5:55 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054089-002C	PM-04-Q422	12/12/2022 10:35:00 AM	12/20/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054089-002D			12/20/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/20/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/20/2022		SM 2320 B	ALKALINITY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	WW
N054089-003A	FOLDER	12/20/2022	12/20/2022		Folder	Folder	☐	☐	☐	LAB
			12/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/20/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Nara Tep

19-Dec-22

				Ammonia	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N054089-001B / PM-03-Q422	Groundwater	12/12/2022 10:05:00 AM	16OZP	1		
N054089-002B / PM-04-Q422	Groundwater	12/12/2022 10:35:00 AM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N54089A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by:Standard TAT.

Please analyze for Ammonia by SM4500. EDD requirement Labspec7 edada.

GSO #: 558453045

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/19/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

List of Analysts

ASSET Laboratories Work Order: N054089

NAME	TEST METHOD
Lilia Ramit	SM 2540C, SM 2320 B
Ria Abes	EPA 218.6, EPA 300.0
Diane Jetajobe	EPA 6010B_Dissolved, EPA 6020_Dissolved

SM 2540C

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97237 **Analyst:** LSR

ASSET #: N054089 **Date Analyzed:** 14-Dec

Method: **EPA 160.1** / SM 2540C

Initial Calibration	1st Level Review Y	N	N/A	2nd Level Review Y	N	N/A
1. ICAL before initial sample analysis or every 24 hrs.			X			X
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			X
3. ICV within ± 15% of expected value.			X			X
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			X
5. CCV within ± 15% of expected value.			X			X
6. Calibration blanks run after ICV and CCV?			X			X
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)			X			X
Sample Information						
8. All samples are within linear range.			X			X
9. Are all samples analyzed within hold time.	X			X		
QC Items						
10. Method blank values are below 1/2 the reporting limit.	X			X		
11. LCS compounds within control limits.	X			X		
12. ~~MS/MSD~~, RPD's are within control limits	X			X		
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			X
14. Runlog complete and included in package.	X			X		
15. Spectrophotometer tape included (Spec work only)			X			X
16. Digestion log complete and included in package (if applicable)			X			X
Preliminary Report						
17. Does the raw data match the preliminary report?	X			X		
18. Are analytical results correct?	X			X		
19. Is the QC summary report present and complete?	X			X		

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer LSR Date: 12/28/2022

2nd Level Reviewer NS 12/28/2022 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: SM 2540C
TEST NAME: Total Filterable Residue
MATRIX: Water

FORMULA:

Calculate TDS concentration in mg/L, in the original sample as follows:

$$\text{TDS, mg/L} = \frac{(A-B)*1000000}{C}$$

Where:

A = weight in g of dish + residue after drying
B = weight of dish in g
C = volume of sample used in mL

For **N054089-001D,** TDS concentration in mg/L is calculated as follows:

$$\text{TDS, mg/L} = \frac{(64.1715- 64.0933)*1000000}{100}$$

= 782 mg/L

Reporting result in two significant figures,

TDS= 780 mg/L

LSR 12/28/2022

Reviewed by:

JRB 1/15/2023

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/14/2022 3:10:20**
Prep End Date: **12/15/2022 3:00:00**
Reviewed/ Date: JRB 1/15/2023
Initials/ Date: LSR 12/28/2022
Prep Batch **97237** Prep Code: **160.1_W_PRE** Technician: **Lilia Ramit**
Prep Factor Units: **mL / mL** Temp. (°C): **180**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
LCS-97237	Water		100	☐	100	1.000		
MB-97237	Water		100	☐	100	1.000		
N054085-001A	Surfacewater		50	☐	100	2.000		
N054089-001D	Groundwater		100	☐	100	1.000		
N054089-002D	Groundwater		40	☐	100	2.500		
N054089-002D-DU	Groundwater		40	☐	100	2.500		
N054098-001C	Wastewater		100	☐	100	1.000		
N054099-001E	Wastewater		100	☐	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
13918	Glass Fiber Filter, 47mm

Spk ID	Spike Name	SampType	AmtAdd
IWST221117A	1000 ppm NaCl	LCS	100

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/14/2022 3:10:20**
Prep End Date:
Prep Batch **97237** Prep Code: **160.1_W_PRE**

Reviewed/ Date: _____
Initials/ Date: LSR 12/28/2022
Technician: **Lilia Ramit**

Prep Factor Units: mL / mL

Sample ID	Matrix	~~pH~~ Cond	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
LCS-97237	Water	1WST22 111[illegible]	100	☐	100	1.000		
MB-97237	Water		100	☐	100	1.000		
N054085-001A	Surfacewater	2530	100 /50	☐	100	1.000		
N054089-001D	Groundwater	1452	✓100	☐	100	1.000		
N054089-002D	Groundwater	3010	100 /40	☐	100	1.000		
N054089-002D-DU	Groundwater	1	100 /40	☐	100	1.000		
N054098-001C	Wastewater	1066	✓100	☐	100	1.000		
N054099-001E	Wastewater	930	✓100	☐	100	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

13918

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

Name of Test: TDS

TSS / TS / TDS Preparation and Runlog

QC Batch No.: 97237

		1	2	3
Date Prepared: 12/14/22	In Oven Date:	12/15/22	12/15/22	
Time Prepared: 1510	Time:	1209	1330	
Prepared By: KR	Temp°C:	178	178	
	Out Oven Date:	12/15/22	12/15/22	
	Time:	1330	1430	
	Temp°C:	178	178	

Date	Sample ID	Sample Vol. (ml)	Crucible + Filter (TSS)	Crucible + Filter+Sample (TSS)	Comments
12/14/22 A	MB - 97237	100	65.4983 65.4979	65.4983 65.4987	
L	LCS - 97237	100	67.0945 67.0945	67.1914 67.1915	
E	NOS4085-1A	50	49.4223 49.4227	49.5290 49.5288	
B	NOS4089-1D	100	64.0936 64.0933	64.1712 64.1715	
4	2D	40	51.4994 51.4994	51.5705 51.5707	
V1	2D DUP	40	48.7241 48.7240	48.7938 48.7942	
2	NOS4098-1C	100	62.0005 62.0007	62.0662 62.0662	
0	NOS4099-1E	100	63.5241 63.5242	63.5812 63.5811	
				LSR 12/28/2022	
				Reviewed by: 49.9992 @ 1500 12/15/22 LSR	

TOTAL DISSOLVED SOLIDS, TDS

TDS, mg/L = (A-B) X 10000*PF

where:
A = weight in grams of dish + residue after drying
B = weight of dish in grams
PF = 100/volume of sample used in mL

Date Finished:	vol of sample (mL)	weight of dish in grams (B)	weight in grams of dish + residue after drying (A)	(A-B)*10000	prep fact (PF)	TDS, mg/L	CONDUCTIVITY	RATIO	Sample Type
12/15/2022									
MB-97237	100	65.4979	65.4981	2	1	2			MBLK
LCS-97237	100	67.0945	67.1915	970	1	970			LCS
N054085-001A	50	49.4227	49.5288	1061	2	2122	2530	0.839	SAMP
N054089-001D	100	64.0933	64.1715	782	1	782	1452	0.539	SAMP
N054089-002D	40	51.4994	51.5707	713	2.5	1782.5	3010	0.592	SAMP
N054089-002DDUP	40	48.724	48.7942	702	2.5	1755	3010	0.583	DUP
N054098-001C	100	62.0007	62.0662	655	1	655	1066	0.614	SAMP
N054099-001E	100	63.5242	63.5811	569	1	569	930	0.612	SAMP

LSR 12/28/2022

Reviewed by:

JRB 1/15/2023

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R168387
ASSET #: N054089

Instrument ID: IC-07
Analyst: RBA
Date Analyzed: 12/20/2022

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X			X		
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X			X		
3. ICV within ± 10% of expected value.	X			X		
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X			X		
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X			X		
6. Calibration blanks run after ICV and CCV?	X			X		
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X			X		
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X			X		
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X			X		
Sample Information						
10. All samples are within linear range.	X			X		
11. All samples pH within 9.3-9.7 when analyzed?	X			X		
12. Duplicate sample injections for every sample. (7199 only)			X			X
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X			X		
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)	X					X
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X					X
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X			X		
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			X
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X			X		
19. EPA 3060A digestion performed on solid samples (7199 only)			X			X
20. Are all peaks within RT window, ± 0.2 min?	X			X		
21. Are all samples analyzed within hold time?	X			X		
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)	X					X
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X			X		
24. LCS compounds are within control limits.	X			X		
25. MS/MSD, RPD's are within control limits.	X			X		
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			X
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X			X		
28. Extraction log complete and included in package (if applicable)			X			X
29. All manual integrations initialed, date and reasons included.	X			X		
30. Before and after manual integration chromatogram included in the package	X			X		
31. All samples and QC raw data present in package.	X			X		
Preliminary Report						
32. Does the raw data match the preliminary report?	X			X		
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
34 Is the QC summary report present and complete?	X			X		

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Is QC present and complete?	X		
4. Are analytical results correct? (dilutions,calculations)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer RBA Date: _____

2nd Level Reviewer NS 12212022 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in µg/L, in the original sample as follows:

$$Cr^{+6}, \mu g/L = A * DF$$

where:

A = µg/L, IC Cr+6 calculated concentration
DF = dilution factor

For Sample **N054089-001A** , the concentration in µg/L is calculated as follows:

$$Cr^{+6}, \mu g/L = 8.9258 * 1$$

$$Cr^{+6}, \mu g/L = 8.9258$$

Reporting results in two significant figures,

$$\mathbf{Cr^{+6}, \mu g/L = 8.9}$$

Reviewed by:

dMRocha 1/5/2023

ANALYSIS RUN LOG

INJECTION LOG: 221217A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	ICV	ICV	1	Hexavalent Chromium	12/17/22 2:22 PM	Reported
10	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/17/22 2:32 PM	Reported
11	ICB	ICB	1	Hexavalent Chromium	12/17/22 2:41 PM	Reported
12	MB-H2O	MBLK	1	Hexavalent Chromium	12/17/22 2:51 PM	Reported
13	LCS-H2O	LCS	1	Hexavalent Chromium	12/17/22 3:00 PM	Reported
14	N053539-001A	SAMP	1	Hexavalent Chromium	12/17/22 3:10 PM	Reported
15	N053539-001AMS	MS	1	Hexavalent Chromium	12/17/22 3:19 PM	Reported
16	N053542-019A	SAMP	100	Hexavalent Chromium	12/17/22 3:29 PM	Reported
17	N053542-019AMS	MS	100	Hexavalent Chromium	12/17/22 3:38 PM	Reported
18	N053547-011A	SAMP	100	Hexavalent Chromium	12/17/22 3:48 PM	Reported
19	N053547-011AMS	MS	100	Hexavalent Chromium	12/17/22 3:57 PM	Reported
20	N053617-001A	SAMP	1	Hexavalent Chromium	12/17/22 4:06 PM	Reported
21	N053617-001AMS	MS	1	Hexavalent Chromium	12/17/22 4:16 PM	Reported
22	CCV-2	CCV1	1	Hexavalent Chromium	12/17/22 4:25 PM	Reported
23	CCB-2	CCB	1	Hexavalent Chromium	12/17/22 4:35 PM	Reported
24	N053617-002A	SAMP	1	Hexavalent Chromium	12/17/22 4:44 PM	Reported
25	N053617-002AMS	MS	1	Hexavalent Chromium	12/17/22 4:54 PM	Reported
26	N053664-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:03 PM	Reported
27	N053664-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:13 PM	Reported
28	N053664-011A	SAMP	1	Hexavalent Chromium	12/17/22 5:22 PM	Reported
29	N053664-011AMS	MS	1	Hexavalent Chromium	12/17/22 5:32 PM	Reported
30	N053688-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:41 PM	Reported
31	N053688-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:51 PM	Reported
32	CCV-3	CCV	1	Hexavalent Chromium	12/17/22 6:00 PM	Reported
33	CCB-3	CCB	1	Hexavalent Chromium	12/17/22 6:09 PM	Reported
34	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 6:19 PM	Not Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_221217A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**19/Dec/22 10:59:15**
No. of Injections:	**37**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	ICV,ICV,1,	9	1000	Unknown		12/17/2022 14:22	Finished	ICV @5ppb, IWST-221003B
10	PQL@0.2ppb,CCV2,1	10	1000	Unknown		12/17/2022 14:32	Finished	PQL @ 0.2ppb
11	ICB,ICB,1,	11	1000	Unknown		12/17/2022 14:41	Finished	ICB R221208A
12	MB-H2O,MBLK,1,	12	1000	Unknown		12/17/2022 14:51	Finished	MB R221129C
13	LCS-H2O,LCS,1,	13	1000	Unknown		12/17/2022 15:00	Finished	LCS @5ppb, IWST-221003B
14	N053539-001A,SAMP	14	1000	Unknown		12/17/2022 15:10	Finished	SAMP,10 mL
15	N053539-001AMS,MS	15	1000	Unknown		12/17/2022 15:19	Finished	MS (1ppb), IWST-221003B,10r
16	N053542-019A,SAMP	16	1000	Unknown		12/17/2022 15:29	Finished	SAMP,0.1>10 mL
17	N053542-019AMS,MS	17	1000	Unknown		12/17/2022 15:38	Finished	MS (5ppb), IWST-221003B,0.1
18	N053547-011A,SAMP	18	1000	Unknown		12/17/2022 15:48	Finished	SAMP,0.1>10 mL
19	N053547-011AMS,MS	19	1000	Unknown		12/17/2022 15:57	Finished	MS (5ppb), IWST-221003B,0.1
20	N053617-001A,SAMP	20	1000	Unknown		12/17/2022 16:06	Finished	SAMP,10 mL
21	N053617-001AMS,MS	21	1000	Unknown		12/17/2022 16:16	Finished	MS (1ppb), IWST-221003B,10r
22	CCV-2,CCV1,1,	22	1000	Unknown		12/17/2022 16:25	Finished	CCV @10ppb, IWST-221003A
23	CCB-2,CCB,1,	23	1000	Unknown		12/17/2022 16:35	Finished	CCB R221006C
24	N053617-002A,SAMP	24	1000	Unknown		12/17/2022 16:44	Finished	SAMP,10 mL
25	N053617-002AMS,MS	25	1000	Unknown		12/17/2022 16:54	Finished	MS (1ppb), IWST-221003B,10r
26	N053664-004A,SAMP	26	1000	Unknown		12/17/2022 17:03	Finished	SAMP,2>10 mL
27	N053664-004AMS,MS	27	1000	Unknown		12/17/2022 17:13	Finished	MS (1ppb), IWST-221003B,2>1
28	N053664-011A,SAMP	28	1000	Unknown		12/17/2022 17:22	Finished	SAMP,10 mL
29	N053664-011AMS,MS	29	1000	Unknown		12/17/2022 17:32	Finished	MS (1ppb), IWST-221003B,10r
30	N053688-004A,SAMP	30	1000	Unknown		12/17/2022 17:41	Finished	SAMP,2>10 mL
31	N053688-004AMS,MS	31	1000	Unknown		12/17/2022 17:51	Finished	MS (1ppb), IWST-221003B,2>1
32	CCV-3,CCV,1,	32	1000	Unknown		12/17/2022 18:00	Finished	CCV @5ppb, IWST-221003A
33	CCB-3,CCB,1,	33	1000	Unknown		12/17/2022 18:09	Finished	CCB R221006C
34	BLANK	34	1000	Unknown		12/17/2022 18:19	Finished	BLANK
35	SHUTDOWN	35	1000	Unknown		12/17/2022 18:28	Finished	
36	Eluent: R221213A	36	1000	Unknown		n.a.	Finished	
37	PCR: R221213B	37	1000	Unknown		n.a.	Finished	

INJECTION LOG: 221220A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	BLANK	BLANK	1	Hexavalent Chromium	12/20/22 9:00 AM	Not Reported
10	CCV-1	CCV	1	Hexavalent Chromium	12/20/22 9:16 AM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/20/22 9:27 AM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	12/20/22 9:36 AM	Reported
13	MB-R168387	MBLK	1	Hexavalent Chromium	12/20/22 9:46 AM	Reported
14	LCS-R168387	LCS	1	Hexavalent Chromium	12/20/22 9:55 AM	Reported
15	N054046-001A	SAMP	1	Hexavalent Chromium	12/20/22 10:05 AM	Reported
16	N054089-001A	SAMP	1	Hexavalent Chromium	12/20/22 10:14 AM	Reported
17	N054089-002A	SAMP	5	Hexavalent Chromium	12/20/22 10:24 AM	Reported
18	N054046-001AMS	MS	1	Hexavalent Chromium	12/20/22 10:33 AM	Reported
19	N054089-001AMS	MS	1	Hexavalent Chromium	12/20/22 10:42 AM	Reported
20	N054089-001AMSD	MSD	1	Hexavalent Chromium	12/20/22 10:52 AM	Reported
21	N054089-002ADUP	DUP	5	Hexavalent Chromium	12/20/22 11:01 AM	Reported
22	N054089-002AMS	MS	5	Hexavalent Chromium	12/20/22 11:11 AM	Reported
23	CCV-2	CCV1	1	Hexavalent Chromium	12/20/22 11:20 AM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	12/20/22 11:30 AM	Reported
25	N053987-001A	SAMP	1	Hexavalent Chromium	12/20/22 11:39 AM	Reported
26	N053988-001A	SAMP	5	Hexavalent Chromium	12/20/22 11:49 AM	Reported
27	N053988-002A	SAMP	1	Hexavalent Chromium	12/20/22 11:58 AM	Reported
28	N053990-001A	SAMP	1	Hexavalent Chromium	12/20/22 12:08 PM	Reported
29	N053990-002A	SAMP	1	Hexavalent Chromium	12/20/22 12:17 PM	Reported
30	N053990-003A	SAMP	1	Hexavalent Chromium	12/20/22 12:26 PM	Reported
31	N053990-004A	SAMP	1	Hexavalent Chromium	12/20/22 12:36 PM	Reported
32	N053990-005A	SAMP	1	Hexavalent Chromium	12/20/22 12:45 PM	Reported
33	N054045-003A	SAMP	1	Hexavalent Chromium	12/20/22 12:55 PM	Reported
34	N054047-001A	SAMP	1	Hexavalent Chromium	12/20/22 1:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	12/20/22 1:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	12/20/22 1:23 PM	Reported
37	N054047-002A	SAMP	1	Hexavalent Chromium	12/20/22 1:33 PM	Reported
38	N054047-003A	SAMP	1	Hexavalent Chromium	12/20/22 1:42 PM	Reported
39	N054047-004A	SAMP	1	Hexavalent Chromium	12/20/22 1:52 PM	Reported
40	N054047-005A	SAMP	1	Hexavalent Chromium	12/20/22 2:01 PM	Reported
41	N054047-006A	SAMP	1	Hexavalent Chromium	12/20/22 2:11 PM	Not Reported
42	N054047-007A	SAMP	1	Hexavalent Chromium	12/20/22 2:20 PM	Reported

INJECTION LOG: 221220A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N054047-008A	SAMP	1	Hexavalent Chromium	12/20/22 2:29 PM	Reported
44	MB-R168388	MBLK	1	Hexavalent Chromium	12/20/22 2:39 PM	Reported
45	LCS-R168388	LCS	1	Hexavalent Chromium	12/20/22 3:03 PM	Reported
46	CCV-4	CCV1	1	Hexavalent Chromium	12/20/22 3:14 PM	Reported
47	CCB-4	CCB	1	Hexavalent Chromium	12/20/22 3:23 PM	Reported
48	N053994-007A	SAMP	100	Hexavalent Chromium	12/20/22 3:33 PM	Reported
49	N053994-007AMS	MS	100	Hexavalent Chromium	12/20/22 3:42 PM	Reported
50	N053994-007AMSD	MSD	100	Hexavalent Chromium	12/20/22 3:52 PM	Reported
51	N054048-001A	SAMP	1	Hexavalent Chromium	12/20/22 4:01 PM	Reported
52	N054039-001A	SAMP	1	Hexavalent Chromium	12/20/22 4:18 PM	Reported
53	N054039-002A	SAMP	1	Hexavalent Chromium	12/20/22 4:30 PM	Reported
54	N054047-006A	SAMP	10	Hexavalent Chromium	12/20/22 4:40 PM	Reported
55	N054047-006ADUP	DUP	10	Hexavalent Chromium	12/20/22 4:49 PM	Reported
56	N053991-002A	SAMP	5000	Hexavalent Chromium	12/20/22 4:59 PM	Reported
57	N053991-002AMS	MS	5000	Hexavalent Chromium	12/20/22 5:08 PM	Reported
58	CCV-5	CCV	1	Hexavalent Chromium	12/20/22 5:18 PM	Reported
59	CCB-5	CCB	1	Hexavalent Chromium	12/20/22 5:27 PM	Reported
60	N053991-001A	SAMP	400	Hexavalent Chromium	12/20/22 5:37 PM	Not Reported
61	N053991-001AMS	MS	400	Hexavalent Chromium	12/20/22 5:46 PM	Not Reported
62	N053994-001A	SAMP	1	Hexavalent Chromium	12/20/22 5:56 PM	Reported
63	N053994-001AMS	MS	1	Hexavalent Chromium	12/20/22 6:05 PM	Reported
64	N053994-002A	SAMP	1	Hexavalent Chromium	12/20/22 6:14 PM	Reported
65	N053994-002AMS	MS	1	Hexavalent Chromium	12/20/22 6:24 PM	Reported
66	N053994-005A	SAMP	1	Hexavalent Chromium	12/20/22 6:33 PM	Not Reported
67	N053994-005AMS	MS	1	Hexavalent Chromium	12/20/22 6:43 PM	Not Reported
68	N053994-008A	SAMP	5	Hexavalent Chromium	12/20/22 6:52 PM	Not Reported
69	N053994-008AMS	MS	5	Hexavalent Chromium	12/20/22 7:02 PM	Not Reported
70	CCV-6	CCV1	1	Hexavalent Chromium	12/20/22 7:11 PM	Not Reported
71	CCB-6	CCB	1	Hexavalent Chromium	12/20/22 7:21 PM	Not Reported
72	CCV-6	CCV1	1	Hexavalent Chromium	12/20/22 9:05 PM	Reported
73	CCB-6	CCB	1	Hexavalent Chromium	12/20/22 9:17 PM	Reported
74	N053994-006A	SAMP	500	Hexavalent Chromium	12/20/22 9:29 PM	Not Reported
75	N053994-006AMS	MS	500	Hexavalent Chromium	12/20/22 9:38 PM	Not Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_221220A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**21/Dec/22 09:47:49**
No. of Injections:	**78**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	BLANK	1	1000	Unknown		12/20/2022 09:00	Finished	BLANK
10	CCV-1,CCV,1,	2	1000	Unknown		12/20/2022 09:16	Finished	CCV @5ppb, IWST-221003A
11	PQL@0.2ppb,CCV2,1	3	1000	Unknown		12/20/2022 09:27	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1,	4	1000	Unknown		12/20/2022 09:36	Finished	CCB R221208A
13	MB-H2O,MBLK,1,	5	1000	Unknown		12/20/2022 09:46	Finished	MB R221129C
14	LCS-H2O,LCS,1,	6	1000	Unknown		12/20/2022 09:55	Finished	LCS @5ppb, IWST-221003B
15	N054046-001A,SAMP	7	1000	Unknown		12/20/2022 10:05	Finished	SAMP,10 mL
16	N054089-001A,SAMP	8	1000	Unknown		12/20/2022 10:14	Finished	SAMP,10 mL
17	N054089-002A,SAMP	9	1000	Unknown		12/20/2022 10:24	Finished	SAMP,2>10 mL
18	N054046-001AMS,MS	10	1000	Unknown		12/20/2022 10:33	Finished	MS (1ppb), IWST-221003B,10r
19	N054089-001AMS,MS	11	1000	Unknown		12/20/2022 10:42	Finished	MS (5ppb), IWST-221003B,10r
20	N054089-001AMSD,M	12	1000	Unknown		12/20/2022 10:52	Finished	MSD (5ppb), IWST-221003B,1
21	N054089-002ADUP,D	13	1000	Unknown		12/20/2022 11:01	Finished	DUP,2>10 mL
22	N054089-002AMS,MS	14	1000	Unknown		12/20/2022 11:11	Finished	MS (5ppb), IWST-221003B,2>
23	CCV-2,CCV1,1,	15	1000	Unknown		12/20/2022 11:20	Finished	CCV @10ppb, IWST-221003A
24	CCB-2,CCB,1,	16	1000	Unknown		12/20/2022 11:30	Finished	CCB R221129C
25	N053987-001A,SAMP	17	1000	Unknown		12/20/2022 11:39	Finished	SAMP,10 mL
26	N053988-001A,SAMP	18	1000	Unknown		12/20/2022 11:49	Finished	SAMP,2>10 mL
27	N053988-002A,SAMP	19	1000	Unknown		12/20/2022 11:58	Finished	SAMP,10 mL
28	N053990-001A,SAMP	20	1000	Unknown		12/20/2022 12:08	Finished	SAMP,10 mL
29	N053990-002A,SAMP	21	1000	Unknown		12/20/2022 12:17	Finished	SAMP,10 mL
30	N053990-003A,SAMP	22	1000	Unknown		12/20/2022 12:26	Finished	SAMP,10 mL
31	N053990-004A,SAMP	23	1000	Unknown		12/20/2022 12:36	Finished	SAMP,10 mL
32	N053990-005A,SAMP	24	1000	Unknown		12/20/2022 12:45	Finished	SAMP,10 mL
33	N054045-003A,SAMP	25	1000	Unknown		12/20/2022 12:55	Finished	SAMP,10 mL
34	N054047-001A,SAMP	26	1000	Unknown		12/20/2022 13:04	Finished	SAMP,10 mL
35	CCV-3,CCV,1,	27	1000	Unknown		12/20/2022 13:14	Finished	CCV @5ppb, IWST-221003A
36	CCB-3,CCB,1,	28	1000	Unknown		12/20/2022 13:23	Finished	CCB R221208A
37	N054047-002A,SAMP	29	1000	Unknown		12/20/2022 13:33	Finished	SAMP,10 mL
38	N054047-003A,SAMP	30	1000	Unknown		12/20/2022 13:42	Finished	SAMP,10 mL
39	N054047-004A,SAMP	31	1000	Unknown		12/20/2022 13:52	Finished	SAMP,10 mL
40	N054047-005A,SAMP	32	1000	Unknown		12/20/2022 14:01	Finished	SAMP,10 mL
41	N054047-006A,SAMP	33	1000	Unknown		12/20/2022 14:11	Finished	SAMP,10 mL
42	N054047-007A,SAMP	34	1000	Unknown		12/20/2022 14:20	Finished	SAMP,10 mL
43	N054047-008A,SAMP	35	1000	Unknown		12/20/2022 14:29	Finished	SAMP,10 mL
44	MB-2,MBLK,1,	36	1000	Unknown		12/20/2022 14:39	Finished	MB R221208A
45	LCS-2,LCS,1,	1	1000	Unknown		12/20/2022 15:03	Finished	LCS @5ppb, IWST-221003B
46	CCV-4,CCV1,1,	2	1000	Unknown		12/20/2022 15:14	Finished	CCV @10ppb, IWST-221003A
47	CCB-4,CCB,1,	3	1000	Unknown		12/20/2022 15:23	Finished	CCB R221208A
48	N053994-007A,SAMP	4	1000	Unknown		12/20/2022 15:33	Finished	SAMP,0.1>10 mL
49	N053994-007AMS,MS	5	1000	Unknown		12/20/2022 15:42	Finished	MS (5ppb), IWST-221003B,0.1
50	N053994-007AMSD,M	6	1000	Unknown		12/20/2022 15:52	Finished	MSD (5ppb), IWST-221003B,0
51	N054048-001A,SAMP	7	1000	Unknown		12/20/2022 16:01	Finished	SAMP,10 mL
52	N054039-001A,SAMP	1	1000	Unknown		12/20/2022 16:18	Finished	SAMP,10 mL
53	N054039-002A,SAMP	2	1000	Unknown		12/20/2022 16:30	Finished	SAMP,10 mL
54	N054047-006A,SAMP	3	1000	Unknown		12/20/2022 16:40	Finished	SAMP,1>10 mL
55	N054047-006ADUP,D	4	1000	Unknown		12/20/2022 16:49	Finished	DUP,1>10 mL
56	N053991-002A,SAMP	5	1000	Unknown		12/20/2022 16:59	Finished	SAMP,0.002>10 mL
57	N053991-002AMS,MS	6	1000	Unknown		12/20/2022 17:08	Finished	MS (5ppb), IWST-221003B,0.0
58	CCV-5,CCV,1,	7	1000	Unknown		12/20/2022 17:18	Finished	CCV @5ppb, IWST-221003A
59	CCB-5,CCB,1,	8	1000	Unknown		12/20/2022 17:27	Finished	CCB R221208A
60	N053991-001A,SAMP	9	1000	Unknown		12/20/2022 17:37	Finished	SAMP,0.025>10 mL

61	N053991-001AMS,MS	10	1000	Unknown		12/20/2022 17:46	Finished	MS (1ppb), IWST-221003B,0.0
62	N053994-001A,SAMP	11	1000	Unknown		12/20/2022 17:56	Finished	SAMP,10 mL
63	N053994-001AMS,MS	12	1000	Unknown		12/20/2022 18:05	Finished	MS (1ppb), IWST-221003B,10r
64	N053994-002A,SAMP	13	1000	Unknown		12/20/2022 18:14	Finished	SAMP,10 mL
65	N053994-002AMS,MS	14	1000	Unknown		12/20/2022 18:24	Finished	MS (1ppb), IWST-221003B,10r
66	N053994-005A,SAMP	15	1000	Unknown		12/20/2022 18:33	Finished	SAMP,10 mL
67	N053994-005AMS,MS	16	1000	Unknown		12/20/2022 18:43	Finished	MS (1ppb), IWST-221003B,10r
68	N053994-008A,SAMP	17	1000	Unknown		12/20/2022 18:52	Finished	SAMP,2>10 mL
69	N053994-008AMS,MS	18	1000	Unknown		12/20/2022 19:02	Finished	MS (5ppb), IWST-221003B,2>
70	CCV-6,CCV1,1,	19	1000	Unknown		12/20/2022 19:11	Finished	CCV @10ppb, IWST-221003A
71	CCB-6,CCB,1,	20	1000	Unknown		12/20/2022 19:21	Finished	CCB R221208A
72	CCV-6,CCV1,1,	1	1000	Unknown		12/20/2022 21:05	Finished	CCV @10ppb, IWST-221003A
73	CCB-6,CCB,1,	2	1000	Unknown		12/20/2022 21:17	Finished	CCB R221208A
74	N053994-006A,SAMP	3	1000	Unknown		12/20/2022 21:29	Finished	SAMP,0.02>10 mL
75	N053994-006AMS,MS	4	1000	Unknown		12/20/2022 21:38	Interrupted	MS (5ppb), IWST-221003B,0.0
76	SHUTDOWN	28	1000	Unknown		n.a.	Finished	
77	Eluent: R221219A	29	1000	Unknown		n.a.	Finished	
78	PCR: R221219B	30	1000	Unknown		n.a.	Finished	

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 12/14/22
Time Prepared: 1126H
Prepared By: NA

Reagent ID:
Sulfuric Acid: 178JJ
Diphenylcarbazide: CICA - 220502A
NH4OH + NH4SO4 eluent: A221215A
NH4OH + NH4SO4 buffer: A221129C

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	MS40 89-1A	9.46	-	~250ml	~250ml		
2)	L 2A	9.52					
3)	MS40 96-1A	9.56	-				
4)	MS41 06-1A	9.50	-				
5)	2A	9.57	-				
6)	L 3A	9.60	-				
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							

Sample Preparation

Date Prepared: 12/16/22
Time Prepared: 1402H
Prepared By: NA

Reagent ID:
Sulfuric Acid: 178JJ
Diphenylcarbazide: CICA 220502A
NH4OH + NH4SO4 eluent: A221215A
NH4OH + NH4SO4 buffer: A221129C

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	MS41 41-1E	9.32	-	~250ml	~250ml		
2)	MS41 58-1A	9.36	-				
3)	L 2A	9.75	-				
4)							
5)							
6)							
7)							
8)							
9)							
10)							
11)							
12)							
13)							
14)							
15)							

Logbook No. 22

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 12/17/2022

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0381	0.1987	1.0142	2.0450	3.0952	4.1087	1.0000

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST-220322A	IWST-221003A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **ICV**	SampType: **ICV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **ICV**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/17/2022**	SeqNo: **4982619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	0.20	5.000	0	98.1	90	110				

Sample ID: **PQL@0.2ppb**	SampType: **CCV2**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **ZZZZZZ**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/17/2022**	SeqNo: **4982620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.185	0.20	0.2000	0	92.6	80	120				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **CCV**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.766	0.20	5.000	0	95.3	95	105				

Sample ID: **PQL@0.2ppb**	SampType: **CCV2**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **ZZZZZZ**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.178	0.20	0.2000	0	89.0	80	120				

Sample ID: **CCV-2**	SampType: **CCV1**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **ZZZZZZ**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.927	0.20	10.00	0	99.3	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **CCV**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.038	0.20	5.000	0	101	95	105				

Sample ID: **CCV-4**	SampType: **CCV1**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **ZZZZZZ**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.185	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **ICB**	SampType: **ICB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **ICB**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/17/2022**	SeqNo: **4982621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **CCB**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **CCB**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **CCB**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982648**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168387**
Client ID: **CCB**	Batch ID: **R168387**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/20/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.181	
CCV-2	4.165	
CCV-3	4.165	
CCV-4	4.181	
CCV-5	4.198	
CCV-6	4.106	

Average	4.166
Actual RT Window	4.086 - 4.246
Applied RT Window	3.966 - 4.366

MB-R168387	N.A.	N.A.
LCS-R168387	4.173	PASS
N054046-001A	4.165	PASS
N054089-001A	4.156	PASS
N054089-002A	4.165	PASS
N054046-001AMS	4.165	PASS
N054089-001AMS	4.156	PASS
N054089-001AMSD	4.148	PASS
N054089-002ADUP	4.165	PASS
N054089-002AMS	4.156	PASS
N053987-001A	4.156	PASS
N053988-001A	4.165	PASS
N053988-002A	N.A.	N.A.
N053990-001A	4.181	PASS
N053990-002A	4.181	PASS
N053990-003A	4.173	PASS
N053990-004A	4.148	PASS
N053990-005A	N.A.	N.A.
N054045-003A	4.156	PASS
N054047-001A	4.165	PASS
N054047-002A	4.165	PASS
N054047-003A	N.A.	N.A.

Reviewed by:

dMRocha 1/5/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/20/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.181	
CCV-2	4.165	
CCV-3	4.165	
CCV-4	4.181	
CCV-5	4.198	
CCV-6	4.106	
Average	4.166	
Actual RT Window	4.086 - 4.246	
Applied RT Window	3.966 - 4.366	
N054047-004A	4.156	PASS
N054047-005A	4.156	PASS
N054047-006A	4.165	PASS
N054047-007A	N.A.	N.A.
N054047-008A	N.A.	N.A.
MB-R168388	N.A.	N.A.
LCS-R168388	4.181	PASS
N053994-007A	4.181	PASS
N053994-007AMS	4.181	PASS
N053994-007AMSD	4.181	PASS
N054048-001A	4.165	PASS
N054039-001A	4.165	PASS
N054039-002A	N.A.	N.A.
N054047-006A	4.190	PASS
N054047-006ADUP	4.190	PASS
N053991-002A	4.198	PASS
N053991-002AMS	4.198	PASS
N053991-001A	N.A.	N.A.
N053994-001A	N.A.	N.A.
N053994-001AMS	4.148	PASS
N053994-002A	N.A.	N.A.
N053994-002AMS	4.140	PASS
N053994-005A	4.240	PASS

Reviewed by:

dMRocha 1/5/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/20/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.181	
CCV-2	4.165	
CCV-3	4.165	
CCV-4	4.181	
CCV-5	4.198	
CCV-6	4.106	
Average	4.166	
Actual RT Window	4.086 - 4.246	
Applied RT Window	3.966 - 4.366	
N053994-008A	N.A.	N.A.
N053994-008AMS	N.A.	N.A.
N053994-006A	N.A.	N.A.
N053994-006AMS	N.A.	N.A.

Reviewed by:

dMRocha 1/5/2023

MDL STUDY

METHOD DETECTION LIMIT (Spiked)

Method Name: **HEXAVALENT CHROMIUM by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 8/10/2021, 8/23/2021, 10/27/2021, 11/17/2021, 1/4/2022; 2/3/2022; 3/3/2022; 5/3/2022; 6/1/2022; 8/1/2022
Analyst: Ria Abes

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Datafile 210810A D39 211027A D20 210823A D57 211117A D38 220104A D15 220203A D12 220303A D11 220503A D12 220601A D12 220801A D10

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDLs	PQL
Hexavalent Chromium	0.206	0.192	0.189	0.189	0.191	0.196	0.214	0.198	0.192	0.190	0.20	0.0085	2.821	**0.0239**	**0.20**

METHOD DETECTION LIMIT (Blanks)

Method Name: **HEXAVALENT CHROMIUM by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): Pooled from August 1, 2020 to August 31, 2022

Instrument Name: **IC-07**

Analyte	MDLb	#of Records
Hexavalent Chromium	**0.00**	565

Note: Higher value between **MDLs** and **MDLb** will be used.

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA



INITIAL CALIBRATION

INJECTION LOG: 221217A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	ICV	ICV	1	Hexavalent Chromium	12/17/22 2:22 PM	Reported
10	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/17/22 2:32 PM	Reported
11	ICB	ICB	1	Hexavalent Chromium	12/17/22 2:41 PM	Reported
12	MB-H2O	MBLK	1	Hexavalent Chromium	12/17/22 2:51 PM	Reported
13	LCS-H2O	LCS	1	Hexavalent Chromium	12/17/22 3:00 PM	Reported
14	N053539-001A	SAMP	1	Hexavalent Chromium	12/17/22 3:10 PM	Reported
15	N053539-001AMS	MS	1	Hexavalent Chromium	12/17/22 3:19 PM	Reported
16	N053542-019A	SAMP	100	Hexavalent Chromium	12/17/22 3:29 PM	Reported
17	N053542-019AMS	MS	100	Hexavalent Chromium	12/17/22 3:38 PM	Reported
18	N053547-011A	SAMP	100	Hexavalent Chromium	12/17/22 3:48 PM	Reported
19	N053547-011AMS	MS	100	Hexavalent Chromium	12/17/22 3:57 PM	Reported
20	N053617-001A	SAMP	1	Hexavalent Chromium	12/17/22 4:06 PM	Reported
21	N053617-001AMS	MS	1	Hexavalent Chromium	12/17/22 4:16 PM	Reported
22	CCV-2	CCV1	1	Hexavalent Chromium	12/17/22 4:25 PM	Reported
23	CCB-2	CCB	1	Hexavalent Chromium	12/17/22 4:35 PM	Reported
24	N053617-002A	SAMP	1	Hexavalent Chromium	12/17/22 4:44 PM	Reported
25	N053617-002AMS	MS	1	Hexavalent Chromium	12/17/22 4:54 PM	Reported
26	N053664-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:03 PM	Reported
27	N053664-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:13 PM	Reported
28	N053664-011A	SAMP	1	Hexavalent Chromium	12/17/22 5:22 PM	Reported
29	N053664-011AMS	MS	1	Hexavalent Chromium	12/17/22 5:32 PM	Reported
30	N053688-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:41 PM	Reported
31	N053688-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:51 PM	Reported
32	CCV-3	CCV	1	Hexavalent Chromium	12/17/22 6:00 PM	Reported
33	CCB-3	CCB	1	Hexavalent Chromium	12/17/22 6:09 PM	Reported
34	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 6:19 PM	Not Reported

12/21/2022

Injection Log Summary

Sequence Details

Name:	**IC-07_221217A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**19/Dec/22 10:59:15**
No. of Injections:	**37**	*Updated By:*	**ics 5000**

Injection Details

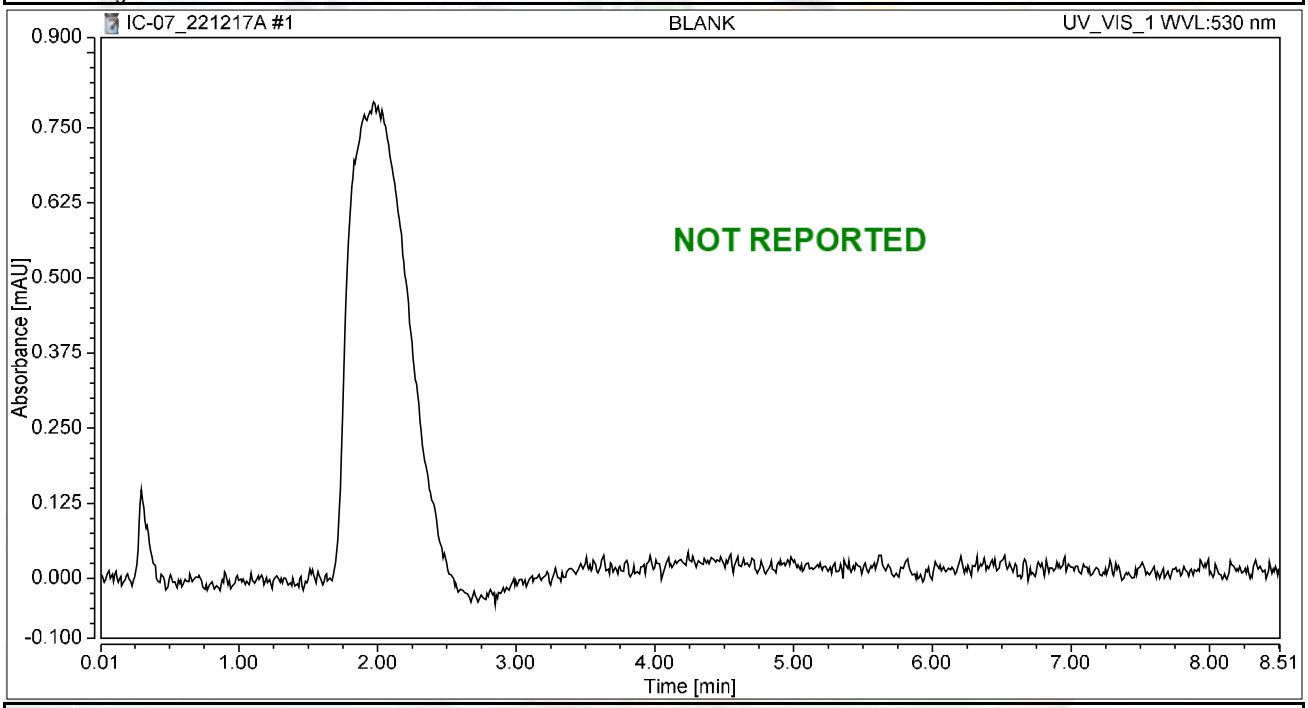
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	ICV,ICV,1,	9	1000	Unknown		12/17/2022 14:22	Finished	ICV @5ppb, IWST-221003B
10	PQL@0.2ppb,CCV2,1	10	1000	Unknown		12/17/2022 14:32	Finished	PQL @ 0.2ppb
11	ICB,ICB,1,	11	1000	Unknown		12/17/2022 14:41	Finished	ICB R221208A
12	MB-H2O,MBLK,1,	12	1000	Unknown		12/17/2022 14:51	Finished	MB R221129C
13	LCS-H2O,LCS,1,	13	1000	Unknown		12/17/2022 15:00	Finished	LCS @5ppb, IWST-221003B
14	N053539-001A,SAMP	14	1000	Unknown		12/17/2022 15:10	Finished	SAMP,10 mL
15	N053539-001AMS,MS	15	1000	Unknown		12/17/2022 15:19	Finished	MS (1ppb), IWST-221003B,10r
16	N053542-019A,SAMP	16	1000	Unknown		12/17/2022 15:29	Finished	SAMP,0.1>10 mL
17	N053542-019AMS,MS	17	1000	Unknown		12/17/2022 15:38	Finished	MS (5ppb), IWST-221003B,0.1
18	N053547-011A,SAMP	18	1000	Unknown		12/17/2022 15:48	Finished	SAMP,0.1>10 mL
19	N053547-011AMS,MS	19	1000	Unknown		12/17/2022 15:57	Finished	MS (5ppb), IWST-221003B,0.1
20	N053617-001A,SAMP	20	1000	Unknown		12/17/2022 16:06	Finished	SAMP,10 mL
21	N053617-001AMS,MS	21	1000	Unknown		12/17/2022 16:16	Finished	MS (1ppb), IWST-221003B,10r
22	CCV-2,CCV1,1,	22	1000	Unknown		12/17/2022 16:25	Finished	CCV @10ppb, IWST-221003A
23	CCB-2,CCB,1,	23	1000	Unknown		12/17/2022 16:35	Finished	CCB R221006C
24	N053617-002A,SAMP	24	1000	Unknown		12/17/2022 16:44	Finished	SAMP,10 mL
25	N053617-002AMS,MS	25	1000	Unknown		12/17/2022 16:54	Finished	MS (1ppb), IWST-221003B,10r
26	N053664-004A,SAMP	26	1000	Unknown		12/17/2022 17:03	Finished	SAMP,2>10 mL
27	N053664-004AMS,MS	27	1000	Unknown		12/17/2022 17:13	Finished	MS (1ppb), IWST-221003B,2>1
28	N053664-011A,SAMP	28	1000	Unknown		12/17/2022 17:22	Finished	SAMP,10 mL
29	N053664-011AMS,MS	29	1000	Unknown		12/17/2022 17:32	Finished	MS (1ppb), IWST-221003B,10r
30	N053688-004A,SAMP	30	1000	Unknown		12/17/2022 17:41	Finished	SAMP,2>10 mL
31	N053688-004AMS,MS	31	1000	Unknown		12/17/2022 17:51	Finished	MS (1ppb), IWST-221003B,2>1
32	CCV-3,CCV,1,	32	1000	Unknown		12/17/2022 18:00	Finished	CCV @5ppb, IWST-221003A
33	CCB-3,CCB,1,	33	1000	Unknown		12/17/2022 18:09	Finished	CCB R221006C
34	BLANK	34	1000	Unknown		12/17/2022 18:19	Finished	BLANK
35	SHUTDOWN	35	1000	Unknown		12/17/2022 18:28	Finished	
36	Eluent: R221213A	36	1000	Unknown		n.a.	Finished	
37	PCR: R221213B	37	1000	Unknown		n.a.	Finished	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

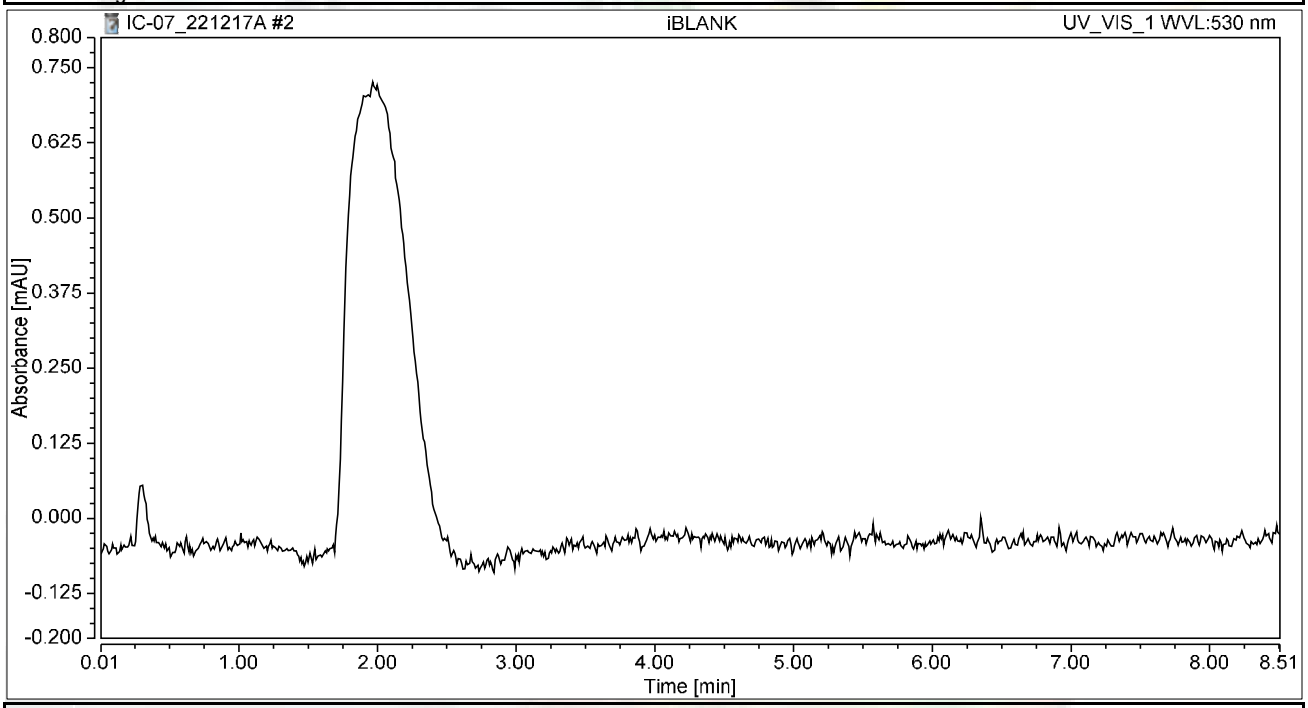
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

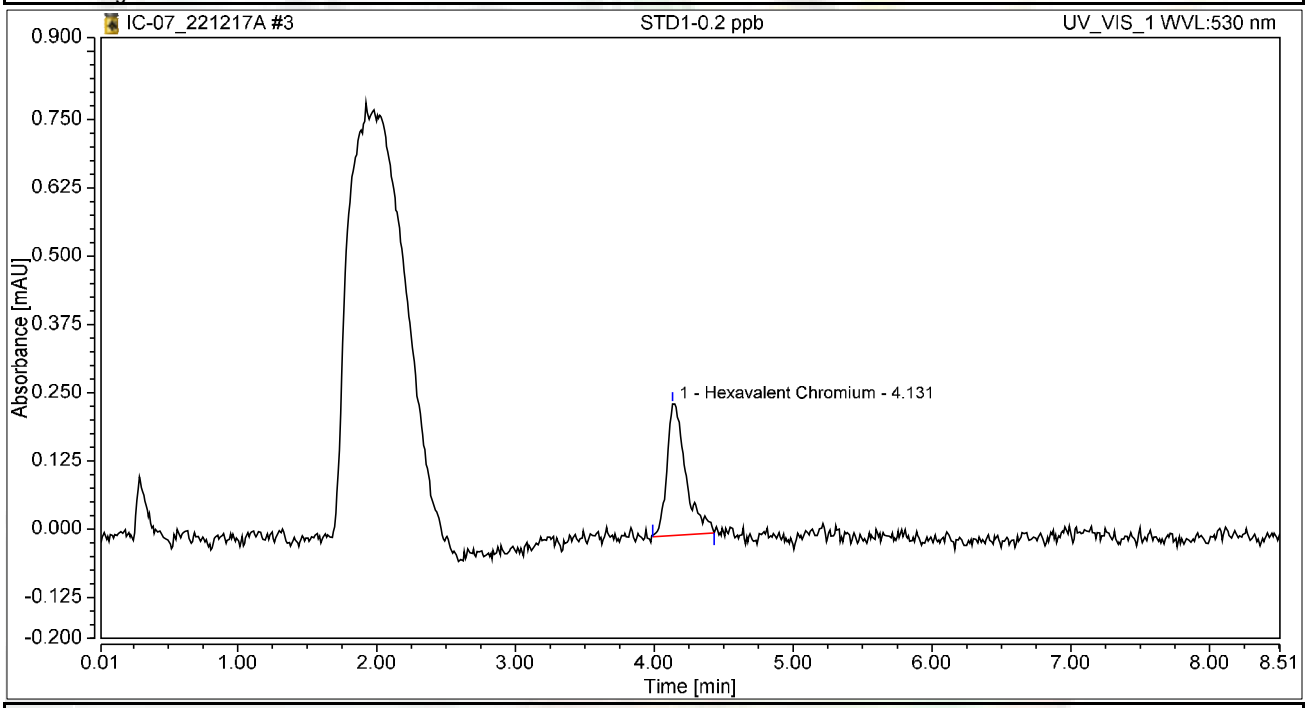
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD1-0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

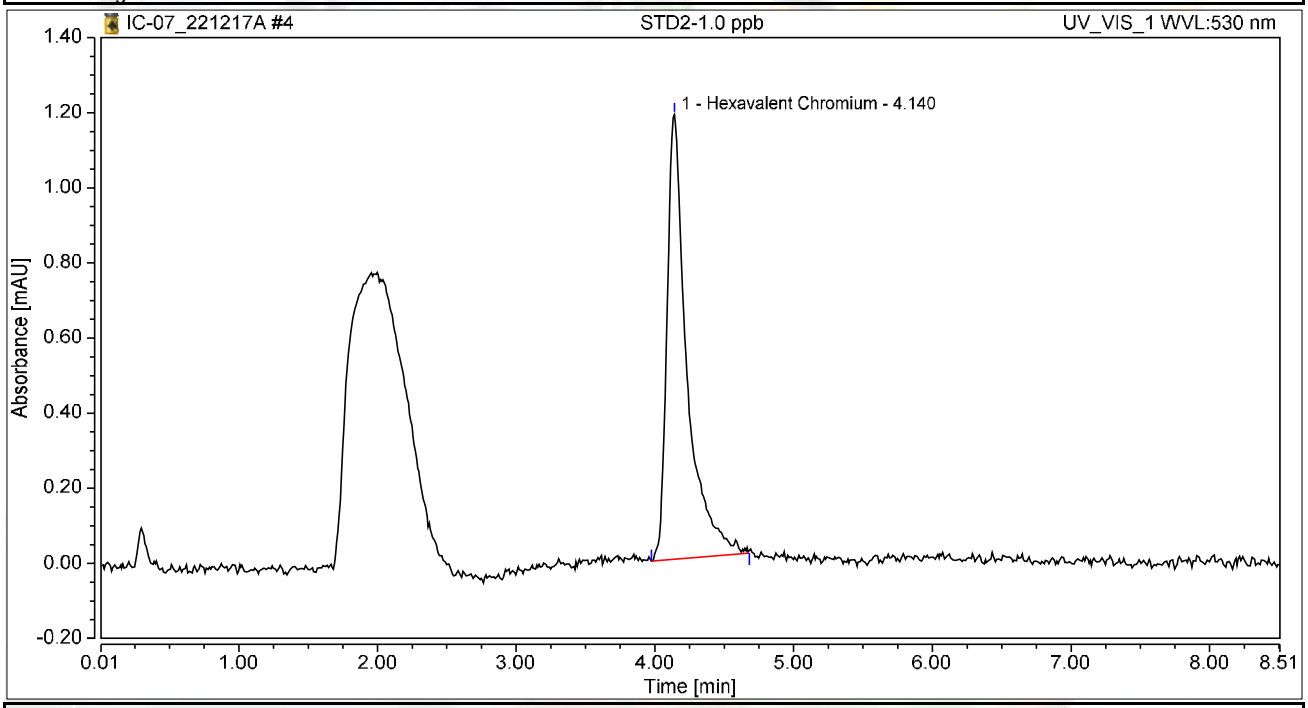
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	0.038	0.241	100.00	100.00	0.1853
Total:			**0.038**	**0.241**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD2-1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

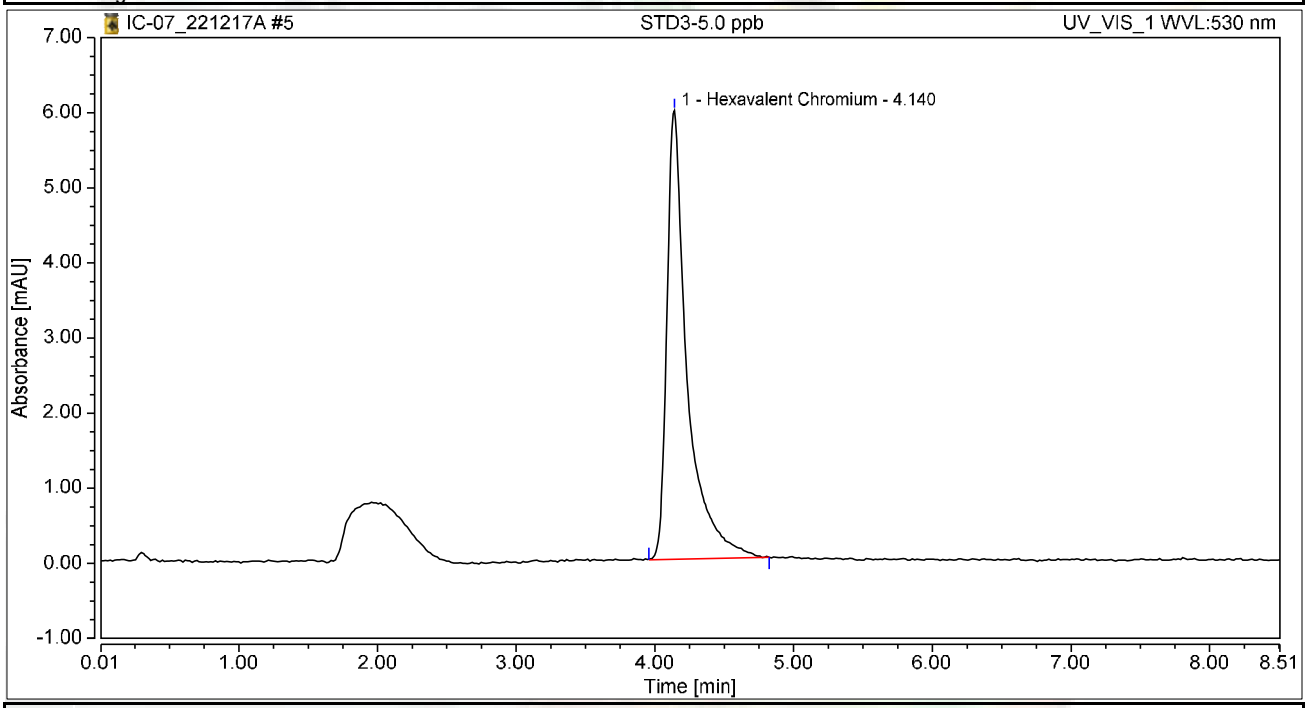
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	0.199	1.184	100.00	100.00	0.9667
Total:			**0.199**	**1.184**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD3-5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

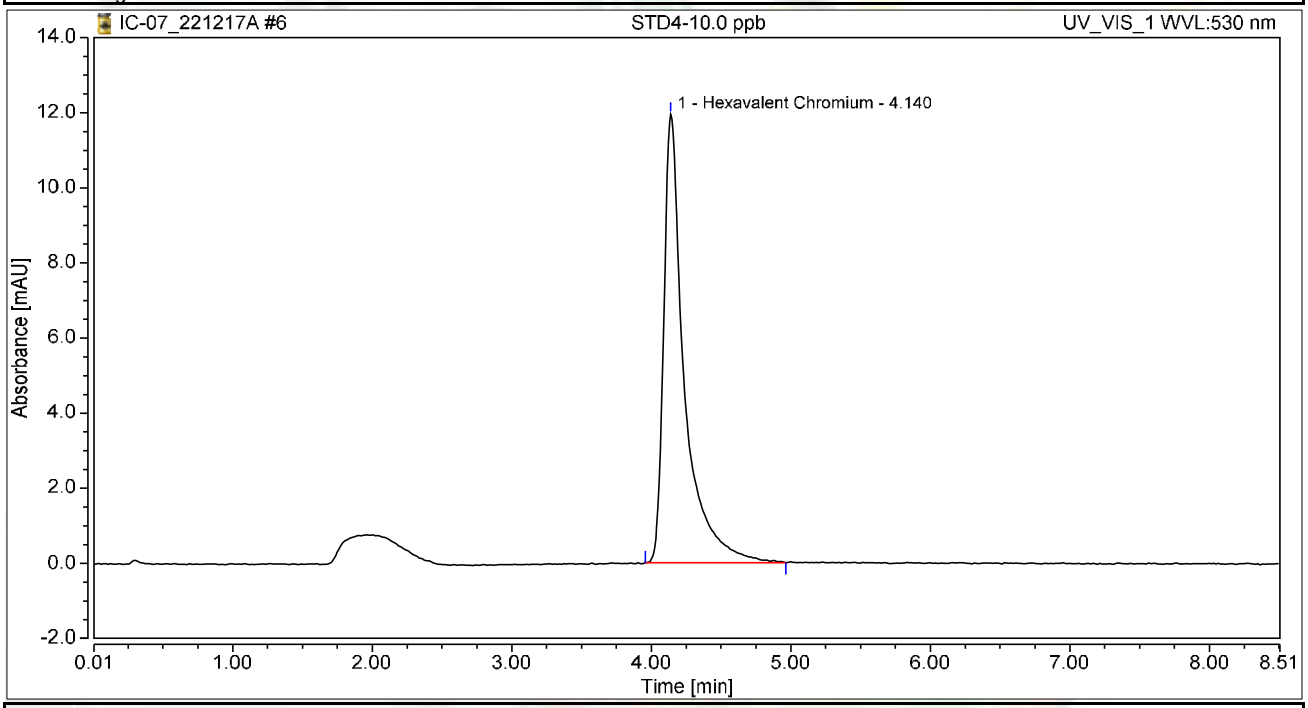
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	1.014	5.971	100.00	100.00	4.9357
Total:			**1.014**	**5.971**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD4-10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

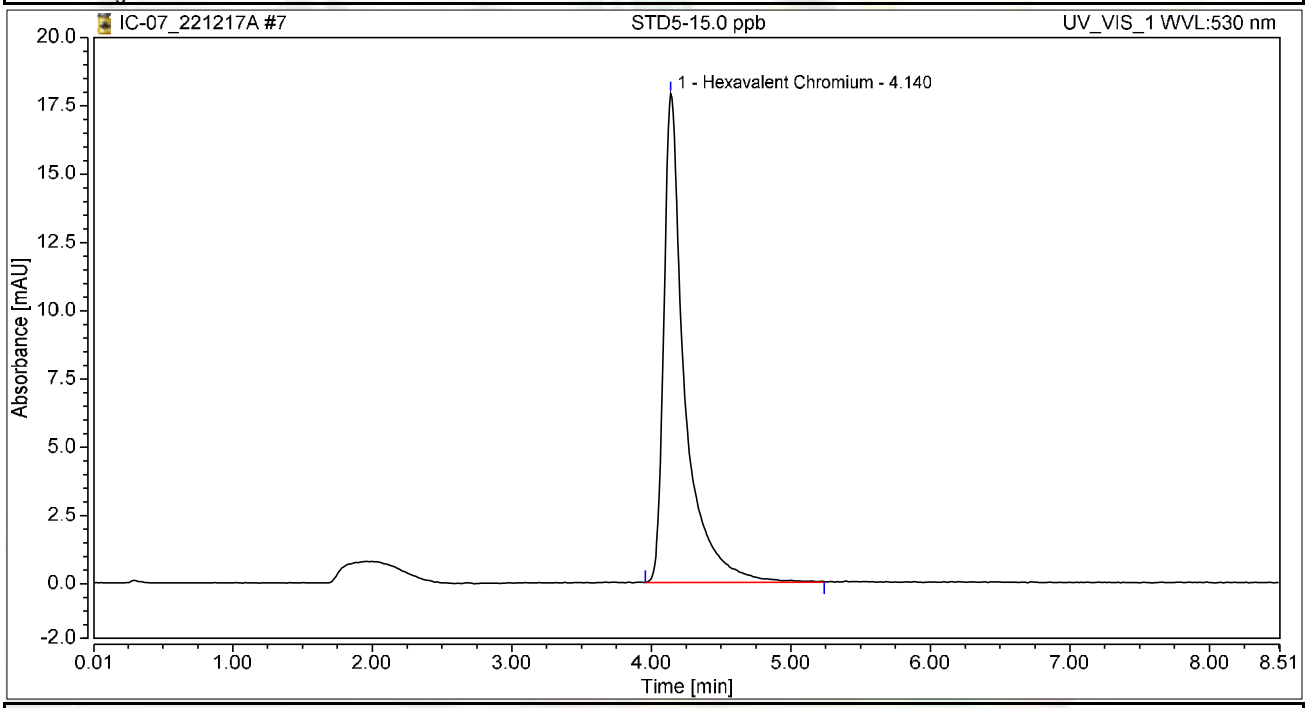
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	2.045	11.944	100.00	100.00	9.9520
Total:			**2.045**	**11.944**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD5-15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

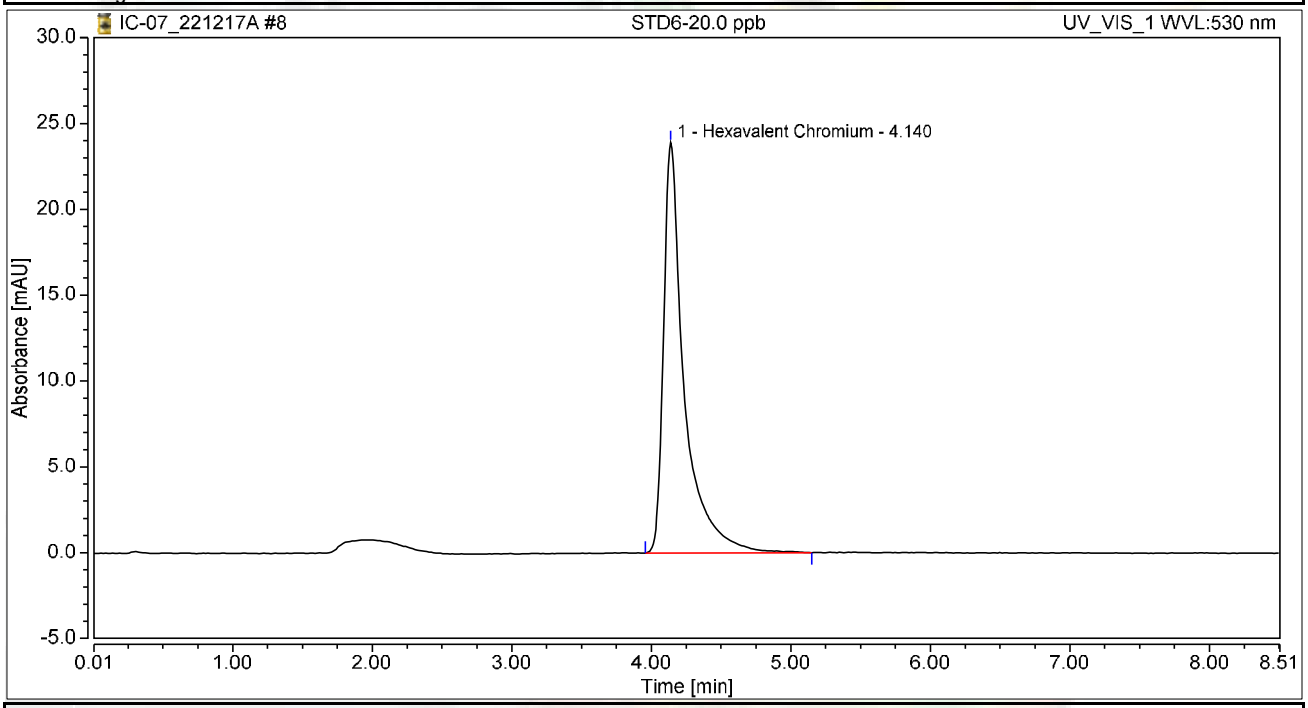
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	3.095	17.898	100.00	100.00	15.0628
Total:			**3.095**	**17.898**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD6-20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:13**	*Sample Weight:*	**1.0000**

Chromatogram



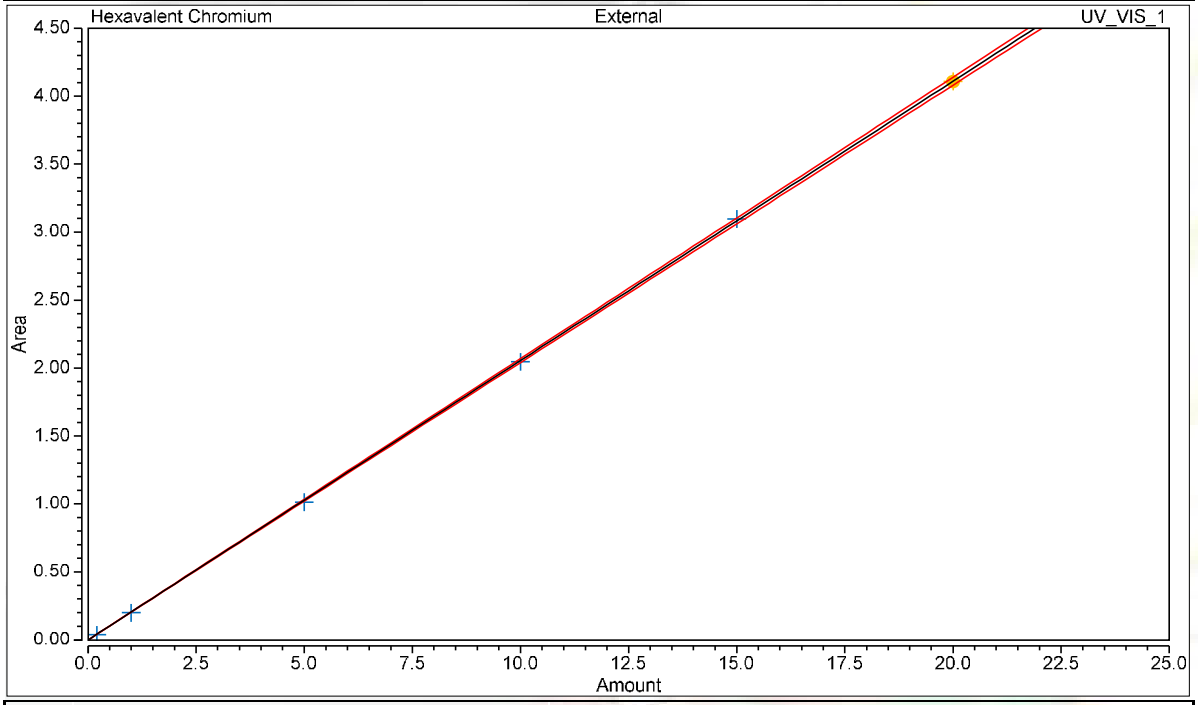
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	4.109	23.907	100.00	100.00	19.9948
Total:			**4.109**	**23.907**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2055
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99996

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

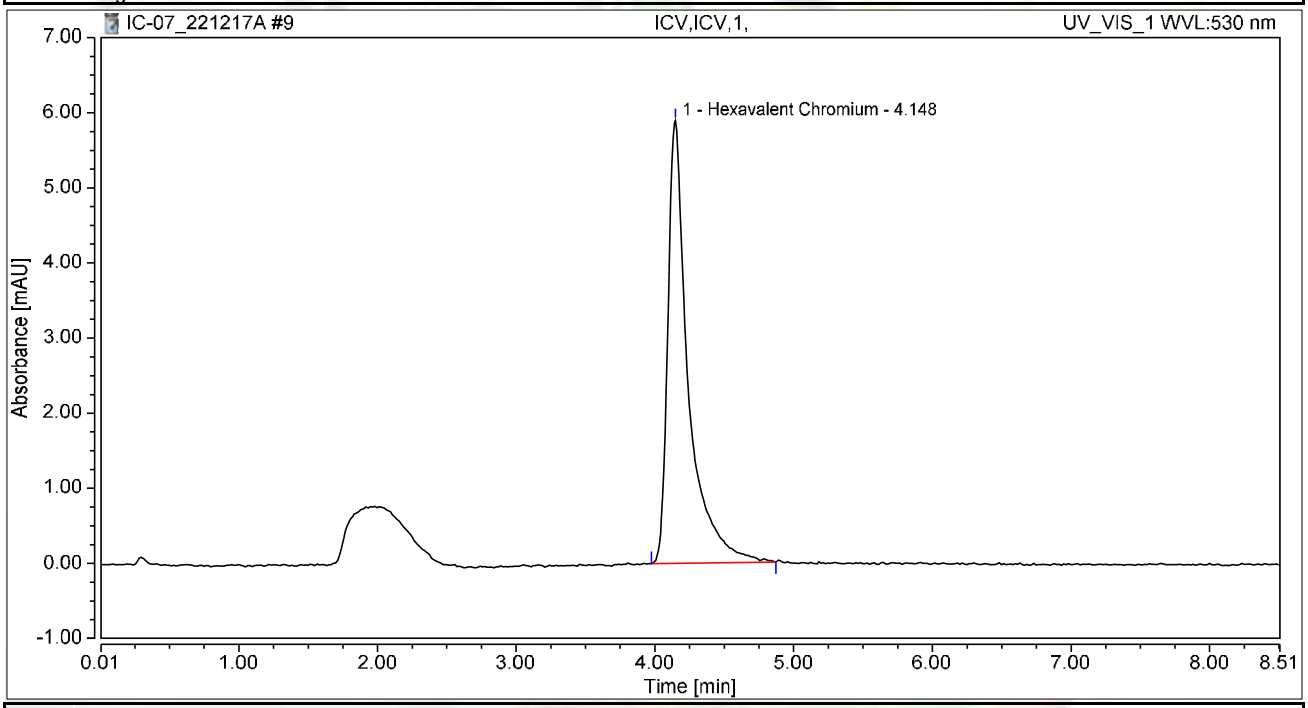
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
3	STD1-0.2 ppb	01	0.2000	0.0381	0.038	0.241
4	STD2-1.0 ppb	02	1.0000	0.1987	0.199	1.184
5	STD3-5.0 ppb	03	5.0000	1.0142	1.014	5.971
6	STD4-10.0 ppb	04	10.0000	2.0450	2.045	11.944
7	STD5-15.0 ppb	05	15.0000	3.0952	3.095	17.898
8	STD6-20.0 ppb	06	20.0000	4.1087	4.109	23.907

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

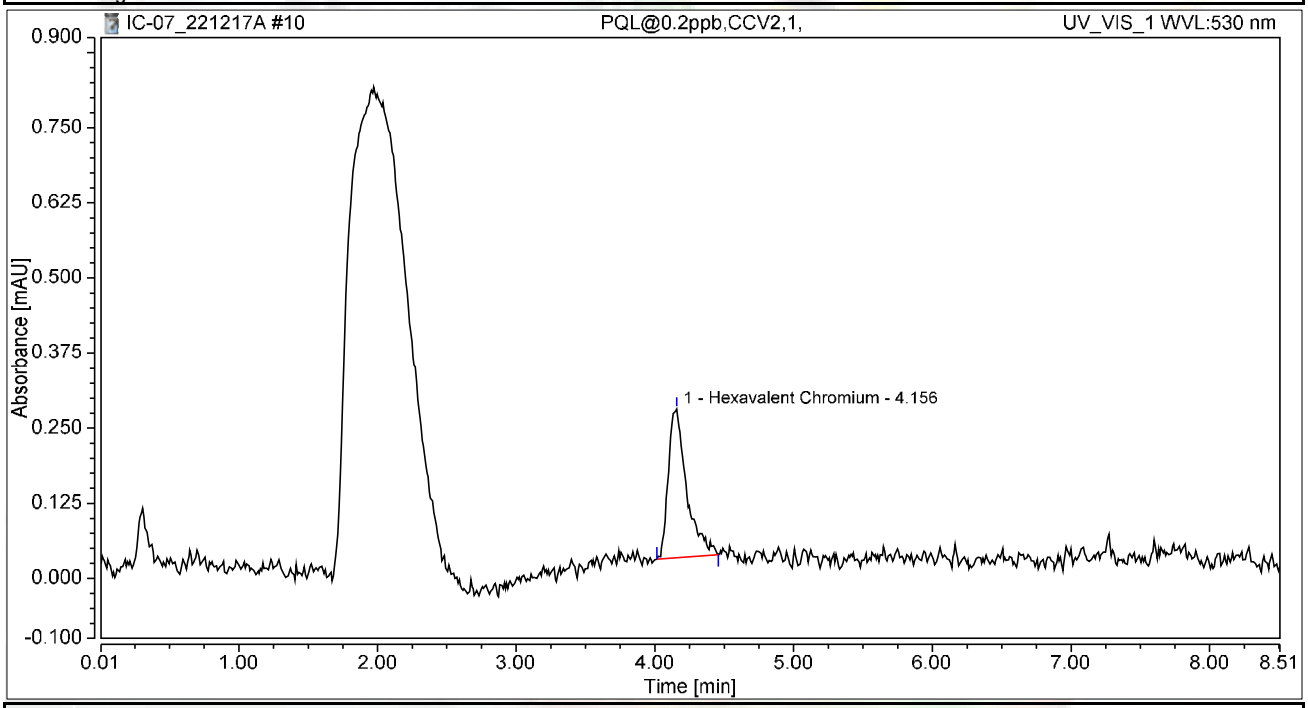
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	1.008	5.895	100.00	100.00	4.9065
Total:			**1.008**	**5.895**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

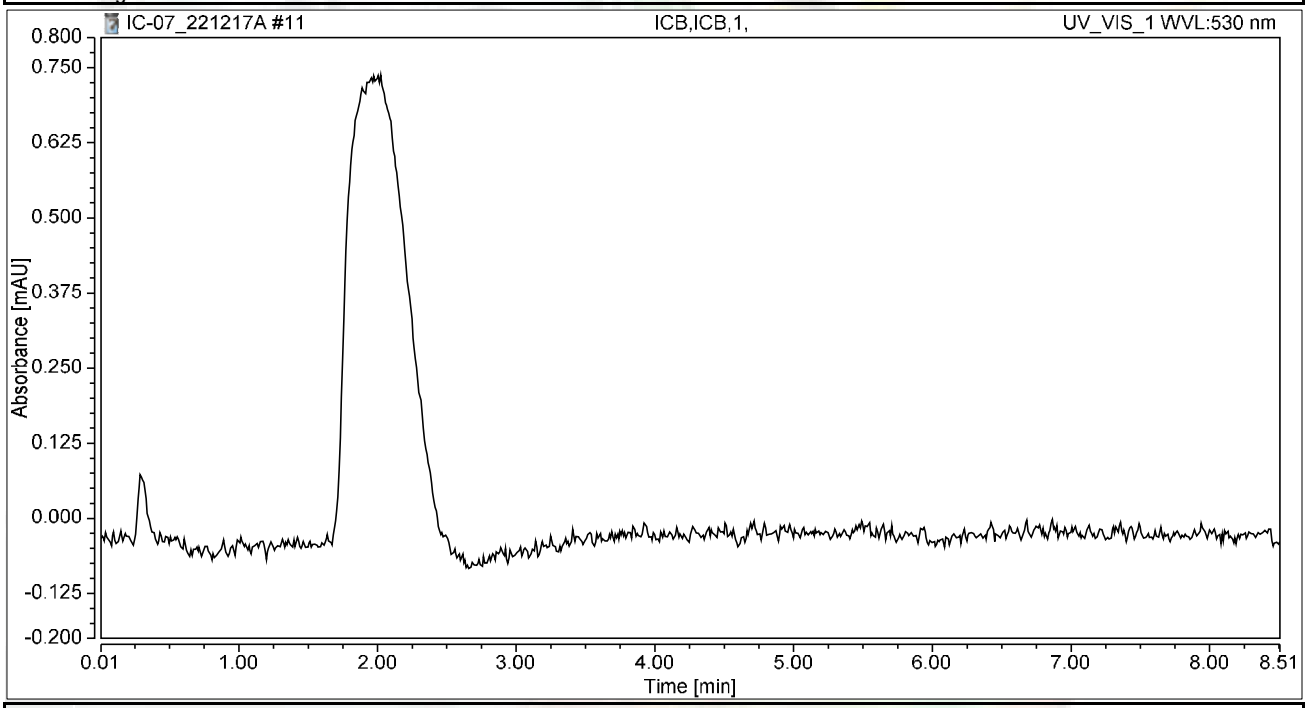
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	0.038	0.247	100.00	100.00	0.1852
Total:			**0.038**	**0.247**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INJECTION LOG: 221220A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	BLANK	BLANK	1	Hexavalent Chromium	12/20/22 9:00 AM	Not Reported
10	CCV-1	CCV	1	Hexavalent Chromium	12/20/22 9:16 AM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/20/22 9:27 AM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	12/20/22 9:36 AM	Reported
13	MB-R168387	MBLK	1	Hexavalent Chromium	12/20/22 9:46 AM	Reported
14	LCS-R168387	LCS	1	Hexavalent Chromium	12/20/22 9:55 AM	Reported
15	N054046-001A	SAMP	1	Hexavalent Chromium	12/20/22 10:05 AM	Reported
16	N054089-001A	SAMP	1	Hexavalent Chromium	12/20/22 10:14 AM	Reported
17	N054089-002A	SAMP	5	Hexavalent Chromium	12/20/22 10:24 AM	Reported
18	N054046-001AMS	MS	1	Hexavalent Chromium	12/20/22 10:33 AM	Reported
19	N054089-001AMS	MS	1	Hexavalent Chromium	12/20/22 10:42 AM	Reported
20	N054089-001AMSD	MSD	1	Hexavalent Chromium	12/20/22 10:52 AM	Reported
21	N054089-002ADUP	DUP	5	Hexavalent Chromium	12/20/22 11:01 AM	Reported
22	N054089-002AMS	MS	5	Hexavalent Chromium	12/20/22 11:11 AM	Reported
23	CCV-2	CCV1	1	Hexavalent Chromium	12/20/22 11:20 AM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	12/20/22 11:30 AM	Reported
25	N053987-001A	SAMP	1	Hexavalent Chromium	12/20/22 11:39 AM	Reported
26	N053988-001A	SAMP	5	Hexavalent Chromium	12/20/22 11:49 AM	Reported
27	N053988-002A	SAMP	1	Hexavalent Chromium	12/20/22 11:58 AM	Reported
28	N053990-001A	SAMP	1	Hexavalent Chromium	12/20/22 12:08 PM	Reported
29	N053990-002A	SAMP	1	Hexavalent Chromium	12/20/22 12:17 PM	Reported
30	N053990-003A	SAMP	1	Hexavalent Chromium	12/20/22 12:26 PM	Reported
31	N053990-004A	SAMP	1	Hexavalent Chromium	12/20/22 12:36 PM	Reported
32	N053990-005A	SAMP	1	Hexavalent Chromium	12/20/22 12:45 PM	Reported
33	N054045-003A	SAMP	1	Hexavalent Chromium	12/20/22 12:55 PM	Reported
34	N054047-001A	SAMP	1	Hexavalent Chromium	12/20/22 1:04 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	12/20/22 1:14 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	12/20/22 1:23 PM	Reported
37	N054047-002A	SAMP	1	Hexavalent Chromium	12/20/22 1:33 PM	Reported
38	N054047-003A	SAMP	1	Hexavalent Chromium	12/20/22 1:42 PM	Reported
39	N054047-004A	SAMP	1	Hexavalent Chromium	12/20/22 1:52 PM	Reported
40	N054047-005A	SAMP	1	Hexavalent Chromium	12/20/22 2:01 PM	Reported
41	N054047-006A	SAMP	1	Hexavalent Chromium	12/20/22 2:11 PM	Not Reported
42	N054047-007A	SAMP	1	Hexavalent Chromium	12/20/22 2:20 PM	Reported

INJECTION LOG: 221220A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N054047-008A	SAMP	1	Hexavalent Chromium	12/20/22 2:29 PM	Reported
44	MB-R168388	MBLK	1	Hexavalent Chromium	12/20/22 2:39 PM	Reported
45	LCS-R168388	LCS	1	Hexavalent Chromium	12/20/22 3:03 PM	Reported
46	CCV-4	CCV1	1	Hexavalent Chromium	12/20/22 3:14 PM	Reported
47	CCB-4	CCB	1	Hexavalent Chromium	12/20/22 3:23 PM	Reported
48	N053994-007A	SAMP	100	Hexavalent Chromium	12/20/22 3:33 PM	Reported
49	N053994-007AMS	MS	100	Hexavalent Chromium	12/20/22 3:42 PM	Reported
50	N053994-007AMSD	MSD	100	Hexavalent Chromium	12/20/22 3:52 PM	Reported
51	N054048-001A	SAMP	1	Hexavalent Chromium	12/20/22 4:01 PM	Reported
52	N054039-001A	SAMP	1	Hexavalent Chromium	12/20/22 4:18 PM	Reported
53	N054039-002A	SAMP	1	Hexavalent Chromium	12/20/22 4:30 PM	Reported
54	N054047-006A	SAMP	10	Hexavalent Chromium	12/20/22 4:40 PM	Reported
55	N054047-006ADUP	DUP	10	Hexavalent Chromium	12/20/22 4:49 PM	Reported
56	N053991-002A	SAMP	5000	Hexavalent Chromium	12/20/22 4:59 PM	Reported
57	N053991-002AMS	MS	5000	Hexavalent Chromium	12/20/22 5:08 PM	Reported
58	CCV-5	CCV	1	Hexavalent Chromium	12/20/22 5:18 PM	Reported
59	CCB-5	CCB	1	Hexavalent Chromium	12/20/22 5:27 PM	Reported
60	N053991-001A	SAMP	400	Hexavalent Chromium	12/20/22 5:37 PM	Not Reported
61	N053991-001AMS	MS	400	Hexavalent Chromium	12/20/22 5:46 PM	Not Reported
62	N053994-001A	SAMP	1	Hexavalent Chromium	12/20/22 5:56 PM	Reported
63	N053994-001AMS	MS	1	Hexavalent Chromium	12/20/22 6:05 PM	Reported
64	N053994-002A	SAMP	1	Hexavalent Chromium	12/20/22 6:14 PM	Reported
65	N053994-002AMS	MS	1	Hexavalent Chromium	12/20/22 6:24 PM	Reported
66	N053994-005A	SAMP	1	Hexavalent Chromium	12/20/22 6:33 PM	Not Reported
67	N053994-005AMS	MS	1	Hexavalent Chromium	12/20/22 6:43 PM	Not Reported
68	N053994-008A	SAMP	5	Hexavalent Chromium	12/20/22 6:52 PM	Not Reported
69	N053994-008AMS	MS	5	Hexavalent Chromium	12/20/22 7:02 PM	Not Reported
70	CCV-6	CCV1	1	Hexavalent Chromium	12/20/22 7:11 PM	Not Reported
71	CCB-6	CCB	1	Hexavalent Chromium	12/20/22 7:21 PM	Not Reported
72	CCV-6	CCV1	1	Hexavalent Chromium	12/20/22 9:05 PM	Reported
73	CCB-6	CCB	1	Hexavalent Chromium	12/20/22 9:17 PM	Reported
74	N053994-006A	SAMP	500	Hexavalent Chromium	12/20/22 9:29 PM	Not Reported
75	N053994-006AMS	MS	500	Hexavalent Chromium	12/20/22 9:38 PM	Not Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_221220A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**21/Dec/22 09:47:49**
No. of Injections:	**78**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	BLANK	1	1000	Unknown		12/20/2022 09:00	Finished	BLANK
10	CCV-1,CCV,1,	2	1000	Unknown		12/20/2022 09:16	Finished	CCV @5ppb, IWST-221003A
11	PQL@0.2ppb,CCV2,1	3	1000	Unknown		12/20/2022 09:27	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1,	4	1000	Unknown		12/20/2022 09:36	Finished	CCB R221208A
13	MB-H2O,MBLK,1,	5	1000	Unknown		12/20/2022 09:46	Finished	MB R221129C
14	LCS-H2O,LCS,1,	6	1000	Unknown		12/20/2022 09:55	Finished	LCS @5ppb, IWST-221003B
15	N054046-001A,SAMP	7	1000	Unknown		12/20/2022 10:05	Finished	SAMP,10 mL
16	N054089-001A,SAMP	8	1000	Unknown		12/20/2022 10:14	Finished	SAMP,10 mL
17	N054089-002A,SAMP	9	1000	Unknown		12/20/2022 10:24	Finished	SAMP,2>10 mL
18	N054046-001AMS,MS	10	1000	Unknown		12/20/2022 10:33	Finished	MS (1ppb), IWST-221003B,10r
19	N054089-001AMS,MS	11	1000	Unknown		12/20/2022 10:42	Finished	MS (5ppb), IWST-221003B,10r
20	N054089-001AMSD,M	12	1000	Unknown		12/20/2022 10:52	Finished	MSD (5ppb), IWST-221003B,1(
21	N054089-002ADUP,D	13	1000	Unknown		12/20/2022 11:01	Finished	DUP,2>10 mL
22	N054089-002AMS,MS	14	1000	Unknown		12/20/2022 11:11	Finished	MS (5ppb), IWST-221003B,2>1
23	CCV-2,CCV1,1,	15	1000	Unknown		12/20/2022 11:20	Finished	CCV @10ppb, IWST-221003A
24	CCB-2,CCB,1,	16	1000	Unknown		12/20/2022 11:30	Finished	CCB R221129C
25	N053987-001A,SAMP	17	1000	Unknown		12/20/2022 11:39	Finished	SAMP,10 mL
26	N053988-001A,SAMP	18	1000	Unknown		12/20/2022 11:49	Finished	SAMP,2>10 mL
27	N053988-002A,SAMP	19	1000	Unknown		12/20/2022 11:58	Finished	SAMP,10 mL
28	N053990-001A,SAMP	20	1000	Unknown		12/20/2022 12:08	Finished	SAMP,10 mL
29	N053990-002A,SAMP	21	1000	Unknown		12/20/2022 12:17	Finished	SAMP,10 mL
30	N053990-003A,SAMP	22	1000	Unknown		12/20/2022 12:26	Finished	SAMP,10 mL
31	N053990-004A,SAMP	23	1000	Unknown		12/20/2022 12:36	Finished	SAMP,10 mL
32	N053990-005A,SAMP	24	1000	Unknown		12/20/2022 12:45	Finished	SAMP,10 mL
33	N054045-003A,SAMP	25	1000	Unknown		12/20/2022 12:55	Finished	SAMP,10 mL
34	N054047-001A,SAMP	26	1000	Unknown		12/20/2022 13:04	Finished	SAMP,10 mL
35	CCV-3,CCV,1,	27	1000	Unknown		12/20/2022 13:14	Finished	CCV @5ppb, IWST-221003A
36	CCB-3,CCB,1,	28	1000	Unknown		12/20/2022 13:23	Finished	CCB R221208A
37	N054047-002A,SAMP	29	1000	Unknown		12/20/2022 13:33	Finished	SAMP,10 mL
38	N054047-003A,SAMP	30	1000	Unknown		12/20/2022 13:42	Finished	SAMP,10 mL
39	N054047-004A,SAMP	31	1000	Unknown		12/20/2022 13:52	Finished	SAMP,10 mL
40	N054047-005A,SAMP	32	1000	Unknown		12/20/2022 14:01	Finished	SAMP,10 mL
41	N054047-006A,SAMP	33	1000	Unknown		12/20/2022 14:11	Finished	SAMP,10 mL
42	N054047-007A,SAMP	34	1000	Unknown		12/20/2022 14:20	Finished	SAMP,10 mL
43	N054047-008A,SAMP	35	1000	Unknown		12/20/2022 14:29	Finished	SAMP,10 mL
44	MB-2,MBLK,1,	36	1000	Unknown		12/20/2022 14:39	Finished	MB R221208A
45	LCS-2,LCS,1,	1	1000	Unknown		12/20/2022 15:03	Finished	LCS @5ppb, IWST-221003B
46	CCV-4,CCV1,1,	2	1000	Unknown		12/20/2022 15:14	Finished	CCV @10ppb, IWST-221003A
47	CCB-4,CCB,1,	3	1000	Unknown		12/20/2022 15:23	Finished	CCB R221208A
48	N053994-007A,SAMP	4	1000	Unknown		12/20/2022 15:33	Finished	SAMP,0.1>10 mL
49	N053994-007AMS,MS	5	1000	Unknown		12/20/2022 15:42	Finished	MS (5ppb), IWST-221003B,0.1
50	N053994-007AMSD,M	6	1000	Unknown		12/20/2022 15:52	Finished	MSD (5ppb), IWST-221003B,0.
51	N054048-001A,SAMP	7	1000	Unknown		12/20/2022 16:01	Finished	SAMP,10 mL
52	N054039-001A,SAMP	1	1000	Unknown		12/20/2022 16:18	Finished	SAMP,10 mL
53	N054039-002A,SAMP	2	1000	Unknown		12/20/2022 16:30	Finished	SAMP,10 mL
54	N054047-006A,SAMP	3	1000	Unknown		12/20/2022 16:40	Finished	SAMP,1>10 mL
55	N054047-006ADUP,D	4	1000	Unknown		12/20/2022 16:49	Finished	DUP,1>10 mL
56	N053991-002A,SAMP	5	1000	Unknown		12/20/2022 16:59	Finished	SAMP,0.002>10 mL
57	N053991-002AMS,MS	6	1000	Unknown		12/20/2022 17:08	Finished	MS (5ppb), IWST-221003B,0.0
58	CCV-5,CCV,1,	7	1000	Unknown		12/20/2022 17:18	Finished	CCV @5ppb, IWST-221003A
59	CCB-5,CCB,1,	8	1000	Unknown		12/20/2022 17:27	Finished	CCB R221208A
60	N053991-001A,SAMP	9	1000	Unknown		12/20/2022 17:37	Finished	SAMP,0.025>10 mL

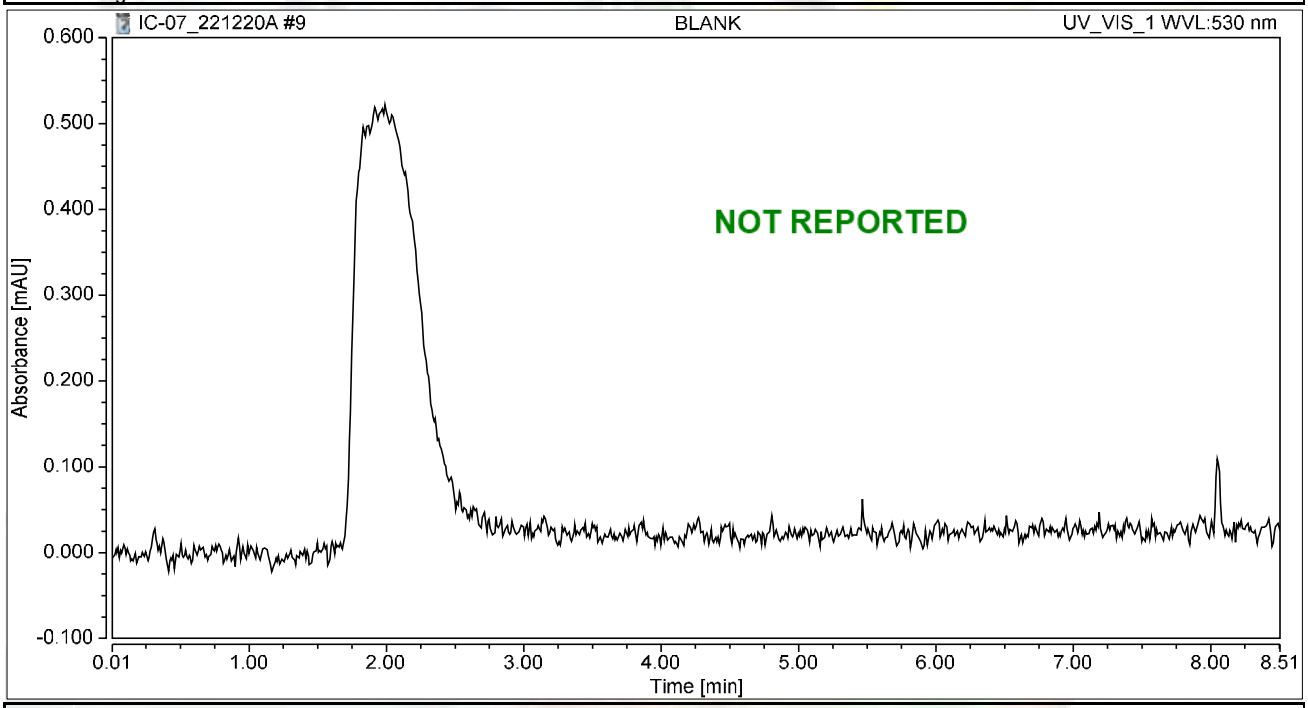
61	N053991-001AMS,MS	10	1000	Unknown		12/20/2022 17:46	Finished	MS (1ppb), IWST-221003B,0.0
62	N053994-001A,SAMP	11	1000	Unknown		12/20/2022 17:56	Finished	SAMP,10 mL
63	N053994-001AMS,MS	12	1000	Unknown		12/20/2022 18:05	Finished	MS (1ppb), IWST-221003B,10r
64	N053994-002A,SAMP	13	1000	Unknown		12/20/2022 18:14	Finished	SAMP,10 mL
65	N053994-002AMS,MS	14	1000	Unknown		12/20/2022 18:24	Finished	MS (1ppb), IWST-221003B,10r
66	N053994-005A,SAMP	15	1000	Unknown		12/20/2022 18:33	Finished	SAMP,10 mL
67	N053994-005AMS,MS	16	1000	Unknown		12/20/2022 18:43	Finished	MS (1ppb), IWST-221003B,10r
68	N053994-008A,SAMP	17	1000	Unknown		12/20/2022 18:52	Finished	SAMP,2>10 mL
69	N053994-008AMS,MS	18	1000	Unknown		12/20/2022 19:02	Finished	MS (5ppb), IWST-221003B,2>1
70	CCV-6,CCV1,1,	19	1000	Unknown		12/20/2022 19:11	Finished	CCV @10ppb, IWST-221003A
71	CCB-6,CCB,1,	20	1000	Unknown		12/20/2022 19:21	Finished	CCB R221208A
72	CCV-6,CCV1,1,	1	1000	Unknown		12/20/2022 21:05	Finished	CCV @10ppb, IWST-221003A
73	CCB-6,CCB,1,	2	1000	Unknown		12/20/2022 21:17	Finished	CCB R221208A
74	N053994-006A,SAMP	3	1000	Unknown		12/20/2022 21:29	Finished	SAMP,0.02>10 mL
75	N053994-006AMS,MS	4	1000	Unknown		12/20/2022 21:38	Interrupted	MS (5ppb), IWST-221003B,0.0
76	SHUTDOWN	28	1000	Unknown		n.a.	Finished	
77	Eluent: R221219A	29	1000	Unknown		n.a.	Finished	
78	PCR: R221219B	30	1000	Unknown		n.a.	Finished	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

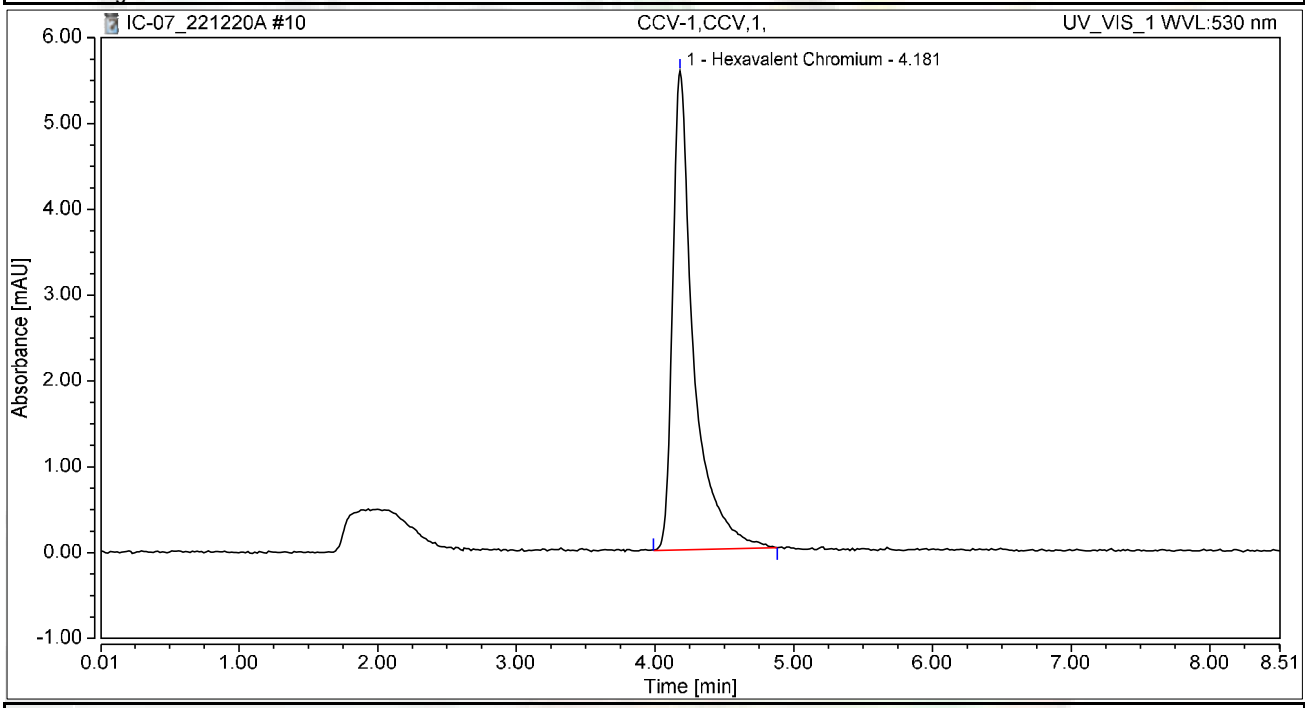
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

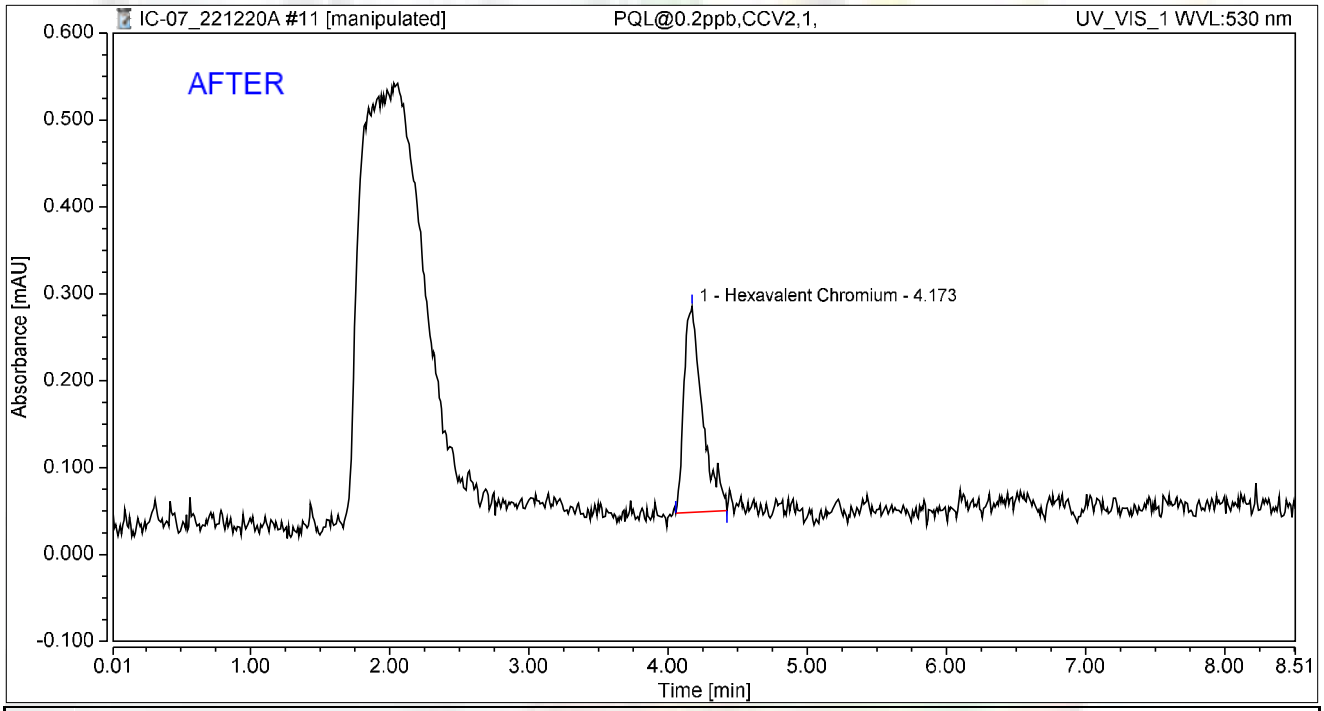
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	0.979	5.582	100.00	100.00	4.7656
Total:			**0.979**	**5.582**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.037	0.237	100.00	100.00	0.1779
Total:			**0.037**	**0.237**	**100.00**	**100.00**	

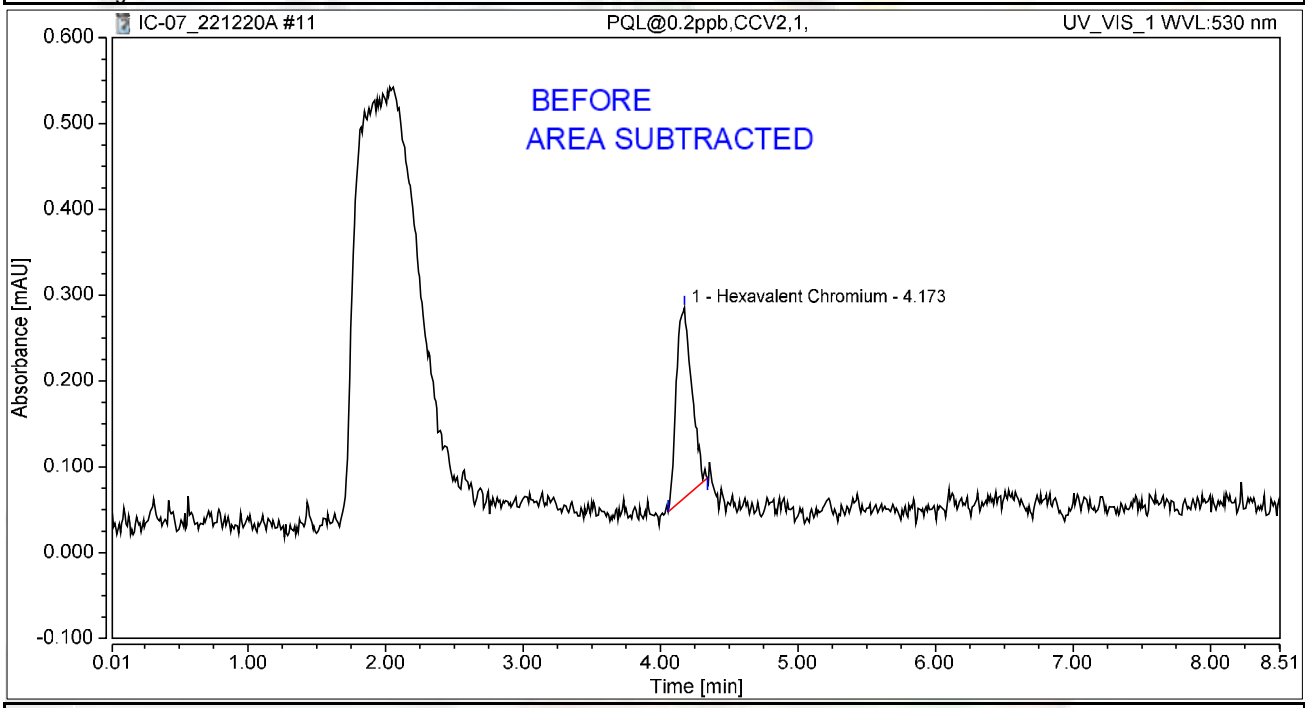
Reviewed by
12/21/2022

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.49**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

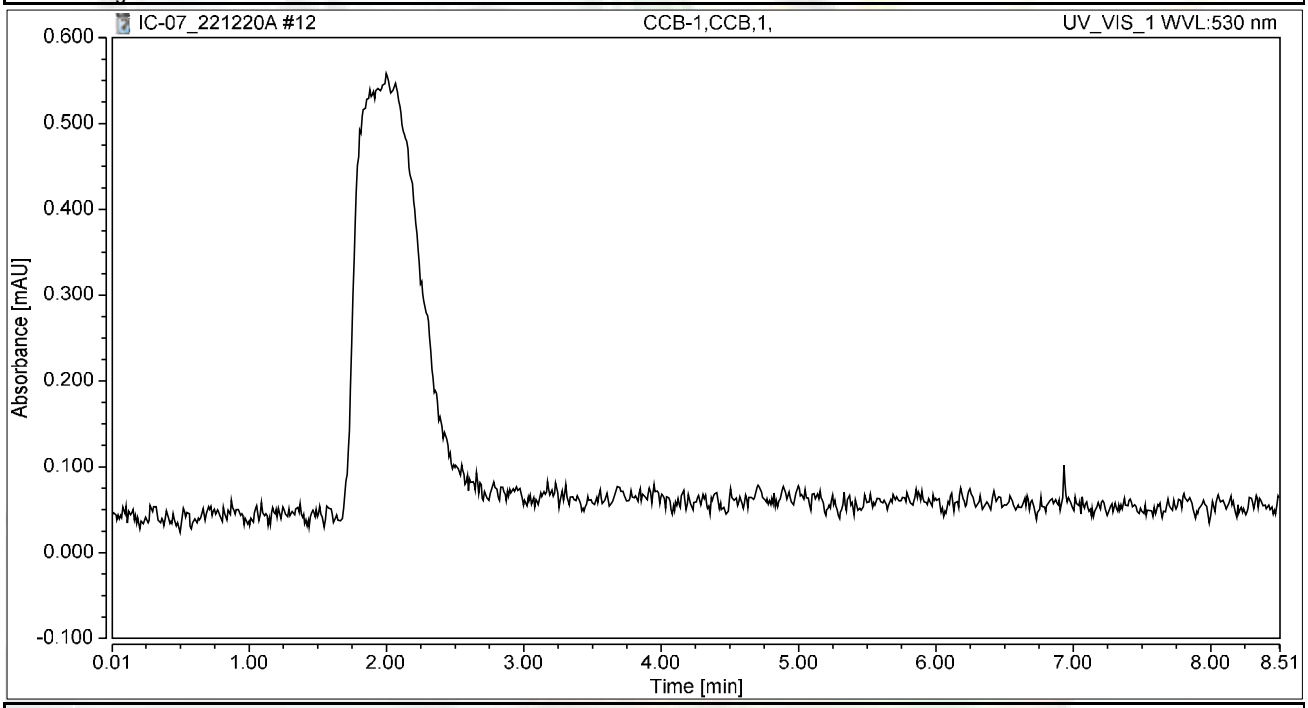
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.029	0.222	100.00	100.00	0.1406
Total:			**0.029**	**0.222**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

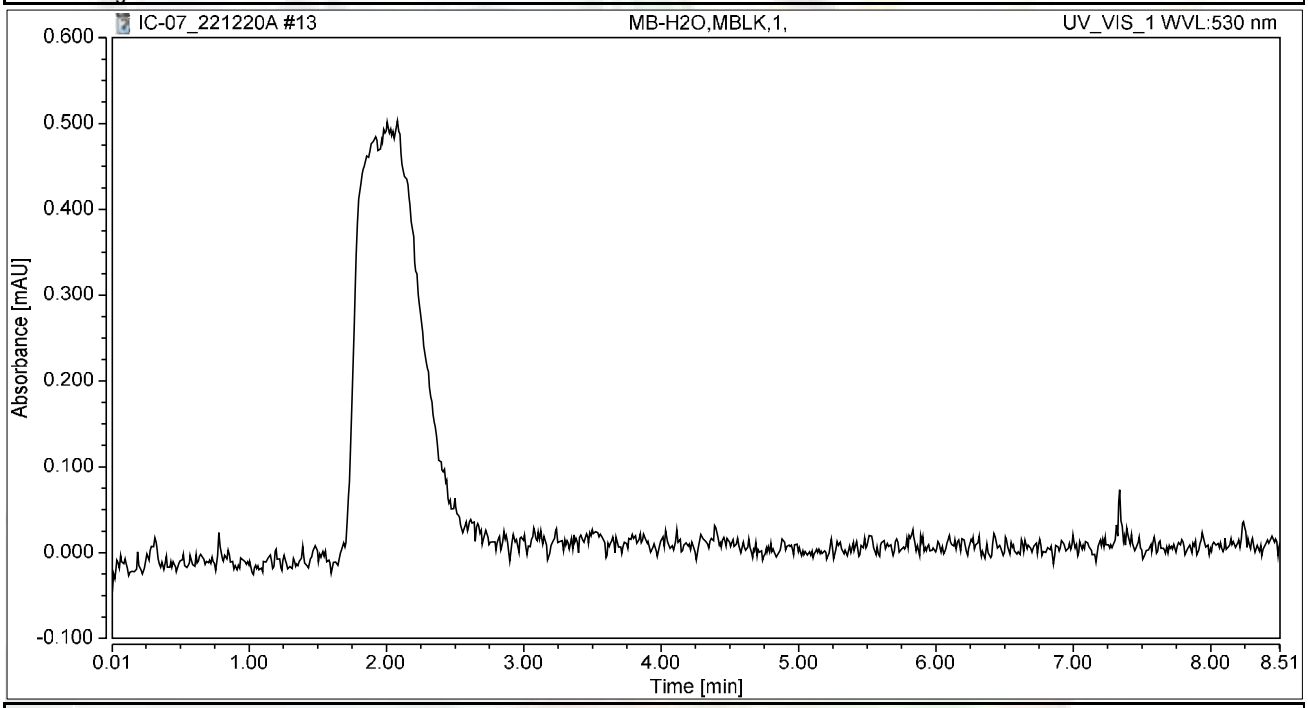
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1,**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

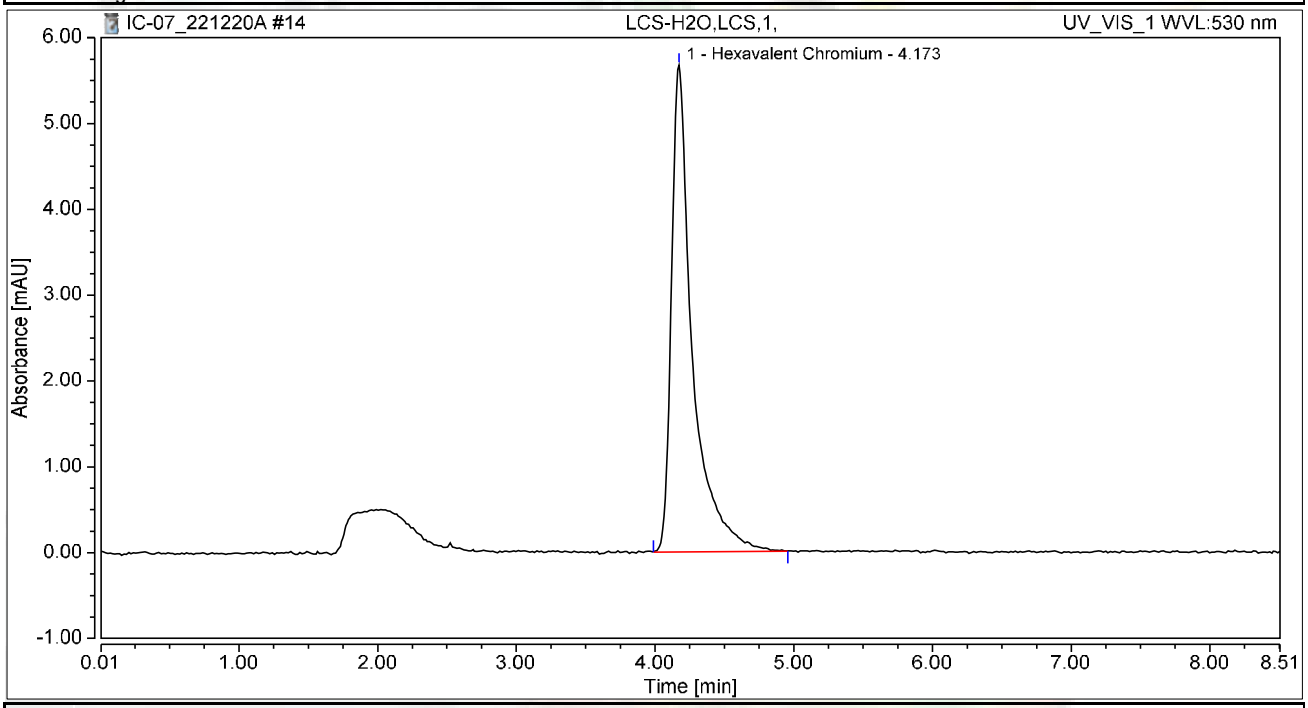
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1,**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 09:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

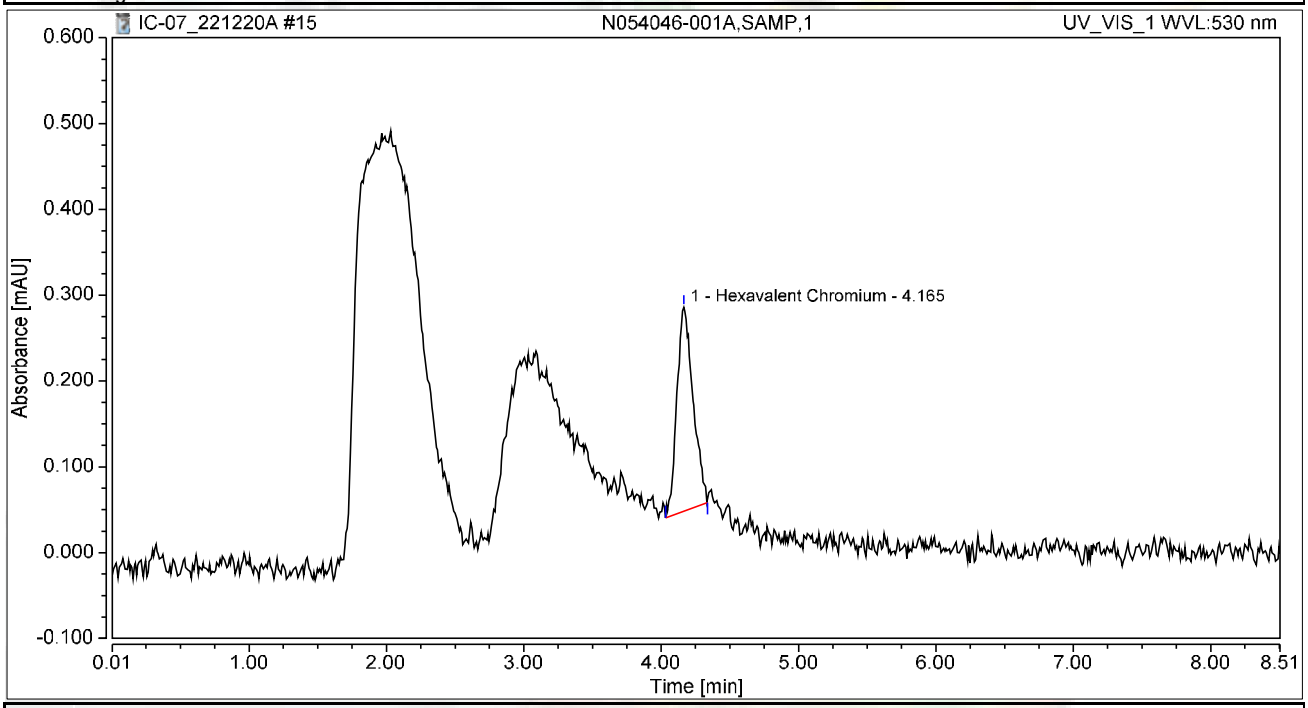
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.993	5.672	100.00	100.00	4.8319
Total:			**0.993**	**5.672**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054046-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 10:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

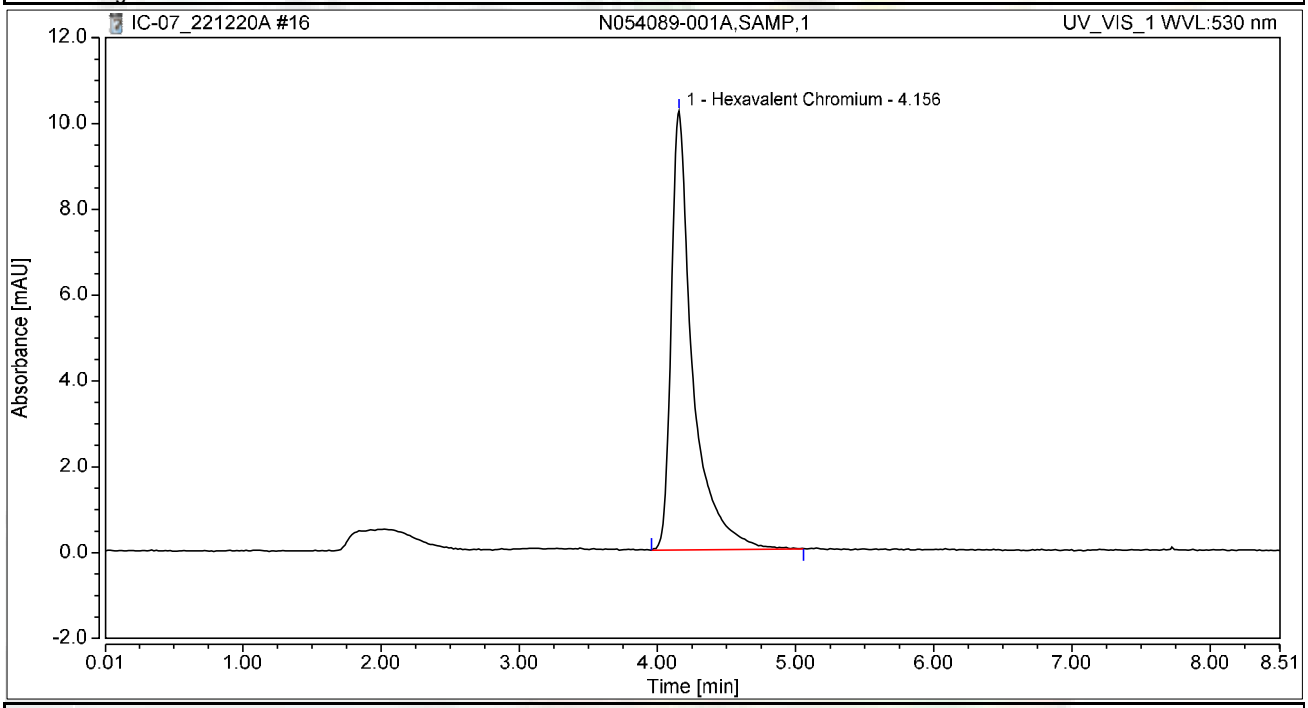
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	0.032	0.238	100.00	100.00	0.1577
Total:			**0.032**	**0.238**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054089-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 10:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

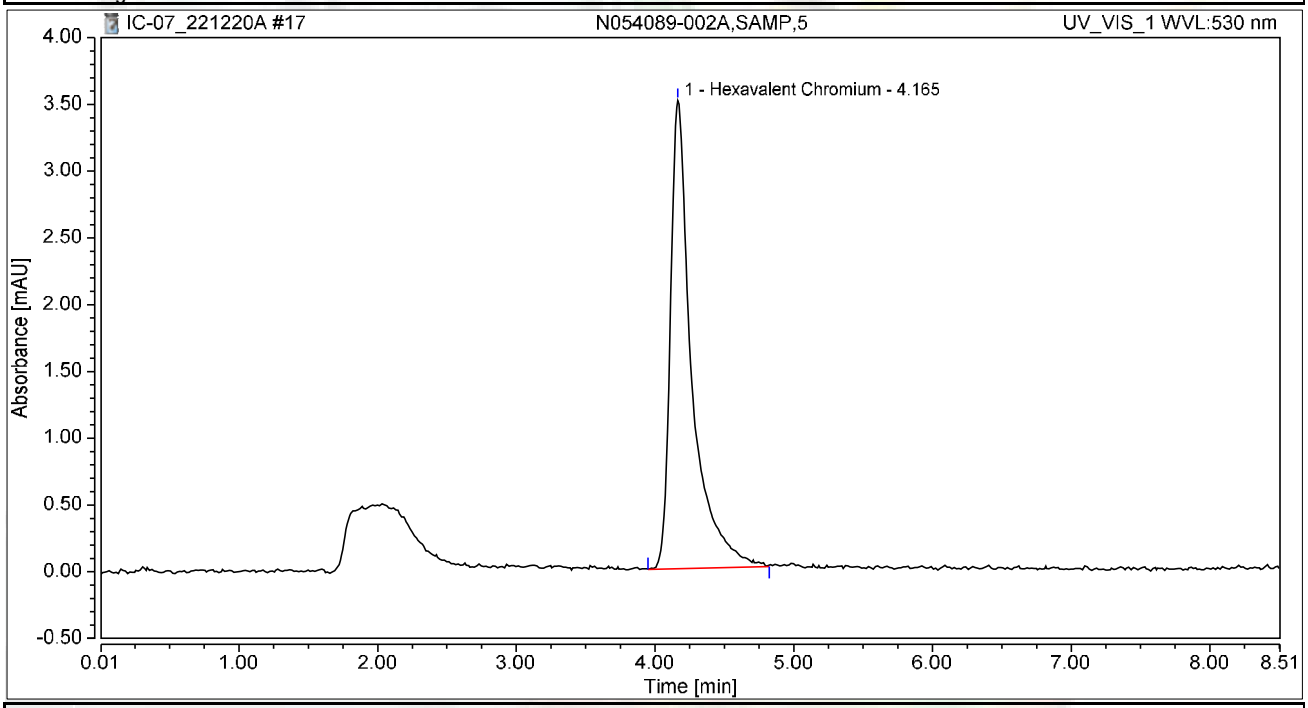
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	1.834	10.229	100.00	100.00	8.9258
Total:			**1.834**	**10.229**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054089-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 10:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

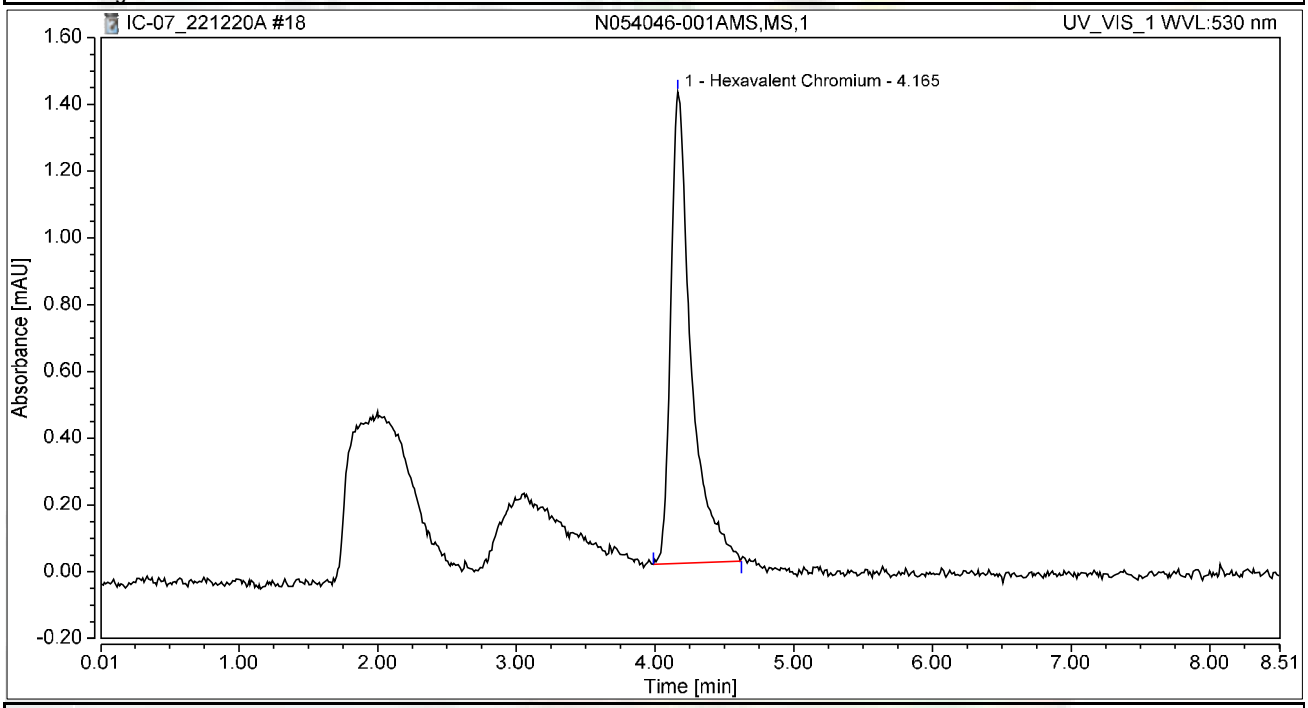
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	0.628	3.508	100.00	100.00	3.0554
Total:			**0.628**	**3.508**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054046-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 10:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

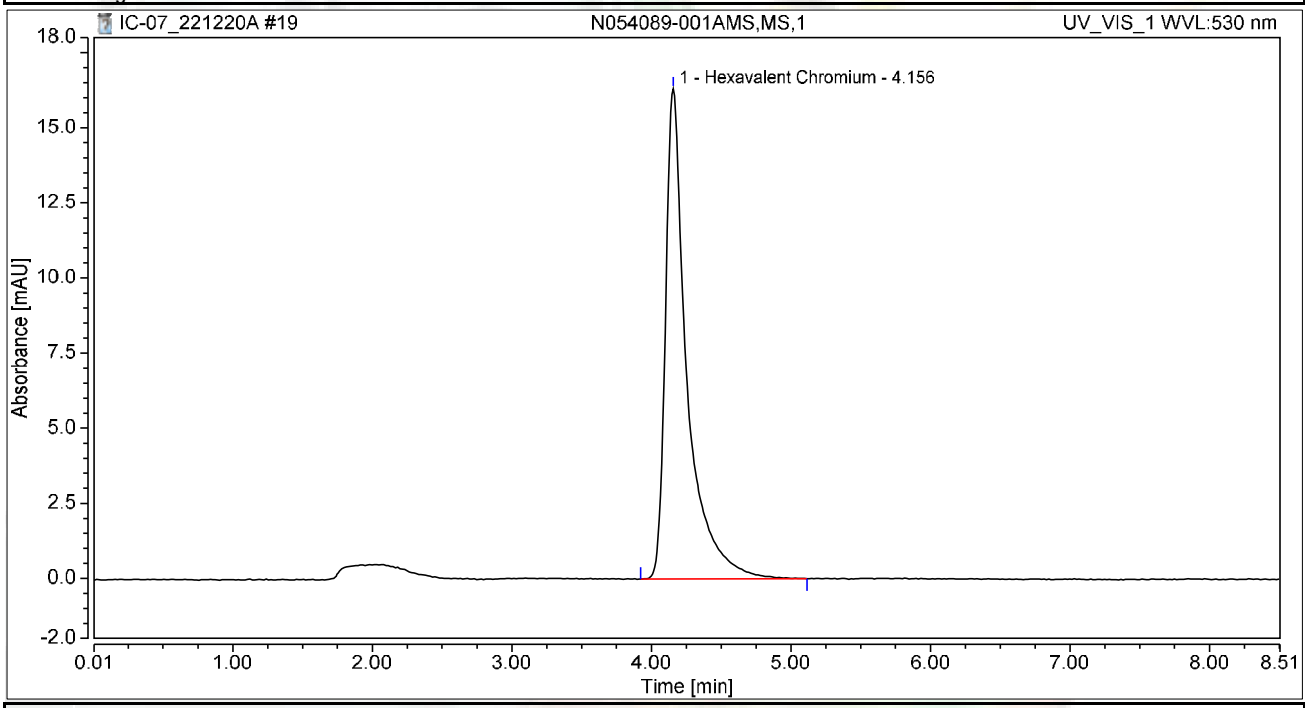
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	0.240	1.413	100.00	100.00	1.1698
Total:			**0.240**	**1.413**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054089-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 10:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

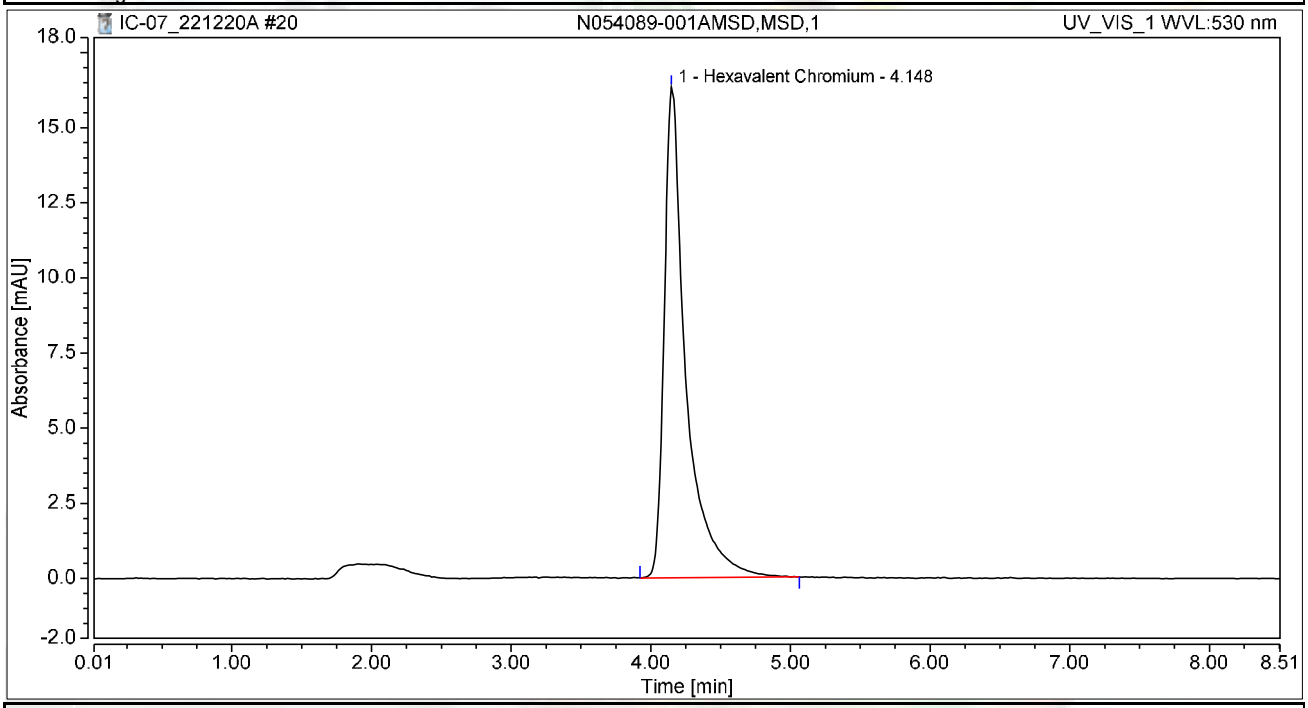
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	2.923	16.320	100.00	100.00	14.2235
Total:			**2.923**	**16.320**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054089-001AMSD,MSD,1**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 10:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

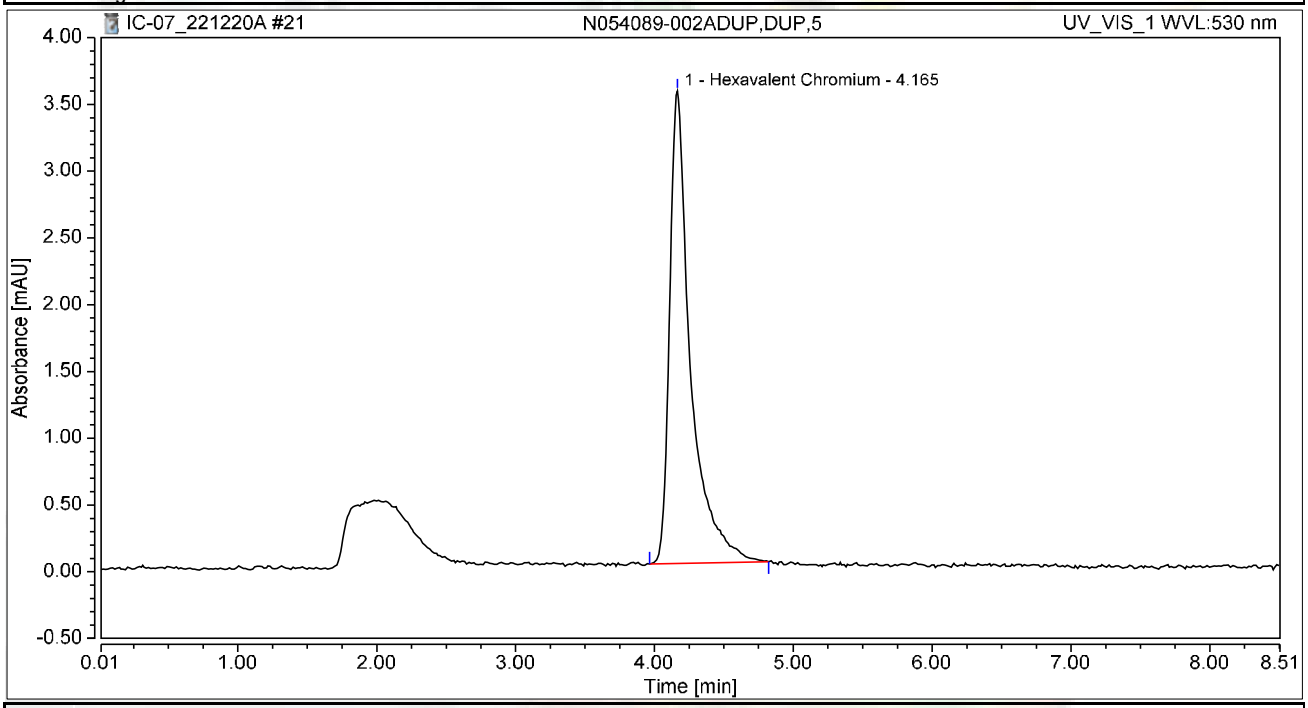
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	2.931	16.327	100.00	100.00	14.2659
Total:			**2.931**	**16.327**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054089-002ADUP,DUP,5**	*Run Time (min):*	**8.49**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

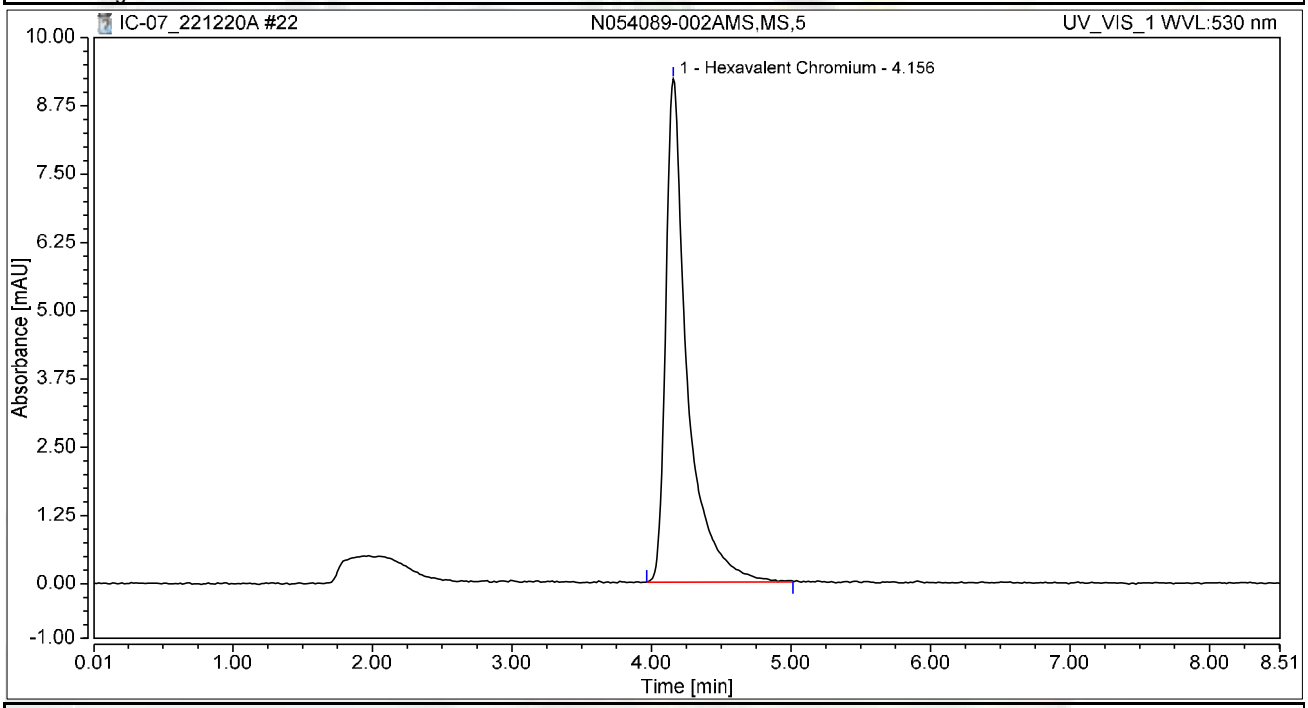
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	0.616	3.537	100.00	100.00	2.9989
Total:			**0.616**	**3.537**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054089-002AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

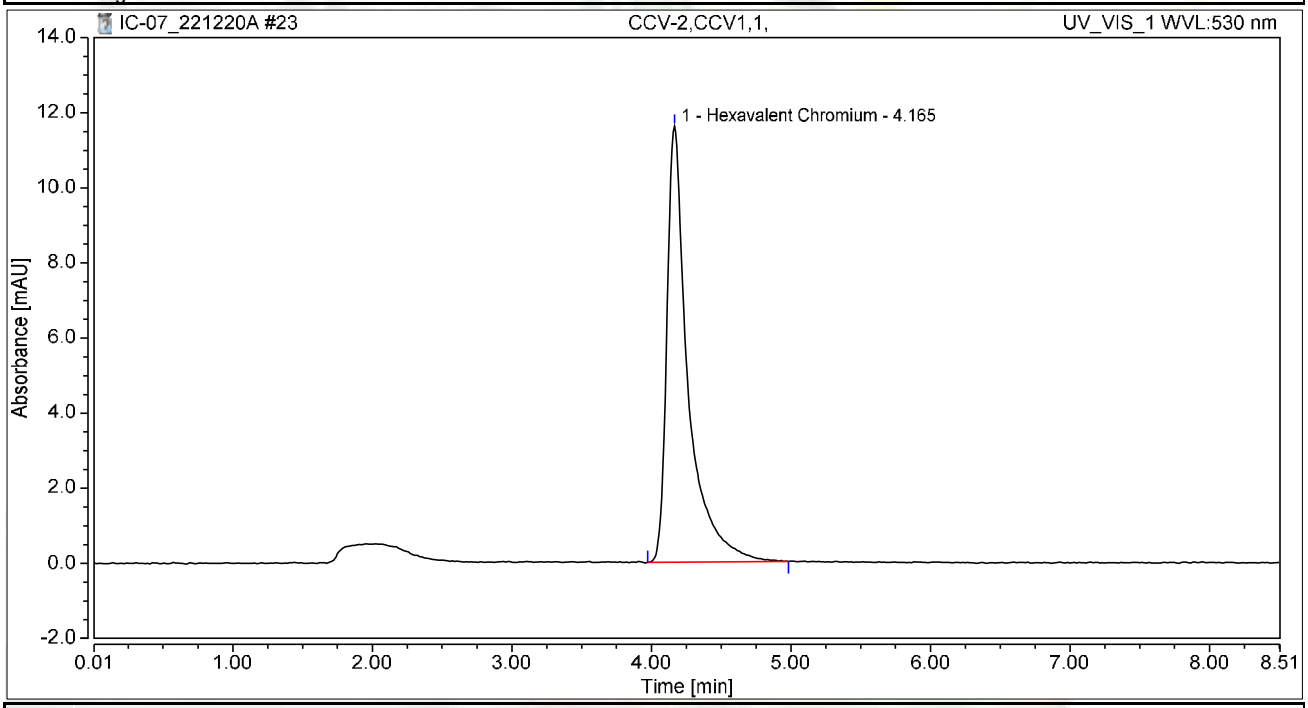
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	1.645	9.209	100.00	100.00	8.0057
Total:			**1.645**	**9.209**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

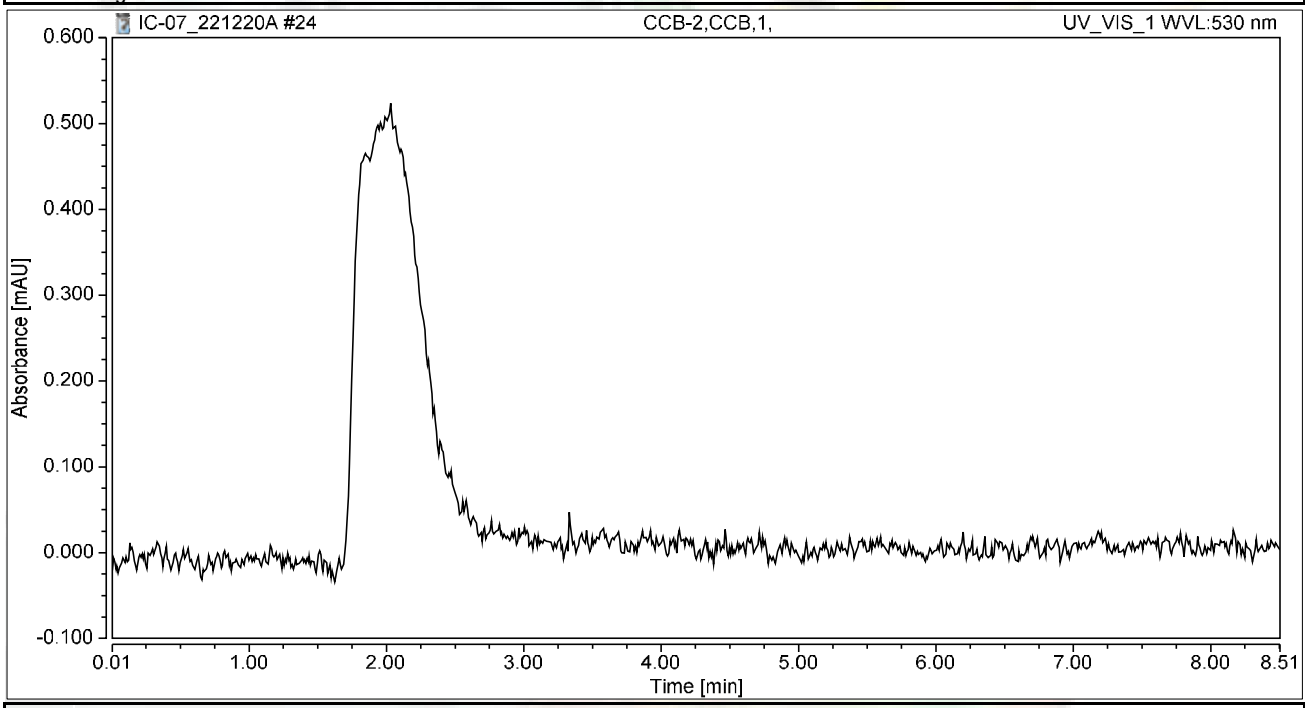
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	2.040	11.610	100.00	100.00	9.9269
Total:			**2.040**	**11.610**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

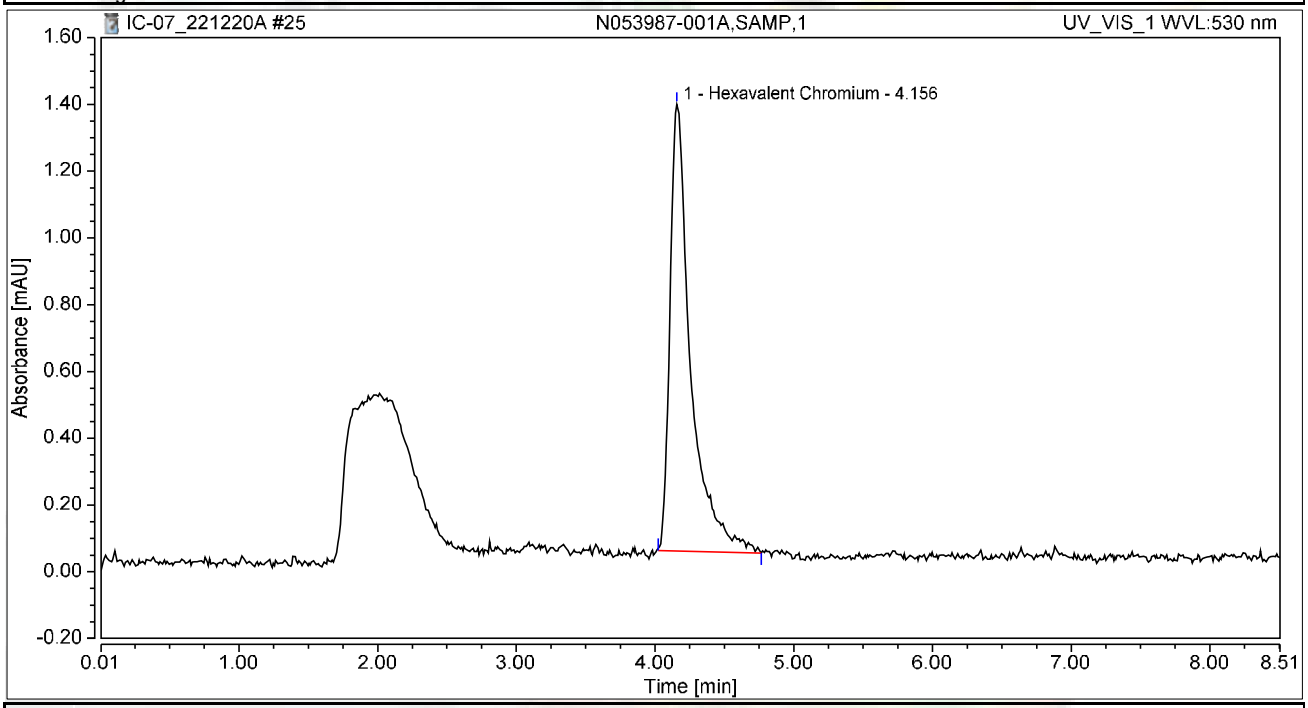
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053987-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

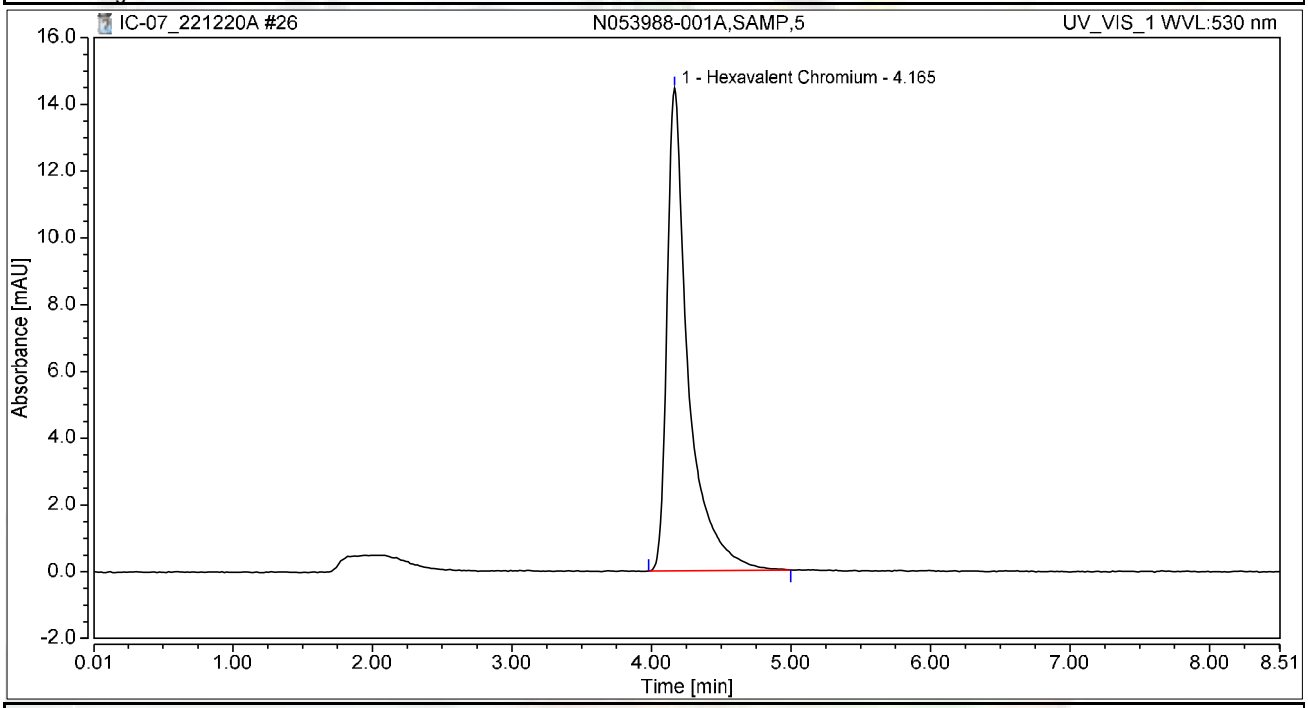
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	0.231	1.338	100.00	100.00	1.1244
Total:			**0.231**	**1.338**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053988-001A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

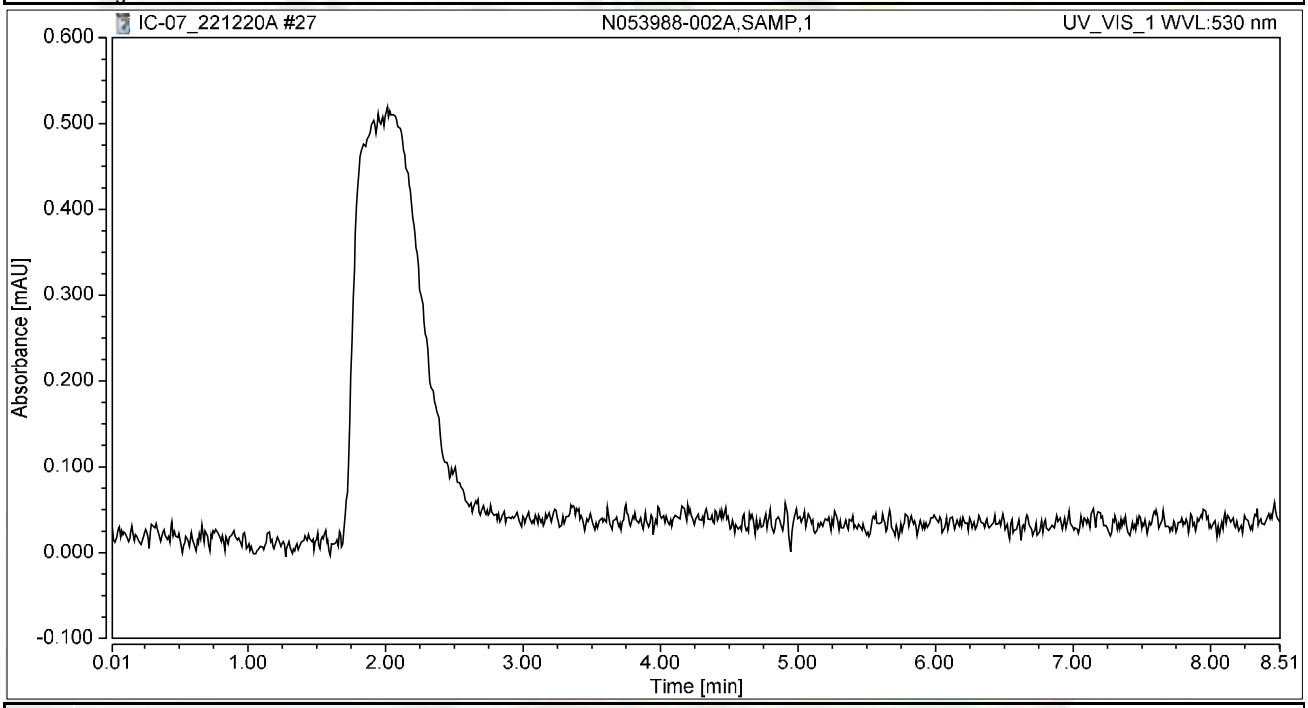
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	2.549	14.454	100.00	100.00	12.4050
Total:			**2.549**	**14.454**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053988-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 11:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

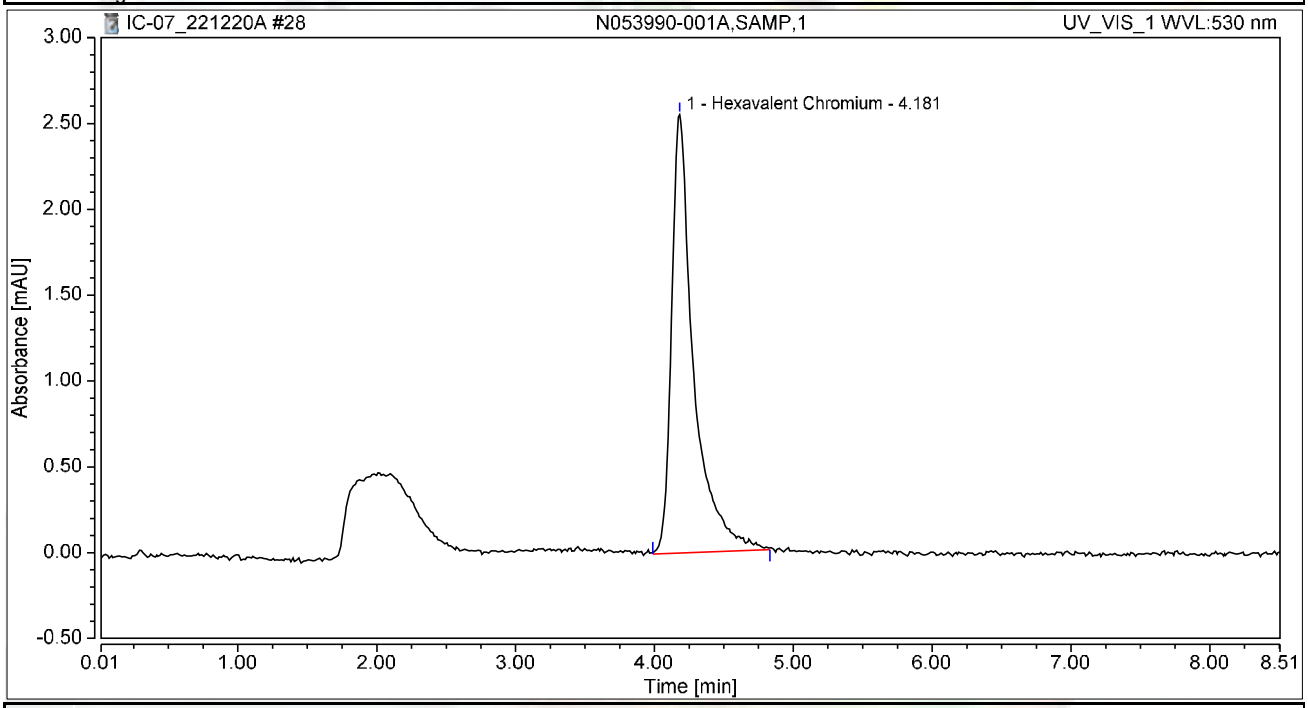
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053990-001A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 12:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

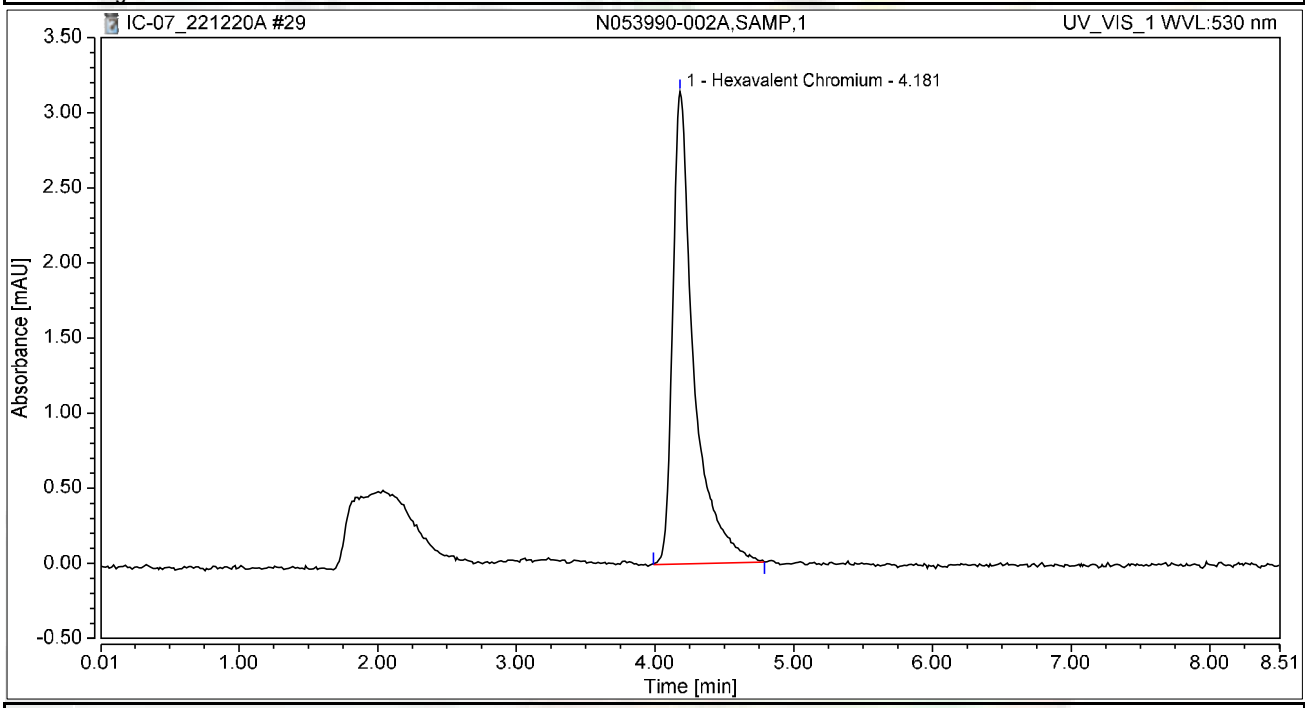
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	0.469	2.555	100.00	100.00	2.2845
Total:			**0.469**	**2.555**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053990-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 12:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

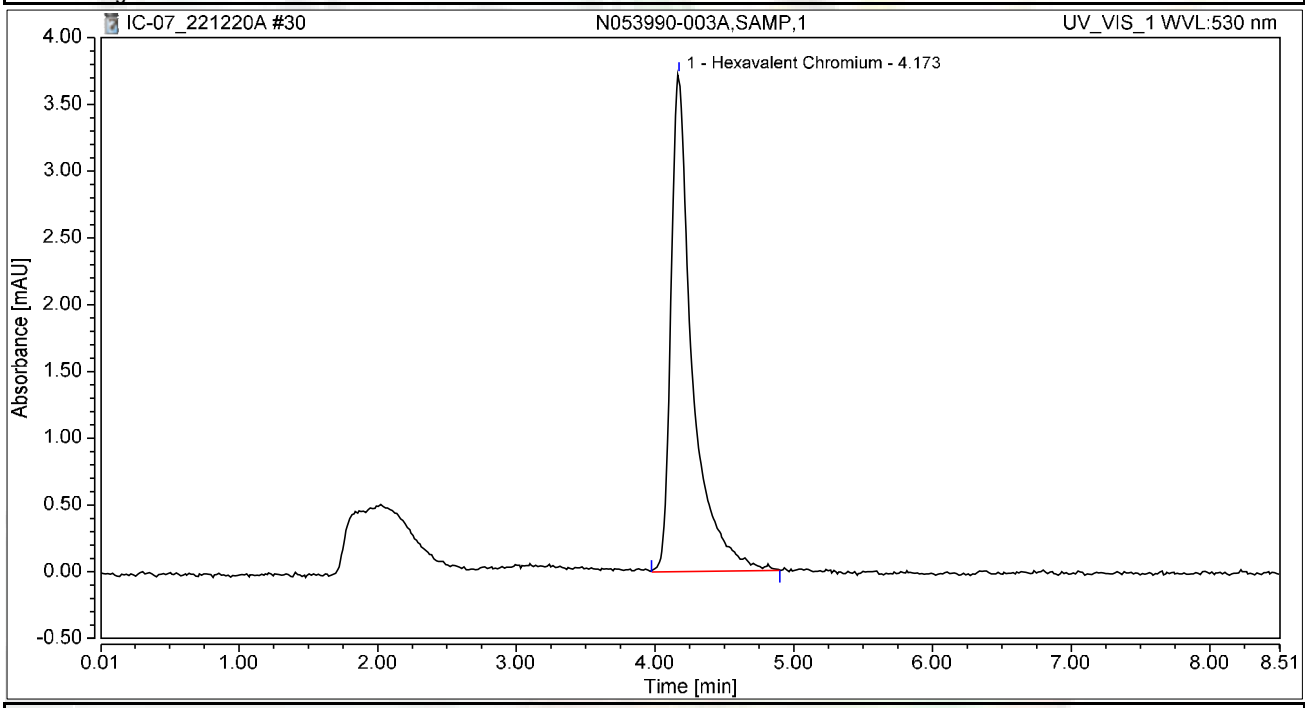
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	0.553	3.146	100.00	100.00	2.6934
Total:			**0.553**	**3.146**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053990-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 12:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

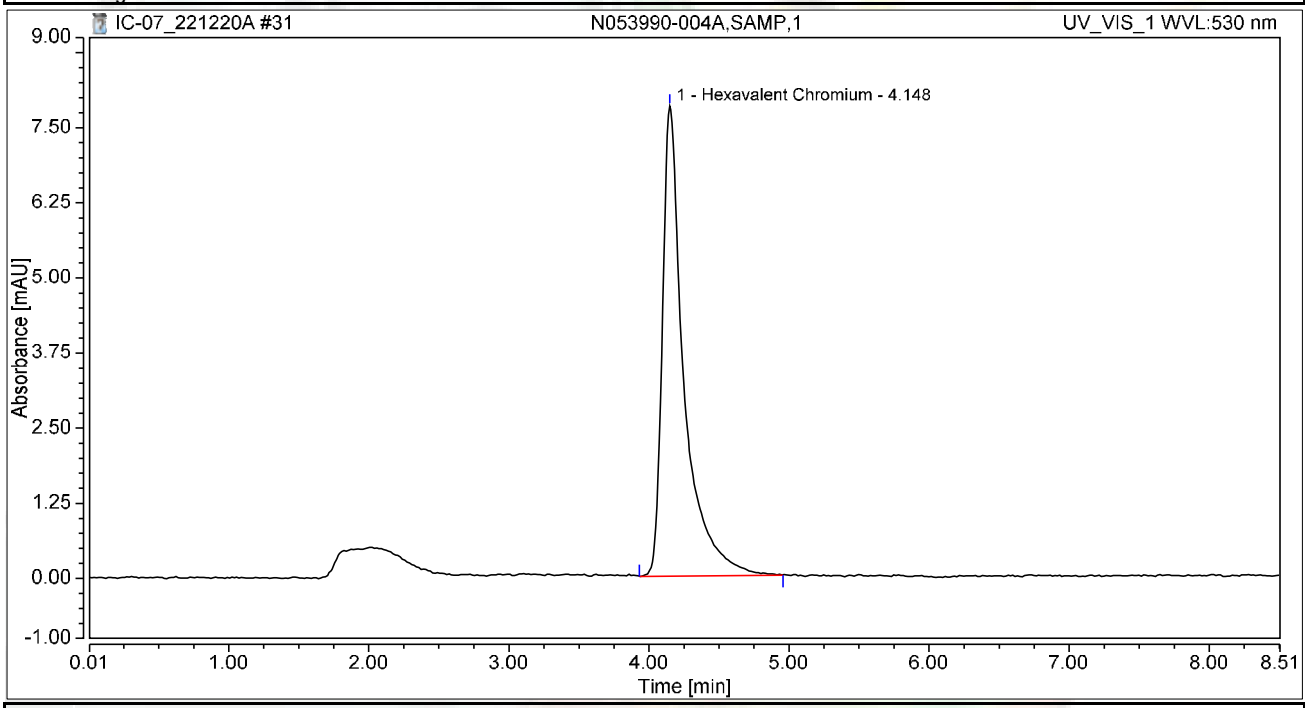
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.666	3.725	100.00	100.00	3.2433
Total:			**0.666**	**3.725**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053990-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 12:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

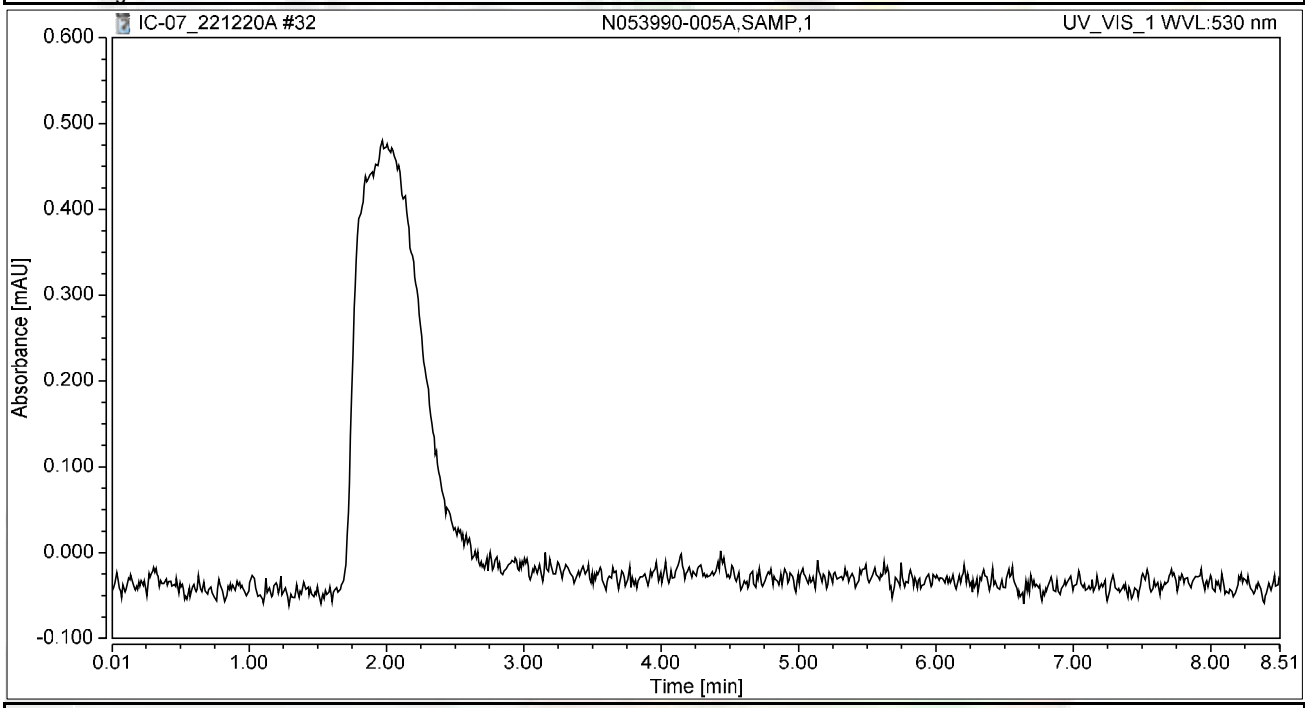
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	1.405	7.822	100.00	100.00	6.8370
Total:			**1.405**	**7.822**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053990-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 12:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

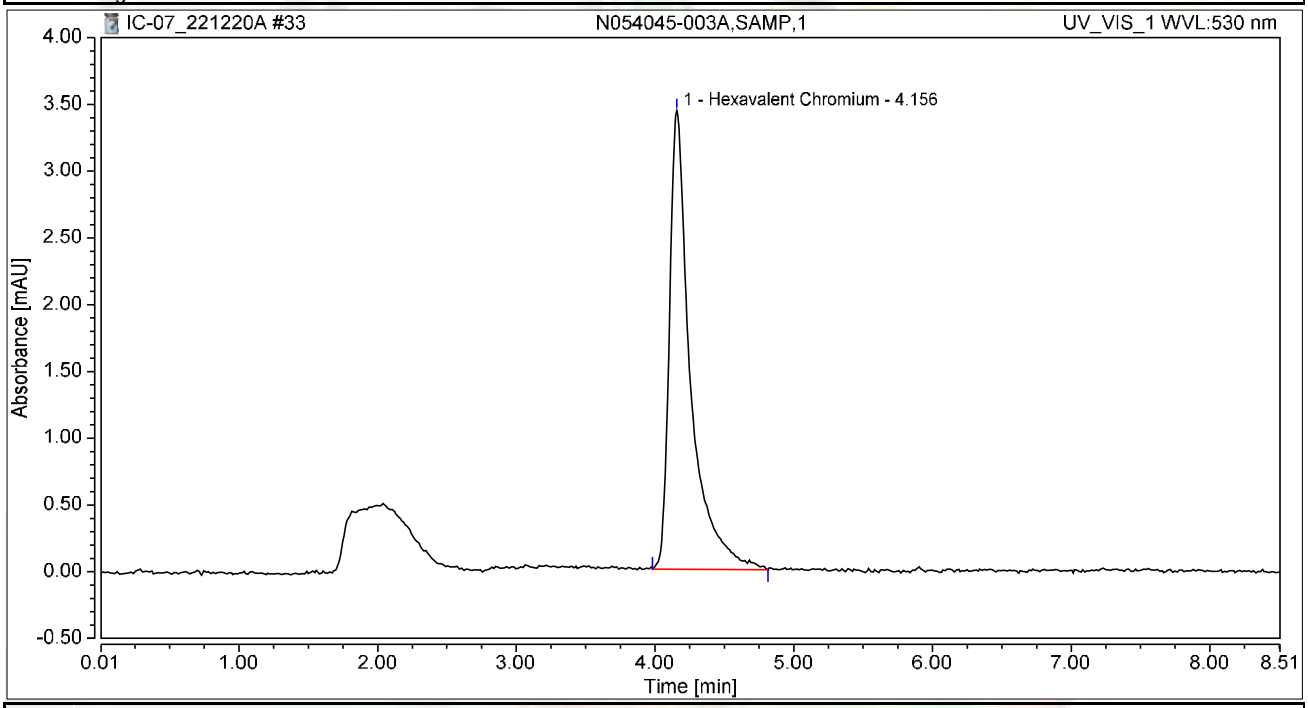
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054045-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 12:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

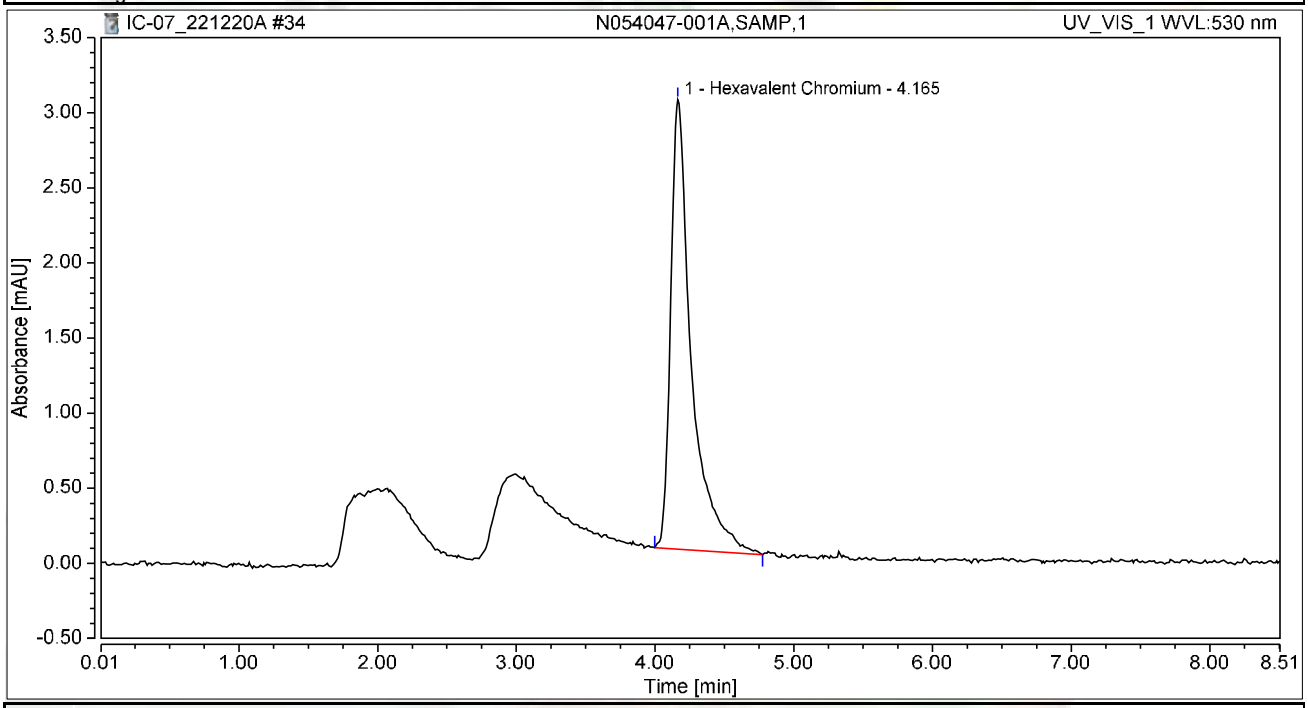
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	0.604	3.434	100.00	100.00	2.9411
Total:			**0.604**	**3.434**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 13:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

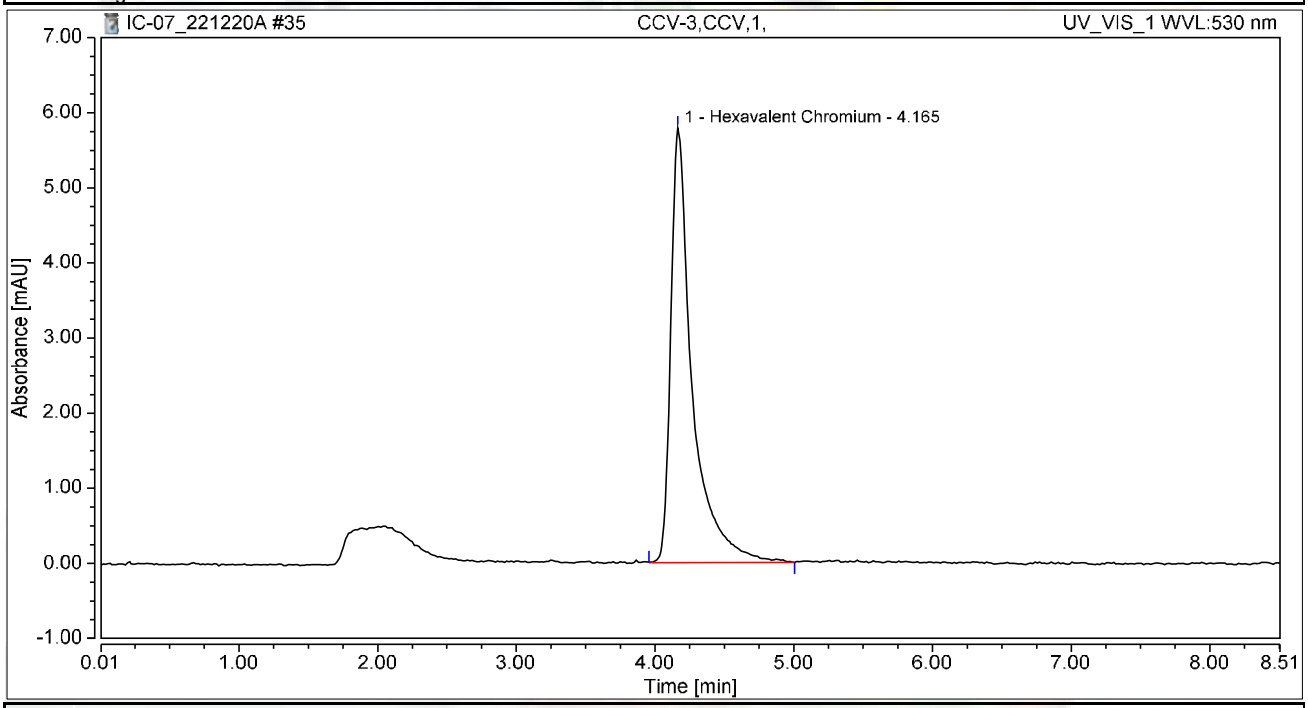
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	0.519	2.994	100.00	100.00	2.5238
Total:			**0.519**	**2.994**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 13:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

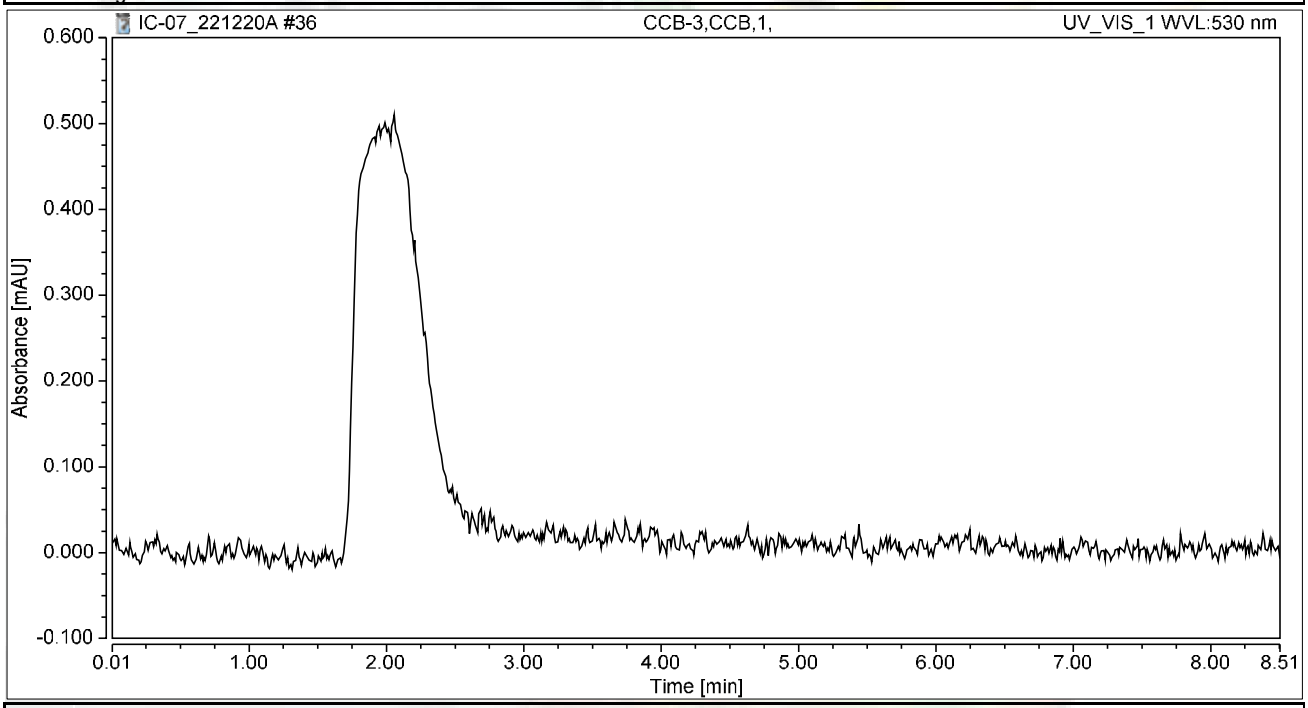
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	1.035	5.789	100.00	100.00	5.0376
Total:			**1.035**	**5.789**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 13:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

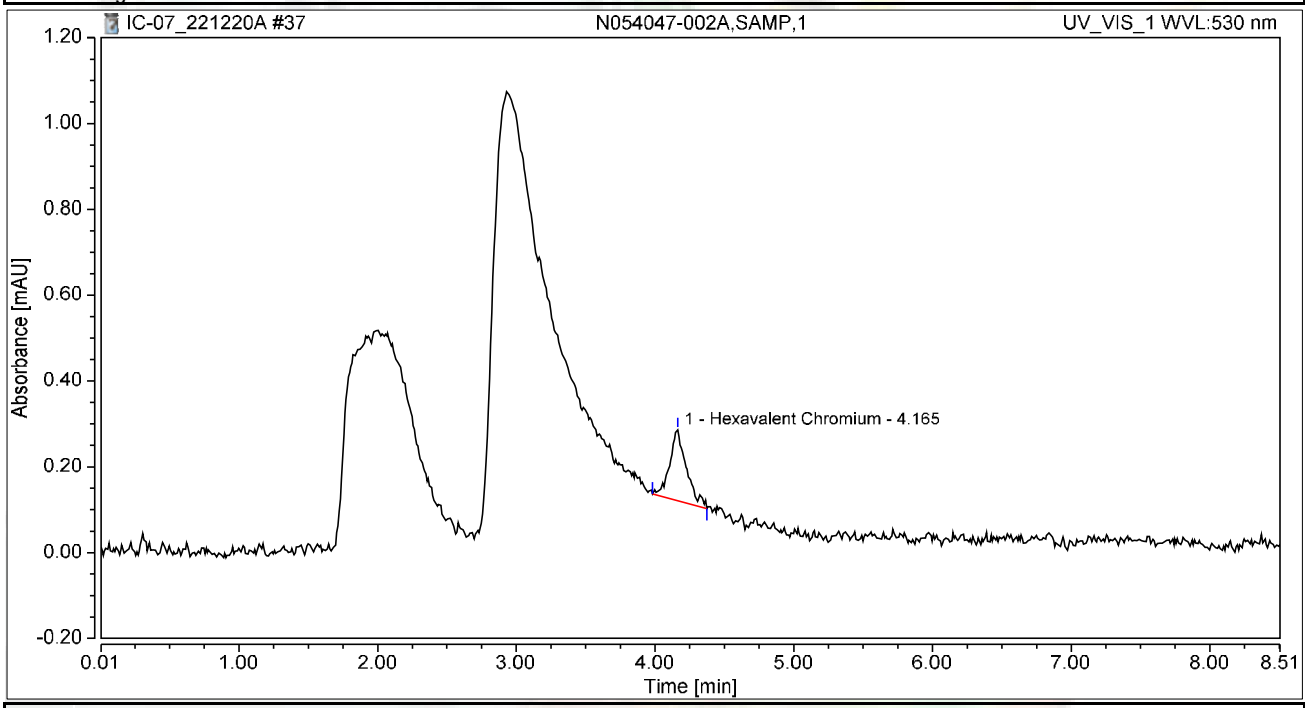
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 13:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

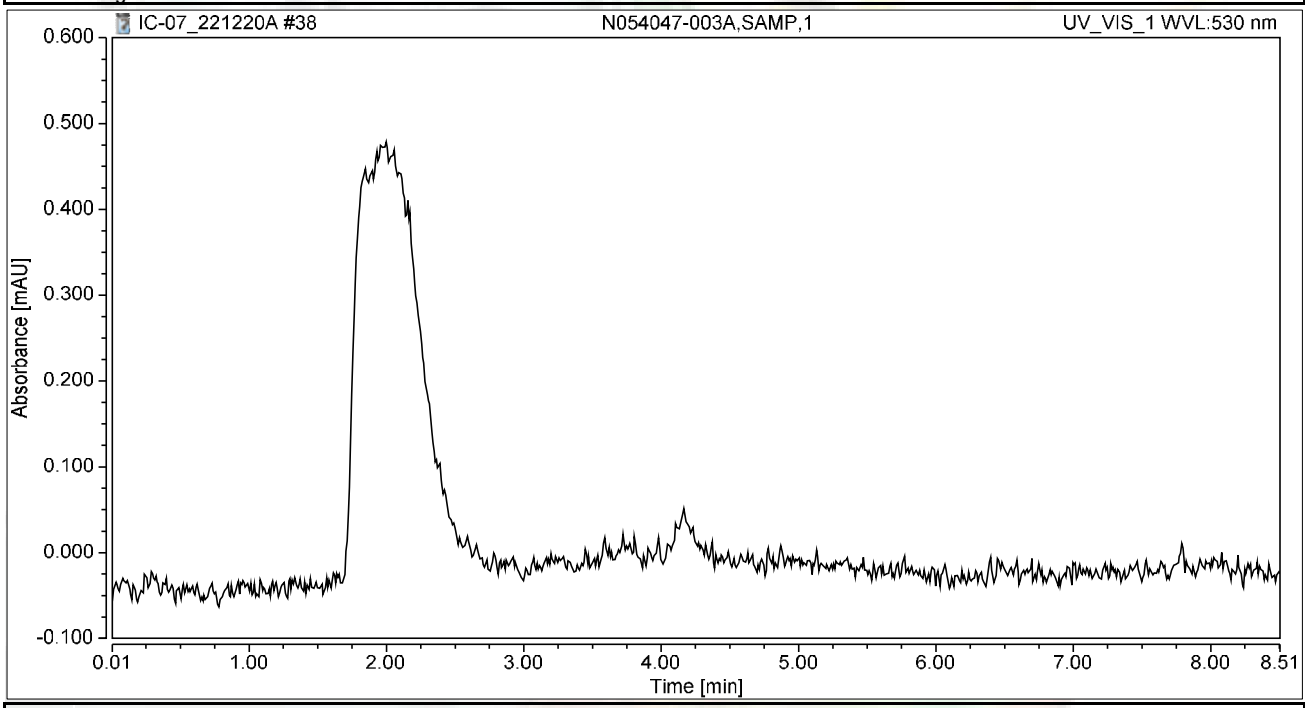
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	0.023	0.165	100.00	100.00	0.1129
Total:			**0.023**	**0.165**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 13:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

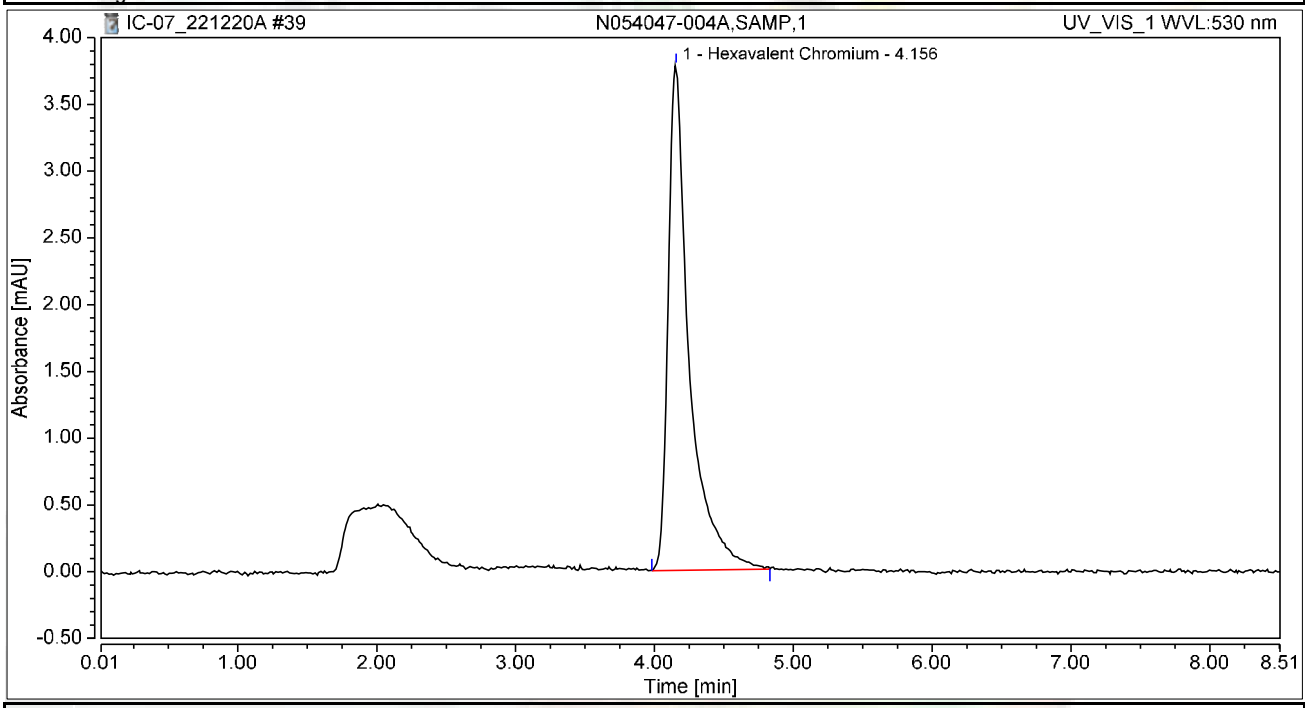
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-004A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 13:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

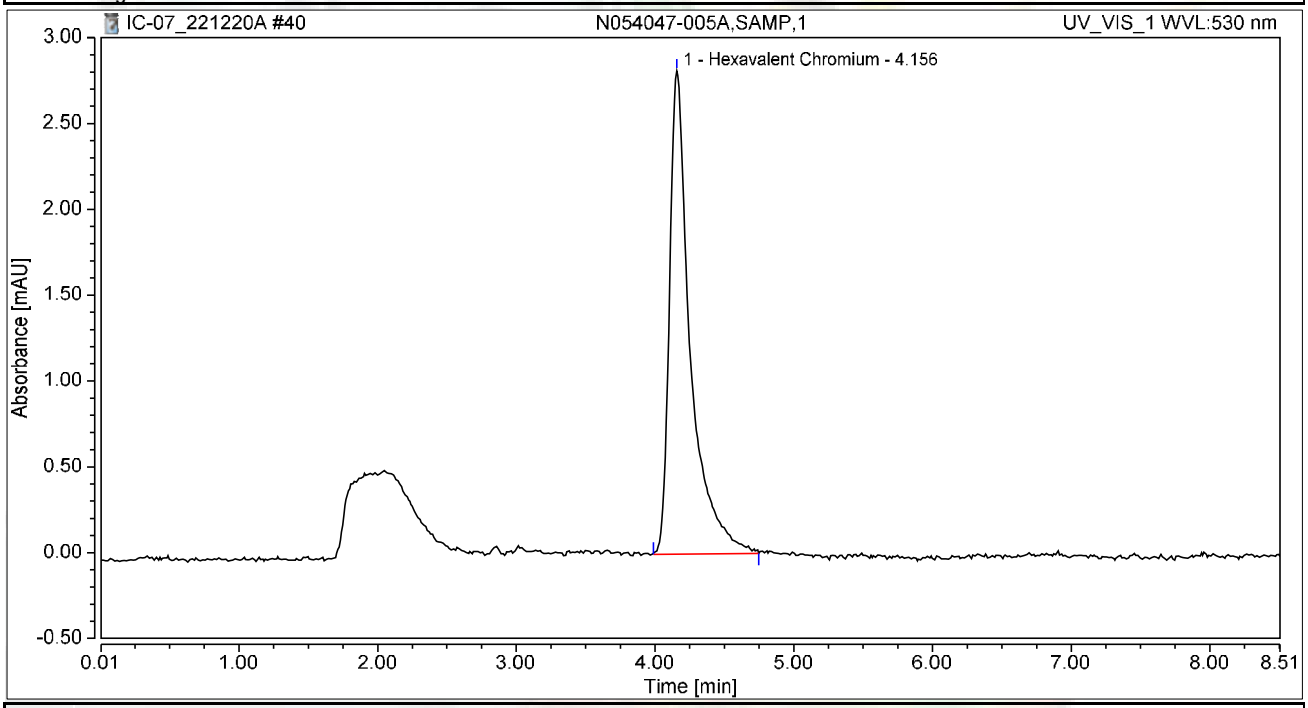
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	0.667	3.781	100.00	100.00	3.2450
Total:			**0.667**	**3.781**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 14:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

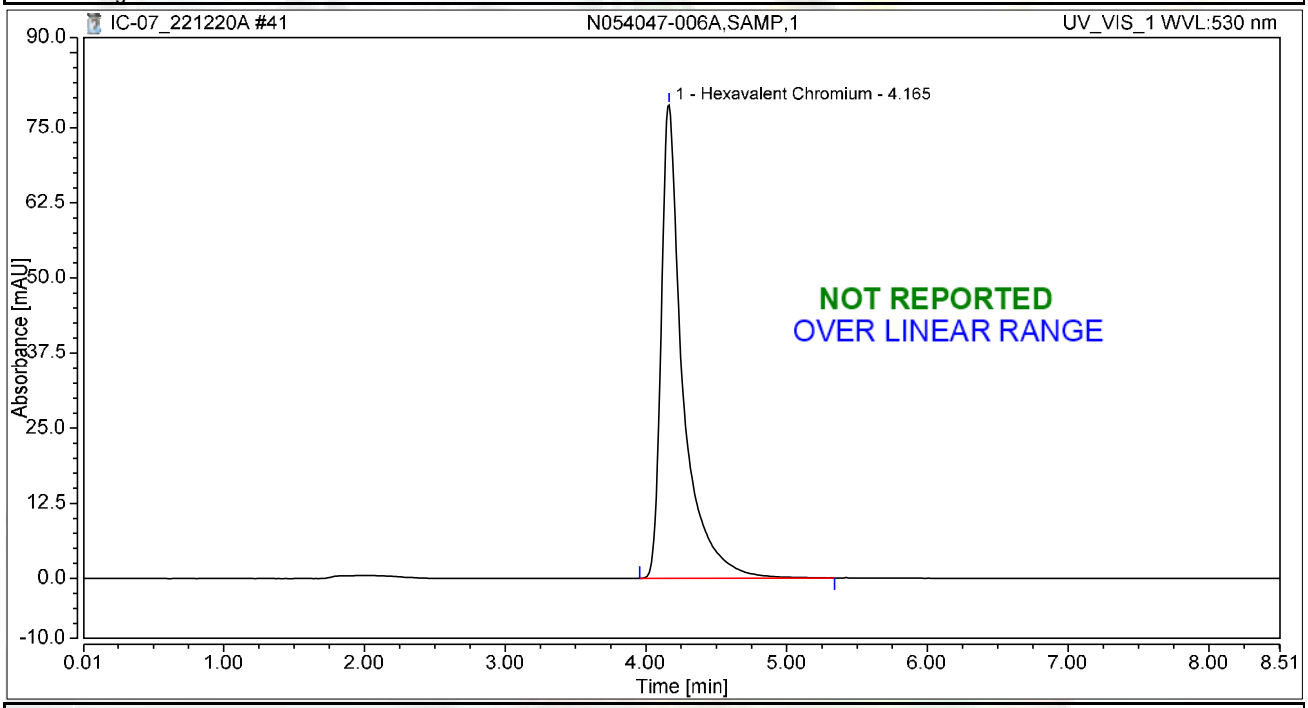
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	0.491	2.815	100.00	100.00	2.3902
Total:			**0.491**	**2.815**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 14:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

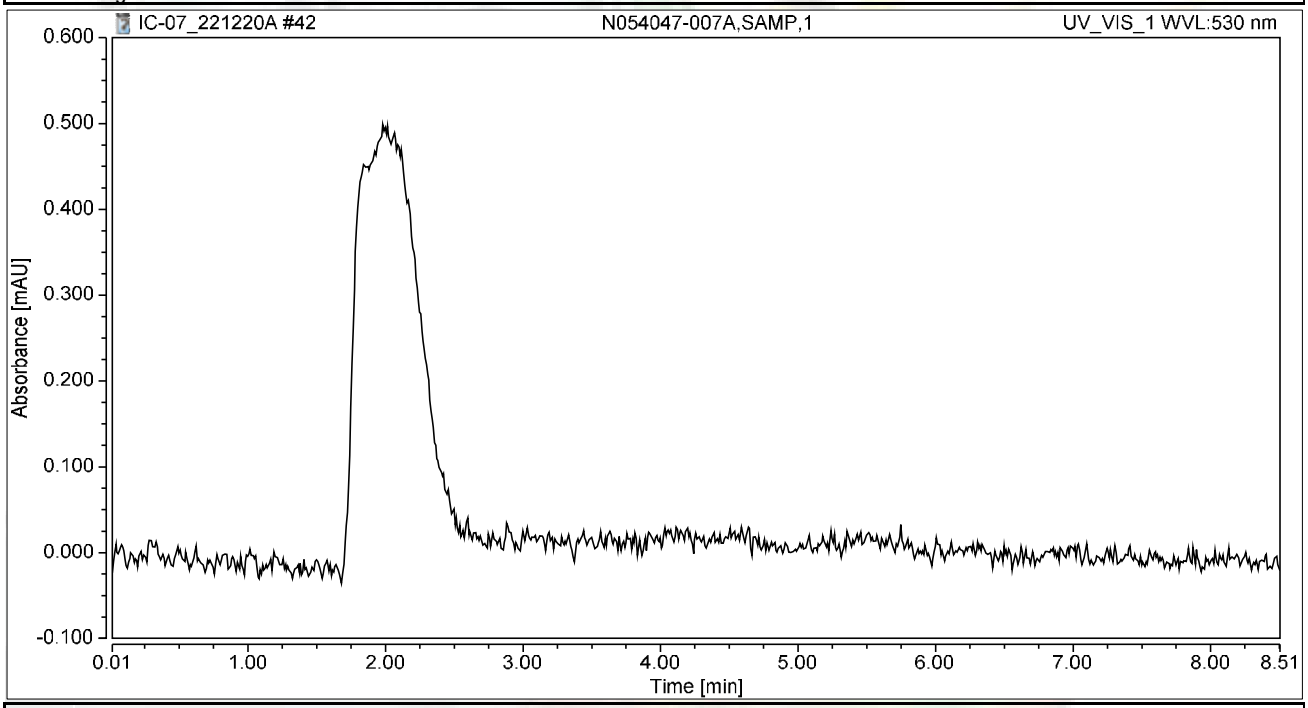
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	14.071	78.772	100.00	100.00	68.4754
Total:			**14.071**	**78.772**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-007A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 14:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

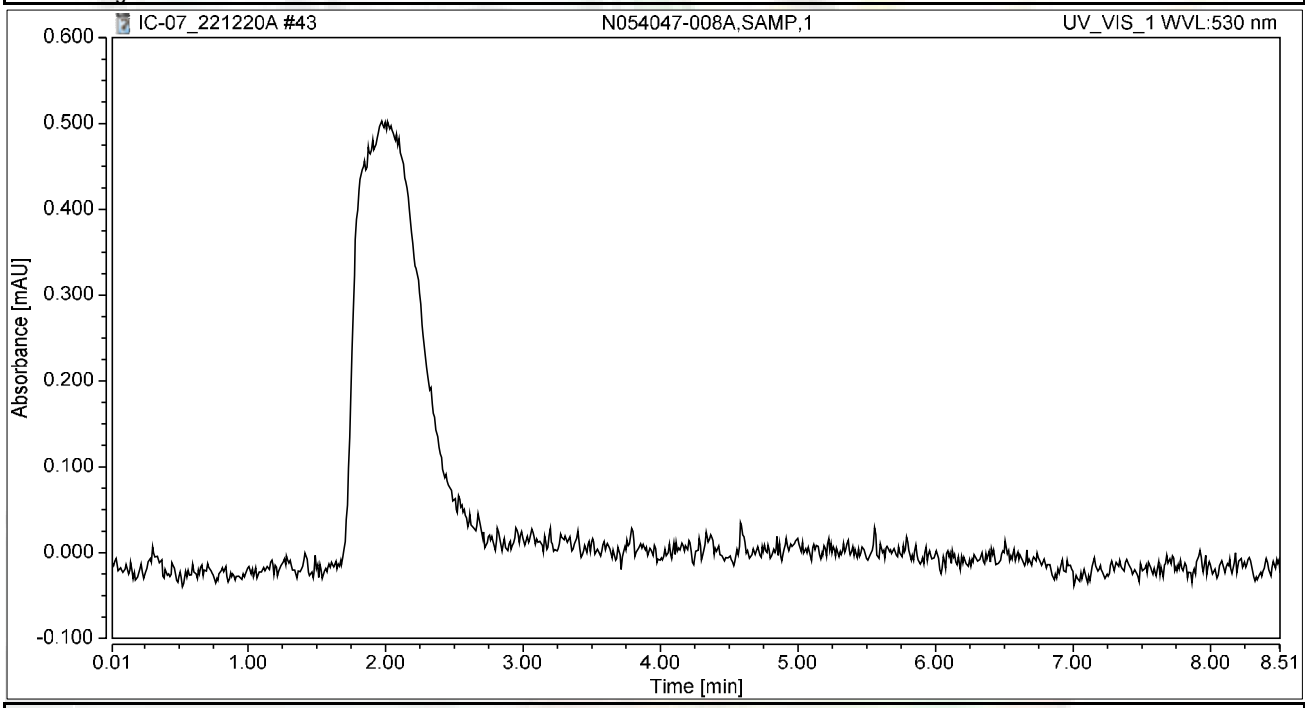
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054047-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 14:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

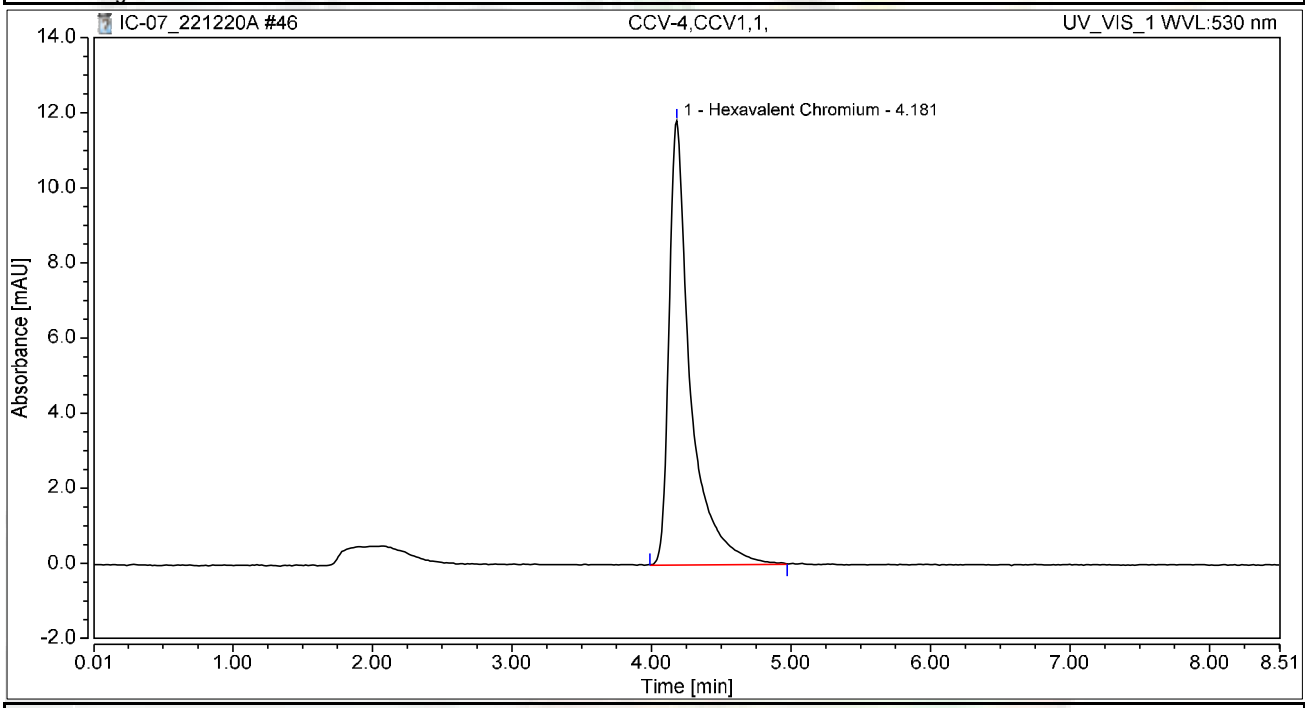
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 15:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

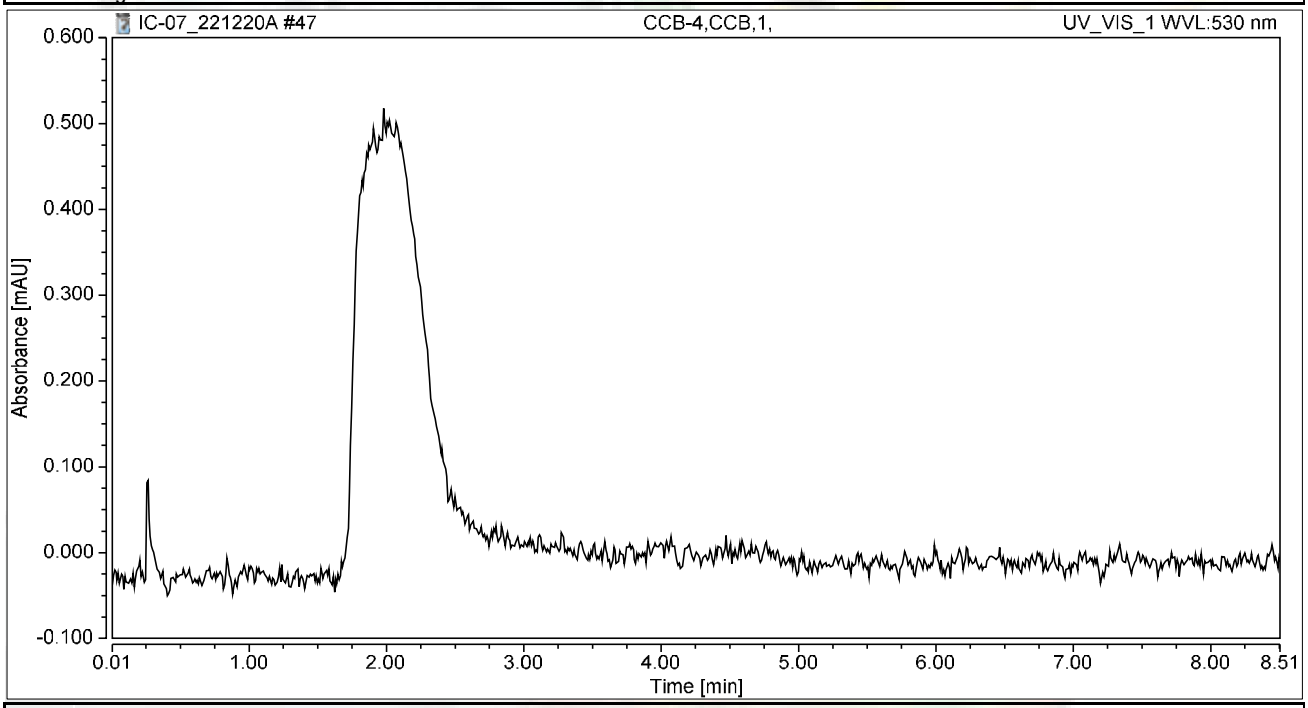
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	2.093	11.827	100.00	100.00	10.1852
Total:			**2.093**	**11.827**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Dec/22 15:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

SM 2320 B

Wet Chemistry Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: R168265 **Analyst:** LSR

ASSET #: N054089 **Date Analyzed:** 17-Dec

Method: EPA 2320

Initial Calibration	1st Level Review Y	N	N/A	2nd Level Review Y	N	N/A
1. ICAL before initial sample analysis or every 24 hrs.			X			X
2. Does correlation coefficient,r, meet criteria ?(r = 0.995)			X			X
3. ICV within ± 15% of expected value.			X			X
Continuing Calibration						
4. CCV after every 10 samples and at the end of analysis sequence.			X			X
5. CCV within ± 15% of expected value.			X			X
6. Calibration blanks run after ICV and CCV?			X			X
7. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)			X			X
Sample Information						
8. All samples are within linear range.			X			X
9. Are all samples analyzed within hold time.	X			X		
QC Items						
10. Method blank values are below 1/2 the reporting limit.	X			X		
11. LCS compounds within control limits.	X			X		
12. MS/MSD, RPD's are within control limits	X			X		
Raw Data and Miscellaneous Information						
13. Are Non-Conformances documented			X			X
14. Runlog complete and included in package.	X			X		
15. Spectrophotometer tape included (Spec work only)			X			X
16. Digestion log complete and included in package (if applicable)			X			X
Preliminary Report						
17. Does the raw data match the preliminary report?	X			X		
18. Are analytical results correct?	X			X		
19. Is the QC summary report present and complete?	X			X		

Comments:

SECOND LEVEL REVIEW:

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer LSR Date: 12/23/2022

2nd Level Reviewer NS 12/28/2022 Date:

SAMPLE CALCULATION

Sample ID: **N054089-001D @ pH 7.85**

A. Standardization of Sulfuric Acid (titrant):

Normality of acid = (A) (B)/ (53.00) (C)

Where:

A, grams weighed for Na_2CO_3 solution (Na_2CO_3 Standardization Solution)
B, mL Na2CO3 solution taken for titration, and
C, ml of sulfuric acid used to inflection point

Spike Standards

Na_2CO_3 Standardization Solution, ACS Grade (1.00 ml = 2500ug as $CaCO_3$): Dissolve 2.650 grams of Na_2CO_3 in distilled water and dilute to 1 liter.

LCS/MS/MSD Stock $NaHCO_3$, ACS Grade (1.00 ml = 5000 ug as $CaCO_3$): Dissolve 0.8398 grams of $NaHCO_3$ in distilled water and dilute to 1 liter.

Therefore,

Normality of Acid = (2.65 g/L) (5mL) / (53.00) (12.25 mL)

= **0.02041 N**

B. CALCULATION OF ALKALINITY (for a 50 ml sample)

Total Alkalinity (as $CaCO_3$), mg/L = $M_{vol.}$ * N H_2SO_4 * DF * 1000

Where:

$M_{vol.}$ Volume titrant used to reach pH 4.5, ml
N, Normality of H_2SO_4
DF, Dilution Factor = (50 ml) / (Vol. of Sample used)

Therefore,

Total Alkalinity (as $CaCO_3$), mg/L = (4.35 mL) (0.02041 N) (1) * 1000

= 88.7835 mg**/L**

Reporting results in two significant figures,

= **89 mg/L as CaCO3**

LSR 12/23/2022

Reviewed by:

JRB 1/15/2023

C. SPECIATED ALKALINITY:

Phenolphthalein Alkalinity

P alkalinity, mg/L as $CaCO_3$ = $P_{vol.}$ * N H_2SO_4 * DF * 1000

= (0) (0.02041 N) (1) * 1000

= **0 mg/L**

Total Alkalinity

T alkalinity, mg/L as $CaCO_3$ = $M_{vol.}$ * N H_2SO_4 * DF * 1000

= (4.35 mL) (0.02041) (1) * 1000

= 88.7835 **mg/L** as CaCO3

Where:

$P_{vol.}$ - Volume titrant used to reach pH 8.3, ml
$M_{vol.}$ - Volume titrant used to reach pH 4.5, ml
N - Normality of H_2SO_4
DF - Dilution Factor = (50 ml) / (Vol. of Sample used)

Then OH, CO_3, HCO_3 alkalinities as $CaCO_3$ will be calculated as follows:

Result of Titration	**OH Alkalinity as $CaCO_3$**	**CO_3 Alkalinity as $CaCO_3$**	**HCO_3 Alkalinity as $CaCO_3$**
P = 0	0	0	T
P < ½ T	0	2P	T – 2P
P = ½ T	0	2P	0
P > ½ T	2P – T	2(T – P)	0
P = T	T	0	0

Therefore,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = 0

HCO_3 Alkalinity as $CaCO_3$ = 88.7835 **mg/L**

Reporting results in two significant figures,

OH Alkalinity as $CaCO_3$ = **0**

CO_3 Alkalinity as $CaCO_3$ = **0**

HCO_3 Alkalinity as $CaCO_3$ = **89 mg/L**

LSR 12/23/2022

LOGBOOK DATA, QUANTITATION REPORT and/or SPECTRA

SAMPLE	PH SAMPLE	AMOUNT	V@8.3	VT TO 4.5	Sample Type
MB-1	5.45	50	0.00	0.050	MBLK
LCS-1	8.29	50	0.00	4.80	LCS
N054085-001A	7.99	50	0.00	12.40	SAMP
N054089-001D	7.85	50	0.00	4.35	SAMP
N054089-002D	7.40	50	0.00	3.65	SAMP
N054166-001D	7.61	50	0.00	2.90	SAMP
N054166-002D	7.72	50	0.00	3.15	SAMP
N054166-003D	7.46	50	0.00	5.65	SAMP
N054166-001DDUP	7.61	50	0.00	2.90	DUP
N054166-001DMS	7.91	50	0.00	7.60	MS
N054166-001DMSD	7.92	50	0.00	7.70	MSD

Standardization:		
Spike amt:	**5**	ml
Titrant used:	**12.250**	ml
N H2SO4	**0.02041**	Normal
Date Analyzed:	**12/17/22**	
	12:50 PM	
Analyzed By:	**LSR**	
Sodium Carbonate:	**LIMS 11458**	
Sodium Bicarbonate:	**CINV-210623A**	
Sulfuric Acid:	**R221025C**	

LSR 12/23/2022

Reviewed by:

JRB 1/15/2023

Date Analyzed:	12/17/22		Reagents:					Standardization:					P = 0
Time Started:	12:50 PM			Sodium Carbonate:		LIMS 11458			Spike amt:	5	mL		P < 1/2 T
Analyzed By:	LSR			Hydrochloric Acid:		0			Titrant used:	12.25	mL		P = 1/2 T
				Sulfuric Acid:		R221025C							P > 1/2 T
									N H2SO4	0.02041	N		P = T

Sample ID	Sample Vol/Wt.	Sample pH	Std. Code	Spike Amount	Spike Conc.	Normality, Titrant	Vol. Used to pH 8.3, ml.	Vol. Used pH 8.3 to 4.5, ml.	Total Vol. Used, ml.	DF (50ml/Vsamp.)	P Alkalinity	T Alkalinity	Comments
MB-1	50	5.45				0.02041	0.00	0.05	0.05	1	0.00	1.02	
LCS-1	50	8.29				0.02041	0.00	4.80	4.80	1	0.00	97.96	
N054085-001A	50	7.99				0.02041	0.00	12.40	12.40	1	0.00	253.06	
N054089-001D	50	7.85				0.02041	0.00	4.35	4.35	1	0.00	88.78	
N054089-002D	50	7.4				0.02041	0.00	3.65	3.65	1	0.00	74.49	
N054166-001D	50	7.61				0.02041	0.00	2.90	2.90	1	0.00	59.18	
N054166-002D	50	7.72				0.02041	0.00	3.15	3.15	1	0.00	64.29	
N054166-003D	50	7.46				0.02041	0.00	5.65	5.65	1	0.00	115.31	
N054166-001DDU	50	7.61				0.02041	0.00	2.90	2.90	1	0.00	59.18	
N054166-001DMS	50	7.91				0.02041	0.00	7.60	7.60	1	0.00	155.10	
N054166-001DMS	50	7.92				0.02041	0.00	7.70	7.70	1	0.00	157.14	

LSR 12/23/2022

Speciated, Alkalinity as CaCO3

SM 2320B

Date Analyzed:	12/17/22
Time:	12:50 PM
Analyzed By:	LSR

SAMPLE ID	OH	CO3	HCO3	TOTAL	CHECK	COMMENT	REMARKS
MB-1	0.00	0.00	1.02	1.02	1.02		P = 0
LCS-1	0.00	0.00	97.96	97.96	97.96		P = 0
N054085-001A	0.00	0.00	253.06	253.06	253.06		P = 0
N054089-001D	0.00	0.00	88.78	88.78	88.78		P = 0
N054089-002D	0.00	0.00	74.49	74.49	74.49		P = 0
N054166-001D	0.00	0.00	59.18	59.18	59.18		P = 0
N054166-002D	0.00	0.00	64.29	64.29	64.29		P = 0
N054166-003D	0.00	0.00	115.31	115.31	115.31		P = 0
N054166-001DDUP	0.00	0.00	59.18	59.18	59.18		P = 0
N054166-001DMS	0.00	0.00	155.10	155.10	155.10		P = 0
N054166-001DMSD	0.00	0.00	157.14	157.14	157.14		P = 0

LSR 12/23/2022

JRB 1/15/2023

Alkalinity Preparation and Runlog

pH meter Calibration:
SLOPE: 96.0%

pH 7: 6.95 CINU 220511F
4: 3.95 ↓ E
10: 10.04 CINU220215A

Matrix: H_2O
Date Extracted: 12/17/22
Time Extracted: 1250
Extracted By: LSR

Date Analyzed: 12/17/22
Time Analyzed: 1250
Analyzed By: LSR

Reagent Lot # / Reagent ID
Sodium Carbonate: LIMS 11458
Hydrochloric Acid: –
Sulfuric Acid: R221025C
Sodium Bicarbonate: CINU-210623A

	Sample ID.	Sample Wt./Vol.	Sample pH	Std Code	Spike Amt Added	Spike Conc.	Norm. Titrant	Vol. At pH = 8.3	Vol. At pH = 4.5	Dilution (F/I)	Calculations	Comments
	STANDARDIZATION											
	#1	50mL	10.72	1WST221025C	5mL	0.05N	–	–	12.30	50/50	N H_2SO_4 = (2.65g/L)(5mL) / (5.53)(V titrant)	= 0.020325203
	#2	↓	10.69	↓	↓	↓	–	–	12.20	↓		= 0.020491803
												Ave: 0.020408516
1)	MBLK	50mL	5.45	–	–	–	0.02041	0	0.05	50/50		
2)	LCS	↓	8.29	1WST221217A	1mL	0.05N	↓	0	4.80	↓		
3)	N054085-1A	↓	7.99	–	–	–	↓	0	12.40	↓		
4)	N054089-1D	↓	7.85	–	–	–	↓	0	4.35	↓		
5)	↓ 2D	↓	7.40	–	–	–	↓	0	3.65	↓		
6)	N054166-1D	↓	7.61	–	–	–	↓	0	2.90	↓		
7)	↓ 2D	↓	7.72	7.72 –	–	–	↓	0	3.15	↓		
8)	↓ 3D	↓	7.46	–	–	–	↓	0	5.65	↓		
9)	↓ 1DDUP	↓	7.61	–	–	–	↓	0	2.90	↓		
10)	↓ 1DMS	↓	7.91	1WST221217A	1mL	0.05N	↓	0	7.60	↓		
11)	↓ 1DMSD	↓	7.92	↓	↓	↓	↓	0	7.70	↓		
12)												
13)												
14)												
15)											END	
16)												
17)												
18)												
19)												
20)												
	MS											
	MSD											
	LCS											

$$P = \frac{(V\ pH\ 8.3)(N\ H_2SO_4)(50{,}000)}{V_{sx}}$$

$$T = \frac{(V\ pH\ 4.5)(N\ H_2SO_4)(50{,}000)}{V_{sx}}$$

LSR 12/23/2022

Logbook #10

Reviewed by:
JRB 1/15/2023

ASSET LABORATORIES
"Passion and Professionalism"
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NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

EPA 300.0

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

QC Batch Number: R168141
ASSET #: N054089

Instrument ID: IC-08
Analyst: RBA
Date Analyzed: 12/13/2022

Method:

[X] EPA 300.0
[ ] EPA 7199

[ ] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X			X		
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X			X		
3. ICV within ± 10% of expected value.	X			X		
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X			X		
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X			X		
6. Calibration blanks run after ICV and CCV?	X			X		
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)			X			X
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	~~X~~	X		~~X~~	X	
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?			X			X
Sample Information						
10. All samples are within linear range.	X			X		
11. All samples pH within 9.3-9.7 when analyzed?			X			X
12. Duplicate sample injections for every sample. (7199 only)			X			X
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)			X			X
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			X
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			X
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)			X			X
19. EPA 3060A digestion performed on solid samples (7199 only)			X			X
20. Are all peaks within RT window, ± 0.2 min?	X			X		
21. Are all samples analyzed within hold time?	X			X		
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			X
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X			X		
24. LCS compounds are within control limits.	X			X		
25. MS/MSD, RPD's are within control limits.	X			X		
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			X
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X			X		
28. Extraction log complete and included in package (if applicable)			X			X
29. All manual integrations initialed, date and reasons included.	X			X		
30. Before and after manual integration chromatogram included in the package	X			X		
31. All samples and QC raw data present in package.	X			X		
Preliminary Report						
32. Does the raw data match the preliminary report?	X			X		
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
34 Is the QC summary report present and complete?	X			X		

Comments: Detect of Sulfate in CCB-2 is >1/2PQL criteria. However, N054089 samples affected are enclosed by CCV3/CCB3 to CCV4/CCB4. Thus, unaffected.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer: RBA Date: -

2nd Level Reviewer: 12/21/2022 Date: -

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: GROUNDWATER

FORMULA:

Calculate the Nitrate concentration, in mg/L, in the orignal sample as follows:

Nitrate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For **N054089-001D** concentration in mg/L is calculated as follows:

Nitrate, mg/L = 1.601 * 2

= 3.202

Since the reporting limit is 0.05 mg/L,

Nitrate, mg/L = 3.2

Reviewed by:

dMocha 1/5/2023

ANALYSIS RUN LOG

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 39
Created: 12/6/2022 4:22:50 PM by IC-05
Last Update: 12/6/2022 9:21:56 PM by IC-05

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
1	BLANK	Unknown	1	1000.0	Anions Default	EPA 300_0_221206	Finished
2	BLANK	Unknown	2	1000.0	Anions Default	EPA 300_0_221206	Finished
3	Std - 0	Standard	3	1000.0	Anions Default	EPA 300_0_221206	Finished
4	Std - 1	Standard	2	1000.0	Anions Default	EPA 300_0_221206	Finished
5	Std - 2	Standard	3	1000.0	Anions Default	EPA 300_0_221206	Finished
6	Std - 3	Standard	4	1000.0	Anions Default	EPA 300_0_221206	Finished
7	Std - 4	Standard	5	1000.0	Anions Default	EPA 300_0_221206	Finished
8	Std - 5	Standard	6	1000.0	Anions Default	EPA 300_0_221206	Finished
9	ICV,ICV,1	Unknown	2	1000.0	Anions Default	EPA 300_0_221206	Finished
10	ICB,ICB,1	Unknown	3	1000.0	Anions Default	EPA 300_0_221206	Finished
11	MB-H2O,MBLK,1	Unknown	4	1000.0	Anions Default	EPA 300_0_221206	Finished
12	LCS-H2O,LCS,1	Unknown	5	1000.0	Anions Default	EPA 300_0_221206	Finished
13	N053923-007A,SAMP,5	Unknown	10	1000.0	Anions Default	EPA 300_0_221206	Finished
14	N053923-007AMS,MS,5	Unknown	11	1000.0	Anions Default	EPA 300_0_221206	Finished
15	N053923-007AMSD,MSD,5	Unknown	12	1000.0	Anions Default	EPA 300_0_221206	Finished
16	N053923-007ADUP,DUP,5	Unknown	13	1000.0	Anions Default	EPA 300_0_221206	Finished
17	N053925-001D,SAMP,200	Unknown	14	1000.0	Anions Default	EPA 300_0_221206	Finished
18	N053925-001DMS,MS,200	Unknown	15	1000.0	Anions Default	EPA 300_0_221206	Finished
19	N053925-001DMSD,MSD,200	Unknown	16	1000.0	Anions Default	EPA 300_0_221206	Finished
20	N053925-007D,SAMP,100	Unknown	17	1000.0	Anions Default	EPA 300_0_221206	Finished
21	CCV-1,CCV,1	Unknown	17	1000.0	Anions Default	EPA 300_0_221206	Finished
22	CCB-1,CCB,1	Unknown	18	1000.0	Anions Default	EPA 300_0_221206	Finished
23	N053925-007DDUP,DUP,100	Unknown	19	1000.0	Anions Default	EPA 300_0_221206	Finished
24	N053925-002D,SAMP,200	Unknown	20	1000.0	Anions Default	EPA 300_0_221206	Finished
25	N053925-003D,SAMP,100	Unknown	21	1000.0	Anions Default	EPA 300_0_221206	Finished
26	N053925-004D,SAMP,100	Unknown	22	1000.0	Anions Default	EPA 300_0_221206	Finished
27	N053925-005D,SAMP,100	Unknown	23	1000.0	Anions Default	EPA 300_0_221206	Finished
28	N053925-006D,SAMP,100	Unknown	24	1000.0	Anions Default	EPA 300_0_221206	Finished
29	N053925-008D,SAMP,100	Unknown	25	1000.0	Anions Default	EPA 300_0_221206	Finished
30	N053925-009D,SAMP,100	Unknown	26	1000.0	Anions Default	EPA 300_0_221206	Finished
31	N053956-001D,SAMP,10	Unknown	27	1000.0	Anions Default	EPA 300_0_221206	Finished
32	N053956-001D,SAMP,100	Unknown	28	1000.0	Anions Default	EPA 300_0_221206	Finished
33	CCV-2,CCV,1	Unknown	28	1000.0	Anions Default	EPA 300_0_221206	Finished
34	CCB-2,CCB,1	Unknown	29	1000.0	Anions Default	EPA 300_0_221206	Finished
35	N053956-001DDUP,DUP,10	Unknown	30	1000.0	Anions Default	EPA 300_0_221206	Finished
36	N053956-001DMS,MS,10	Unknown	31	1000.0	Anions Default	EPA 300_0_221206	Finished
37	N053956-001DMSD,MSD,10	Unknown	30	1000.0	Anions Default	EPA 300_0_221206	Finished
38	CCV-3,CCV,1	Unknown	31	1000.0	Anions Default	EPA 300_0_221206	Finished
39	CCB-3,CCB,1	Unknown	30	1000.0	Anions Default	EPA 300_0_221206	Finished

Processed by:

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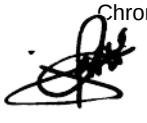

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 39
Created: 12/6/2022 4:22:50 PM by IC-05
Last Update: 12/6/2022 9:21:56 PM by IC-05

No.	Name	Inj. Date/Time	Comment
1	BLANK	12/6/2022 4:41:15 PM	BLA NK
2	BLANK	12/6/2022 5:08:19 PM	BLA NK
3	Std - 0	12/6/2022 5:22:37 PM	IBLANK
4	Std - 1	12/6/2022 5:36:55 PM	STD-LOW
5	Std - 2	12/6/2022 5:51:13 PM	STD
6	Std - 3	12/6/2022 6:05:31 PM	STD
7	Std - 4	12/6/2022 6:19:49 PM	STD
8	Std - 5	12/6/2022 6:34:07 PM	STD-HIGH
9	ICV,ICV,1	12/6/2022 8:57:52 PM	ICV, IWST-221129B
10	ICB,ICB,1	12/6/2022 9:12:11 PM	ICB
11	MB-H2O,MBLK,1	12/6/2022 9:26:30 PM	MB
12	LCS-H2O,LCS,1	12/6/2022 9:40:48 PM	LCS, IWST-221129B
13	N053923-007A,SAMP,5	12/6/2022 9:55:06 PM	SAMP,2>10mL
14	N053923-007AMS,MS,5	12/6/2022 10:09:24 PM	MS,2>10mL
15	N053923-007AMSD,MSD,5	12/6/2022 10:23:42 PM	MSD,2>10mL
16	N053923-007ADUP,DUP,5	12/6/2022 10:38:00 PM	DUP,2>10mL
17	N053925-001D,SAMP,200	12/6/2022 10:52:17 PM	SAMP,0.05>10mL
18	N053925-001DMS,MS,200	12/6/2022 11:06:35 PM	MS,0.05>10mL
19	N053925-001DMSD,MSD,200	12/6/2022 11:20:53 PM	MSD,0.05>10mL
20	N053925-007D,SAMP,100	12/6/2022 11:35:11 PM	SAMP,0.1>10mL
21	CCV-1,CCV,1	12/6/2022 11:49:29 PM	CCV, IWST-221129A
22	CCB-1,CCB,1	12/7/2022 12:03:47 AM	CCB
23	N053925-007DDUP,DUP,100	12/7/2022 12:18:06 AM	DUP,0.1>10mL
24	N053925-002D,SAMP,200	12/7/2022 12:32:23 AM	SAMP,0.05>10mL
25	N053925-003D,SAMP,100	12/7/2022 12:46:41 AM	SAMP,0.1>10mL
26	N053925-004D,SAMP,100	12/7/2022 1:00:59 AM	SAMP,0.1>10mL
27	N053925-005D,SAMP,100	12/7/2022 1:15:17 AM	SAMP,0.1>10mL
28	N053925-006D,SAMP,100	12/7/2022 1:29:35 AM	SAMP,0.1>10mL
29	N053925-008D,SAMP,100	12/7/2022 1:43:53 AM	SAMP,0.1>10mL
30	N053925-009D,SAMP,100	12/7/2022 1:58:11 AM	SAMP,0.1>10mL
31	N053956-001D,SAMP,10	12/7/2022 2:12:29 AM	SAMP,1>10mL
32	N053956-001D,SAMP,100	12/7/2022 2:26:47 AM	SAMP,0.1>10mL
33	CCV-2,CCV,1	12/7/2022 2:41:05 AM	CCV, IWST-221129A
34	CCB-2,CCB,1	12/7/2022 2:55:23 AM	CCB
35	N053956-001DDUP,DUP,10	12/7/2022 3:09:41 AM	DUP,1>10mL
36	N053956-001DMS,MS,10	12/7/2022 3:23:59 AM	MS,1>10mL
37	N053956-001DMSD,MSD,10	12/7/2022 3:38:18 AM	MSD,1>10mL
38	CCV-3,CCV,1	12/7/2022 3:52:36 AM	CCV, IWST-221129A
39	CCB-3,CCB,1	12/7/2022 4:06:55 AM	CCB

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 55
Created: 12/12/2022 11:08:50 AM by IC-05
Last Update: 12/13/2022 3:33:06 PM by IC-05

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
1	BLANK	Unknown	1	1000.0	Anions Default	EPA 300_0_221206	Finished
2	BLANK	Unknown	2	1000.0	Anions Default	EPA 300_0_221206	Finished
3	Std - 0	Standard	3	1000.0	Anions Default	EPA 300_0_221206	Finished
4	Std - 1	Standard	2	1000.0	Anions Default	EPA 300_0_221206	Finished
5	Std - 2	Standard	3	1000.0	Anions Default	EPA 300_0_221206	Finished
6	Std - 3	Standard	4	1000.0	Anions Default	EPA 300_0_221206	Finished
7	Std - 4	Standard	5	1000.0	Anions Default	EPA 300_0_221206	Finished
8	Std - 5	Standard	6	1000.0	Anions Default	EPA 300_0_221206	Finished
9	BLANK	Unknown	1	1000.0	Anions Default	EPA 300_0_221206	Finished
10	CCV-1,CCV,1	Unknown	2	1000.0	Anions Default	EPA 300_0_221206	Finished
11	CCB-1,CCB,1	Unknown	3	1000.0	Anions Default	EPA 300_0_221206	Finished
12	MB-H2O,MBLK,1	Unknown	4	1000.0	Anions Default	EPA 300_0_221206	Finished
13	LCS-H2O,LCS,1	Unknown	5	1000.0	Anions Default	EPA 300_0_221206	Finished
14	MB-H2O,MBLK,1	Unknown	6	1000.0	Anions Default	EPA 300_0_221206	Finished
15	LCS-H2O,LCS,1	Unknown	7	1000.0	Anions Default	EPA 300_0_221206	Finished
16	N054089-001D,SAMP,2	Unknown	8	1000.0	Anions Default	EPA 300_0_221206	Finished
17	N054089-002D,SAMP,2	Unknown	9	1000.0	Anions Default	EPA 300_0_221206	Finished
18	N054085-001A,SAMP,5	Unknown	10	1000.0	Anions Default	EPA 300_0_221206	Finished
19	N054078-001E,SAMP,2	Unknown	11	1000.0	Anions Default	EPA 300_0_221206	Finished
20	N054078-002E,SAMP,2	Unknown	12	1000.0	Anions Default	EPA 300_0_221206	Finished
21	N054078-003E,SAMP,2	Unknown	13	1000.0	Anions Default	EPA 300_0_221206	Finished
22	CCV-2,CCV,1	Unknown	14	1000.0	Anions Default	EPA 300_0_221206	Finished
23	CCB-2,CCB,1	Unknown	15	1000.0	Anions Default	EPA 300_0_221206	Finished
24	N054085-001ADUP,DUP,5	Unknown	16	1000.0	Anions Default	EPA 300_0_221206	Finished
25	N054085-001AMS,MS,5	Unknown	17	1000.0	Anions Default	EPA 300_0_221206	Finished
26	N054085-001AMSD,MSD,5	Unknown	18	1000.0	Anions Default	EPA 300_0_221206	Finished
27	N054085-001A,SAMP,10	Unknown	19	1000.0	Anions Default	EPA 300_0_221206	Finished
28	N054085-001ADUP,DUP,10	Unknown	20	1000.0	Anions Default	EPA 300_0_221206	Finished
29	N054085-001AMS,MS,10	Unknown	21	1000.0	Anions Default	EPA 300_0_221206	Finished
30	N054085-001AMSD,MSD,10	Unknown	22	1000.0	Anions Default	EPA 300_0_221206	Finished
31	N054089-001D,SAMP,100	Unknown	23	1000.0	Anions Default	EPA 300_0_221206	Finished
32	N054089-001DMS,MS,100	Unknown	24	1000.0	Anions Default	EPA 300_0_221206	Finished
33	N054089-001DMSD,MSD,100	Unknown	25	1000.0	Anions Default	EPA 300_0_221206	Finished
34	CCV-3,CCV,1	Unknown	26	1000.0	Anions Default	EPA 300_0_221206	Finished
35	CCB-3,CCB,1	Unknown	27	1000.0	Anions Default	EPA 300_0_221206	Finished
36	N054089-001D,SAMP,10	Unknown	28	1000.0	Anions Default	EPA 300_0_221206	Finished
37	N054089-001DMS,MS,10	Unknown	29	1000.0	Anions Default	EPA 300_0_221206	Finished
38	N054089-001DMSD,MSD,10	Unknown	30	1000.0	Anions Default	EPA 300_0_221206	Finished
39	N054085-001A,SAMP,50	Unknown	31	1000.0	Anions Default	EPA 300_0_221206	Finished
40	N054085-001ADUP,DUP,50	Unknown	32	1000.0	Anions Default	EPA 300_0_221206	Finished
41	N054085-001A,SAMP,200	Unknown	33	1000.0	Anions Default	EPA 300_0_221206	Finished

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 55
Created: 12/12/2022 11:08:50 AM by IC-05
Last Update: 12/13/2022 3:33:06 PM by IC-05

No.	Name	Inj. Date/Time	Comment
1	BLANK	12/6/2022 4:41:15 PM	BLA NK
2	BLANK	12/6/2022 5:08:19 PM	BLA NK
3	Std - 0	12/6/2022 5:22:37 PM	IBLANK
4	Std - 1	12/6/2022 5:36:55 PM	STD-LOW
5	Std - 2	12/6/2022 5:51:13 PM	STD
6	Std - 3	12/6/2022 6:05:31 PM	STD
7	Std - 4	12/6/2022 6:19:49 PM	STD
8	Std - 5	12/6/2022 6:34:07 PM	STD-HIGH
9	BLANK	12/13/2022 7:58:12 AM	BLANK
10	CCV-1,CCV,1	12/13/2022 8:12:30 AM	CCV, IWST-221207A
11	CCB-1,CCB,1	12/13/2022 8:26:48 AM	CCB
12	MB-H2O,MBLK,1	12/13/2022 8:41:07 AM	MB
13	LCS-H2O,LCS,1	12/13/2022 8:55:25 AM	LCS, IWST-221207B
14	MB-H2O,MBLK,1	12/13/2022 9:16:53 AM	MB
15	LCS-H2O,LCS,1	12/13/2022 9:31:11 AM	LCS, IWST-221207B
16	N054089-001D,SAMP,2	12/13/2022 9:45:30 AM	SAMP,5>10mL
17	N054089-002D,SAMP,2	12/13/2022 9:59:48 AM	SAMP,5>10mL
18	N054085-001A,SAMP,5	12/13/2022 10:14:06 AM	SAMP,2>10mL
19	N054078-001E,SAMP,2	12/13/2022 10:28:24 AM	SAMP,5>10mL
20	N054078-002E,SAMP,2	12/13/2022 10:42:42 AM	SAMP,5>10mL
21	N054078-003E,SAMP,2	12/13/2022 10:57:01 AM	SAMP,5>10mL
22	CCV-2,CCV,1	12/13/2022 11:11:19 AM	CCV, IWST-221207A
23	CCB-2,CCB,1	12/13/2022 11:25:37 AM	CCB
24	N054085-001ADUP,DUP,5	12/13/2022 11:46:15 AM	DUP,2>10mL
25	N054085-001AMS,MS,5	12/13/2022 12:00:33 PM	MS,2>10mL
26	N054085-001AMSD,MSD,5	12/13/2022 12:14:51 PM	MSD,2>10mL
27	N054085-001A,SAMP,10	12/13/2022 12:29:09 PM	SAMP,1>10mL
28	N054085-001ADUP,DUP,10	12/13/2022 12:43:27 PM	DUP,1>10mL
29	N054085-001AMS,MS,10	12/13/2022 12:57:45 PM	MS,1>10mL
30	N054085-001AMSD,MSD,10	12/13/2022 1:12:02 PM	MSD,1>10mL
31	N054089-001D,SAMP,100	12/13/2022 1:26:20 PM	SAMP,0.1>10mL
32	N054089-001DMS,MS,100	12/13/2022 1:40:38 PM	MS,0.1>10mL
33	N054089-001DMSD,MSD,100	12/13/2022 1:54:57 PM	MSD,0.1>10mL
34	CCV-3,CCV,1	12/13/2022 2:09:15 PM	CCV, IWST-221207A
35	CCB-3,CCB,1	12/13/2022 2:23:32 PM	CCB
36	N054089-001D,SAMP,10	12/13/2022 2:37:50 PM	SAMP,1>10mL
37	N054089-001DMS,MS,10	12/13/2022 2:52:08 PM	MS,1>10mL
38	N054089-001DMSD,MSD,10	12/13/2022 3:06:26 PM	MSD,1>10mL
39	N054085-001A,SAMP,50	12/13/2022 3:20:44 PM	SAMP,0.2>10mL
40	N054085-001ADUP,DUP,50	12/13/2022 3:35:02 PM	DUP,0.2>10mL
41	N054085-001A,SAMP,200	12/13/2022 3:49:20 PM	SAMP,0.05>10mL

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Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 55
Created: 12/12/2022 11:08:50 AM by IC-05
Last Update: 12/13/2022 3:33:06 PM by IC-05

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
42	N054085-001ADUP,DUP,200	Unknown	34	1000.0	Anions Default	EPA 300_0_221206	Finished
43	N054089-002D,SAMP,200	Unknown	35	1000.0	Anions Default	EPA 300_0_221206	Finished
44	N054089-002D,SAMP,20	Unknown	36	1000.0	Anions Default	EPA 300_0_221206	Finished
45	CCV-4,CCV,1	Unknown	38	1000.0	Anions Default	EPA 300_0_221206	Finished
46	CCB-4,CCB,1	Unknown	39	1000.0	Anions Default	EPA 300_0_221206	Finished
47	N054095-001A,SAMP,5	Unknown	40	1000.0	Anions Default2	EPA 300_0_221206	Finished
48	N054095-002A,SAMP,5	Unknown	41	1000.0	Anions Default2	EPA 300_0_221206	Finished
49	N054095-003A,SAMP,5	Unknown	42	1000.0	Anions Default2	EPA 300_0_221206	Finished
50	N054095-004A,SAMP,5	Unknown	43	1000.0	Anions Default2	EPA 300_0_221206	Finished
51	N054095-005A,SAMP,5	Unknown	44	1000.0	Anions Default2	EPA 300_0_221206	Finished
52	N054095-006A,SAMP,5	Unknown	45	1000.0	Anions Default2	EPA 300_0_221206	Finished
53	BLANK	Unknown	45	1000.0	Anions Default	EPA 300_0_221206	Finished
54	CCV-5,CCV,1	Unknown	50	1000.0	Anions Default	EPA 300_0_221206	Finished
55	CCB-5,CCB,1	Unknown	51	1000.0	Anions Default	EPA 300_0_221206	Finished

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 55
Created: 12/12/2022 11:08:50 AM by IC-05
Last Update: 12/13/2022 3:33:06 PM by IC-05

No.	Name	Inj. Date/Time	Comment
42	N054085-001ADUP,DUP,200	12/13/2022 4:03:39 PM	DUP,0.05>10mL
43	N054089-002D,SAMP,200	12/13/2022 4:17:57 PM	SAMP,0.05>10mL
44	N054089-002D,SAMP,20	12/13/2022 4:32:14 PM	SAMP,0.5>10mL
45	CCV-4,CCV,1	12/13/2022 4:46:32 PM	CCV, IWST-221207A
46	CCB-4,CCB,1	12/13/2022 5:00:50 PM	CCB
47	N054095-001A,SAMP,5	12/13/2022 5:15:08 PM	SAMP,2>10mL
48	N054095-002A,SAMP,5	12/13/2022 5:37:26 PM	SAMP,2>10mL
49	N054095-003A,SAMP,5	12/13/2022 5:59:44 PM	SAMP,2>10mL
50	N054095-004A,SAMP,5	12/13/2022 6:22:01 PM	SAMP,2>10mL
51	N054095-005A,SAMP,5	12/13/2022 6:44:20 PM	SAMP,2>10mL
52	N054095-006A,SAMP,5	12/13/2022 7:06:38 PM	SAMP,2>10mL
53	BLANK	12/13/2022 7:28:56 PM	BLANK
54	CCV-5,CCV,1	12/13/2022 7:43:14 PM	CCV, IWST-221207A
55	CCB-5,CCB,1	12/13/2022 7:57:32 PM	CCB

INITIAL CALIBRATION DATA SUMMARY

(EPA 300) - INITIAL CALIBRATION

Instrument ID: IC-08
Date Calibrated: 12/6/2022

Initial Calibration:

Fluoride	STD0	STD1	STD2	STD3	STD4	STD5	
COMPOUND, in ug/L	0	0.05	0.25	0.5	1.25	2.5	R^2
Area,mAU*min	0.0000	0.0096	0.0508	0.1038	0.2592	0.5338	1.000

	Stock
Standard Concentration:	1000000 PPB
Standard ID:	ISST220527A

Calibration Acceptance Criteria: > 0.995 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

(EPA 300) - INITIAL CALIBRATION

Instrument ID: IC-08
Date Calibrated: 12/6/2022

Initial Calibration:

Chloride	STD0	STD1	STD2	STD3	STD4	STD5	
COMPOUND, in ug/L	0	0.5	1	2	5	10	R^2
Area,mAU*min	0.0190	0.0890	0.1536	0.3069	0.7353	1.5567	0.999

	Stock
Standard Concentration:	1000000 PPB
Standard ID:	ISST220527B

Calibration Acceptance Criteria: > 0.995 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

(EPA 300) - INITIAL CALIBRATION

Instrument ID: IC-08
Date Calibrated: 12/6/2022

Initial Calibration:

Nitrate	STD0	STD1	STD2	STD3	STD4	STD5	
COMPOUND, in ug/L	0	0.05	0.25	0.5	1.25	2.5	R^2
Area,mAU*min	0.0000	0.0207	0.0906	0.1802	0.4544	0.9315	1.000

	Stock
Standard Concentration:	1000000 PPB
Standard ID:	ISST220527E

Calibration Acceptance Criteria: > 0.995 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

(EPA 300) - INITIAL CALIBRATION

Instrument ID: IC-08
Date Calibrated: 12/6/2022

Initial Calibration:

Sulfate	STD0	STD1	STD2	STD3	STD4	STD5	
COMPOUND, in ug/L	0	0.5	2	4	10	20	R^2
Area,mAU*min	0.0000	0.0536	0.2133	0.4301	1.0825	2.2788	0.999

	Stock
Standard Concentration:	1000000 PPB
Standard ID:	ISST220527G

Calibration Acceptance Criteria: > 0.995 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **ICV** SampType: **ICV** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **ICV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/6/2022** SeqNo: **4967796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.942	0.50	2.000	0	97.1	90	110				

Sample ID: **CCV-1** SampType: **CCV** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.894	0.50	2.000	0	94.7	90	110				

Sample ID: **CCV-2** SampType: **CCV** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.850	0.50	2.000	0	92.5	90	110				

Sample ID: **CCV-3** SampType: **CCV** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.864	0.50	2.000	0	93.2	90	110				

Sample ID: **CCV-4** SampType: **CCV** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.923	0.50	2.000	0	96.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **CCV-5** SampType: **CCV** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.871	0.50	2.000	0	93.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **ICV**	SampType: **ICV**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.262	0.10	1.250	0	101	90	110				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.279	0.10	1.250	0	102	90	110				

Sample ID: **CCV-2**	SampType: **CCV**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.279	0.10	1.250	0	102	90	110				

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.281	0.10	1.250	0	102	90	110				

Sample ID: **CCV-4**	SampType: **CCV**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.285	0.10	1.250	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **CCV-5** SampType: **CCV** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.289	0.10	1.250	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **ICV**	SampType: **ICV**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.255	0.050	1.250	0	100	90	110				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.279	0.050	1.250	0	102	90	110				

Sample ID: **CCV-2**	SampType: **CCV**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.242	0.050	1.250	0	99.4	90	110				

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.252	0.050	1.250	0	100	90	110				

Sample ID: **CCV-4**	SampType: **CCV**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967832**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.292	0.050	1.250	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **CCV-5** SampType: **CCV** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.263	0.050	1.250	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **ICV**	SampType: **ICV**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.980	0.50	4.000	0	99.5	90	110				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.980	0.50	4.000	0	99.5	90	110				

Sample ID: **CCV-2**	SampType: **CCV**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.947	0.50	4.000	0	98.7	90	110				

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967847**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.948	0.50	4.000	0	98.7	90	110				

Sample ID: **CCV-4**	SampType: **CCV**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCV**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.958	0.50	4.000	0	98.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **CCV-5** SampType: **CCV** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCV** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.989	0.50	4.000	0	99.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **ICB**	SampType: **ICB**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **CCB-5** SampType: **CCB** TestCode: **300_W_CLPG** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCB** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **ICB**	SampType: **ICB**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **CCB-5** SampType: **CCB** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCB** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **ICB**	SampType: **ICB**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.021	0.050									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.021	0.050									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.013	0.050									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.018	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **CCB-5** SampType: **CCB** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCB** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.017	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **ICB**	SampType: **ICB**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **ICB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4967840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.256	0.50									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.239	0.50									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168141**
Client ID: **CCB**	Batch ID: **R168141**	TestNo: **EPA 300.0**		Analysis Date: **12/13/2022**	SeqNo: **4967856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Detect of Sulfate in CCB-2 is >1/2PQL criteria. However, N054089 samples affected are enclosed by CCV3/CCB3 to CCV4/CCB4. Thus, unaffected.

1/2/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **CCB-5** SampType: **CCB** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168141**
Client ID: **CCB** Batch ID: **R168141** TestNo: **EPA 300.0** Analysis Date: **12/13/2022** SeqNo: **4967858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-08

Analytical Sequence

Date Analyzed: 12/13/2022

Sample Name		Retention Time	Evaluation
ICV	Fluoride	3.050	
CCV-1	Fluoride	3.047	
CCV-2	Fluoride	3.043	
CCV-3	Fluoride	3.047	
CCV-4	Fluoride	3.047	
CCV-5	Fluoride	3.047	
	Average	3.046	
	Applied RT Window	2.846 - 3.246	
MB-R168141_F	Fluoride	N.A.	N.A.
LCS-R168141_F	Fluoride	3.047	PASS
N054089-001D	Fluoride	3.043	PASS
N054089-002D	Fluoride	3.037	PASS
N054085-001ADUP	Fluoride	3.043	PASS
N054085-001AMS	Fluoride	3.043	PASS
N054085-001AMSD	Fluoride	3.044	PASS

Reviewed by:

dMocha 1/5/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-08

Analytical Sequence

Date Analyzed: 12/13/2022

Sample Name		Retention Time	Evaluation
ICV	Chloride	4.257	
CCV-1	Chloride	4.247	
CCV-2	Chloride	4.237	
CCV-3	Chloride	4.237	
CCV-4	Chloride	4.237	
CCV-5	Chloride	4.250	
	Average	4.242	
	Applied RT Window	4.042 - 4.442	
MB-R168141_CL	Chloride	N.A.	N.A.
LCS-R168141_CL	Chloride	4.247	PASS
N054089-001D	Chloride	4.237	PASS
N054089-001DMS	Chloride	4.240	PASS
N054089-001DMSD	Chloride	4.240	PASS
N054085-001ADUP	Chloride	4.237	PASS
N054089-002D	Chloride	4.240	PASS

Reviewed by:

dMRocha 1/5/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-08

Analytical Sequence

Date Analyzed: 12/13/2022

Sample Name		Retention Time	Evaluation
ICV	Nitrate	6.677	
CCV-1	Nitrate	6.660	
CCV-2	Nitrate	6.637	
CCV-3	Nitrate	6.630	
CCV-4	Nitrate	6.627	
CCV-5	Nitrate	6.670	
	Average	6.645	
	Applied RT Window	6.445 - 6.845	
MB-R168141_NO3	Nitrate	6.657	PASS
LCS-R168141_NO3	Nitrate	6.660	PASS
N054089-001D	Nitrate	6.657	PASS
N054089-002D	Nitrate	6.657	PASS
N054085-001ADUP	Nitrate	6.623	PASS
N054085-001AMS	Nitrate	6.620	PASS
N054085-001AMSD	Nitrate	6.623	PASS

Reviewed by:

dMRocha 1/5/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-08

Analytical Sequence

Date Analyzed: 12/13/2022

Sample Name		Retention Time	Evaluation
ICV	Sulfate	10.143	
CCV-1	Sulfate	10.014	
CCV-2	Sulfate	10.027	
CCV-3	Sulfate	10.030	
CCV-4	Sulfate	10.027	
CCV-5	Sulfate	9.984	
	Average	10.016	
	Applied RT Window	9.816 - 10.216	
MB-R168141_SO4	Sulfate	N.A.	N.A.
LCS-R168141_SO4	Sulfate	10.007	PASS
N054089-001D	Sulfate	10.034	PASS
N054089-001DMS	Sulfate	10.037	PASS
N054089-001DMSD	Sulfate	10.037	PASS
N054085-001ADUP	Sulfate	10.027	PASS
N054089-002D	Sulfate	10.034	PASS

Reviewed by:

dMocha 1/5/2023

MDL STUDY

METHOD DETECTION LIMIT 2020

Method Name: **INORGANIC IONS by Ion Chromatography**
Method Number: EPA 300.0
Analysis Date(s): 10/7/2020,10/10/2020,10/13/202(
Analyst/Technician: Ria Abes

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-08**

Acceptance Criteria: MDL < PQL

Datafile	201007A #36	201007A #37	201007A #38	201010A #60	201010A #61	201013A #55	201013A #56					
Analyte	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**Spike Conc., mg/L**	**SD**	**MDL**	**LOD**	**PQL**
Fluoride	0.049	0.041	0.042	0.037	0.046	0.042	0.042	0.020	0.0040	**0.0127**	0.020	0.10
Chloride	0.195	0.198	0.197	0.196	0.201	0.251	0.194	0.050	0.0207	**0.0652**	0.020	0.50
Nitrite	0.034	0.033	0.033	0.034	0.034	0.035	0.032	0.020	0.0009	**0.0029**	0.010	0.05
Bromide	0.050	0.037	0.031	0.028	0.036	0.041	0.041	0.040	0.0073	**0.0228**	0.040	0.50
Nitrate	0.037	0.035	0.039	0.044	0.036	0.041	0.038	0.020	0.0030	**0.0095**	0.010	0.05
Phosphate	0.085	0.076	0.067	0.062	0.000	0.067	0.088	0.040	0.0297	**0.0933**	0.030	0.10
Sulfate	0.331	0.332	0.326	0.379	0.326	0.343	0.325	0.100	0.0193	**0.0608**	0.050	0.50

Note: All 7 method blanks analyzed together with the MDL samples have 0 ppm concentrations

MDL/LOD & PQL Verification 2021

Method Name: **Inorganic Ions by Ion Chromatography for PG&E** Matrix: **WATER**
Method Number: EPA Method 300.0 Unit: mg/L
Analysis Date(s): 6/8/2021
Analyst: Ria B. Abes

Instrument Name: **IC-08**

Compound	MDL	LOD Spike Conc., mg/L	LOD Actual Conc., mg/L	PQL Spike Conc., mg/L	PQL Actual Conc., mg/L	%Recovery
Fluoride	**0.0127**	0.020	0.0440	0.10	0.1152	**115**
Chloride	**0.0652**	0.100	0.2250	0.50	0.5841	**117**
Nitrite	**0.0029**	0.010	0.0270	0.50	0.4972	**99**
Bromide	**0.0228**	0.040	0.0630	0.50	0.5133	**103**
Nitrate	**0.0095**	0.010	0.0270	0.50	0.4958	**99**
Phosphate	**0.0933**	0.090	0.1050	0.10	0.1087	**109**
Sulfate	**0.0608**	0.100	0.3210	0.50	0.7085	**142**

EPA 6010B
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97211
ASSET #: N054089

Instrument ID: ICP-02
Analyst: DBJ
Date Analyzed: 12/20/2022

Method:

[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			X
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.	X			X		
24. LCS compounds within control limits.	X			X		
25. MS/MSD, RPD's are within control limits		X			X	
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

% Rec of Na in N054089-001C-PS/MS2/MSD2 failed.However, LCS passed criteria
Detection of Na in CCB5 is greater than 1/2 PQL. However, detection in samples are 5x greater than the IQC detection.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: —

2nd Level Reviewer LG 12/27/2022 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97211
ASSET #: N054089
Instrument ID: ICP-02
Analyst: DBJ
Date Analyzed: 12/22/2022

Method:

[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			X
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)		X			X	
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?		X			X	
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.	X			X		
24. LCS compounds within control limits.	X			X		
25. MS/MSD, RPD's are within control limits		X			X	
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

% Rec of Fe in N054021-008B-PS/MS failed, high bias. However, LCS passed criteria.
% Rec of Ca in LLICV failed, low bias. However, concentartion of samples are greater than the IQC detection.
% Rec of Mg in several IQCs failed, low bias. For re run

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: –

2nd Level Reviewer LG 12/27/2022 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97211
ASSET #: N054089
Instrument ID: ICP-02
Analyst: DBJ
Date Analyzed: 12/26/2022

Method:

[X] EPA 6010B / 200.7
[ ] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)			X			X
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)		X			X	
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.	X			X		
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.	X			X		
24. LCS compounds within control limits.	X			X		
25. MS/MSD, RPD's are within control limits	X			X		
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented	X			X		
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

Mg re run
Detection of Mg in CCB2 is greater than PQL and RSD failed. However, detection in samples are 10x greater than the IQC detect
Please see CAR # 6669.
Dilution test for Mg failed. However,PS passed criteria.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: –

2nd Level Reviewer LG 12/27/2022 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6010B
TEST NAME: Heavy Metals by ICP
MATRIX: Groundwater

FORMULA:

Calculate the Calcium concentration, in mg/L in the original sample as follows:

Calcium , mg/L = A * DF * PF

where:

A = mg/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N054089-001C** , the concentration in mg/L is calculated as follows:

Calcium , mg/L = 89.6714 * 1 * (25/25)

Calcium , mg/L = 89.6714

Reporting results in two significant figures,

Calcium , mg/L = 90

Reviewed by:

JRB 1/15/2023

% RSD SUMMARY

RSD SUMMARY: 221220B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	K	0	3.33	15	PASS
Standard1	ICAL	1	K	0.1	19.74	15	<PQL
Standard2	ICAL	1	K	1	1.39	15	PASS
Standard3	ICAL	1	K	5	0.41	15	PASS
Standard4	ICAL	1	K	10	0.2	15	PASS
Standard5	ICAL	1	K	20	0.09	15	PASS
Standard6	ICAL	1	K	40	0.11	15	PASS
ICV	ICV	1	K	9.84	0.31	15	PASS
ICB	ICB	1	K	-0.01	92.35	15	<PQL
LLICV	CCV	1	K	0.54	3.3	20	PASS
ICSA1	ICSA	1	K	-0.05	109.56	15	<PQL
ICSAB1	ICSAB	1	K	9.89	0.22	15	PASS
CCV1	CCV	1	K	10	0.29	15	PASS
CCB1	CCB	1	K	-0.05	61.84	15	<PQL
CCV2	CCV	1	K	10.06	0.27	15	PASS
CCB2	CCB	1	K	-0.09	37.37	15	<PQL
MB-97211	MBLK	1	K	-0.12	23.3	15	<PQL
LCS2-97211	LCS	1	K	19.37	0.45	15	PASS
N054089-001C	SAMP	5	K	1.94	8.01	15	PASS
N054089-002C	SAMP	5	K	3.02	5.99	15	PASS
CCV3	CCV	1	K	10.09	0.17	15	PASS
CCB3	CCB	1	K	-0.13	20.92	15	<PQL
ICSA2	ICSA	1	K	-0.18	12.83	15	PASS
ICSAB2	ICSAB	1	K	10.08	0.17	15	PASS
CCV4	CCV	1	K	10.11	0.22	15	PASS
CCV4	CCV	1	K	10.1	0.53	15	PASS
CCB4	CCB	1	K	-0.16	8.07	15	PASS
CCV5	CCV	1	K	10.23	0.22	15	PASS
CCB5	CCB	1	K	-0.05	37.59	15	<PQL
N054089-001C	SAMP	25	K	0.28	9.28	15	PASS
N054089-001C	SAMP	125	K	0.01	571.64	15	<PQL
N054089-001C	SAMP	625	K	-0.05	38.99	15	<PQL
N054089-001C-PS	PS	5	K	11.78	0.44	15	PASS
N054089-001C-PS	PS	125	K	-0.05	108.54	15	<PQL
N054089-001C-MS2	MS	5	K	8.09	3.01	15	PASS
N054089-001C-MS2	MS	125	K	0.14	11.32	15	PASS
N054089-001C-MSD2	MSD	5	K	5.09	0.51	15	PASS
CCV6	CCV	1	K	10.25	0.31	15	PASS
CCB6	CCB	1	K	-0.05	50.19	15	<PQL
ICSA3	ICSA	1	K	-0.08	39.6	15	<PQL
ICSAB3	ICSAB	1	K	10.3	0.71	15	PASS
N054089-001C-MSD2	MSD	125	K	0.11	44.21	15	<PQL

RSD SUMMARY: 221220B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV7	CCV	1	K	9.76	0.16	15	PASS
CCB7	CCB	1	K	0.14	4.91	15	PASS
ICSA4	ICSA	1	K	0.1	38.35	15	<PQL
ICSAB4	ICSAB	1	K	10.39	0.12	15	PASS
CalBlk	IBLK	1	Na	0	1.75	15	PASS
Standard1	ICAL	1	Na	0.1	5.74	15	PASS
Standard2	ICAL	1	Na	1	1.17	15	PASS
Standard3	ICAL	1	Na	5	0.29	15	PASS
Standard4	ICAL	1	Na	10	0.27	15	PASS
Standard5	ICAL	1	Na	20	0.05	15	PASS
Standard6	ICAL	1	Na	40	0.1	15	PASS
ICV	ICV	1	Na	9.87	0.1	15	PASS
ICB	ICB	1	Na	0.02	11.83	15	PASS
LLICV	CCV	1	Na	0.51	1.12	20	PASS
ICSA1	ICSA	1	Na	0	734.69	15	<PQL
ICSAB1	ICSAB	1	Na	9.95	0.07	15	PASS
CCV1	CCV	1	Na	10.21	0.22	15	PASS
CCB1	CCB	1	Na	0.03	18.83	15	<PQL
CCV2	CCV	1	Na	10.46	0.16	15	PASS
CCB2	CCB	1	Na	0.06	14.72	15	PASS
MB-97211	MBLK	1	Na	0.09	7.77	15	PASS
LCS2-97211	LCS	1	Na	20.32	0.14	15	PASS
N054089-001C	SAMP	5	Na	53.28	7.69	15	PASS
N054089-002C	SAMP	5	Na	115.66	5.87	15	PASS
CCV3	CCV	1	Na	10.64	0.19	15	PASS
CCB3	CCB	1	Na	0.11	5.1	15	PASS
ICSA2	ICSA	1	Na	0.08	13.2	15	PASS
ICSAB2	ICSAB	1	Na	10.67	0.05	15	PASS
CCV4	CCV	1	Na	10.91	0.17	15	PASS
CCV4	CCV	1	Na	10.95	0.07	15	PASS
CCB4	CCB	1	Na	0.12	5.07	15	PASS
CCV5	CCV	1	Na	10.26	0.29	15	PASS
CCB5	CCB	1	Na	0.03	32.08	15	<PQL
N054089-001C	SAMP	25	Na	8.12	0.77	15	PASS
N054089-001C	SAMP	125	Na	1.57	2.01	15	PASS
N054089-001C	SAMP	625	Na	0.16	7.47	15	PASS
N054089-001C-PS	PS	5	Na	42.37	0.42	15	PASS
N054089-001C-PS	PS	125	Na	1.33	0.7	15	PASS
N054089-001C-MS2	MS	5	Na	51.24	1.34	15	PASS
N054089-001C-MS2	MS	125	Na	1.33	1.17	15	PASS
N054089-001C-MSD2	MSD	5	Na	32.62	0.26	15	PASS
CCV6	CCV	1	Na	9.89	0.35	15	PASS

RSD SUMMARY: 221220B

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCB6	CCB	1	Na	0	423.04	15	<PQL
ICSA3	ICSA	1	Na	0.01	77.34	15	<PQL
ICSAB3	ICSAB	1	Na	9.97	0.12	15	PASS
N054089-001C-MSD2	MSD	125	Na	1.38	0.79	15	PASS
CCV7	CCV	1	Na	9.07	0.14	15	PASS
CCB7	CCB	1	Na	-0.07	4.47	15	PASS
ICSA4	ICSA	1	Na	-0.06	8.65	15	PASS
ICSAB4	ICSAB	1	Na	9.67	0.26	15	PASS

RSD SUMMARY: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Ca	0	13.21	15	PASS
Standard1	ICAL	1	Ca	0.2	22.8	15	<PQL
Standard2	ICAL	1	Ca	1	19.33	15	NR!
Standard3	ICAL	1	Ca	2	4.23	15	PASS
Standard4	ICAL	1	Ca	5	4.14	15	PASS
Standard5	ICAL	1	Ca	7.5	2.37	15	PASS
Standard6	ICAL	1	Ca	10	2.84	15	PASS
Standard7	ICAL	1	Ca	20	0.62	15	PASS
ICV	ICV	1	Ca	10.01	1.28	15	PASS
ICB	ICB	1	Ca	0.11	139.28	15	<PQL
LLICV	CCV1	1	Ca	0.27	18.9	20	PASS
ICSA1	ICSA	1	Ca	446.41	0.08	15	PASS
ICSAB1	ICSAB	1	Ca	453.55	0.12	15	PASS
RINSE	RINSE	1	Ca	0.56	7.38	15	PASS
CCV1	CCV	1	Ca	10.67	1.76	15	PASS
CCB1	CCB	1	Ca	0.19	120.81	15	<PQL
CCV2	CCV	1	Ca	10.88	1.82	15	PASS
CCB2	CCB	1	Ca	0.31	25.41	15	<PQL
CCV3	CCV	1	Ca	11.03	0.48	15	PASS
CCV3	CCV	1	Ca	10.36	0.9	15	PASS
CCB3	CCB	1	Ca	0.34	12.24	15	PASS
ICSA2	ICSA	1	Ca	462.11	0.12	15	PASS
ICSAB2	ICSAB	1	Ca	486.16	0.3	15	PASS
RINSE	RINSE	1	Ca	0.66	5.25	15	PASS
CCV4	CCV	1	Ca	10.39	1.94	15	PASS
CCB4	CCB	1	Ca	0.16	83.16	15	<PQL
CCV5	CCV	1	Ca	10.64	2.53	15	PASS
CCB5	CCB	1	Ca	0.19	66.75	15	<PQL
CCV6	CCV	1	Ca	10.29	1.52	15	PASS
CCB6	CCB	1	Ca	0.05	396.9	15	<PQL
ICSA3	ICSA	1	Ca	468.44	0.54	15	PASS
ICSAB3	ICSAB	1	Ca	477.39	0.72	15	PASS
RINSE	RINSE	1	Ca	0.22	46.07	15	<PQL
RINSE	RINSE	1	Ca	-0.16	82.8	15	<PQL
CCV7	CCV	1	Ca	10.06	0.43	15	PASS
CCB7	CCB	1	Ca	-0.01	2198.42	15	<PQL
CCV8	CCV	1	Ca	9.72	3.87	15	PASS
CCB8	CCB	1	Ca	-0.08	132.99	15	<PQL
MB-97211	MBLK	1	Ca	-0.02	885.14	15	<PQL
LCS1-97211	LCS	1	Ca	9.77	2.7	15	PASS
N054021-001B	SAMP	1	Ca	585.72	0.34	15	PASS
N054021-002B	SAMP	1	Ca	210.06	0.97	15	PASS

RSD SUMMARY: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
N054021-003B	SAMP	1	Ca	305.23	0.65	15	PASS
N054021-004B	SAMP	1	Ca	104.96	1.36	15	PASS
CCV9	CCV	1	Ca	9.41	2.67	15	PASS
CCB9	CCB	1	Ca	-0.21	40.11	15	<PQL
ICSA4	ICSA	1	Ca	460.81	1.17	15	PASS
ICSAB4	ICSAB	1	Ca	459.19	0.63	15	PASS
RINSE	RINSE	1	Ca	-0.1	117.23	15	<PQL
N054021-005B	SAMP	1	Ca	97.07	0.47	15	PASS
N054021-006B	SAMP	1	Ca	152.23	1.33	15	PASS
N054021-007B	SAMP	1	Ca	141.6	2.09	15	PASS
N054021-008B	SAMP	1	Ca	252.91	1.09	15	PASS
N054021-008B	SAMP	5	Ca	55.05	2.96	15	PASS
N054021-008B-PS	PS	1	Ca	259.17	1.05	15	PASS
N054021-008BMS	MS	1	Ca	257.36	1.09	15	PASS
N054021-008BMSD	MSD	1	Ca	260.17	1.41	15	PASS
N054089-001C	SAMP	1	Ca	89.67	0.32	15	PASS
CCV10	CCV	1	Ca	9.35	0.51	15	PASS
CCB10	CCB	1	Ca	-0.13	123.49	15	<PQL
N054089-002C	SAMP	1	Ca	153.67	1.42	15	PASS
CCV11	CCV	1	Ca	9.27	0.29	15	PASS
CCB11	CCB	1	Ca	-0.26	16.59	15	<PQL
ICSA5	ICSA	1	Ca	452.45	0.75	15	PASS
ICSAB5	ICSAB	1	Ca	455.19	0.47	15	PASS
CalBlk	IBLK	1	Fe	0	45.16	15	<PQL
Standard1	ICAL	1	Fe	0.02	10.06	15	PASS
Standard2	ICAL	1	Fe	0.05	1.74	15	PASS
Standard3	ICAL	1	Fe	2	0.6	15	PASS
Standard4	ICAL	1	Fe	5	0.7	15	PASS
Standard5	ICAL	1	Fe	7.5	1.21	15	PASS
Standard6	ICAL	1	Fe	10	0.1	15	PASS
Standard7	ICAL	1	Fe	20	0.13	15	PASS
ICV	ICV	1	Fe	9.83	0.18	15	PASS
ICB	ICB	1	Fe	0	113.56	15	<PQL
LLICV	CCV1	1	Fe	0.02	13.82	20	PASS
ICSA1	ICSA	1	Fe	196.01	0.46	15	PASS
ICSAB1	ICSAB	1	Fe	191.15	0.33	15	PASS
RINSE	RINSE	1	Fe	0.06	4.54	15	PASS
CCV1	CCV	1	Fe	10.11	0.19	15	PASS
CCB1	CCB	1	Fe	0	48.19	15	<PQL
CCV2	CCV	1	Fe	10.24	0.05	15	PASS
CCB2	CCB	1	Fe	-0.01	28.45	15	<PQL
CCV3	CCV	1	Fe	10.43	0.12	15	PASS

RSD SUMMARY: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV3	CCV	1	Fe	9.67	0.36	15	PASS
CCB3	CCB	1	Fe	-0.01	14.01	15	PASS
ICSA2	ICSA	1	Fe	201.03	0.72	15	PASS
ICSAB2	ICSAB	1	Fe	198.22	0.64	15	PASS
RINSE	RINSE	1	Fe	0.06	2.83	15	PASS
CCV4	CCV	1	Fe	9.8	0.11	15	PASS
CCB4	CCB	1	Fe	-0.01	25.76	15	<PQL
CCV5	CCV	1	Fe	10.11	0.15	15	PASS
CCB5	CCB	1	Fe	-0.01	48.48	15	<PQL
CCV6	CCV	1	Fe	9.97	0.1	15	PASS
CCB6	CCB	1	Fe	-0.01	26.68	15	<PQL
ICSA3	ICSA	1	Fe	207.76	0.14	15	PASS
ICSAB3	ICSAB	1	Fe	200.62	0.2	15	PASS
RINSE	RINSE	1	Fe	0.09	15.46	15	NR!
RINSE	RINSE	1	Fe	-0.01	7.1	15	PASS
CCV7	CCV	1	Fe	9.8	0.06	15	PASS
CCB7	CCB	1	Fe	-0.01	48.71	15	<PQL
CCV8	CCV	1	Fe	9.72	0.19	15	PASS
CCB8	CCB	1	Fe	0	15.03	15	<PQL
MB-97211	MBLK	1	Fe	-0.02	9.15	15	PASS
LCS1-97211	LCS	1	Fe	0.09	1.73	15	PASS
N054021-001B	SAMP	1	Fe	0.02	8.16	15	PASS
N054021-002B	SAMP	1	Fe	0.15	1.65	15	PASS
N054021-003B	SAMP	1	Fe	0.01	23.28	15	<PQL
N054021-004B	SAMP	1	Fe	0.02	11.77	15	PASS
CCV9	CCV	1	Fe	9.64	0.12	15	PASS
CCB9	CCB	1	Fe	0	15.76	15	<PQL
ICSA4	ICSA	1	Fe	199.66	0.14	15	PASS
ICSAB4	ICSAB	1	Fe	193.32	0.29	15	PASS
RINSE	RINSE	1	Fe	0.02	26.74	15	NR!
N054021-005B	SAMP	1	Fe	0.1	0.82	15	PASS
N054021-006B	SAMP	1	Fe	0	90.62	15	<PQL
N054021-007B	SAMP	1	Fe	0	124.23	15	<PQL
N054021-008B	SAMP	1	Fe	0.01	13.85	15	PASS
N054021-008B	SAMP	5	Fe	-0.01	32.27	15	<PQL
N054021-008B-PS	PS	1	Fe	0.13	1.25	15	PASS
N054021-008BMS	MS	1	Fe	0.14	0.43	15	PASS
N054021-008BMSD	MSD	1	Fe	0.12	1.42	15	PASS
N054089-001C	SAMP	1	Fe	0.01	8.57	15	PASS
CCV10	CCV	1	Fe	9.71	0.14	15	PASS
CCB10	CCB	1	Fe	0	34.18	15	<PQL
N054089-002C	SAMP	1	Fe	0.01	23.91	15	<PQL

RSD SUMMARY: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CCV11	CCV	1	Fe	9.72	0.1	15	PASS
CCB11	CCB	1	Fe	0	99.31	15	<PQL
ICSA5	ICSA	1	Fe	200.61	0.17	15	PASS
ICSAB5	ICSAB	1	Fe	193.93	0.11	15	PASS
CalBlk	IBLK	1	Mg	0	1.11	15	PASS
Standard1	ICAL	1	Mg	0.1	2.82	15	PASS
Standard2	ICAL	1	Mg	1	1.87	15	PASS
Standard3	ICAL	1	Mg	2	0.74	15	PASS
Standard4	ICAL	1	Mg	5	0.83	15	PASS
Standard5	ICAL	1	Mg	7.5	0.17	15	PASS
Standard6	ICAL	1	Mg	10	0.12	15	PASS
Standard7	ICAL	1	Mg	20	0.1	15	PASS
ICV	ICV	1	Mg	9.77	0.18	15	PASS
ICB	ICB	1	Mg	0	305.83	15	<PQL
LLICV	CCV1	1	Mg	0.09	1.93	20	PASS
ICSA1	ICSA	1	Mg	517.9	1.36	15	PASS
ICSAB1	ICSAB	1	Mg	533.48	2.16	15	PASS
RINSE	RINSE	1	Mg	0.12	5.19	15	PASS
CCV1	CCV	1	Mg	9.96	0.08	15	PASS
CCB1	CCB	1	Mg	0.01	27.12	15	<PQL
CCV2	CCV	1	Mg	9.99	0.1	15	PASS
CCB2	CCB	1	Mg	0.01	34.8	15	<PQL
CCV3	CCV	1	Mg	9.95	0.28	15	PASS
CCV3	CCV	1	Mg	9.16	0.34	15	PASS
CCB3	CCB	1	Mg	0	129.98	15	<PQL
ICSA2	ICSA	1	Mg	520.6	0.85	15	PASS
ICSAB2	ICSAB	1	Mg	554.97	0.55	15	PASS
RINSE	RINSE	1	Mg	0.12	4.6	15	PASS
CCV4	CCV	1	Mg	9.15	0.14	15	PASS
CCB4	CCB	1	Mg	0.01	58.08	15	<PQL
CCV5	CCV	1	Mg	9.36	0.24	15	PASS
CCB5	CCB	1	Mg	0	254.25	15	<PQL
CCV6	CCV	1	Mg	9.18	0.09	15	PASS
CCB6	CCB	1	Mg	0	30.95	15	<PQL
ICSA3	ICSA	1	Mg	507.86	1.3	15	PASS
ICSAB3	ICSAB	1	Mg	513.77	0.82	15	PASS
RINSE	RINSE	1	Mg	0.18	19.72	15	NR!
RINSE	RINSE	1	Mg	0.01	47.71	15	<PQL
CCV7	CCV	1	Mg	9.04	0.1	15	PASS
CCB7	CCB	1	Mg	0	101.14	15	<PQL
CCV8	CCV	1	Mg	8.93	0.15	15	PASS
CCB8	CCB	1	Mg	0	2929.92	15	<PQL

RSD SUMMARY: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
MB-97211	MBLK	1	Mg	-0.01	22.49	15	<PQL
LCS1-97211	LCS	1	Mg	9.31	0.21	15	PASS
N054021-001B	SAMP	1	Mg	107.8	0.5	15	PASS
N054021-002B	SAMP	1	Mg	28.2	0.61	15	PASS
N054021-003B	SAMP	1	Mg	57.47	0.91	15	PASS
N054021-004B	SAMP	1	Mg	7.85	1.67	15	PASS
CCV9	CCV	1	Mg	8.73	0.36	15	PASS
CCB9	CCB	1	Mg	0	105.9	15	<PQL
ICSA4	ICSA	1	Mg	482.88	0.25	15	PASS
ICSAB4	ICSAB	1	Mg	492.19	0.46	15	PASS
RINSE	RINSE	1	Mg	0.06	21.58	15	<PQL
N054021-005B	SAMP	1	Mg	7.18	0.7	15	PASS
N054021-006B	SAMP	1	Mg	34.02	0.61	15	PASS
N054021-007B	SAMP	1	Mg	27.88	0.49	15	PASS
N054021-008B	SAMP	1	Mg	17.63	0.76	15	PASS
N054021-008B	SAMP	5	Mg	4.23	3.24	15	PASS
N054021-008B-PS	PS	1	Mg	26.53	0.91	15	PASS
N054021-008BMS	MS	1	Mg	26.43	0.72	15	PASS
N054021-008BMSD	MSD	1	Mg	26.5	0.71	15	PASS
N054089-001C	SAMP	1	Mg	17.38	0.67	15	PASS
CCV10	CCV	1	Mg	8.41	0.34	15	PASS
CCB10	CCB	1	Mg	0	220.89	15	<PQL
N054089-002C	SAMP	1	Mg	37.26	0.91	15	PASS
CCV11	CCV	1	Mg	8.35	0.22	15	PASS
CCB11	CCB	1	Mg	0	174.35	15	<PQL
ICSA5	ICSA	1	Mg	464.17	0.21	15	PASS
ICSAB5	ICSAB	1	Mg	469.79	0.29	15	PASS

RSD SUMMARY: 221226A

Instrument ID: ICP-02

Sample Name	Type	DF	Analyte	Reported Conc	RSD	Criteria	Comment
CalBlk	IBLK	1	Mg	0	6.65	15	PASS
Standard1	ICAL	1	Mg	0.1	1.17	15	PASS
Standard2	ICAL	1	Mg	1	2.72	15	PASS
Standard3	ICAL	1	Mg	2	3.6	15	PASS
Standard4	ICAL	1	Mg	5	0.42	15	PASS
Standard5	ICAL	1	Mg	7.5	0.19	15	PASS
Standard6	ICAL	1	Mg	10	0.3	15	PASS
Standard7	ICAL	1	Mg	20	0.07	15	PASS
ICV	ICV	1	Mg	9.92	0.54	15	PASS
ICB	ICB	1	Mg	0	233.12	15	<PQL
LLICV	CCV1	1	Mg	0.1	0.49	20	PASS
LLICV	CCV1	1	Mg	0.1	1.48	20	PASS
ICSA1	ICSA	1	Mg	492.24	0.51	15	PASS
ICSAB1	ICSAB	1	Mg	506.19	1.1	15	PASS
RINSE	RINSE	1	Mg	0.17	1.91	15	PASS
MB-97211	MBLK	1	Mg	0.05	6.28	15	PASS
LCS1-97211	LCS	1	Mg	10.25	0.97	15	PASS
N054021-008B	SAMP	1	Mg	18.75	0.43	15	PASS
N054021-008B	SAMP	5	Mg	4.21	0.91	15	PASS
N054021-008B-PS	PS	1	Mg	28.09	0.62	15	PASS
CCV1	CCV	1	Mg	10.15	0.2	15	PASS
CCB1	CCB	1	Mg	0.01	3.47	15	PASS
N054021-008BMS	MS	1	Mg	27.91	0.61	15	PASS
N054021-008BMSD	MSD	1	Mg	27.99	0.44	15	PASS
N054089-001C	SAMP	1	Mg	19.32	0.82	15	PASS
N054089-002C	SAMP	1	Mg	41.27	0.64	15	PASS
CCV2	CCV	1	Mg	10.1	0.23	15	PASS
CCB2	CCB	1	Mg	0.11	21.66	15	NR!
ICSA2	ICSA	1	Mg	493.93	0.34	15	PASS
ICSAB2	ICSAB	1	Mg	1550.7	0.67	15	PASS
ICSAB2	ICSAB	1	Mg	483.7	1.1	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 221220B

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-220716D, 0.025<50mL
Standard2	MWST-220716D, 0.25<50mL
Standard3	MWST-220716D, 1.25<50mL
Standard4	MWST-220716D, 2.5<50mL
Standard5	MWST-220716D, 5<50mL
Standard6	MWST-220716D, 10<50mL
ICV	MWST-220716E
CCV	MWST-220716D, 2.5<50mL
ICSA/ICSAB	MWST-220716Q / MWST-220716F
Int. Std. (Sc):	MWST-220920B
PS Spike	MSST-200813A / MSST-200813B / MSST-210126A

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	12/20/2022	12:04:16 PM
11	Standard1	ICAL	1	12/20/2022	12:07:12 PM
12	Standard2	ICAL	1	12/20/2022	12:10:07 PM
13	Standard3	ICAL	1	12/20/2022	12:13:01 PM
14	Standard4	ICAL	1	12/20/2022	12:16:26 PM
15	Standard5	ICAL	1	12/20/2022	12:19:52 PM
16	Standard6	ICAL	1	12/20/2022	12:23:19 PM
17	ICV	ICV	1	12/20/2022	12:27:35 PM
1	ICB	ICB	1	12/20/2022	12:31:03 PM
18	LLICV	CCV	1	12/20/2022	12:33:57 PM
19	ICSA1	ICSA	1	12/20/2022	12:36:53 PM
20	ICSAB1	ICSAB	1	12/20/2022	12:39:52 PM
23	N053873-009C	SAMP	5	12/20/2022	12:54:26 PM
24	N053873-009C	SAMP	25	12/20/2022	12:58:51 PM
25	N053873-009C	SAMP	125	12/20/2022	01:01:46 PM
26	N053873-009C	SAMP	625	12/20/2022	01:04:40 PM
27	N053873-009C-PS	PS	5	12/20/2022	01:07:34 PM
28	N053873-009C-PS	PS	125	12/20/2022	01:12:00 PM
29	N053873-009C-MS2	MS	5	12/20/2022	01:14:56 PM
30	N053873-009C-MS2	MS	125	12/20/2022	01:19:23 PM
31	N053873-009C-MSD2	MSD	5	12/20/2022	01:22:19 PM
32	N053873-009C-MSD2	MSD	125	12/20/2022	01:26:46 PM
14	CCV1	CCV	1	12/20/2022	01:29:43 PM
1	CCB1	CCB	1	12/20/2022	01:33:11 PM
33	MB-97066	MBLK	1	12/20/2022	01:36:05 PM
34	LCS2-97066	MBLK	1	12/20/2022	01:39:03 PM
35	N053885-001C	SAMP	5	12/20/2022	01:42:00 PM
36	N053885-002C	SAMP	5	12/20/2022	01:46:27 PM
37	N053885-003C	SAMP	5	12/20/2022	01:50:56 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
38	N053885-004C	SAMP	5	12/20/2022	01:55:23 PM
39	MB-97231	MBLK	1	12/20/2022	01:59:52 PM
40	LCS2-97231	LCS	1	12/20/2022	02:02:47 PM
41	N053856-004A	SAMP	1	12/20/2022	02:05:42 PM
42	N053856-004A	SAMP	5	12/20/2022	02:08:38 PM
14	CCV2	CCV	1	12/20/2022	02:11:34 PM
1	CCB2	CCB	1	12/20/2022	02:16:40 PM
43	N053856-004A-PS	PS	1	12/20/2022	02:19:35 PM
44	N053856-004A-MS2	MS	1	12/20/2022	02:22:31 PM
45	N053856-004A-MSD2	MSD	1	12/20/2022	02:25:27 PM
46	MB-97211	MBLK	1	12/20/2022	02:28:23 PM
47	LCS2-97211	LCS	1	12/20/2022	02:31:20 PM
48	N054089-001C	SAMP	5	12/20/2022	02:34:14 PM
49	N054089-002C	SAMP	5	12/20/2022	02:38:39 PM
50	MB-97232	MBLK	1	12/20/2022	02:43:04 PM
51	LCS2-97232	LCS	1	12/20/2022	02:45:58 PM
52	N054085-001H	SAMP	5	12/20/2022	02:48:54 PM
14	CCV3	CCV	1	12/20/2022	02:51:50 PM
1	CCB3	CCB	1	12/20/2022	02:55:16 PM
19	ICSA2	ICSA	1	12/20/2022	02:58:12 PM
20	ICSAB2	ICSAB	1	12/20/2022	03:01:10 PM
53	MB-97225	MBLK	1	12/20/2022	03:04:39 PM
54	LCS2-97225	LCS	1	12/20/2022	03:07:37 PM
55	N054092-001A	SAMP	1	12/20/2022	03:10:33 PM
56	N054092-002A	SAMP	1	12/20/2022	03:13:30 PM
57	N054092-002A	SAMP	5	12/20/2022	03:16:27 PM
58	N054092-002A-PS	PS	1	12/20/2022	03:19:24 PM
59	N054092-002A-MS2	MS	1	12/20/2022	03:22:53 PM
60	N054092-002A-MSD2	MSD	1	12/20/2022	03:26:20 PM
14	CCV4	CCV	1	12/20/2022	03:29:47 PM
14	CCV4	CCV	1	12/20/2022	03:35:33 PM
1	CCB4	CCB	1	12/20/2022	03:39:00 PM
61	N053885-001C	SAMP	25	12/20/2022	03:44:31 PM
62	N053885-001C	SAMP	125	12/20/2022	03:48:57 PM
63	N053885-001C	SAMP	625	12/20/2022	03:51:52 PM
64	N053885-001C-PS	PS	5	12/20/2022	03:54:48 PM
65	N053885-001C-PS	PS	125	12/20/2022	03:59:16 PM
66	N053885-001C-MS2	MS	5	12/20/2022	04:02:12 PM
67	N053885-001C-MS2	MS	125	12/20/2022	04:06:42 PM
68	N053885-001C-MSD2	MS	5	12/20/2022	04:09:37 PM
69	N053885-001C-MSD2	MS	125	12/20/2022	04:14:42 PM
70	N053885-002C	SAMP	125	12/20/2022	04:17:39 PM
14	CCV5	CCV	1	12/20/2022	04:26:56 PM
1	CCB5	CCB	1	12/20/2022	04:30:23 PM
71	N053885-003C	SAMP	125	12/20/2022	04:33:18 PM
72	N053885-004C	SAMP	125	12/20/2022	04:36:13 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
73	N054089-001C	SAMP	25	12/20/2022	04:39:08 PM
74	N054089-001C	SAMP	125	12/20/2022	04:42:03 PM
75	N054089-001C	SAMP	625	12/20/2022	04:45:02 PM
76	N054089-001C-PS	PS	5	12/20/2022	04:47:57 PM
77	N054089-001C-PS	PS	125	12/20/2022	04:50:54 PM
78	N054089-001C-MS2	MS	5	12/20/2022	04:53:50 PM
79	N054089-001C-MS2	MS	125	12/20/2022	04:58:17 PM
80	N054089-001C-MSD2	MSD	5	12/20/2022	05:01:14 PM
14	CCV6	CCV	1	12/20/2022	05:04:40 PM
1	CCB6	CCB	1	12/20/2022	05:08:06 PM
19	ICSA3	ICSA	1	12/20/2022	05:11:00 PM
20	ICSAB3	ICSAB	1	12/20/2022	05:13:57 PM
81	N054089-001C-MSD2	MSD	125	12/20/2022	05:17:25 PM
82	N053089-002C	SAMP	125	12/20/2022	05:20:22 PM
83	N054085-001H	SAMP	25	12/20/2022	05:23:19 PM
84	N054085-001H	SAMP	125	12/20/2022	05:26:16 PM
85	N054085-001H-PS	PS	5	12/20/2022	05:29:11 PM
86	N054085-001H-PS	PS	25	12/20/2022	05:36:29 PM
87	N054085-001H-MS2	MS	5	12/20/2022	05:39:24 PM
88	N054085-001H-MS2	MS	25	12/20/2022	05:42:21 PM
89	N054085-001H-MSD2	MSD	5	12/20/2022	05:45:17 PM
90	N054085-001H-MSD2	MSD	25	12/20/2022	05:48:13 PM
14	CCV7	CCV	1	12/20/2022	05:51:10 PM
1	CCB7	CCB	1	12/20/2022	05:54:37 PM
19	ICSA4	ICSA	1	12/20/2022	05:57:31 PM
20	ICSAB4	ICSAB	1	12/20/2022	06:00:28 PM

INJECTION LOG: 221222A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-220716J, 0.5<50mL
Standard2	MWST-220920H,1<50mL
Standard3	MWST-220920I, 5<50mL
Standard4	MWST-220920I,12.5<50mL
Standard5	MWST-220920I,15<40mL
Standard6	MWST-220920I, 25<50mL
Standard7	MWST-220920I
ICV	MWST-220920O
CCV	MWST-220920I, 25<50mL
ICSA/ICSAB	MWST-220716Q/ MWST-220716R
Int. Std. (Y)	MWST-220920B
PS Spike	MWST-220920L/220716T/U

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	12/22/2022	10:22:09 AM
2	Standard1	ICAL	1	12/22/2022	10:26:05 AM
3	Standard2	ICAL	1	12/22/2022	10:30:00 AM
4	Standard3	ICAL	1	12/22/2022	10:33:57 AM
5	Standard4	ICAL	1	12/22/2022	10:37:53 AM
6	Standard5	ICAL	1	12/22/2022	10:43:11 AM
7	Standard6	ICAL	1	12/22/2022	10:48:30 AM
8	Standard7	ICAL	1	12/22/2022	10:53:49 AM
250	ICV	ICV	1	12/22/2022	10:59:21 AM
1	ICB	ICB	1	12/22/2022	11:04:41 AM
2	LLICV	CCV1	1	12/22/2022	11:08:37 AM
9	ICSA1	ICSA	1	12/22/2022	11:14:39 AM
10	ICSAB1	ICSAB	1	12/22/2022	11:20:38 AM
239	RINSE	RINSE		12/22/2022	11:29:20 AM
11	MB-97066	MBLK	1	12/22/2022	11:33:20 AM
12	LCS1-97066	LCS	1	12/22/2022	11:37:14 AM
13	N053885-001C	SAMP	1	12/22/2022	11:42:30 AM
14	N053885-002C	SAMP	1	12/22/2022	11:47:45 AM
15	N053885-003C	SAMP	1	12/22/2022	11:53:01 AM
16	N053885-004C	SAMP	1	12/22/2022	11:58:18 AM
17	N053885-004C	SAMP	5	12/22/2022	12:03:35 PM
18	N053885-004C-PS	PS	1	12/22/2022	12:07:33 PM
19	N053885-004C-MS1	MS	1	12/22/2022	12:12:51 PM
7	CCV1	CCV	1	12/22/2022	12:18:11 PM
1	CCB1	CCB	1	12/22/2022	12:23:30 PM
20	N053885-004C-MSD1	MSD	1	12/22/2022	12:27:26 PM
21	N053923-002D	SAMP	1	12/22/2022	12:32:44 PM
22	N053923-003D	SAMP	1	12/22/2022	12:36:42 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
23	N053923-004D	SAMP	1	12/22/2022	12:42:00 PM
24	N053923-005D	SAMP	1	12/22/2022	12:47:15 PM
25	N053925-001B	SAMP	1	12/22/2022	12:52:31 PM
26	N053925-002B	SAMP	1	12/22/2022	12:57:49 PM
27	N053925-003B	SAMP	1	12/22/2022	01:03:08 PM
28	N053925-004B	SAMP	1	12/22/2022	01:08:25 PM
29	N053925-005B	SAMP	1	12/22/2022	01:13:41 PM
7	CCV2	CCV	1	12/22/2022	01:18:57 PM
1	CCB2	CCB	1	12/22/2022	01:24:16 PM
30	N053925-006B	SAMP	1	12/22/2022	01:28:12 PM
31	N053925-007B	SAMP	1	12/22/2022	01:33:30 PM
32	N053925-008B	SAMP	1	12/22/2022	01:38:47 PM
33	N053925-009B	SAMP	1	12/22/2022	01:44:05 PM
34	MB-97088	MBLK	1	12/22/2022	01:49:22 PM
35	LCS-97088	LCS	1	12/22/2022	01:53:19 PM
36	N053958-001C	SAMP	1	12/22/2022	01:58:36 PM
37	N053958-002C	SAMP	1	12/22/2022	02:03:51 PM
38	N053958-002C	SAMP	5	12/22/2022	02:09:07 PM
39	N053958-002C-PS	PS	1	12/22/2022	02:13:02 PM
7	CCV3	CCV	1	12/22/2022	02:18:18 PM
7	CCV3	CCV	1	12/22/2022	02:25:20 PM
1	CCB3	CCB	1	12/22/2022	02:30:39 PM
9	ICSA2	ICSA	1	12/22/2022	02:34:34 PM
10	ICSAB2	ICSAB	1	12/22/2022	02:40:31 PM
239	RINSE	RINSE	1	12/22/2022	02:46:31 PM
40	N053958-002C-MS	MS	1	12/22/2022	02:50:31 PM
41	N053958-002C-MSD	MSD	1	12/22/2022	02:55:48 PM
42	N053958-003C	SAMP	1	12/22/2022	03:01:06 PM
43	N053958-004B	SAMP	1	12/22/2022	03:06:23 PM
44	N053958-005B	SAMP	1	12/22/2022	03:11:40 PM
45	N053958-006B	SAMP	1	12/22/2022	03:16:59 PM
46	N053958-007B	SAMP	1	12/22/2022	03:22:17 PM
47	N053959-001B	SAMP	1	12/22/2022	03:26:14 PM
48	N053959-002B	SAMP	1	12/22/2022	03:31:30 PM
7	CCV4	CCV	1	12/22/2022	03:36:45 PM
1	CCB4	CCB	1	12/22/2022	03:42:05 PM
49	N053959-003B	SAMP	1	12/22/2022	03:46:02 PM
50	N053959-004B	SAMP	1	12/22/2022	03:51:17 PM
51	N053959-005B	SAMP	1	12/22/2022	03:56:33 PM
52	N053959-006B	SAMP	1	12/22/2022	04:01:50 PM
53	N053959-007B	SAMP	1	12/22/2022	04:07:06 PM
54	N053959-008B	SAMP	1	12/22/2022	04:10:33 PM
55	N053959-009B	SAMP	1	12/22/2022	04:15:50 PM
56	N053959-010B	SAMP	1	12/22/2022	04:21:08 PM
57	N053959-012B	SAMP	1	12/22/2022	04:26:25 PM
58	N053959-013B	SAMP	1	12/22/2022	04:30:23 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
7	CCV5	CCV	1	12/22/2022	04:34:22 PM
1	CCB5	CCB	1	12/22/2022	04:39:41 PM
59	N053959-014B	SAMP	1	12/22/2022	04:43:38 PM
60	MB-97231	MBLK	1	12/22/2022	04:47:35 PM
61	LCS1-97231	LCS	1	12/22/2022	04:51:31 PM
62	N053958-001E	SAMP	1	12/22/2022	04:56:59 PM
63	N053958-001E	SAMP	5	12/22/2022	05:02:15 PM
64	N053958-001E-PS	PS	1	12/22/2022	05:06:11 PM
65	N053958-001E-MS	MS	1	12/22/2022	05:11:28 PM
66	N053958-001E-MSD	MSD	1	12/22/2022	05:16:46 PM
67	N053958-002E	SAMP	1	12/22/2022	05:22:05 PM
68	N053958-003E	SAMP	1	12/22/2022	05:27:22 PM
7	CCV6	CCV	1	12/22/2022	05:32:41 PM
1	CCB6	CCB	1	12/22/2022	05:38:00 PM
9	ICSA3	ICSA	1	12/22/2022	05:42:03 PM
10	ICSAB3	ICSAB	1	12/22/2022	05:48:00 PM
239	RINSE	RINSE	1	12/22/2022	05:53:58 PM
240	RINSE	RINSE	1	12/22/2022	05:57:56 PM
69	MB-97210	MBLK	1	12/22/2022	06:01:57 PM
70	LCS-97210	LCS	1	12/22/2022	06:12:49 PM
71	N053993-001B	SAMP	1	12/22/2022	06:18:09 PM
72	N053993-001B	SAMP	5	12/22/2022	06:23:26 PM
73	N053993-001B-PS	PS	1	12/22/2022	06:27:22 PM
74	N053993-001B-MS	MS	1	12/22/2022	06:32:39 PM
75	N053993-001B-MSD	MSD	1	12/22/2022	06:37:56 PM
76	N053993-002B	SAMP	1	12/22/2022	06:43:13 PM
7	CCV7	CCV	1	12/22/2022	06:48:30 PM
1	CCB7	CCB	1	12/22/2022	06:53:50 PM
77	N053993-003B	SAMP	1	12/22/2022	06:57:46 PM
78	N053993-004B	SAMP	1	12/22/2022	07:03:03 PM
79	N053993-006B	SAMP	1	12/22/2022	07:08:20 PM
80	N053993-007B	SAMP	1	12/22/2022	07:13:38 PM
81	N053993-008B	SAMP	1	12/22/2022	07:18:56 PM
82	N053993-009B	SAMP	1	12/22/2022	07:24:13 PM
83	N053994-001B	SAMP	1	12/22/2022	07:29:33 PM
84	N053994-002B	SAMP	1	12/22/2022	07:34:49 PM
85	N053994-003B	SAMP	1	12/22/2022	07:40:06 PM
86	N053994-004B	SAMP	1	12/22/2022	07:45:23 PM
7	CCV8	CCV	1	12/22/2022	07:50:39 PM
1	CCB8	CCB	1	12/22/2022	07:55:59 PM
87	N053994-005B	SAMP	1	12/22/2022	07:59:55 PM
88	N053994-006B	SAMP	1	12/22/2022	08:05:12 PM
89	N053994-007B	SAMP	1	12/22/2022	08:10:28 PM
90	N053994-008B	SAMP	1	12/22/2022	08:15:45 PM
91	MB-97211	MBLK	1	12/22/2022	08:21:02 PM
92	LCS1-97211	LCS	1	12/22/2022	08:24:59 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
93	N054021-001B	SAMP	1	12/22/2022	08:30:17 PM
94	N054021-002B	SAMP	1	12/22/2022	08:35:36 PM
95	N054021-003B	SAMP	1	12/22/2022	08:40:54 PM
96	N054021-004B	SAMP	1	12/22/2022	08:46:11 PM
7	CCV9	CCV	1	12/22/2022	08:51:27 PM
1	CCB9	CCB	1	12/22/2022	08:56:46 PM
9	ICSA4	ICSA	1	12/22/2022	09:00:41 PM
10	ICSAB4	ICSAB	1	12/22/2022	09:06:06 PM
240	RINSE	RINSE	1	12/22/2022	09:11:33 PM
97	N054021-005B	SAMP	1	12/22/2022	09:15:33 PM
98	N054021-006B	SAMP	1	12/22/2022	09:19:29 PM
99	N054021-007B	SAMP	1	12/22/2022	09:24:46 PM
100	N054021-008B	SAMP	1	12/22/2022	09:30:02 PM
101	N054021-008B	SAMP	5	12/22/2022	09:35:19 PM
102	N054021-008B-PS	PS	1	12/22/2022	09:39:15 PM
103	N054021-008BMS	MS	1	12/22/2022	09:44:32 PM
104	N054021-008BMSD	MSD	1	12/22/2022	09:49:50 PM
105	N054089-001C	SAMP	1	12/22/2022	09:55:09 PM
7	CCV10	CCV	1	12/22/2022	09:59:07 PM
1	CCB10	CCB	1	12/22/2022	10:04:27 PM
106	N054089-002C	SAMP	1	12/22/2022	10:08:22 PM
7	CCV11	CCV	1	12/22/2022	10:13:41 PM
1	CCB11	CCB	1	12/22/2022	10:19:01 PM
9	ICSA5	ICSA	1	12/22/2022	10:22:55 PM
10	ICSAB5	ICSAB	1	12/22/2022	10:28:22 PM

INJECTION LOG: 221226A

Instrument ID: ICP-02

STANDARD CODE	
Standard1	MWST-220716J, 0.5<50mL
Standard2	MWST-220920H,1<50mL
Standard3	MWST-220920I, 5<50mL
Standard4	MWST-220920I,12.5<50mL
Standard5	MWST-220920I,15<40mL
Standard6	MWST-220920I, 25<50mL
Standard7	MWST-220920I
ICV	MWST-220920O
CCV	MWST-220920I, 25<50mL
ICSA/ICSAB	MWST-220716Q/ MWST-220716R
Int. Std. (Y)	MWST-220920B
PS Spike	MWST-220920L/220716T/U

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
1	CalBlk	IBLK	1	12/26/2022	11:50:47 AM
2	Standard1	ICAL	1	12/26/2022	11:54:22 AM
3	Standard2	ICAL	1	12/26/2022	11:57:58 AM
4	Standard3	ICAL	1	12/26/2022	12:01:33 PM
5	Standard4	ICAL	1	12/26/2022	12:05:08 PM
6	Standard5	ICAL	1	12/26/2022	12:08:46 PM
7	Standard6	ICAL	1	12/26/2022	12:12:23 PM
8	Standard7	ICAL	1	12/26/2022	12:16:00 PM
250	ICV	ICV	1	12/26/2022	12:18:28 PM
1	ICB	ICB	1	12/26/2022	12:22:07 PM
2	LLICV	CCV1	1	12/26/2022	12:25:42 PM
2	LLICV	CCV1	1	12/26/2022	12:33:28 PM
9	ICSA1	ICSA	1	12/26/2022	12:37:04 PM
10	ICSAB1	ICSAB	1	12/26/2022	12:43:21 PM
239	RINSE	RINSE	1	12/26/2022	12:54:37 PM
249	N053717-001F	SAMP	5	12/26/2022	12:58:16 PM
249	N053717-001F	SAMP	5	12/26/2022	01:01:05 PM
36	N053958-001C	SAMP	1	12/26/2022	01:06:34 PM
91	MB-97211	MBLK	1	12/26/2022	01:15:47 PM
92	LCS1-97211	LCS	1	12/26/2022	01:19:22 PM
100	N054021-008B	SAMP	1	12/26/2022	01:22:59 PM
101	N054021-008B	SAMP	5	12/26/2022	01:28:34 PM
102	N054021-008B-PS	PS	1	12/26/2022	01:32:09 PM
7	CCV1	CCV	1	12/26/2022	01:37:45 PM
1	CCB1	CCB	1	12/26/2022	01:41:23 PM
103	N054021-008BMS	MS	1	12/26/2022	01:44:58 PM
104	N054021-008BMSD	MSD	1	12/26/2022	01:50:34 PM
105	N054089-001C	SAMP	1	12/26/2022	01:56:10 PM

A/S Loc	Sample Name	Type	DF	Acq Date	Acq Time
106	N054089-002C	SAMP	1	12/26/2022	02:01:48 PM
7	CCV2	CCV	1	12/26/2022	02:07:25 PM
1	CCB2	CCB	1	12/26/2022	02:11:03 PM
9	ICSA2	ICSA	1	12/26/2022	02:14:38 PM
10	ICSAB2	ICSAB	1	12/26/2022	02:20:55 PM
10	ICSAB2	ICSAB	1	12/26/2022	02:30:32 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/13/2022 10:47:0**
Prep End Date: **12/13/2022 3:00:00**

Reviewed/ Date: JRB 1/15/2023

Initials/ Date: for

Prep Batch **97211** Prep Code: **3010_W_DISS** Technician: **Diane Jetajobe**

Prep Factor Units
mL / mL

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
LCS1-97211	Aqueous		25	☐	25	1.000		
LCS2-97211	Aqueous	<2	25	☐	25	1.000		
MB-97211	Aqueous		25	☐	25	1.000		
N054021-001B	Groundwater	<2	25	☐	25	1.000		
N054021-002B	Groundwater	<2	25	☐	25	1.000		
N054021-003B	Groundwater	<2	25	☐	25	1.000		
N054021-004B	Groundwater	<2	25	☐	25	1.000		
N054021-005B	Groundwater	<2	25	☐	25	1.000		
N054021-006B	Groundwater	<2	25	☐	25	1.000		
N054021-007B 7500	Groundwater	<2	25	☐	25	1.000		
N054021-008B	Groundwater	<2	25	☐	25	1.000		
N054021-008BMS	Groundwater	<2	25	☐	25	1.000		
N054021-008BMS	Groundwater	<2	25	☐	25	1.000		
N054089-001C	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14302	HYDROCHLORIC ACID
14313	NITIRC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-220716T	ICP Solution B	LCS,MS,MSD	0.5
MWST-220716U	ICP Solution C	LCS,MS,MSD	0.5
MWST-220920L	ICP Solution A	LCS,MS,MSD	0.5

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/13/2022 10:47:0**
Prep End Date: **12/13/2022 3:00:00**

Reviewed/ Date: JRB 1/15/2023

Initials/ Date: for

Prep Batch **97211** Prep Code: **3010_W_DISS** Technician: **Diane Jetajobe**

Prep Factor Units
mL / mL

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
N054089-001C-MS	Groundwater	<2	25	☐	25	1.000		
N054089-001C-MS	Groundwater	<2	25	☐	25	1.000		
N054089-002C	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14302	HYDROCHLORIC ACID
14313	NITIRC ACID

Spk ID	Spike Name	SampType	AmtAdd
MWST-220716T	ICP Solution B	LCS,MS,MSD	0.5
MWST-220716U	ICP Solution C	LCS,MS,MSD	0.5
MWST-220920L	ICP Solution A	LCS,MS,MSD	0.5

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 221220B

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Sodium								
CalBlk	12/20/2022	12:04:16 PM	Na	589.61	1112	0.00	mg/L	
Standard1	12/20/2022	12:07:12 PM	Na	589.61	513	0.1000	mg/L	
Standard2	12/20/2022	12:10:07 PM	Na	589.61	4661	1.000	mg/L	
Standard3	12/20/2022	12:13:01 PM	Na	589.61	23735	5.000	mg/L	
Standard4	12/20/2022	12:16:26 PM	Na	589.61	47387	10.000	mg/L	
Standard5	12/20/2022	12:19:52 PM	Na	589.61	95418	20.000	mg/L	
Standard6	12/20/2022	12:23:19 PM	Na	589.61	193120	40.000	mg/L	1.0000
Potassium								
CalBlk	12/20/2022	12:04:16 PM	K	766.479	-1127	0.00	mg/L	
Standard1	12/20/2022	12:07:12 PM	K	766.479	154	0.1000	mg/L	
Standard2	12/20/2022	12:10:07 PM	K	766.479	1671	1.000	mg/L	
Standard3	12/20/2022	12:13:01 PM	K	766.479	8665	5.000	mg/L	
Standard4	12/20/2022	12:16:26 PM	K	766.479	17279	10.000	mg/L	
Standard5	12/20/2022	12:19:52 PM	K	766.479	34784	20.000	mg/L	
Standard6	12/20/2022	12:23:19 PM	K	766.479	70468	40.000	mg/L	1.0000

INITIAL CALIBRATION SUMMARY: 221222A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Magnesium								
CalBlk	12/22/2022	10:22:09 AM	Mg	279.077	1015	0.00	mg/L	
Standard1	12/22/2022	10:26:05 AM	Mg	279.077	1009	0.1000	mg/L	
Standard2	12/22/2022	10:30:00 AM	Mg	279.077	9586	1.000	mg/L	
Standard3	12/22/2022	10:33:57 AM	Mg	279.077	21651	2.000	mg/L	
Standard4	12/22/2022	10:37:53 AM	Mg	279.077	53338	5.000	mg/L	
Standard5	12/22/2022	10:43:11 AM	Mg	279.077	78269	7.500	mg/L	
Standard6	12/22/2022	10:48:30 AM	Mg	279.077	104309	10.000	mg/L	
Standard7	12/22/2022	10:53:49 AM	Mg	279.077	217929	20.000	mg/L	0.9998
Calcium								
CalBlk	12/22/2022	10:22:09 AM	Ca	227.546	231	0.00	mg/L	
Standard1	12/22/2022	10:26:05 AM	Ca	227.546	40	0.2000	mg/L	
Standard2	12/22/2022	10:30:00 AM	Ca	227.546	168	1.000	mg/L	
Standard3	12/22/2022	10:33:57 AM	Ca	227.546	341	2.000	mg/L	
Standard4	12/22/2022	10:37:53 AM	Ca	227.546	786	5.000	mg/L	
Standard5	12/22/2022	10:43:11 AM	Ca	227.546	1171	7.500	mg/L	
Standard6	12/22/2022	10:48:30 AM	Ca	227.546	1527	10.000	mg/L	
Standard7	12/22/2022	10:53:49 AM	Ca	227.546	3065	20.000	mg/L	0.9999
Iron								
CalBlk	12/22/2022	10:22:09 AM	Fe	273.953	-79	0.00	mg/L	
Standard1	12/22/2022	10:26:05 AM	Fe	273.953	317	0.0200	mg/L	
Standard2	12/22/2022	10:30:00 AM	Fe	273.953	874	0.050	mg/L	
Standard3	12/22/2022	10:33:57 AM	Fe	273.953	33943	2.000	mg/L	
Standard4	12/22/2022	10:37:53 AM	Fe	273.953	81335	5.000	mg/L	
Standard5	12/22/2022	10:43:11 AM	Fe	273.953	125574	7.500	mg/L	
Standard6	12/22/2022	10:48:30 AM	Fe	273.953	155557	10.000	mg/L	
Standard7	12/22/2022	10:53:49 AM	Fe	273.953	316240	20.000	mg/L	0.9998

INITIAL CALIBRATION SUMMARY: 221226A

Instrument ID: ICP-02

Sample ID	Date	Time	Elem	Wavelength	Corrected Intensity	Concentration	Units	R
Magnesium								
CalBlk	12/26/2022	11:50:47 AM	Mg	279.077	758	0.00	mg/L	
Standard1	12/26/2022	11:54:22 AM	Mg	279.077	1302	0.1000	mg/L	
Standard2	12/26/2022	11:57:58 AM	Mg	279.077	13283	1.000	mg/L	
Standard3	12/26/2022	12:01:33 PM	Mg	279.077	29713	2.000	mg/L	
Standard4	12/26/2022	12:05:08 PM	Mg	279.077	71356	5.000	mg/L	
Standard5	12/26/2022	12:08:46 PM	Mg	279.077	100012	7.500	mg/L	
Standard6	12/26/2022	12:12:23 PM	Mg	279.077	135115	10.000	mg/L	
Standard7	12/26/2022	12:16:00 PM	Mg	279.077	268083	20.000	mg/L	0.9999

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICV**	SampType: **ICV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ICV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9832.294	20	10000	0	98.3	90	110				

Sample ID: **LLICV**	SampType: **CCV1**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	18.225	20	20.00	0	91.1	80	120				

Sample ID: **CCV1**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10111.793	20	10000	0	101	90	110				

Sample ID: **CCV2**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10244.178	20	10000	0	102	90	110				

Sample ID: **CCV3**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9667.865	20	10000	0	96.7	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCV4**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9804.286	20	10000	0	98.0	90	110				

Sample ID: **CCV5**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	10107.852	20	10000	0	101	90	110				

Sample ID: **CCV6**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9971.187	20	10000	0	99.7	90	110				

Sample ID: **CCV7**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9799.474	20	10000	0	98.0	90	110				

Sample ID: **CCV8**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9717.477	20	10000	0	97.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCV9**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9643.786	20	10000	0	96.4	90	110				

Sample ID: **CCV10**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9706.307	20	10000	0	97.1	90	110				

Sample ID: **CCV11**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCV**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	9724.649	20	10000	0	97.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICV**	SampType: **ICV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICV**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	9.844	0.50	10.00	0	98.4	90	110				
Sodium	9.869	0.50	10.00	0	98.7	90	110				

Sample ID: **LLICV**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCV**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.538	0.50	0.5000	0	108	80	120				
Sodium	0.507	0.50	0.5000	0	101	80	120				

Sample ID: **CCV1**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCV**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.004	0.50	10.00	0	100	90	110				
Sodium	10.207	0.50	10.00	0	102	90	110				

Sample ID: **CCV2**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCV**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.060	0.50	10.00	0	101	90	110				
Sodium	10.464	0.50	10.00	0	105	90	110				

Sample ID: **CCV3**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCV**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.092	0.50	10.00	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168376**
Client ID: **CCV** Batch ID: **R168376** TestNo: **EPA 6010B** Analysis Date: **12/20/2022** SeqNo: **4981763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	10.642	0.50	10.00	0	106	90	110				

Sample ID: **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168376**
Client ID: **CCV** Batch ID: **R168376** TestNo: **EPA 6010B** Analysis Date: **12/20/2022** SeqNo: **4981776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.101	0.50	10.00	0	101	90	110				
Sodium	10.947	0.50	10.00	0	109	90	110				

Sample ID: **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168376**
Client ID: **CCV** Batch ID: **R168376** TestNo: **EPA 6010B** Analysis Date: **12/20/2022** SeqNo: **4981788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.229	0.50	10.00	0	102	90	110				
Sodium	10.258	0.50	10.00	0	103	90	110				

Sample ID: **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168376**
Client ID: **CCV** Batch ID: **R168376** TestNo: **EPA 6010B** Analysis Date: **12/20/2022** SeqNo: **4981800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.254	0.50	10.00	0	103	90	110				
Sodium	9.887	0.50	10.00	0	98.9	90	110				

Sample ID: **CCV7** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168376**
Client ID: **CCV** Batch ID: **R168376** TestNo: **EPA 6010B** Analysis Date: **12/20/2022** SeqNo: **4981814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	9.762	0.50	10.00	0	97.6	90	110				
Sodium	9.071	0.50	10.00	0	90.7	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICV** SampType: **ICV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.006	0.50	10.00	0	100	90	110				
Iron	9.832	0.020	10.00	0	98.3	90	110				
Magnesium	9.766	0.10	10.00	0	97.7	90	110				

Sample ID: **LLICV** SampType: **CCV1** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ZZZZZZ** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.274	0.50	0.2000	0	137	80	120				S
Iron	0.018	0.020	0.02000	0	91.1	80	120				
Magnesium	0.089	0.10	0.1000	0	88.9	80	120				

Sample ID: **CCV1** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.672	0.50	10.00	0	107	90	110				
Iron	10.112	0.020	10.00	0	101	90	110				
Magnesium	9.958	0.10	10.00	0	99.6	90	110				

Sample ID: **CCV2** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.883	0.50	10.00	0	109	90	110				
Iron	10.244	0.020	10.00	0	102	90	110				
Magnesium	9.989	0.10	10.00	0	99.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

%Rec of Ca in LLICV failed, biased high. However, samples are greater than regular ICV concentration which passed QC criteria. JRB 1/15/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCV3** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.364	0.50	10.00	0	104	90	110				
Iron	9.668	0.020	10.00	0	96.7	90	110				
Magnesium	9.158	0.10	10.00	0	91.6	90	110				

Sample ID: **CCV4** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.388	0.50	10.00	0	104	90	110				
Iron	9.804	0.020	10.00	0	98.0	90	110				
Magnesium	9.152	0.10	10.00	0	91.5	90	110				

Sample ID: **CCV5** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.644	0.50	10.00	0	106	90	110				
Iron	10.108	0.020	10.00	0	101	90	110				
Magnesium	9.364	0.10	10.00	0	93.6	90	110				

Sample ID: **CCV6** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.290	0.50	10.00	0	103	90	110				
Iron	9.971	0.020	10.00	0	99.7	90	110				
Magnesium	9.182	0.10	10.00	0	91.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCV7** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.056	0.50	10.00	0	101	90	110				
Iron	9.799	0.020	10.00	0	98.0	90	110				
Magnesium	9.042	0.10	10.00	0	90.4	90	110				

Sample ID: **CCV8** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.716	0.50	10.00	0	97.2	90	110				
Iron	9.717	0.020	10.00	0	97.2	90	110				
Magnesium	8.930	0.10	10.00	0	89.3	90	110				S

Sample ID: **CCV9** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.414	0.50	10.00	0	94.1	90	110				
Iron	9.644	0.020	10.00	0	96.4	90	110				
Magnesium	8.732	0.10	10.00	0	87.3	90	110				S

Sample ID: **CCV10** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988507**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.348	0.50	10.00	0	93.5	90	110				
Iron	9.706	0.020	10.00	0	97.1	90	110				
Magnesium	8.412	0.10	10.00	0	84.1	90	110				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

%Rec of Mg in CCV8 onwards failed, biased low. However, affected samples are reported for Ca only.

JRB 1/15/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCV11** SampType: **CCV** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCV** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.273	0.50	10.00	0	92.7	90	110				
Iron	9.725	0.020	10.00	0	97.2	90	110				
Magnesium	8.349	0.10	10.00	0	83.5	90	110				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICV**	SampType: **ICV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ICV**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	9.917	0.10	10.00	0	99.2	90	110				

Sample ID: **LLICV**	SampType: **CCV1**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ZZZZZZ**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.097	0.10	0.1000	0	96.9	80	120				

Sample ID: **CCV1**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **CCV**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990492**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	10.149	0.10	10.00	0	101	90	110				

Sample ID: **CCV2**	SampType: **CCV**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **CCV**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	10.098	0.10	10.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICB**	SampType: **ICB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ICB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986699**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-0.878472	20									

Sample ID: **CCB1**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-3.341907	20									

Sample ID: **CCB2**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-6.298321	20									

Sample ID: **CCB3**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-7.665383	20									

Sample ID: **CCB4**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-9.531534	20									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCB5**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-7.376237	20									

Sample ID: **CCB6**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-6.531066	20									

Sample ID: **CCB7**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-5.170632	20									

Sample ID: **CCB8**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-4.84061	20									

Sample ID: **CCB9**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-2.552439	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **CCB10**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-3.481001	20									

Sample ID: **CCB11**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **CCB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	-2.986193	20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICB**	SampType: **ICB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.012888	0.50									
Sodium	0.022	0.50									

Sample ID: **CCB1**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.047425	0.50									
Sodium	0.031	0.50									

Sample ID: **CCB2**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.092691	0.50									
Sodium	0.058	0.50									

Sample ID: **CCB3**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.130977	0.50									
Sodium	0.113	0.50									

Sample ID: **CCB4**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.158868	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCB4**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.125	0.50									

Sample ID: **CCB5**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.0534	0.50									
Sodium	0.029	0.50									

Sample ID: **CCB6**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.05355	0.50									
Sodium	-0.004744	0.50									

Sample ID: **CCB7**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **CCB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.143	0.50									
Sodium	-0.065697	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICB**	SampType: **ICB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **ICB**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.109	0.50									
Iron	-0.000878	0.020									
Magnesium	0.000227	0.10									

Sample ID: **CCB1**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **CCB**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.188	0.50									
Iron	-0.003342	0.020									
Magnesium	0.008	0.10									

Sample ID: **CCB2**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **CCB**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.306	0.50									
Iron	-0.006298	0.020									
Magnesium	0.006	0.10									

Sample ID: **CCB3**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **CCB**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.337	0.50									
Iron	-0.007665	0.020									
Magnesium	0.001	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCB4** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.158	0.50									
Iron	-0.009532	0.020									
Magnesium	0.005	0.10									

Sample ID: **CCB5** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.191	0.50									
Iron	-0.007376	0.020									
Magnesium	-0.000712	0.10									

Sample ID: **CCB6** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988459**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.053	0.50									
Iron	-0.006531	0.020									
Magnesium	-0.004375	0.10									

Sample ID: **CCB7** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.009864	0.50									
Iron	-0.005171	0.020									
Magnesium	0.003	0.10									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **CCB8** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.077579	0.50									
Iron	-0.004841	0.020									
Magnesium	0.000083	0.10									

Sample ID: **CCB9** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.209441	0.50									
Iron	-0.002552	0.020									
Magnesium	-0.00199	0.10									

Sample ID: **CCB10** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.1278	0.50									
Iron	-0.003481	0.020									
Magnesium	-0.001677	0.10									

Sample ID: **CCB11** SampType: **CCB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **CCB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	-0.263797	0.50									
Iron	-0.002986	0.020									
Magnesium	-0.00164	0.10									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICB**	SampType: **ICB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ICB**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.000269	0.10									

Sample ID: **CCB1**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **CCB**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.011	0.10									

Sample ID: **CCB2**	SampType: **CCB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **CCB**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	0.111	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Detect of Mg in CCB2 is > RL. However, detection on samples is >10x the CCB detection.

JRB 1/15/2023

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSA1** SampType: **ICSA** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSA** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524893.271	50	500000	0	105	80	120				
Calcium	446413.761	500	500000	0	89.3	80	120				
Iron	196009.526	20	200000	0	98.0	80	120				
Magnesium	517900.336	100	500000	0	104	80	120				

Sample ID: **ICSAB1** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSAB** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536968.259	50	500000	0	107	80	120				
Calcium	453545.479	500	500000	0	90.7	80	120				
Iron	191145.705	20	200000	0	95.6	80	120				
Magnesium	533478.422	100	500000	0	107	80	120				

Sample ID: **ICSA2** SampType: **ICSA** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSA** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	534009.632	50	500000	0	107	80	120				
Calcium	462113.654	500	500000	0	92.4	80	120				
Iron	201026.912	20	200000	0	101	80	120				
Magnesium	520595.502	100	500000	0	104	80	120				

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSAB** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	571798.989	50	500000	0	114	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSAB** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	486155.126	500	500000	0	97.2	80	120				
Iron	198215.276	20	200000	0	99.1	80	120				
Magnesium	554967.804	100	500000	0	111	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSA** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	559317.015	50	500000	0	112	80	120				
Calcium	468439.109	500	500000	0	93.7	80	120				
Iron	207761.912	20	200000	0	104	80	120				
Magnesium	507855.453	100	500000	0	102	80	120				

Sample ID: **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSAB** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	568654.075	50	500000	0	114	80	120				
Calcium	477393.470	500	500000	0	95.5	80	120				
Iron	200621.361	20	200000	0	100	80	120				
Magnesium	513768.071	100	500000	0	103	80	120				

Sample ID: **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ICSA** Batch ID: **R168435** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	549421.267	50	500000	0	110	80	120				
Calcium	460810.261	500	500000	0	92.2	80	120				
Iron	199656.655	20	200000	0	99.8	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **ICSA4**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ICSA**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	482878.564	100	500000	0	96.6	80	120				

Sample ID: **ICSAB4**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ICSAB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	561766.858	50	500000	0	112	80	120				
Calcium	459189.211	500	500000	0	91.8	80	120				
Iron	193324.975	20	200000	0	96.7	80	120				
Magnesium	492191.761	100	500000	0	98.4	80	120				

Sample ID: **ICSA5**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ICSA**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	10									
Calcium	452448.270	500	500000	0	90.5	80	120				
Iron	200611.854	20	200000	0	100	80	120				
Magnesium	464166.536	100	500000	0	92.8	80	120				

Sample ID: **ICSAB5**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168435**
Client ID: **ICSAB**	Batch ID: **R168435**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	564512.487	50	500000	0	113	80	120				
Calcium	455194.462	500	500000	0	91.0	80	120				
Iron	193926.607	20	200000	0	97.0	80	120				
Magnesium	469793.321	100	500000	0	94.0	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSA1**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSA**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.050831	0.50									
Sodium	0.001	0.50									

Sample ID: **ICSAB1**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSAB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	9.891	0.50	10.00	0	98.9	80	120				
Sodium	9.953	0.50	10.00	0	99.5	80	120				

Sample ID: **ICSA2**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSA**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.176473	0.50									
Sodium	0.083	0.50									

Sample ID: **ICSAB2**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSAB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.078	0.50	10.00	0	101	80	120				
Sodium	10.670	0.50	10.00	0	107	80	120				

Sample ID: **ICSA3**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSA**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	-0.077696	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSA3**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSA**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.005	0.50									

Sample ID: **ICSAB3**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSAB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.297	0.50	10.00	0	103	80	120				
Sodium	9.971	0.50	10.00	0	99.7	80	120				

Sample ID: **ICSA4**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSA**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	0.095	0.50									
Sodium	-0.062953	0.50									

Sample ID: **ICSAB4**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ICSAB**	Batch ID: **R168376**	TestNo: **EPA 6010B**		Analysis Date: **12/20/2022**	SeqNo: **4981817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10.393	0.50	10.00	0	104	80	120				
Sodium	9.666	0.50	10.00	0	96.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSA1**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **ICSA**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	524.893	0.050	500.0	0	105	80	120				
Boron	0.019	0.10									
Calcium	446.414	0.50	500.0	0	89.3	80	120				
Iron	196.010	0.020	200.0	0	98.0	80	120				
Magnesium	517.900	0.10	500.0	0	104	80	120				

Sample ID: **ICSAB1**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **ICSAB**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	536.968	0.050	500.0	0	107	80	120				
Boron	1.778	0.10	1.000	0	178	80	120				S
Calcium	453.545	0.50	500.0	0	90.7	80	120				
Iron	191.146	0.020	200.0	0	95.6	80	120				
Magnesium	533.478	0.10	500.0	0	107	80	120				

Sample ID: **ICSA2**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **ICSA**	Batch ID: **R168434**	TestNo: **EPA 6010B**		Analysis Date: **12/22/2022**	SeqNo: **4986609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	534.010	0.050	500.0	0	107	80	120				
Boron	0.065	0.10									
Calcium	462.114	0.50	500.0	0	92.4	80	120				
Iron	201.027	0.020	200.0	0	101	80	120				
Magnesium	520.596	0.10	500.0	0	104	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Ba is non-target analyte.

JRB 1/15/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSAB2** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSAB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4986610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	571.799	0.050	500.0	0	114	80	120				
Boron	1.957	0.10	1.000	0	196	80	120				S
Calcium	486.155	0.50	500.0	0	97.2	80	120				
Iron	198.215	0.020	200.0	0	99.1	80	120				
Magnesium	554.968	0.10	500.0	0	111	80	120				

Sample ID: **ICSA3** SampType: **ICSA** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSA** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	559.317	0.050	500.0	0	112	80	120				
Calcium	468.439	0.50	500.0	0	93.7	80	120				
Iron	207.762	0.020	200.0	0	104	80	120				
Magnesium	507.855	0.10	500.0	0	102	80	120				

Sample ID: **ICSAB3** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSAB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	568.654	0.050	500.0	0	114	80	120				
Calcium	477.393	0.50	500.0	0	95.5	80	120				
Iron	200.621	0.020	200.0	0	100	80	120				
Magnesium	513.768	0.10	500.0	0	103	80	120				

Sample ID: **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSA** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	549.421	0.050	500.0	0	110	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSA4** SampType: **ICSA** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSA** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	460.810	0.50	500.0	0	92.2	80	120				
Iron	199.657	0.020	200.0	0	99.8	80	120				
Magnesium	482.879	0.10	500.0	0	96.6	80	120				

Sample ID: **ICSAB4** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSAB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	561.767	0.050	500.0	0	112	80	120				
Calcium	459.189	0.50	500.0	0	91.8	80	120				
Iron	193.325	0.020	200.0	0	96.7	80	120				
Magnesium	492.192	0.10	500.0	0	98.4	80	120				

Sample ID: **ICSA5** SampType: **ICSA** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSA** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	553.143	0.050	500.0	0	111	80	120				
Calcium	452.448	0.50	500.0	0	90.5	80	120				
Iron	200.612	0.020	200.0	0	100	80	120				
Magnesium	464.167	0.10	500.0	0	92.8	80	120				

Sample ID: **ICSAB5** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSAB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	564.512	0.050	500.0	0	113	80	120				
Calcium	455.194	0.50	500.0	0	91.0	80	120				
Iron	193.927	0.020	200.0	0	97.0	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSAB5** SampType: **ICSAB** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: RunNo: **168434**
Client ID: **ICSAB** Batch ID: **R168434** TestNo: **EPA 6010B** Analysis Date: **12/22/2022** SeqNo: **4988513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	469.793	0.10	500.0	0	94.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **ICSA1**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ICSA**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	492.242	0.10	500.0	0	98.4	80	120				

Sample ID: **ICSAB1**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ICSAB**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	506.193	0.10	500.0	0	101	80	120				

Sample ID: **ICSA2**	SampType: **ICSA**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ICSA**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	493.933	0.10	500.0	0	98.8	80	120				

Sample ID: **ICSAB2**	SampType: **ICSAB**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ICSAB**	Batch ID: **R168476**	TestNo: **EPA 6010B**		Analysis Date: **12/26/2022**	SeqNo: **4990502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	483.702	0.10	500.0	0	96.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 221220B

Instrument ID: ICP-02

Sample Name	Type	DF	Scandium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	0.98	98.16	65-125	PASS
Standard2	ICAL	1	0.99	99.14	65-125	PASS
Standard3	ICAL	1	1.01	100.69	65-125	PASS
Standard4	ICAL	1	1.01	100.69	65-125	PASS
Standard5	ICAL	1	1.01	100.86	65-125	PASS
Standard6	ICAL	1	1.01	100.67	65-125	PASS
ICV	ICV	1	1	99.82	65-125	PASS
ICB	ICB	1	0.99	99.17	65-125	PASS
LLICV	CCV	1	0.99	99.09	65-125	PASS
ICSA1	ICSA	1	0.98	97.79	65-125	PASS
ICSAB1	ICSAB	1	1	100.37	65-125	PASS
CCV1	CCV	1	1	99.53	65-125	PASS
CCB1	CCB	1	0.99	98.8	65-125	PASS
CCV2	CCV	1	0.98	98.26	65-125	PASS
CCB2	CCB	1	0.97	97.46	65-125	PASS
MB-97211	MBLK	1	0.95	95.05	65-125	PASS
LCS2-97211	LCS	1	0.98	97.68	65-125	PASS
N054089-001C	SAMP	5	0.97	97.34	65-125	PASS
N054089-002C	SAMP	5	0.98	97.54	65-125	PASS
CCV3	CCV	1	0.97	97.38	65-125	PASS
CCB3	CCB	1	0.97	96.55	65-125	PASS
ICSA2	ICSA	1	0.95	95.42	65-125	PASS
ICSAB2	ICSAB	1	0.98	97.88	65-125	PASS
CCV4	CCV	1	0.97	97.44	65-125	PASS
CCV4	CCV	1	0.97	96.82	65-125	PASS
CCB4	CCB	1	0.95	94.72	65-125	PASS
CCV5	CCV	1	0.93	92.68	65-125	PASS
CCB5	CCB	1	0.9	89.58	65-125	PASS
N054089-001C	SAMP	25	0.9	89.99	65-125	PASS
N054089-001C	SAMP	125	0.89	89	65-125	PASS
N054089-001C	SAMP	625	0.89	88.58	65-125	PASS
N054089-001C-PS	PS	5	0.91	91.36	65-125	PASS
N054089-001C-PS	PS	125	0.9	89.65	65-125	PASS
N054089-001C-MS2	MS	5	0.91	91.43	65-125	PASS
N054089-001C-MS2	MS	125	0.89	88.86	65-125	PASS
N054089-001C-MSD2	MSD	5	0.92	91.78	65-125	PASS
CCV6	CCV	1	0.91	90.82	65-125	PASS
CCB6	CCB	1	0.89	89.03	65-125	PASS
ICSA3	ICSA	1	0.89	89.09	65-125	PASS
ICSAB3	ICSAB	1	0.92	92.06	65-125	PASS

INTERNAL STANDARD: 221220B

Instrument ID: ICP-02

Sample Name	Type	DF	Scandium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N054089-001C-MSD2	MSD	125	0.9	89.68	65-125	PASS
CCV7	CCV	1	1.02	101.95	65-125	PASS
CCB7	CCB	1	1	99.97	65-125	PASS
ICSA4	ICSA	1	1.01	100.97	65-125	PASS
ICSAB4	ICSAB	1	1.02	102.22	65-125	PASS

INTERNAL STANDARD: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1	100.04	65-125	PASS
Standard2	ICAL	1	1.06	106.06	65-125	PASS
Standard3	ICAL	1	1	99.51	65-125	PASS
Standard4	ICAL	1	1.05	105.12	65-125	PASS
Standard5	ICAL	1	1.11	110.69	65-125	PASS
Standard6	ICAL	1	1.03	103.5	65-125	PASS
Standard7	ICAL	1	1.02	101.7	65-125	PASS
ICV	ICV	1	1.05	104.94	65-125	PASS
ICB	ICB	1	1.01	100.86	65-125	PASS
LLICV	CCV1	1	1.01	100.67	65-125	PASS
ICSA1	ICSA	1	1.04	104.1	65-125	PASS
ICSAB1	ICSAB	1	1.05	105.18	65-125	PASS
RINSE	RINSE	1	1.13	113.48	65-125	PASS
CCV1	CCV	1	1.03	102.85	65-125	PASS
CCB1	CCB	1	0.99	98.71	65-125	PASS
CCV2	CCV	1	1.04	103.59	65-125	PASS
CCB2	CCB	1	1	99.67	65-125	PASS
CCV3	CCV	1	1.03	102.56	65-125	PASS
CCV3	CCV	1	1.02	101.61	65-125	PASS
CCB3	CCB	1	0.98	98.24	65-125	PASS
ICSA2	ICSA	1	1.07	106.69	65-125	PASS
ICSAB2	ICSAB	1	1.03	102.62	65-125	PASS
RINSE	RINSE	1	1.08	108.02	65-125	PASS
CCV4	CCV	1	1.01	101.04	65-125	PASS
CCB4	CCB	1	0.96	96.5	65-125	PASS
CCV5	CCV	1	1.01	100.75	65-125	PASS
CCB5	CCB	1	1.01	101	65-125	PASS
CCV6	CCV	1	1.02	101.98	65-125	PASS
CCB6	CCB	1	1.01	101.08	65-125	PASS
ICSA3	ICSA	1	1.04	103.95	65-125	PASS
ICSAB3	ICSAB	1	1.05	105.37	65-125	PASS
RINSE	RINSE	1	1.1	109.84	65-125	PASS
RINSE	RINSE	1	0.99	98.7	65-125	PASS
CCV7	CCV	1	1.05	105.02	65-125	PASS
CCB7	CCB	1	1.03	102.95	65-125	PASS
CCV8	CCV	1	1.07	107.17	65-125	PASS
CCB8	CCB	1	1.05	105.24	65-125	PASS
MB-97211	MBLK	1	1.02	102.04	65-125	PASS
LCS1-97211	LCS	1	1.04	104.42	65-125	PASS
N054021-001B	SAMP	1	0.97	96.89	65-125	PASS

INTERNAL STANDARD: 221222A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
N054021-002B	SAMP	1	1.01	101.05	65-125	PASS
N054021-003B	SAMP	1	1	99.76	65-125	PASS
N054021-004B	SAMP	1	1.02	102.48	65-125	PASS
CCV9	CCV	1	1.09	108.58	65-125	PASS
CCB9	CCB	1	1.08	107.73	65-125	PASS
ICSA4	ICSA	1	1.01	101.33	65-125	PASS
ICSAB4	ICSAB	1	1.05	104.64	65-125	PASS
RINSE	RINSE		1.05	104.74	65-125	PASS
N054021-005B	SAMP	1	1.03	103.02	65-125	PASS
N054021-006B	SAMP	1	1.04	103.67	65-125	PASS
N054021-007B	SAMP	1	1.01	100.53	65-125	PASS
N054021-008B	SAMP	1	1.02	102.23	65-125	PASS
N054021-008B	SAMP	5	1.03	102.89	65-125	PASS
N054021-008B-PS	PS	1	1.02	102.32	65-125	PASS
N054021-008BMS	MS	1	1.03	103.05	65-125	PASS
N054021-008BMSD	MSD	1	1.01	100.91	65-125	PASS
N054089-001C	SAMP	1	1.05	104.49	65-125	PASS
CCV10	CCV	1	1.1	109.9	65-125	PASS
CCB10	CCB	1	1.09	108.78	65-125	PASS
N054089-002C	SAMP	1	1.04	104.4	65-125	PASS
CCV11	CCV	1	1.1	110.17	65-125	PASS
CCB11	CCB	1	1.09	108.62	65-125	PASS
ICSA5	ICSA	1	1.03	102.91	65-125	PASS
ICSAB5	ICSAB	1	1.06	105.81	65-125	PASS

INTERNAL STANDARD: 221226A

Instrument ID: ICP-02

Sample Name	Type	DF	Yttrium, 1.0 mg/L			
			Reported Conc	%REC	Criteria	Comment
CalBlk	IBLK	1	1	100	65-125	PASS
Standard1	ICAL	1	1.01	101.06	65-125	PASS
Standard2	ICAL	1	1.15	115.02	65-125	PASS
Standard3	ICAL	1	1	100.44	65-125	PASS
Standard4	ICAL	1	1.03	103.36	65-125	PASS
Standard5	ICAL	1	1.05	105.1	65-125	PASS
Standard6	ICAL	1	1.07	107.43	65-125	PASS
Standard7	ICAL	1	1.03	103.01	65-125	PASS
ICV	ICV	1	1.08	107.52	65-125	PASS
ICB	ICB	1	1.03	102.89	65-125	PASS
LLICV	CCV1	1	1	99.8	65-125	PASS
LLICV	CCV1	1	1	100.45	65-125	PASS
ICSA1	ICSA	1	1.03	102.74	65-125	PASS
ICSAB1	ICSAB	1	1	99.93	65-125	PASS
RINSE	RINSE	1	1.24	123.72	65-125	PASS
MB-97211	MBLK	1	1.07	107.26	65-125	PASS
LCS1-97211	LCS	1	1.03	103.54	65-125	PASS
N054021-008B	SAMP	1	0.99	99.04	65-125	PASS
N054021-008B	SAMP	5	1.04	104.19	65-125	PASS
N054021-008B-PS	PS	1	1	99.91	65-125	PASS
CCV1	CCV	1	1.07	107	65-125	PASS
CCB1	CCB	1	0.98	98.42	65-125	PASS
N054021-008BMS	MS	1	1	99.87	65-125	PASS
N054021-008BMSD	MSD	1	0.98	98.15	65-125	PASS
N054089-001C	SAMP	1	1.05	104.99	65-125	PASS
N054089-002C	SAMP	1	1.05	104.54	65-125	PASS
CCV2	CCV	1	1.08	107.63	65-125	PASS
CCB2	CCB	1	1	100.27	65-125	PASS
ICSA2	ICSA	1	1.01	101.26	65-125	PASS
ICSAB2	ICSAB	1	0.33	32.52	65-125	NR!
ICSAB2	ICSAB	1	1.02	101.86	65-125	PASS

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N054089
Test Method: EPA 6010B
Analysis Date: 12/22 /2022

Matrix: Groundwater
Batch No.: 97211

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima 7300DV

Comments:

Analyzed By: Diane Jetajobe

Dilution test is not applicable to Fe. The calculated concentration is <25RL.

Sample ID	Analyte	Symbol	Units	Calc Val	Oqual	SAMPRefVal	%DIFF	%DIFFlimit
N054021-008B DT 5x	Iron	Fe	µg/L	0	NA	0		10

Reviewed by:

JRB 1/15/2023

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N054089
Test Method: EPA 6010B
Analysis Date: 12/22, 26/2022

Matrix: Groundwater
Batch No.: 97211

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima 7300DV

Comments:

Analyzed By: Diane Jetajobe

Dilution test for Mg failed. However, PS passed criteria.

Sample ID	Analyte	Symbol	Units	Calc Val	Oqual	SAMPRefVal	%DIFF	%DIFFlimit
N054021-008B DT 5x	Calcium	Ca	mg/L	275.2331	PASS	252.9087	8.83%	10
N054021-008B DT 5x	Magnesium	Mg	mg/L	21.06858	FAIL	18.75338	12.35%	10

Reviewed by:

JRB 1/15/2023

Note: NA - Not Applicable

ASSET Laboratories

ICP-Metals in Water

Dilution Test Summary

Work Order No.: N054089
Test Method: EPA 6010B
Analysis Date: 12/20/2022

Matrix: Groundwater
Batch No.: 97211

Instrument ID: ICP-02
Instrument Description: Perkin Elmer Optima 7300DV

Comments:

Analyzed By: Diane Jetajobe

Dilution test is not applicable to K & Na. The calculated concentration is <25RL.

Sample ID	Analyte	Symbol	Units	Calc Val	Oqual	SAMPRefVal	%DIFF	%DIFFlimit
N054089-001C DT 25x	Potassium	K	mg/L	6.999304	NA	9.709438	27.91%	10
N054089-001C DT 625x	Sodium	Na	mg/L	0	NA	196.8734	100.00%	10

Reviewed by:

JRB 1/15/2023

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N054021-008B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ZZZZZZ** Batch ID: **97211** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/22/2022** SeqNo: **4986819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	132.467	20	100.0	0	132	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N054089-001C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2022**	SeqNo: **4981795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	58.906	2.5	20.00	9.709	246	80	120				S

Sample ID: **N054089-001C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2022**	SeqNo: **4981796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	165.902	62	20.00	196.9	-155	80	120				S

Sample ID: **N054021-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168434**
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4988503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	259.174	0.50	10.00	252.9	62.7	80	120				S

Sample ID: **N054021-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168476**
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/26/2022**	SeqNo: **4990491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	28.086	0.10	10.00	18.75	93.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CORRECTIVE ACTION DOCUMENTATION

ASSET Laboratories

Corrective Action Report (CAR)

Date Initiated: 26-Dec-22 **Corrective Action Report ID:** 6669

Initiated By: Diane Jetajobe **Department:** ME-2(ICP)

Corrective Action Description

CAR Summary: % RSD failled and detection of Mg in CCB2 is greater than PQL.

Description of Nonconformance: % RSD failed and detection of Mg in CCB2 for samples N054089 001C/ 002C.

Reviewed by:

JRB 1/15/2023

Description of Corrective Action: Detection of Mg in CCB2 is greater than PQL and RSD failed. However, detection in samples are 10x greater than the IQC detection.

Performed By: Diane Jetajobe **Completion Date:** 26-Dec-22

Client Notification

Client Notification Required: No **Notified By:**

Comment:

Quality Assurance Review

Corrective Action: Deficiency

Further Action required by QA:

Approval and Closure

CAR Closed By: _____ Close Date: _____

QA Reviewed By: LG QA Date: 12/27/2022

Last Updated BY LenyS Updated: 29-Dec-2022 1:12 AM Reported: 29-Dec-2022 1:12 AM

MDL STUDY

Method Detection Limit

Method Name: **Metals by ICP**
Method Number **EPA 6010B / 200.7**
Analysis Date: 9/14-10/20/20
Instrument Name: ICP-02
Analyst/Technician: MEI/DJ

Analyte	MDLs	MDLb	MDL
Beryllium	0.00015	0.00017	0.00017
Boron	0.03512	0.01726	0.03512
Magnesium	0.01676	0.00844	0.01676
Silicon	0.01615	0.00393	0.01615
Chromium	0.00138	0.00027	0.00138
Manganese	0.00267	0.00038	0.00267
Iron	0.01271	0.00241	0.01271
Cobalt	0.00077	0.00066	0.00077
Nickel	0.00430	0.00185	0.00430
Copper	0.00123	0.00129	0.00129
Zinc	0.00818	0.00113	0.00818
Arsenic	0.00799	0.00899	0.00899
Selenium	0.00935	0.00839	0.00935
Molybdenum	0.00324	0.00168	0.00324
Silver	0.00098	0.00117	0.00117
Cadmium	0.00046	0.00030	0.00046
Tin	0.00933	0.00433	0.00933
Antimony	0.00740	0.00842	0.00842
Barium	0.00050	0.00067	0.00067
Thallium	0.00843	0.00635	0.00843
Lead	0.00190	0.00105	0.00190
Calcium	0.18093	0.14705	0.18093
Vanadium	0.00027	0.00053	0.00053
Aluminum	0.02034	0.01114	0.02034
Titanium	0.00192	0.00025	0.00192
Potassium	0.07902	0.13882	0.13882
Sodium	0.06553	0.34000	0.34000
Strontium	0.00306	-0.00043	0.00306

Method Name: **Metals by ICP** **Matrix:** **WATER**
Method Number **EPA 6010B / 200.7** Unit: mg/L
Analysis Date: 9/14-10/20/20
Instrument Name: ICP-02
Analyst/Technician: MEI/DJ

Analyte	1	2	3	4	5	6	7	SD	MDLs	AMT SPIKED(ppm)	PQL
Beryllium	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0010	0.00005	0.00015	0.0010	0.0010
Boron	0.1341	0.1177	0.1120	0.1196	0.1101	0.1179	0.0972	0.01119	0.03512	0.1000	0.1000
Magnesium	0.1003	0.1017	0.1022	0.1030	0.1022	0.1147	0.0982	0.00534	0.01676	0.1000	0.1000
Silicon	0.0165	0.0162	0.0212	0.0143	0.0145	0.0083	0.0061	0.00514	0.01615	0.0200	0.0200
Chromium	0.0012	0.0011	0.0011	0.0006	0.0009	0.0016	0.0019	0.00044	0.00138	0.0010	0.0010
Manganese	0.0114	0.0114	0.0119	0.0104	0.0132	0.0115	0.0112	0.00085	0.00267	0.0100	0.0100
Iron	0.0257	0.0250	0.0279	0.0234	0.0224	0.0346	0.0254	0.00405	0.01271	0.0200	0.0200
Cobalt	0.0025	0.0023	0.0023	0.0028	0.0024	0.0029	0.0027	0.00024	0.00077	0.0025	0.0025
Nickel	0.0062	0.0062	0.0060	0.0065	0.0061	0.0071	0.0099	0.00137	0.00430	0.0050	0.0050
Copper	0.0055	0.0049	0.0049	0.0054	0.0053	0.0055	0.0060	0.00039	0.00123	0.0050	0.0050
Zinc	0.0118	0.0115	0.0118	0.0111	0.0178	0.0103	0.0102	0.00261	0.00818	0.0100	0.0100
Arsenic	0.0172	0.0132	0.0120	0.0136	0.0145	0.0118	0.0089	0.00254	0.00799	0.0100	0.0100
Selenium	0.0070	0.0076	0.0074	0.0114	0.0074	0.0138	0.0131	0.00298	0.00935	0.0100	0.0100
Molybdenum	0.0064	0.0054	0.0043	0.0070	0.0055	0.0073	0.0057	0.00103	0.00324	0.0050	0.0050
Silver	0.0022	0.0024	0.0023	0.0019	0.0018	0.0027	0.0025	0.00031	0.00098	0.0025	0.0025
Cadmium	0.0030	0.0030	0.0030	0.0028	0.0027	0.0028	0.0027	0.00015	0.00046	0.0025	0.0025
Tin	0.0117	0.0114	0.0120	0.0103	0.0168	0.0076	0.0085	0.00297	0.00933	0.0100	0.0100
Antimony	0.0098	0.0115	0.0098	0.0142	0.0121	0.0163	0.0115	0.00236	0.00740	0.0100	0.0100
Barium	0.0031	0.0030	0.0030	0.0033	0.0030	0.0032	0.0034	0.00016	0.00050	0.0025	0.0025
Thallium	0.0134	0.0103	0.0095	0.0149	0.0153	0.0159	0.0159	0.00268	0.00843	0.0150	0.0150
Lead	0.0046	0.0055	0.0055	0.0058	0.0061	0.0063	0.0050	0.00061	0.00190	0.0050	0.0050
Calcium	0.2701	0.2125	0.2303	0.2106	0.1214	0.1336	0.1343	0.05762	0.18093	0.2000	0.2000
Vanadium	0.0025	0.0024	0.0024	0.0025	0.0026	0.0026	0.0026	0.00009	0.00027	0.0025	0.0025
Aluminum	0.0627	0.0613	0.0653	0.0533	0.0535	0.0698	0.0544	0.00648	0.02034	0.0500	0.0500
Titanium	0.0097	0.0097	0.0096	0.0096	0.0094	0.0108	0.0108	0.00061	0.00192	0.0100	0.0100

BLANK

Analyte	1	2	3	4	5	6	7	SD	MDLb	AMT SPIKED(ppm)	PQL
Beryllium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00003	0.00017	0.0000	0.001
Boron	0.004	0.002	-0.002	-0.008	-0.003	0.008	0.003	0.00530	0.01726	0.0020	0.100
Magnesium	0.003	0.002	0.001	0.002	-0.002	0.003	0.004	0.00203	0.00844	0.0020	0.100
Silicon	-0.006	-0.006	-0.006	-0.002	-0.007	-0.011	-0.013	0.00358	0.00393	0.0004	0.020
Chromium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00013	0.00027	0.0000	0.001
Manganese	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00010	0.00038	0.0002	0.010
Iron	0.001	0.000	-0.001	0.001	0.000	0.000	-0.001	0.00072	0.00241	0.0004	0.020
Cobalt	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00023	0.00066	0.0001	0.003
Nickel	0.000	0.000	0.001	0.001	0.000	0.001	0.001	0.00038	0.00185	0.0001	0.005
Copper	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.00029	0.00129	0.0001	0.005
Zinc	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.00032	0.00113	0.0002	0.010
Arsenic	0.004	0.004	0.004	0.001	0.001	-0.002	0.000	0.00229	0.00899	0.0002	0.010
Selenium	-0.005	-0.005	-0.005	-0.001	-0.001	0.001	0.003	0.00325	0.00839	0.0002	0.010
Molybdenum	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.00045	0.00168	0.0001	0.005
Silver	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.00038	0.00117	0.0001	0.003
Cadmium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00008	0.00030	0.0001	0.003
Tin	0.000	0.001	0.001	-0.001	-0.001	-0.003	-0.003	0.00160	0.00433	0.0002	0.010
Antimony	-0.004	0.000	0.000	0.004	-0.001	0.002	0.001	0.00260	0.00842	0.0002	0.010
Barium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00013	0.00067	0.0001	0.003
Thallium	-0.004	-0.003	-0.005	-0.002	0.000	0.001	0.001	0.00259	0.00635	0.0003	0.015
Lead	0.000	0.000	0.000	0.000	-0.001	0.000	0.000	0.00030	0.00105	0.0001	0.005
Calcium	0.080	0.004	0.031	0.008	-0.065	0.002	-0.031	0.04553	0.14705	0.0040	0.200
Vanadium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00016	0.00053	0.0001	0.003
Aluminum	0.004	0.005	0.002	0.000	-0.004	-0.002	-0.003	0.00353	0.01114	0.0010	0.050
Titanium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00006	0.00025	0.0002	0.010

Method Detection Limit

Analytical Method: EPA 6010B / 200.7 **Matrix: Water**

Digestion Method: EPA 3010A 25 mL

Date of Analysis: 6/22,24,30/2021 Units: mg/L

Instrument Name: ICP2

Analysts: DBJ

Analyte	1	2	3	4	5	6	7	SD	Ave	AMT SPIKED	MDLs	PQL
Potassium	0.13348	0.13397	0.12506	0.12108	0.13408	0.09107	0.06999	0.02517	0.11553	0.1000	0.07902	0.5
Sodium	0.09937	0.09005	0.09138	0.12202	0.10604	0.13761	0.13949	0.02087	0.11228	0.1000	0.06553	0.5
Strontium	0.0299	0.02938	0.02907	0.03172	0.03136	0.0304	0.03017	0.00097	0.03029	0.0250	0.00306	0.05

Method Detection Limit - Blank

Start Date: 6/1/2019

End Date 6/30/2021

*Note: MDL value is from Method Blank (MB) results pooled from June 1, 2019 to June 30, 2021.

Analyte	MDLb
Potassium	0.1388
Sodium	0.3400
Strontium	-0.0004

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97027
ASSET #: N054089
Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/16/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.		X			X	
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)		X			X	
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X			X		
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X			X		
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.	X			X		
24. LCS compounds within control limits.	X			X		
25. MS/MSD, RPD's are within control limits	X			X		
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

% Rec of Se in N054021-008B-PS/MS failed, low bias. However, LCS passed criteria.
Cr is OLR in N054021-008B-PS/MS/MSD. For dilution.
%RSD of As in N054089-002C failed. For rerun.
% RSD of Se in N054089-002C failed. For rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: —
2nd Level Reviewer LG 12/28/2022 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97207
ASSET #: N054089
Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/23/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.			X			X
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits			X			X
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

As and Se rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed	x		
2. Matrix / units correct	x		
3. Does batch meet QC requirements?	x		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	x		
5. Is first level review correct and complete?	x		

1st Level Reviewer DBJ Date: –

2nd Level Reviewer LG 12/28/2022 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97207
ASSET #: N054089
Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/27/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X			X	
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.			X			X
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits		X			X	
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

% Rec of Cr in N054021-008B-PS/MS/MSD failed, high bias. However, LCS passed criteria.
Dilution test for Cr failed.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: –
2nd Level Reviewer LG 12/28/2022 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Molybdenum concentration, in ug/L in the original sample as follows:

Molybdenum , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N054089-001C** , the concentration in ug/L is calculated as follows:

Molybdenum , ug/L = 5.55781 * 1 *(25 / 25)

Molybdenum , ug/L = 5.55781

Reporting results in two significant figures,

Molybdenum , ug/L = 5.6

Reviewed by:

JRB 1/15/2023

% RSD SUMMARY

PERCENT RSD SUMMARY: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	14.379	15	PASS	0.08	10.151	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	0.711	15	PASS	0.46	4.915	15	PASS
Std3-5/50 ppb	ICAL	1	5.05	1.692	15	PASS	4.94	1.037	15	PASS
Std4-10/100 ppb	ICAL	1	10.17	1.56	15	PASS	10.09	1.937	15	PASS
Std5-20/200 ppb	ICAL	1	20.3	0.141	15	PASS	20.22	1.335	15	PASS
Std6-40/400 ppb	ICAL	1	40.34	1.487	15	PASS	40.84	1.314	15	PASS
Std7-100/1000 ppb	ICAL	1	101.39	2.392	15	PASS	102.3	2.448	15	PASS
Std8-200/2000 ppb	ICAL	1	199.2	1.359	15	PASS	198.66	2.095	15	PASS
ICV	ICV	1	10.44	0.078	15	PASS	102.34	2.068	15	PASS
ICB	ICB	1	0	88.413	15	<PQL	0	534.232	15	<PQL
LLICV1	LLICV	1	1.02	3.286	20	PASS	0.54	7.874	20	PASS
MLCCV	CCV	1	20.5	1.829	15	PASS	20.71	1.404	15	PASS
ICSA1	ICSA	1	0.01	92.378	15	<PQL	0.3	9.459	15	PASS
ICSAB1	ICSAB	1	20.5	2.133	15	PASS	20.48	1.178	15	PASS
LLICV1	LLICV	1	1.03	4.353	20	PASS	0.52	5.82	20	PASS
ICSA1	ICSA	1	0.01	70.896	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.94	2.586	15	PASS	20.85	1.571	15	PASS
CCV1	CCV	1	20.25	1.91	15	PASS	20.22	1.68	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0	281.92	15	<PQL
ICSA2	ICSA	1	0	52.948	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.24	1.008	15	PASS	20.48	1.508	15	PASS
CCV2	CCV	1	20.82	1.697	15	PASS	21.12	0.455	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0	226.167	15	<PQL
CCV3	CCV	1	21.23	2.036	15	PASS	21.23	1.271	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0	235.375	15	<PQL
CCV4	CCV	1	20.81	1.882	15	PASS	20.93	0.414	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.07	2.727	15	PASS	19.77	1.885	15	PASS
CCV5	CCV	1	20.55	0.806	15	PASS	20.57	0.641	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSA4	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB4	ICSAB	1	20.26	0.583	15	PASS	20.03	0.765	15	PASS
CCV6	CCV	1	20.54	1.261	15	PASS	20.46	1.355	15	PASS
CCB6	CCB	1	0.03	17.623	15	<PQL	<0.000	N/A	15	<PQL
CCV7	CCV	1	20.29	2.197	15	PASS	20.44	2.237	15	PASS
CCB7	CCB	1	0.01	44.54	15	<PQL	<0.000	N/A	15	<PQL
CCV8	CCV	1	20.49	1.401	15	PASS	20.54	2.481	15	PASS
CCB8	CCB	1	0.07	11.134	15	PASS	<0.000	N/A	15	<PQL
ICSA5	ICSA	1	0.06	2.286	15	PASS	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
ICSAB5	ICSAB	1	20.13	1.113	15	PASS	19.9	0.143	15	PASS
MB-97207	MBLK	1	0.03	9.835	15	PASS	<0.000	N/A	15	<PQL
LCS-97207	LCS	1	9.52	0.367	15	PASS	93.61	1.167	15	PASS
N054021-001B	SAMP	1	267.43	2.19	15	PASS	<0.000	N/A	15	<PQL
N054021-002B	SAMP	1	72.94	1.332	15	PASS	8.45	2.19	15	PASS
N054021-003B	SAMP	1	14.68	2.575	15	PASS	43.65	1.097	15	PASS
N054021-004B	SAMP	1	396.48	0.649	15	PASS	48	0.53	15	PASS
N054021-005B	SAMP	1	411.34	2.203	15	PASS	41.81	1.073	15	PASS
N054021-006B	SAMP	1	830.02	2.639	15	PASS	<0.000	N/A	15	<PQL
N054021-007B	SAMP	1	1754.07	1.151	15	PASS	<0.000	N/A	15	<PQL
CCV9	CCV	1	20.44	0.486	15	PASS	20.25	0.282	15	PASS
CCB9	CCB	1	0.1	10.349	15	PASS	0	120.679	15	<PQL
N054021-008B	SAMP	1	2801.71	1.96	15	PASS	0.24	20.05	15	<PQL
N054021-008B	SAMP	5	667.45	2.286	15	PASS	0.04	41.627	15	<PQL
N054021-008B-PS	PS	1	2751.01	2.247	15	PASS	89.91	1.069	15	PASS
N054021-008BMS	MS	1	2656.98	1.493	15	PASS	92.45	1.386	15	PASS
N054021-008BMSD	MSD	1	2847.43	3.517	15	PASS	91.05	3.388	15	PASS
N054022-001C	SAMP	1	2.22	4.733	15	PASS	385.53	1.832	15	PASS
N054022-002C	SAMP	1	1.84	3.241	15	PASS	50.32	1.102	15	PASS
N054022-003C	SAMP	1	1.3	1.737	15	PASS	71.21	2.138	15	PASS
N054022-004C	SAMP	1	6.67	0.652	15	PASS	0.85	17.817	15	NR!
CCV10	CCV	1	20.39	1.111	15	PASS	20.41	2.053	15	PASS
CCB10	CCB	1	0.09	23.353	15	<PQL	<0.000	N/A	15	<PQL
N054089-001C	SAMP	1	8.88	1.318	15	PASS	1.01	6.065	15	PASS
N054089-002C	SAMP	1	16.98	0.492	15	PASS	0.08	68.448	15	<PQL
CCV11	CCV	1	20.37	2.088	15	PASS	19.99	1.12	15	PASS
CCB11	CCB	1	0.05	2.729	15	PASS	0	86.345	15	<PQL
ICSA6	ICSA	1	0.07	5.565	15	PASS	<0.000	N/A	15	<PQL
ICSAB6	ICSAB	1	20.04	1.366	15	PASS	19.67	0.4	15	PASS

PERCENT RSD SUMMARY: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.07	12.828	15	PASS	0.08	45.294	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.53	10.714	15	PASS	0.51	8.863	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	2.815	15	PASS	4.92	3.059	15	PASS
Std4-10/100 ppb	ICAL	1	10.14	1.983	15	PASS	10.04	3.824	15	PASS
Std5-20/200 ppb	ICAL	1	20.21	0.508	15	PASS	19.41	1.163	15	PASS
Std6-40/400 ppb	ICAL	1	40.54	1.093	15	PASS	39.44	0.573	15	PASS
Std7-100/1000 ppb	ICAL	1	100.8	0.892	15	PASS	99.38	2.4	15	PASS
Std8-200/2000 ppb	ICAL	1	199.47	1.108	15	PASS	200.48	1.337	15	PASS
ICV	ICV	1	10.12	2.85	15	PASS	10.07	4.478	15	PASS
ICB	ICB	1	0.01	7.361	15	PASS	0.04	39.471	15	<PQL
LLICV1	LLICV	1	0.11	18.738	20	PASS	0.53	11.097	20	PASS
MLCCV	CCV	1	20.36	2.171	15	PASS	19.53	2.092	15	PASS
ICSA1	ICSA	1	0.01	204.028	15	<PQL	0	541.734	15	<PQL
ICSAB1	ICSAB	1	21.55	2.049	15	PASS	19.91	2.415	15	PASS
LLICV1	LLICV	1	0.11	23.318	20	FAIL	0.57	5.228	20	PASS
ICSA1	ICSA	1	0.01	48.093	15	<PQL	0.01	324.611	15	<PQL
ICSAB1	ICSAB	1	21.67	2.669	15	PASS	20.16	0.7	15	PASS
CCV1	CCV	1	20.19	1.752	15	PASS	19.67	1.123	15	PASS
CCB1	CCB	1	0.03	24.147	15	<PQL	0	483.058	15	<PQL
ICSA2	ICSA	1	0.02	59.324	15	<PQL	0	279.878	15	<PQL
ICSAB2	ICSAB	1	21.4	0.35	15	PASS	19.6	2.64	15	PASS
CCV2	CCV	1	20.84	0.324	15	PASS	20.81	2.199	15	PASS
CCB2	CCB	1	0.03	75.996	15	<PQL	0.01	139.658	15	<PQL
CCV3	CCV	1	20.95	1.279	15	PASS	21.05	3.935	15	PASS
CCB3	CCB	1	0.01	25.71	15	<PQL	0.04	80.162	15	<PQL
CCV4	CCV	1	20.52	0.215	15	PASS	21.31	2.256	15	PASS
CCB4	CCB	1	0.03	84.549	15	<PQL	0.01	199.583	15	<PQL
ICSA3	ICSA	1	0.01	241.318	15	<PQL	0.01	278.738	15	<PQL
ICSAB3	ICSAB	1	21.27	1.218	15	PASS	19.74	1.394	15	PASS
CCV5	CCV	1	21.22	2.857	15	PASS	19.83	2.049	15	PASS
CCB5	CCB	1	0.02	53.202	15	<PQL	0.03	71.738	15	<PQL
ICSA4	ICSA	1	0.02	108.307	15	<PQL	0	330.649	15	<PQL
ICSAB4	ICSAB	1	21.58	1.988	15	PASS	19.68	3.749	15	PASS
CCV6	CCV	1	21.05	1.448	15	PASS	19.37	0.639	15	PASS
CCB6	CCB	1	0.02	106.25	15	<PQL	0.03	83.142	15	<PQL
CCV7	CCV	1	21.61	2.293	15	PASS	19.97	1.006	15	PASS
CCB7	CCB	1	0.02	5.486	15	PASS	0.01	182.626	15	<PQL
CCV8	CCV	1	21.64	0.979	15	PASS	19.54	3.133	15	PASS
CCB8	CCB	1	0.01	27.002	15	<PQL	<0.000	0	15	PASS
ICSA5	ICSA	1	<0.000	N/A	15	<PQL	0	269.393	15	<PQL

PERCENT RSD SUMMARY: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
ICSAB5	ICSAB	1	21.58	4.173	15	PASS	19.35	2.41	15	PASS
MB-97207	MBLK	1	0.03	17.152	15	<PQL	0.03	113.762	15	<PQL
LCS-97207	LCS	1	9.77	1.936	15	PASS	8.83	4.611	15	PASS
N054021-001B	SAMP	1	<0.000	N/A	15	<PQL	1.69	7.572	15	PASS
N054021-002B	SAMP	1	1.22	6.599	15	PASS	0.38	18.317	15	<PQL
N054021-003B	SAMP	1	<0.000	N/A	15	<PQL	0.14	64.523	15	<PQL
N054021-004B	SAMP	1	1.61	3.348	15	PASS	7.74	8.159	15	PASS
N054021-005B	SAMP	1	1.75	6.356	15	PASS	8.21	3.205	15	PASS
N054021-006B	SAMP	1	1.17	8.124	15	PASS	28.32	1.995	15	PASS
N054021-007B	SAMP	1	0.64	5.761	15	PASS	15.65	5.501	15	PASS
CCV9	CCV	1	21.83	2.968	15	PASS	20.15	3.426	15	PASS
CCB9	CCB	1	0.01	162.786	15	<PQL	0.03	27.68	15	<PQL
N054021-008B	SAMP	1	1.06	11.369	15	PASS	41.88	1.411	15	PASS
N054021-008B	SAMP	5	0.15	28.874	15	NR!	9.01	1.031	15	PASS
N054021-008B-PS	PS	1	11.47	2.111	15	PASS	47.28	0.881	15	PASS
N054021-008BMS	MS	1	12.05	2.398	15	PASS	47.63	1.465	15	PASS
N054021-008BMSD	MSD	1	10.82	3.51	15	PASS	51.65	0.332	15	PASS
N054022-001C	SAMP	1	0.46	8.802	15	PASS	1.54	9.147	15	PASS
N054022-002C	SAMP	1	1.29	8.309	15	PASS	5.06	4.177	15	PASS
N054022-003C	SAMP	1	1.24	3.837	15	PASS	5.23	2.274	15	PASS
N054022-004C	SAMP	1	0.12	70.567	15	NR!	5.92	4.39	15	PASS
CCV10	CCV	1	21.56	2.923	15	PASS	20.11	2.96	15	PASS
CCB10	CCB	1	0.03	33.938	15	<PQL	0.01	185.592	15	<PQL
N054089-001C	SAMP	1	0.86	9.564	15	PASS	1.72	2.447	15	PASS
N054089-002C	SAMP	1	0.22	27.142	15	NR!	1.34	23.421	15	NR!
CCV11	CCV	1	21.57	3.099	15	PASS	20.36	2.228	15	PASS
CCB11	CCB	1	0.02	35.142	15	<PQL	<0.000	N/A	15	<PQL
ICSA6	ICSA	1	0.02	69.406	15	<PQL	<0.000	N/A	15	<PQL
ICSAB6	ICSAB	1	21.85	1.47	15	PASS	19.67	3.114	15	PASS

PERCENT RSD SUMMARY: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	10.794	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.48	1.873	15	PASS
Std3-5/50 ppb	ICAL	1	4.83	0.827	15	PASS
Std4-10/100 ppb	ICAL	1	9.89	1.961	15	PASS
Std5-20/200 ppb	ICAL	1	19.7	1.573	15	PASS
Std6-40/400 ppb	ICAL	1	39.54	1.354	15	PASS
Std7-100/1000 ppb	ICAL	1	99.78	0.718	15	PASS
Std8-200/2000 ppb	ICAL	1	200.24	0.127	15	PASS
ICV	ICV	1	10.16	0.731	15	PASS
ICB	ICB	1	0.07	18.227	15	<PQL
LLICV1	LLICV	1	0.52	7.913	20	PASS
MLCCV	CCV	1	19.59	1.327	15	PASS
ICSA1	ICSA	1	0.1	12.733	15	PASS
ICSAB1	ICSAB	1	22.27	0.489	15	PASS
LLICV1	LLICV	1	0.58	4.868	20	PASS
ICSA1	ICSA	1	0.03	2.542	15	PASS
ICSAB1	ICSAB	1	22.37	0.235	15	PASS
CCV1	CCV	1	19.53	0.551	15	PASS
CCB1	CCB	1	0.07	17.264	15	<PQL
ICSA2	ICSA	1	0.02	30.46	15	<PQL
ICSAB2	ICSAB	1	22.65	1.774	15	PASS
CCV2	CCV	1	20.57	1.471	15	PASS
CCB2	CCB	1	0.07	10.303	15	PASS
CCV3	CCV	1	20.66	2.129	15	PASS
CCB3	CCB	1	0.07	10.645	15	PASS
CCV4	CCV	1	20.75	1.415	15	PASS
CCB4	CCB	1	0.06	15.893	15	<PQL
ICSA3	ICSA	1	0.01	29.437	15	<PQL
ICSAB3	ICSAB	1	22.36	1.574	15	PASS
CCV5	CCV	1	20.66	1.405	15	PASS
CCB5	CCB	1	0.07	36.199	15	<PQL
ICSA4	ICSA	1	0.03	16.003	15	<PQL
ICSAB4	ICSAB	1	22.58	1.306	15	PASS
CCV6	CCV	1	21.03	1.226	15	PASS
CCB6	CCB	1	0.09	11.209	15	PASS
CCV7	CCV	1	20.76	0.993	15	PASS
CCB7	CCB	1	0.07	13.219	15	PASS
CCV8	CCV	1	20.93	1.004	15	PASS
CCB8	CCB	1	0.06	20.127	15	<PQL
ICSA5	ICSA	1	0.03	16.694	15	<PQL

PERCENT RSD SUMMARY: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
ICSAB5	ICSAB	1	22.66	0.963	15	PASS
MB-97207	MBLK	1	0.07	14.768	15	PASS
LCS-97207	LCS	1	10.24	1.827	15	PASS
N054021-001B	SAMP	1	7.33	3.53	15	PASS
N054021-002B	SAMP	1	29.08	1.805	15	PASS
N054021-003B	SAMP	1	4.19	3.091	15	PASS
N054021-004B	SAMP	1	24.8	0.193	15	PASS
N054021-005B	SAMP	1	25.99	0.302	15	PASS
N054021-006B	SAMP	1	21.3	0.705	15	PASS
N054021-007B	SAMP	1	2.34	3.942	15	PASS
CCV9	CCV	1	20.69	1.465	15	PASS
CCB9	CCB	1	0.07	7.384	15	PASS
N054021-008B	SAMP	1	9.48	2.25	15	PASS
N054021-008B	SAMP	5	2.11	3.054	15	PASS
N054021-008B-PS	PS	1	20.13	1.09	15	PASS
N054021-008BMS	MS	1	19.95	0.704	15	PASS
N054021-008BMSD	MSD	1	20.27	1.266	15	PASS
N054022-001C	SAMP	1	24.63	0.418	15	PASS
N054022-002C	SAMP	1	4.24	1.975	15	PASS
N054022-003C	SAMP	1	4.29	1.389	15	PASS
N054022-004C	SAMP	1	10.18	2.663	15	PASS
CCV10	CCV	1	20.82	0.147	15	PASS
CCB10	CCB	1	0.05	5.963	15	PASS
N054089-001C	SAMP	1	5.56	2.078	15	PASS
N054089-002C	SAMP	1	5.49	1.658	15	PASS
CCV11	CCV	1	20.95	0.408	15	PASS
CCB11	CCB	1	0.08	14.194	15	PASS
ICSA6	ICSA	1	0.02	6.073	15	PASS
ICSAB6	ICSAB	1	22.57	2.214	15	PASS

PERCENT RSD SUMMARY: 221223A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.12	28.336	15	FAIL	0.08	16.535	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.45	15.602	15	FAIL	0.43	8.691	15	PASS
Std3-5/50 ppb	ICAL	1	4.74	3.911	15	PASS	4.74	1.98	15	PASS
Std4-10/100 ppb	ICAL	1	9.73	1.902	15	PASS	10.04	1.717	15	PASS
Std5-20/200 ppb	ICAL	1	19.8	2.837	15	PASS	19.82	2.778	15	PASS
Std6-40/400 ppb	ICAL	1	39.19	2.388	15	PASS	39.46	3.085	15	PASS
Std7-100/1000 ppb	ICAL	1	98.26	1.242	15	PASS	100.56	2.487	15	PASS
Std8-200/2000 ppb	ICAL	1	201.07	1.282	15	PASS	199.85	0.273	15	PASS
ICV	ICV	1	<0.000		15	<PQL	37.79	173.242	15	NR!
ICV	ICV	1	9.81	0.702	15	PASS	9.77	3.379	15	PASS
ICB	ICB	1	0.01	62.063	15	<PQL	0.06	49.835	15	<PQL
LLICV1	LLICV	1	0.12	19.155	20	PASS	0.6	6.355	20	PASS
MLCCV	CCV	1	19.73	0.783	15	PASS	19.34	3.458	15	PASS
ICSA1	ICSA	1	0.02	146.369	15	<PQL	0.02	0.81	15	PASS
ICSAB1	ICSAB	1	21.12	1.13	15	PASS	20.7	2.947	15	PASS
LLICV1	LLICV	1	0.08	22.214	20	<PQL	0.43	30.065	20	<PQL
CCV1	CCV	1	19.3	2.399	15	PASS	19.79	4.275	15	PASS
CCB1	CCB	1	0.02	103.489	15	<PQL	0.01	107.282	15	<PQL
CCV2	CCV	1	18.66	2.606	15	PASS	20.38	3.345	15	PASS
CCB2	CCB	1	0.01	170.153	15	<PQL	0.04	107.242	15	<PQL
ICSA2	ICSA	1	0.01	73.59	15	<PQL	0	454.738	15	<PQL
ICSAB2	ICSAB	1	20.43	0.695	15	PASS	22.06	2.784	15	PASS
CCV3	CCV	1	18.7	1.128	15	PASS	20.74	2.667	15	PASS
CCB3	CCB	1	0.02	47.189	15	<PQL	0.03	65.522	15	<PQL
CCV3	CCV	1	18.51	2.964	15	PASS	19.91	3.988	15	PASS
CCB3	CCB	1	0	492.426	15	<PQL	0.02	68.04	15	<PQL
CCV4	CCV	1	18.78	1.498	15	PASS	20.66	1.849	15	PASS
CCB4	CCB	1	0	100552.05	15	<PQL	0.01	140.855	15	<PQL
ICSA3	ICSA	1	0	21186.441	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	19.83	2.171	15	PASS	21.97	2.441	15	PASS
CCV5	CCV	1	18.46	3.816	15	PASS	20.89	0.058	15	PASS
CCB5	CCB	1	0	173.803	15	<PQL	0.02	67.148	15	<PQL
CCV6	CCV	1	18.74	2.448	15	PASS	19.63	2.58	15	PASS
CCB6	CCB	1	0	182.685	15	<PQL	0.01	237.367	15	<PQL
CCV7	CCV	1	19.04	2.667	15	PASS	20.19	3.171	15	PASS
CCB7	CCB	1	0.01	245.223	15	<PQL	0.04	81.117	15	<PQL
ICSA4	ICSA	1	0.02	111.004	15	<PQL	0	504.132	15	<PQL
ICSAB4	ICSAB	1	19.78	2.944	15	PASS	21.54	2.982	15	PASS
MB-97207	MBLK	1	0.01	14.301	15	PASS	0.04	76.958	15	<PQL
LCS-97207	LCS	1	9.02	2.822	15	PASS	9.58	5.958	15	PASS

PERCENT RSD SUMMARY: 221223A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N054021-001B	SAMP	1	<0.000	N/A	15	<PQL	1.63	2.608	15	PASS
N054021-002B	SAMP	1	1.71	12.612	15	PASS	0.4	8.289	15	PASS
N054021-003B	SAMP	1	0.12	47.785	15	NR!	0.17	30.853	15	<PQL
N054021-004B	SAMP	1	1.62	5.198	15	PASS	8.15	5.926	15	PASS
N054021-005B	SAMP	1	1.69	11.483	15	PASS	8.37	3.374	15	PASS
N054021-006B	SAMP	1	1.36	2.082	15	PASS	31.4	1.555	15	PASS
CCV8	CCV	1	19.02	1.677	15	PASS	19.7	1.826	15	PASS
CCB8	CCB	1	<0.000	N/A	15	<PQL	0.02	69.893	15	<PQL
N054021-007B	SAMP	1	0.74	14.175	15	PASS	18.34	2.656	15	PASS
N054021-008B	SAMP	1	1.3	10.91	15	PASS	43.98	2.039	15	PASS
N054021-008B	SAMP	5	0.16	43.284	15	NR!	7.95	2.161	15	PASS
N054021-008B	SAMP	25	0.03	85.277	15	<PQL	1.59	2.772	15	PASS
N054021-008B-PS	PS	1	10.69	3.275	15	PASS	50.87	0.564	15	PASS
N054021-008B-PS	PS	5	2.14	2.472	15	PASS	9.7	2.619	15	PASS
N054021-008BMS	MS	1	10.47	4.175	15	PASS	49.56	3.189	15	PASS
N054021-008BMS	MS	5	2.5	2.774	15	PASS	11.22	7.286	15	PASS
N054021-008BMSD	MSD	1	10.63	4.103	15	PASS	53.25	1.426	15	PASS
N054021-008BMSD	MSD	5	2.04	4.723	15	PASS	9.8	2.267	15	PASS
CCV9	CCV	1	19.17	3.723	15	PASS	19.99	2.315	15	PASS
CCB9	CCB	1	0.01	58.76	15	<PQL	0.01	145.659	15	<PQL
N054022-001C	SAMP	1	0.81	8.854	15	PASS	1.72	7.458	15	PASS
N054022-001C	SAMP	5	0.12	33.729	15	NR!	0.36	24.713	15	<PQL
N054022-004C	SAMP	1	0.21	12.255	15	PASS	5.75	9.612	15	PASS
N054089-002C	SAMP	1	0.2	8.678	15	PASS	1.44	13.407	15	PASS
N054089-002C	SAMP	1	0.23	20.496	15	NR!	1.4	7.205	15	PASS
N054089-002C	SAMP	1	0.24	16.057	15	NR!	1.59	9.725	15	PASS
CCV10	CCV	1	19.18	2.826	15	PASS	20.08	1.324	15	PASS
CCB10	CCB	1	0.04	104.153	15	<PQL	0.04	105.77	15	<PQL
ICSA5	ICSA	1	0.03	45.189	15	<PQL	0.01	184.742	15	<PQL
ICSAB5	ICSAB	1	20.1	3.104	15	PASS	20.93	5.158	15	PASS

PERCENT RSD SUMMARY: 221227A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	14.868	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	1.308	15	PASS
Std3-5/50 ppb	ICAL	1	4.88	1.948	15	PASS
Std4-10/100 ppb	ICAL	1	9.86	1.15	15	PASS
Std5-20/200 ppb	ICAL	1	19.98	1.078	15	PASS
Std6-40/400 ppb	ICAL	1	39.39	0.872	15	PASS
Std7-100/1000 ppb	ICAL	1	99.65	0.24	15	PASS
Std8-200/2000 ppb	ICAL	1	200.31	0.831	15	PASS
ICV	ICV	1	10.66	0.467	15	PASS
ICB	ICB	1	0.02	59.479	15	<PQL
ICV	ICV	1	10.56	0.603	15	PASS
ICB	ICB	1	0.04	63.99	15	<PQL
LLICV1	LLICV	1	1.07	2.555	20	PASS
MLCCV	CCV	1	20.03	2.904	15	PASS
ICSA1	ICSA	1	0.03	28.915	15	<PQL
ICSAB1	ICSAB	1	20.34	1.971	15	PASS
N054021-008B	SAMP	25	124.41	0.708	15	PASS
N054021-008B	SAMP	125	27.43	0.347	15	PASS
N054021-008B-PS	PS	25	139.44	0.202	15	PASS
N054021-008BMS	MS	25	140.79	0.835	15	PASS
N054021-008BMSD	MSD	25	127.18	0.369	15	PASS
N054022-004C	SAMP	1	6.75	2.245	15	PASS
CCV1	CCV	1	20.01	1.083	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
CCV2	CCV	1	20.01	2.99	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.38	1.569	15	PASS
CCV3	CCV	1	19.97	1.326	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
CCV4	CCV	1	19.82	2.536	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.06	1.083	15	PASS
CCV5	CCV	1	19.82	2.164	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL
CCV6	CCV	1	19.77	1.277	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL
ICSA4	ICSA	1	<0.000	N/A	15	<PQL
ICSAB4	ICSAB	1	19.83	1.558	15	PASS

PERCENT RSD SUMMARY: 221227A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCV7	CCV	1	19.75	0.565	15	PASS
CCB7	CCB	1	<0.000	N/A	15	<PQL
CCV8	CCV	1	19.51	1.474	15	PASS
CCB8	CCB	1	<0.000	N/A	15	<PQL
ICSA5	ICSA	1	<0.000	N/A	15	<PQL
ICSAB5	ICSAB	1	19.95	0.804	15	PASS
CCV9	CCV	1	19.82	1.233	15	PASS
CCB9	CCB	1	<0.000	N/A	15	<PQL
CCV10	CCV	1	19.42	0.834	15	PASS
CCB10	CCB	1	<0.000	N/A	15	<PQL
ICSA6	ICSA	1	<0.000	N/A	15	<PQL
ICSAB6	ICSAB	1	19.78	1.393	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 221216A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1216001.d	RINSE	ICAL	1	12/16/22 10:55 AM
A1216002.d	Cal Blk	IBLK	1	12/16/22 11:01 AM
A1216003.d	Std1-0.1/1 ppb	ICAL	1	12/16/22 11:07 AM
A1216004.d	Std2-0.5/5 ppb	ICAL	1	12/16/22 11:13 AM
A1216005.d	Std3-5/50 ppb	ICAL	1	12/16/22 11:19 AM
A1216006.d	Std4-10/100 ppb	ICAL	1	12/16/22 11:25 AM
A1216007.d	Std5-20/200 ppb	ICAL	1	12/16/22 11:31 AM
A1216008.d	Std6-40/400 ppb	ICAL	1	12/16/22 11:37 AM
A1216009.d	Std7-100/1000 ppb	ICAL	1	12/16/22 11:43 AM
A1216010.d	Std8-200/2000 ppb	ICAL	1	12/16/22 11:49 AM
A1216011.d	ICV	ICV	1	12/16/22 12:07 PM
A1216012.d	ICB	ICB	1	12/16/22 12:13 PM
A1216013.d	LLICV1	LLICV	1	12/16/22 12:18 PM
A1216014.d	MLCCV	CCV	1	12/16/22 12:24 PM
A1216015.d	ICSA1	ICSA	1	12/16/22 12:30 PM
A1216016.d	ICSAB1	ICSAB	1	12/16/22 12:36 PM
A1216017.d	LLICV1	LLICV	1	12/16/22 12:42 PM
A1216018.d	ICSA1	ICSA	1	12/16/22 12:48 PM
A1216019.d	ICSAB1	ICSAB	1	12/16/22 12:53 PM
A1216020.d	N054126-001A	SAMP	1	12/16/22 12:59 PM
A1216021.d	N054127-001A	SAMP	1	12/16/22 1:05 PM
A1216022.d	N054128-001A	SAMP	1	12/16/22 1:11 PM
A1216023.d	RINSE	ICAL	1	12/16/22 1:17 PM
A1216024.d	CCV1	CCV	1	12/16/22 1:22 PM
A1216025.d	CCB1	CCB	1	12/16/22 1:28 PM
A1216026.d	ICSA2	ICSA	1	12/16/22 1:34 PM
A1216027.d	ICSAB2	ICSAB	1	12/16/22 1:40 PM
A1216028.d	MB-97209	MBLK	1	12/16/22 1:53 PM
A1216029.d	LCS-97209	LCS	1	12/16/22 1:59 PM
A1216030.d	N053856-004A	SAMP	1	12/16/22 2:05 PM
A1216031.d	N053856-004A	SAMP	5	12/16/22 2:11 PM
A1216032.d	N053856-004A-PS	PS	1	12/16/22 2:17 PM
A1216033.d	N053856-004A-MS	MS	1	12/16/22 2:22 PM
A1216034.d	N053856-004A-MSD	MSD	1	12/16/22 2:28 PM
A1216035.d	N053856-004A 5X	SAMP	1	12/16/22 2:34 PM
A1216036.d	N053856-004A 5X	SAMP	5	12/16/22 2:40 PM
A1216037.d	RINSE	ICAL	1	12/16/22 2:46 PM
A1216038.d	CCV2	CCV	1	12/16/22 2:52 PM
A1216039.d	CCB2	CCB	1	12/16/22 2:58 PM
A1216040.d	N053856-004A 5X-PS	PS	1	12/16/22 3:03 PM
A1216041.d	N053856-004A 5X-MS	MS	1	12/16/22 3:09 PM
A1216042.d	N053856-004A 5X-MSD	MSD	1	12/16/22 3:15 PM

INJECTION LOG: 221216A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1216043.d	N053856-004A 25X	SAMP	1	12/16/22 3:21 PM
A1216044.d	N053856-004A 25X	SAMP	5	12/16/22 3:27 PM
A1216045.d	N053856-004A 25X-PS	PS	1	12/16/22 3:32 PM
A1216046.d	N053856-004A 25X-MS	MS	1	12/16/22 3:38 PM
A1216047.d	N053856-004A 25X-MSD	MSD	1	12/16/22 3:44 PM
A1216048.d	RINSE	ICAL	1	12/16/22 3:50 PM
A1216049.d	CCV3	CCV	1	12/16/22 3:56 PM
A1216050.d	CCB3	CCB	1	12/16/22 4:02 PM
A1216051.d	N053894-009A	SAMP	1	12/16/22 4:07 PM
A1216052.d	N053894-009A	SAMP	5	12/16/22 4:13 PM
A1216053.d	N053894-009A	SAMP	25	12/16/22 4:19 PM
A1216054.d	N053954-001C	SAMP	5	12/16/22 4:25 PM
A1216055.d	N053954-002C	SAMP	5	12/16/22 4:31 PM
A1216056.d	N053954-003C	SAMP	5	12/16/22 4:37 PM
A1216057.d	RINSE	ICAL	1	12/16/22 4:42 PM
A1216058.d	CCV4	CCV	1	12/16/22 4:48 PM
A1216059.d	CCB4	CCB	1	12/16/22 4:54 PM
A1216060.d	ICSA3	ICSA	1	12/16/22 5:00 PM
A1216061.d	ICSAB3	ICSAB	1	12/16/22 5:06 PM
A1216062.d	N054128-001A	SAMP	1	12/16/22 5:12 PM
A1216063.d	N053959-005B	SAMP	1	12/16/22 5:17 PM
A1216064.d	N053959-006B	SAMP	1	12/16/22 5:23 PM
A1216065.d	N053959-007B	SAMP	1	12/16/22 5:29 PM
A1216066.d	N053959-008B	SAMP	1	12/16/22 5:35 PM
A1216067.d	N053959-009B	SAMP	1	12/16/22 5:41 PM
A1216068.d	N053959-010B	SAMP	1	12/16/22 5:47 PM
A1216069.d	N053959-012B	SAMP	1	12/16/22 5:53 PM
A1216070.d	N053959-013B	SAMP	1	12/16/22 5:59 PM
A1216071.d	N053959-014B	SAMP	1	12/16/22 6:04 PM
A1216072.d	CCV5	CCV	1	12/16/22 6:10 PM
A1216073.d	CCB5	CCB	1	12/16/22 6:16 PM
A1216074.d	ICSA4	ICSA	1	12/16/22 6:22 PM
A1216075.d	ICSAB4	ICSAB	1	12/16/22 6:28 PM
A1216076.d	MB-97206	MBLK	1	12/16/22 6:34 PM
A1216077.d	LCS-97206	LCS	1	12/16/22 6:39 PM
A1216078.d	N053991-001B	SAMP	5	12/16/22 6:45 PM
A1216079.d	N053991-001B	SAMP	25	12/16/22 6:51 PM
A1216080.d	N053991-002B	SAMP	5	12/16/22 6:57 PM
A1216081.d	N053991-002B	SAMP	25	12/16/22 7:03 PM
A1216082.d	N053993-001B	SAMP	1	12/16/22 7:09 PM
A1216083.d	N053993-001B	SAMP	5	12/16/22 7:14 PM
A1216084.d	N053993-001B-PS	PS	1	12/16/22 7:20 PM

INJECTION LOG: 221216A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1216085.d	RINSE	ICAL	1	12/16/22 7:26 PM
A1216086.d	CCV6	CCV	1	12/16/22 7:32 PM
A1216087.d	CCB6	CCB	1	12/16/22 7:38 PM
A1216088.d	N053993-001B-MS	MS	1	12/16/22 7:44 PM
A1216089.d	N053993-001B-MSD	MSD	1	12/16/22 7:50 PM
A1216090.d	N053993-002B	SAMP	1	12/16/22 7:55 PM
A1216091.d	N053993-003B	SAMP	1	12/16/22 8:01 PM
A1216092.d	N053993-004B	SAMP	1	12/16/22 8:07 PM
A1216093.d	N053993-006B	SAMP	1	12/16/22 8:13 PM
A1216094.d	N053993-007B	SAMP	1	12/16/22 8:19 PM
A1216095.d	N053993-008B	SAMP	1	12/16/22 8:25 PM
A1216096.d	N053993-009B	SAMP	1	12/16/22 8:31 PM
A1216097.d	RINSE	ICAL	1	12/16/22 8:37 PM
A1216098.d	CCV7	CCV	1	12/16/22 8:42 PM
A1216099.d	CCB7	CCB	1	12/16/22 8:48 PM
A1216100.d	N053994-001B	SAMP	1	12/16/22 8:54 PM
A1216101.d	N053994-002B	SAMP	1	12/16/22 9:00 PM
A1216102.d	N053994-003B	SAMP	1	12/16/22 9:06 PM
A1216103.d	N053994-004B	SAMP	1	12/16/22 9:12 PM
A1216104.d	N053994-005B	SAMP	1	12/16/22 9:17 PM
A1216105.d	N053994-006B	SAMP	1	12/16/22 9:23 PM
A1216106.d	N053994-007B	SAMP	1	12/16/22 9:29 PM
A1216107.d	N053994-008B	SAMP	1	12/16/22 9:35 PM
A1216108.d	RINSE	ICAL	1	12/16/22 9:41 PM
A1216109.d	CCV8	CCV	1	12/16/22 9:47 PM
A1216110.d	CCB8	CCB	1	12/16/22 9:53 PM
A1216111.d	ICSA5	ICSA	1	12/16/22 9:58 PM
A1216112.d	ICSAB5	ICSAB	1	12/16/22 10:04 PM
A1216113.d	MB-97207	MBLK	1	12/16/22 10:10 PM
A1216114.d	LCS-97207	LCS	1	12/16/22 10:16 PM
A1216115.d	N054021-001B	SAMP	1	12/16/22 10:22 PM
A1216116.d	N054021-002B	SAMP	1	12/16/22 10:28 PM
A1216117.d	N054021-003B	SAMP	1	12/16/22 10:34 PM
A1216118.d	N054021-004B	SAMP	1	12/16/22 10:39 PM
A1216119.d	N054021-005B	SAMP	1	12/16/22 10:45 PM
A1216120.d	N054021-006B	SAMP	1	12/16/22 10:51 PM
A1216121.d	N054021-007B	SAMP	1	12/16/22 10:57 PM
A1216122.d	RINSE	ICAL	1	12/16/22 11:03 PM
A1216123.d	CCV9	CCV	1	12/16/22 11:09 PM
A1216124.d	CCB9	CCB	1	12/16/22 11:14 PM
A1216125.d	N054021-008B	SAMP	1	12/16/22 11:20 PM
A1216126.d	N054021-008B	SAMP	5	12/16/22 11:26 PM

INJECTION LOG: 221216A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1216127.d	N054021-008B-PS	PS	1	12/16/22 11:32 PM
A1216128.d	N054021-008BMS	MS	1	12/16/22 11:38 PM
A1216129.d	N054021-008BMSD	MSD	1	12/16/22 11:44 PM
A1216130.d	N054022-001C	SAMP	1	12/16/22 11:50 PM
A1216131.d	N054022-002C	SAMP	1	12/16/22 11:56 PM
A1216132.d	N054022-003C	SAMP	1	12/17/22 12:01 AM
A1216133.d	N054022-004C	SAMP	1	12/17/22 12:07 AM
A1216134.d	RINSE	ICAL	1	12/17/22 12:13 AM
A1216135.d	CCV10	CCV	1	12/17/22 12:19 AM
A1216136.d	CCB10	CCB	1	12/17/22 12:25 AM
A1216137.d	N054089-001C	SAMP	1	12/17/22 12:31 AM
A1216138.d	N054089-002C	SAMP	1	12/17/22 12:36 AM
A1216139.d	RINSE	ICAL	1	12/17/22 12:42 AM
A1216140.d	CCV11	CCV	1	12/17/22 12:48 AM
A1216141.d	CCB11	CCB	1	12/17/22 12:54 AM
A1216142.d	ICSA6	ICSA	1	12/17/22 1:00 AM
A1216143.d	ICSAB6	ICSAB	1	12/17/22 1:06 AM
A1216144.d	RINSE	ICAL	1	12/17/22 1:11 AM
A1216145.d	RINSE	ICAL	1	12/17/22 1:17 AM
A1216146.d	RINSE	ICAL	1	12/17/22 1:23 AM

INJECTION LOG: 221223A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1223001.d	RINSE	ICAL	1	12/23/22 11:40 AM
A1223002.d	Cal Blk	IBLK	1	12/23/22 11:46 AM
A1223003.d	Std1-0.1/1 ppb	ICAL	1	12/23/22 11:52 AM
A1223004.d	Std2-0.5/5 ppb	ICAL	1	12/23/22 11:58 AM
A1223005.d	Std3-5/50 ppb	ICAL	1	12/23/22 12:04 PM
A1223006.d	Std4-10/100 ppb	ICAL	1	12/23/22 12:10 PM
A1223007.d	Std5-20/200 ppb	ICAL	1	12/23/22 12:16 PM
A1223008.d	Std6-40/400 ppb	ICAL	1	12/23/22 12:22 PM
A1223009.d	Std7-100/1000 ppb	ICAL	1	12/23/22 12:29 PM
A1223010.d	Std8-200/2000 ppb	ICAL	1	12/23/22 12:35 PM
A1223011.d	ICV	ICV	1	12/23/22 12:41 PM
A1223012.d	ICV	ICV	1	12/23/22 12:49 PM
A1223013.d	ICB	ICB	1	12/23/22 12:55 PM
A1223014.d	LLICV1	LLICV	1	12/23/22 1:01 PM
A1223015.d	MLCCV	CCV	1	12/23/22 1:07 PM
A1223016.d	ICSA1	ICSA	1	12/23/22 1:13 PM
A1223017.d	ICSAB1	ICSAB	1	12/23/22 1:18 PM
A1223018.d	LLICV1	LLICV	1	12/23/22 1:24 PM
A1223019.d	MB-97070	MBLK	1	12/23/22 1:30 PM
A1223020.d	LCS-97070	LCS	1	12/23/22 1:36 PM
A1223021.d	N053923-002D	SAMP	1	12/23/22 1:42 PM
A1223022.d	N053923-003D	SAMP	1	12/23/22 1:48 PM
A1223023.d	N053923-004D	SAMP	1	12/23/22 1:53 PM
A1223024.d	N053923-004D	SAMP	25	12/23/22 1:59 PM
A1223025.d	N053923-005D	SAMP	1	12/23/22 2:05 PM
A1223026.d	N053923-006B	SAMP	1	12/23/22 2:11 PM
A1223027.d	N053925-001B	SAMP	5	12/23/22 2:16 PM
A1223028.d	RINSE	ICAL	1	12/23/22 2:22 PM
A1223029.d	CCV1	CCV	1	12/23/22 2:28 PM
A1223030.d	CCB1	CCB	1	12/23/22 2:34 PM
A1223031.d	N053925-001B	SAMP	25	12/23/22 2:40 PM
A1223032.d	N053925-001B-PS	PS	5	12/23/22 2:46 PM
A1223033.d	N053925-001B-MS	MS	5	12/23/22 2:51 PM
A1223034.d	N053925-001B-MSD	MSD	5	12/23/22 2:57 PM
A1223035.d	RINSE	ICAL	1	12/23/22 3:03 PM
A1223036.d	CCV2	CCV	1	12/23/22 3:09 PM
A1223037.d	CCB2	CCB	1	12/23/22 3:15 PM
A1223038.d	ICSA2	ICSA	1	12/23/22 3:21 PM
A1223039.d	ICSAB2	ICSAB	1	12/23/22 3:26 PM
A1223040.d	N053925-002B	SAMP	1	12/23/22 3:32 PM
A1223041.d	N053925-003B	SAMP	1	12/23/22 3:38 PM
A1223042.d	N053925-004B	SAMP	1	12/23/22 3:44 PM

INJECTION LOG: 221223A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1223043.d	N053925-005B	SAMP	1	12/23/22 3:50 PM
A1223044.d	N053925-006B	SAMP	1	12/23/22 3:56 PM
A1223045.d	N053925-007B	SAMP	1	12/23/22 4:01 PM
A1223046.d	N053925-008B	SAMP	1	12/23/22 4:07 PM
A1223047.d	N053925-009B	SAMP	1	12/23/22 4:13 PM
A1223048.d	RINSE	ICAL	1	12/23/22 4:19 PM
A1223049.d	CCV3	CCV	1	12/23/22 4:25 PM
A1223050.d	CCB3	CCB	1	12/23/22 4:31 PM
A1223051.d	CCV3	CCV	1	12/23/22 4:39 PM
A1223052.d	CCB3	CCB	1	12/23/22 4:45 PM
A1223053.d	N053959-001B	SAMP	1	12/23/22 4:51 PM
A1223054.d	N053959-005B	SAMP	1	12/23/22 4:57 PM
A1223055.d	N053959-006B	SAMP	1	12/23/22 5:03 PM
A1223056.d	N053959-007B	SAMP	1	12/23/22 5:09 PM
A1223057.d	N053959-008B	SAMP	1	12/23/22 5:14 PM
A1223058.d	N053959-009B	SAMP	1	12/23/22 5:20 PM
A1223059.d	N053959-010B	SAMP	1	12/23/22 5:26 PM
A1223060.d	N053959-012B	SAMP	1	12/23/22 5:32 PM
A1223061.d	N053959-013B	SAMP	1	12/23/22 5:38 PM
A1223062.d	N053959-014B	SAMP	1	12/23/22 5:44 PM
A1223063.d	CCV4	CCV	1	12/23/22 6:04 PM
A1223064.d	CCB4	CCB	1	12/23/22 6:10 PM
A1223065.d	ICSA3	ICSA	1	12/23/22 6:16 PM
A1223066.d	ICSAB3	ICSAB	1	12/23/22 6:22 PM
A1223067.d	MB-97353	MBLK	1	12/23/22 6:28 PM
A1223068.d	LCS-97353	LCS	1	12/23/22 6:34 PM
A1223069.d	N053853-013C	SAMP	5	12/23/22 6:39 PM
A1223070.d	N053853-013C	SAMP	25	12/23/22 6:45 PM
A1223071.d	N053873-001C	SAMP	1	12/23/22 6:51 PM
A1223072.d	N053873-001C	SAMP	5	12/23/22 6:57 PM
A1223073.d	N053873-001C-PS	PS	1	12/23/22 7:03 PM
A1223074.d	N053873-001C-MS	MS	1	12/23/22 7:09 PM
A1223075.d	N053873-001C-MSD	MSD	1	12/23/22 7:15 PM
A1223076.d	RINSE	ICAL	1	12/23/22 7:20 PM
A1223077.d	CCV5	CCV	1	12/23/22 7:26 PM
A1223078.d	CCB5	CCB	1	12/23/22 7:32 PM
A1223079.d	N053953-002C	SAMP	5	12/23/22 7:38 PM
A1223080.d	N054096-001B	SAMP	1	12/23/22 7:44 PM
A1223081.d	N054106-001B	SAMP	1	12/23/22 7:50 PM
A1223082.d	N054106-002B	SAMP	1	12/23/22 7:55 PM
A1223083.d	N054106-003B	SAMP	1	12/23/22 8:01 PM
A1223084.d	N054158-001C	SAMP	1	12/23/22 8:07 PM

INJECTION LOG: 221223A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1223085.d	N054158-001C	SAMP	5	12/23/22 8:13 PM
A1223086.d	N054166-001H	SAMP	1	12/23/22 8:19 PM
A1223087.d	N054166-002H	SAMP	1	12/23/22 8:25 PM
A1223088.d	RINSE	ICAL	1	12/23/22 8:31 PM
A1223089.d	CCV6	CCV	1	12/23/22 8:36 PM
A1223090.d	CCB6	CCB	1	12/23/22 8:42 PM
A1223091.d	N054166-003H	SAMP	1	12/23/22 8:48 PM
A1223092.d	N054215-001B	SAMP	1	12/23/22 8:54 PM
A1223093.d	N054215-002B	SAMP	1	12/23/22 9:00 PM
A1223094.d	N054215-003B	SAMP	1	12/23/22 9:06 PM
A1223095.d	N053993-007B	SAMP	1	12/23/22 9:11 PM
A1223096.d	N053993-007B	SAMP	1	12/23/22 9:17 PM
A1223097.d	RINSE	ICAL	1	12/23/22 9:23 PM
A1223098.d	CCV7	CCV	1	12/23/22 9:29 PM
A1223099.d	CCB7	CCB	1	12/23/22 9:35 PM
A1223100.d	ICSA4	ICSA	1	12/23/22 9:41 PM
A1223101.d	ICSAB4	ICSAB	1	12/23/22 9:46 PM
A1223102.d	MB-97207	MBLK	1	12/23/22 9:52 PM
A1223103.d	LCS-97207	LCS	1	12/23/22 9:58 PM
A1223104.d	N054021-001B	SAMP	1	12/23/22 10:04 PM
A1223105.d	N054021-002B	SAMP	1	12/23/22 10:10 PM
A1223106.d	N054021-003B	SAMP	1	12/23/22 10:16 PM
A1223107.d	N054021-004B	SAMP	1	12/23/22 10:22 PM
A1223108.d	N054021-005B	SAMP	1	12/23/22 10:27 PM
A1223109.d	N054021-006B	SAMP	1	12/23/22 10:33 PM
A1223110.d	RINSE	ICAL	1	12/23/22 10:39 PM
A1223111.d	CCV8	CCV	1	12/23/22 10:45 PM
A1223112.d	CCB8	CCB	1	12/23/22 10:51 PM
A1223113.d	N054021-007B	SAMP	1	12/23/22 10:56 PM
A1223114.d	N054021-008B	SAMP	1	12/23/22 11:02 PM
A1223115.d	N054021-008B	SAMP	5	12/23/22 11:08 PM
A1223116.d	N054021-008B	SAMP	25	12/23/22 11:14 PM
A1223117.d	N054021-008B-PS	PS	1	12/23/22 11:20 PM
A1223118.d	N054021-008B-PS	PS	5	12/23/22 11:26 PM
A1223119.d	N054021-008BMS	MS	1	12/23/22 11:32 PM
A1223120.d	N054021-008BMS	MS	5	12/23/22 11:37 PM
A1223121.d	N054021-008BMSD	MSD	1	12/23/22 11:43 PM
A1223122.d	N054021-008BMSD	MSD	5	12/23/22 11:49 PM
A1223123.d	CCV9	CCV	1	12/23/22 11:55 PM
A1223124.d	CCB9	CCB	1	12/24/22 12:01 AM
A1223125.d	N054022-001C	SAMP	1	12/24/22 12:07 AM
A1223126.d	N054022-001C	SAMP	5	12/24/22 12:13 AM

INJECTION LOG: 221223A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1223127.d	N054022-004C	SAMP	1	12/24/22 12:18 AM
A1223128.d	N054089-002C	SAMP	1	12/24/22 12:24 AM
A1223129.d	N054089-002C	SAMP	1	12/24/22 12:30 AM
A1223130.d	N054089-002C	SAMP	1	12/24/22 12:36 AM
A1223131.d	RINSE	ICAL	1	12/24/22 12:42 AM
A1223132.d	CCV10	CCV	1	12/24/22 12:48 AM
A1223133.d	CCB10	CCB	1	12/24/22 12:54 AM
A1223134.d	ICSA5	ICSA	1	12/24/22 12:59 AM
A1223135.d	ICSAB5	ICSAB	1	12/24/22 1:05 AM
A1223136.d	RINSE	ICAL	1	12/24/22 1:11 AM
A1223137.d	RINSE	ICAL	1	12/24/22 1:17 AM
A1223138.d	RINSE	ICAL	1	12/24/22 1:23 AM

INJECTION LOG: 221227A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1227001.d	RINSE	ICAL	1	12/27/22 11:13 AM
A1227002.d	Cal Blk	IBLK	1	12/27/22 11:19 AM
A1227003.d	Std1-0.1/1 ppb	ICAL	1	12/27/22 11:25 AM
A1227004.d	Std2-0.5/5 ppb	ICAL	1	12/27/22 11:31 AM
A1227005.d	Std3-5/50 ppb	ICAL	1	12/27/22 11:37 AM
A1227006.d	Std4-10/100 ppb	ICAL	1	12/27/22 11:43 AM
A1227007.d	Std5-20/200 ppb	ICAL	1	12/27/22 11:50 AM
A1227008.d	Std6-40/400 ppb	ICAL	1	12/27/22 11:56 AM
A1227009.d	Std7-100/1000 ppb	ICAL	1	12/27/22 12:02 PM
A1227010.d	Std8-200/2000 ppb	ICAL	1	12/27/22 12:08 PM
A1227011.d	ICV	ICV	1	12/27/22 12:19 PM
A1227012.d	ICB	ICB	1	12/27/22 12:25 PM
A1227013.d	ICV	ICV	1	12/27/22 12:36 PM
A1227014.d	ICB	ICB	1	12/27/22 12:42 PM
A1227015.d	LLICV1	LLICV	1	12/27/22 12:48 PM
A1227016.d	MLCCV	CCV	1	12/27/22 12:54 PM
A1227017.d	ICSA1	ICSA	1	12/27/22 1:00 PM
A1227018.d	ICSAB1	ICSAB	1	12/27/22 1:05 PM
A1227019.d	N054021-008B	SAMP	25	12/27/22 1:20 PM
A1227020.d	N054021-008B	SAMP	125	12/27/22 1:26 PM
A1227021.d	N054021-008B-PS	PS	25	12/27/22 1:32 PM
A1227022.d	N054021-008BMS	MS	25	12/27/22 1:38 PM
A1227023.d	N054021-008BMSD	MSD	25	12/27/22 1:44 PM
A1227024.d	N054022-004C	SAMP	1	12/27/22 1:50 PM
A1227025.d	LCS-97292	LCS	1	12/27/22 2:00 PM
A1227026.d	RINSE	ICAL	1	12/27/22 2:06 PM
A1227027.d	CCV1	CCV	1	12/27/22 2:12 PM
A1227028.d	CCB1	CCB	1	12/27/22 2:18 PM
A1227029.d	N053873-001C-PS	PS	1	12/27/22 2:23 PM
A1227030.d	N053873-001C-MS	MS	1	12/27/22 2:29 PM
A1227031.d	N053873-001C-MSD	MSD	1	12/27/22 2:35 PM
A1227032.d	N054166-003H	SAMP	25	12/27/22 2:41 PM
A1227033.d	RINSE	ICAL	1	12/27/22 2:47 PM
A1227034.d	CCV2	CCV	1	12/27/22 2:53 PM
A1227035.d	CCB2	CCB	1	12/27/22 2:58 PM
A1227036.d	ICSA2	ICSA	1	12/27/22 3:04 PM
A1227037.d	ICSAB2	ICSAB	1	12/27/22 3:10 PM
A1227038.d	MB-97397	MBLK	1	12/27/22 3:29 PM
A1227039.d	LCS-97397	LCS	1	12/27/22 3:35 PM
A1227040.d	N054251-001A	SAMP	1	12/27/22 3:41 PM
A1227041.d	N054251-001A	SAMP	5	12/27/22 3:47 PM
A1227042.d	N054251-001A-PS	PS	1	12/27/22 3:53 PM

INJECTION LOG: 221227A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1227043.d	N054251-001A-MS	MS	1	12/27/22 3:58 PM
A1227044.d	N054251-001A-MSD	MSD	1	12/27/22 4:04 PM
A1227045.d	N054251-002A	SAMP	1	12/27/22 4:10 PM
A1227046.d	N054259-001A	SAMP	1	12/27/22 4:16 PM
A1227047.d	RINSE	ICAL	1	12/27/22 4:22 PM
A1227048.d	CCV3	CCV	1	12/27/22 4:27 PM
A1227049.d	CCB3	CCB	1	12/27/22 4:33 PM
A1227050.d	N054260-001A	SAMP	1	12/27/22 4:39 PM
A1227051.d	N054262-001A	SAMP	1	12/27/22 4:45 PM
A1227052.d	RINSE	ICAL	1	12/27/22 4:51 PM
A1227053.d	CCV4	CCV	1	12/27/22 4:57 PM
A1227054.d	CCB4	CCB	1	12/27/22 5:02 PM
A1227055.d	ICSA3	ICSA	1	12/27/22 5:08 PM
A1227056.d	ICSAB3	ICSAB	1	12/27/22 5:14 PM
A1227057.d	N053816-001A	SAMP	1	12/27/22 5:20 PM
A1227058.d	N053816-001C	SAMP	1	12/27/22 5:26 PM
A1227059.d	N053816-003A	SAMP	1	12/27/22 5:32 PM
A1227060.d	N053816-003C	SAMP	1	12/27/22 5:38 PM
A1227061.d	N053816-007A	SAMP	1	12/27/22 5:43 PM
A1227062.d	N053816-007C	SAMP	1	12/27/22 5:49 PM
A1227063.d	N053816-008A	SAMP	1	12/27/22 5:55 PM
A1227064.d	N053816-00CC	SAMP	1	12/27/22 6:01 PM
A1227065.d	N053817-001A	SAMP	5	12/27/22 6:07 PM
A1227066.d	N053817-001C	SAMP	5	12/27/22 6:13 PM
A1227067.d	CCV5	CCV	1	12/27/22 6:18 PM
A1227068.d	CCB5	CCB	1	12/27/22 6:24 PM
A1227069.d	N053817-002A	SAMP	25	12/27/22 6:30 PM
A1227070.d	N053817-002C	SAMP	25	12/27/22 6:36 PM
A1227071.d	N053817-003A	SAMP	25	12/27/22 6:42 PM
A1227072.d	N053817-003C	SAMP	25	12/27/22 6:48 PM
A1227073.d	N053817-006A	SAMP	1	12/27/22 6:53 PM
A1227074.d	N053817-006C	SAMP	1	12/27/22 6:59 PM
A1227075.d	N053817-010A	SAMP	1	12/27/22 7:05 PM
A1227076.d	N053817-010C	SAMP	1	12/27/22 7:11 PM
A1227077.d	N053874-001A	SAMP	1	12/27/22 7:17 PM
A1227078.d	N053874-001C	SAMP	1	12/27/22 7:23 PM
A1227079.d	CCV6	CCV	1	12/27/22 7:29 PM
A1227080.d	CCB6	CCB	1	12/27/22 7:34 PM
A1227081.d	ICSA4	ICSA	1	12/27/22 7:40 PM
A1227082.d	ICSAB4	ICSAB	1	12/27/22 7:46 PM
A1227083.d	N053874-005A	SAMP	5	12/27/22 7:52 PM
A1227084.d	N053874-005C	SAMP	5	12/27/22 7:58 PM

INJECTION LOG: 221227A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1227085.d	N053874-014A	SAMP	5	12/27/22 8:04 PM
A1227086.d	N053874-014C	SAMP	5	12/27/22 8:09 PM
A1227087.d	N053874-016A	SAMP	1	12/27/22 8:15 PM
A1227088.d	N053874-016C	SAMP	1	12/27/22 8:21 PM
A1227089.d	N054046-001A	SAMP	1	12/27/22 8:27 PM
A1227090.d	N054046-001B	SAMP	1	12/27/22 8:33 PM
A1227091.d	N054022-001A	SAMP	1	12/27/22 8:39 PM
A1227092.d	N054022-001C	SAMP	1	12/27/22 8:44 PM
A1227093.d	CCV7	CCV	1	12/27/22 8:50 PM
A1227094.d	CCB7	CCB	1	12/27/22 8:56 PM
A1227095.d	N054047-001A	SAMP	1	12/27/22 9:02 PM
A1227096.d	N054047-001B	SAMP	1	12/27/22 9:08 PM
A1227097.d	N054047-002A	SAMP	1	12/27/22 9:14 PM
A1227098.d	N054047-002B	SAMP	1	12/27/22 9:19 PM
A1227099.d	N054047-003A	SAMP	1	12/27/22 9:25 PM
A1227100.d	N054047-003B	SAMP	1	12/27/22 9:31 PM
A1227101.d	N054047-004A	SAMP	1	12/27/22 9:37 PM
A1227102.d	N054047-004B	SAMP	1	12/27/22 9:43 PM
A1227103.d	N054166-001H	SAMP	1	12/27/22 9:49 PM
A1227104.d	RINSE	ICAL	1	12/27/22 9:54 PM
A1227105.d	CCV8	CCV	1	12/27/22 10:00 PM
A1227106.d	CCB8	CCB	1	12/27/22 10:06 PM
A1227107.d	ICSA5	ICSA	1	12/27/22 10:12 PM
A1227108.d	ICSAB5	ICSAB	1	12/27/22 10:18 PM
A1227109.d	MB-97404	MBLK	1	12/27/22 10:24 PM
A1227110.d	LCS-97404	LCS	1	12/27/22 10:29 PM
A1227111.d	N054106-001C	SAMP	5	12/27/22 10:35 PM
A1227112.d	N054106-001C	SAMP	25	12/27/22 10:41 PM
A1227113.d	N054106-001C-PS	PS.5	1	12/27/22 10:47 PM
A1227114.d	N054106-001C-MS	MS	5	12/27/22 10:53 PM
A1227115.d	N054106-001C-MSD	MSD	5	12/27/22 10:59 PM
A1227116.d	N054106-002C	SAMP	5	12/27/22 11:05 PM
A1227117.d	N054106-003C	SAMP	5	12/27/22 11:10 PM
A1227118.d	RINSE	ICAL	1	12/27/22 11:16 PM
A1227119.d	CCV9	CCV	1	12/27/22 11:22 PM
A1227120.d	CCB9	CCB	1	12/27/22 11:28 PM
A1227121.d	N054166-001B	SAMP	1	12/27/22 11:34 PM
A1227122.d	N054166-001B	SAMP	5	12/27/22 11:40 PM
A1227123.d	N054166-002B	SAMP	1	12/27/22 11:45 PM
A1227124.d	N054166-002B	SAMP	5	12/27/22 11:51 PM
A1227125.d	N054166-003B	SAMP	1	12/27/22 11:57 PM
A1227126.d	N054166-003B	SAMP	5	12/28/22 12:03 AM

INJECTION LOG: 221227A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1227127.d	N054166-003B	SAMP	25	12/28/22 12:09 AM
A1227128.d	N054215-001C	SAMP	5	12/28/22 12:15 AM
A1227129.d	N054215-002C	SAMP	5	12/28/22 12:21 AM
A1227130.d	N054215-003C	SAMP	5	12/28/22 12:27 AM
A1227131.d	CCV10	CCV	1	12/28/22 12:32 AM
A1227132.d	CCB10	CCB	1	12/28/22 12:38 AM
A1227133.d	ICSA6	ICSA	1	12/28/22 12:44 AM
A1227134.d	ICSAB6	ICSAB	1	12/28/22 12:50 AM
A1227135.d	RINSE	ICAL	1	12/28/22 12:56 AM
A1227136.d	RINSE	ICAL	1	12/28/22 1:02 AM
A1227137.d	RINSE	ICAL	1	12/28/22 1:07 AM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/13/2022 10:43:2**
Prep End Date: **12/13/2022 3:00:00**
Prep Batch **97207** Prep Code: **3010_W_MSDI**

Reviewed/ Date: JRB 1/15/2023
Initials/ Date: for
Technician: **Diane Jetajobe**

Prep Factor Units: **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
LCS-97207	Aqueous		25	☐	25	1.000		
MB-97207	Aqueous		25	☐	25	1.000		
N054021-001B	Groundwater	<2	25	☐	25	1.000		
N054021-002B	Groundwater	<2	25	☐	25	1.000		
N054021-003B	Groundwater	<2	25	☐	25	1.000		
N054021-004B	Groundwater	<2	25	☐	25	1.000		
N054021-005B	Groundwater	<2	25	☐	25	1.000		
N054021-006B	Groundwater	<2	25	☐	25	1.000		
N054021-007B	Groundwater	<2	25	☐	25	1.000		
N054021-008B	Groundwater	<2	25	☐	25	1.000		
N054021-008BMS	Groundwater	<2	25	☐	25	1.000		
N054021-008BMS	Groundwater	<2	25	☐	25	1.000		
N054022-001C	Groundwater	<2	25	☐	25	1.000		
N054022-002C	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14585	NITRIC ACID
14586	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution D		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/13/2022 10:43:2**
Prep End Date: **12/13/2022 3:00:00**

Reviewed/ Date: JRB 1/15/2023

Initials/ Date: for

Prep Batch **97207** Prep Code: **3010_W_MSDI** Technician: **Diane Jetajobe**

Prep Factor Units: **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
N054022-003C	Groundwater	<2	25	☐	25	1.000		
N054022-004C	Groundwater	<2	25	☐	25	1.000		
N054089-001C	Groundwater	<2	25	☐	25	1.000		
N054089-002C	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14585	NITRIC ACID
14586	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution D		0.25

INSTRUMENT TUNING CHECK

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221215B.b
Acq. Date-Time	2022-12-16 10:52:13
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

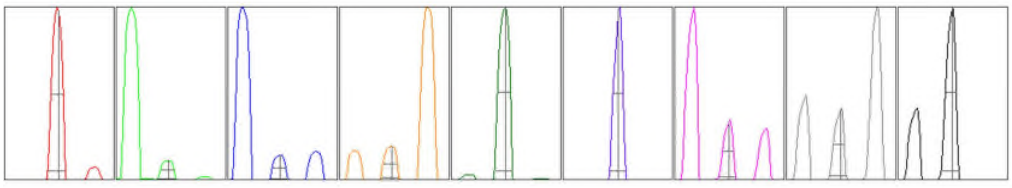
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	5082	50824.35	500.00		3.019	5.000
24	10.00	18179	181790.79	500.00		3.488	5.000
25	10.00	2500	24996.88	500.00		3.412	5.000
26	10.00	2927	29272.89	500.00		3.579	5.000
59	10.00	40247	402467.58	500.00		2.504	5.000
115	10.00	61633	616326.12	500.00		2.163	5.000
206	10.00	11237	112374.12	500.00		2.383	5.000
207	10.00	10019	100186.15	500.00		2.269	5.000
208	10.00	24795	247947.83	500.00		2.190	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.919 %
Doubly Charged	70 / 140 0.666 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	5124.76	9.00	8.90 - 9.10	
24	19214.38	23.95	23.90 - 24.10	
25	2666.66	24.95	24.90 - 25.10	
26	3028.03	25.95	25.90 - 26.10	
59	40860.22	59.00	58.90 - 59.10	
115	69553.94	115.05	114.90 - 115.10	
206	11524.62	206.00	205.90 - 206.10	
207	10273.52	207.00	206.90 - 207.10	
208	25468.58	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.35	0.484	0.900	
24	0.38	0.506	0.900	
25	0.38	0.502	0.900	
26	0.40	0.493	0.900	
59	0.37	0.487	0.900	
115	0.29	0.435	0.900	
206	0.31	0.465	0.900	
207	0.32	0.461	0.900	
208	0.31	0.483	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.13		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1093 V

[H2]

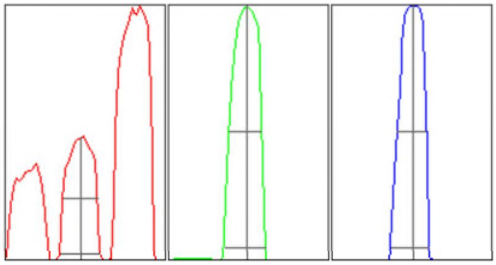
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		185	1846.30			7.279	
59		3262	32619.56			3.510	
115		63585	635849.95			3.145	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.753 %
Doubly Charged	70 / 140 0.207 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	200.52	25.95	25.90 - 26.10	
59	3363.76	59.00	58.90 - 59.10	
115	65541.87	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.66	0.748	0.900	
59	0.63	0.785	0.900	
115	0.56	0.732	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0001	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.03		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1093 V

[He]

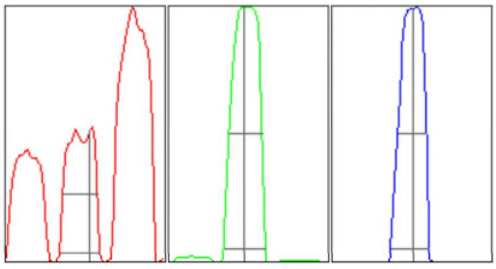
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		153	1531.67			8.539	
59		13072	130717.04			2.515	
115		17943	179428.23			2.560	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.367 %
Doubly Charged	70 / 140 0.652 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	153.51	26.10	25.90 - 26.10	
59	13221.01	58.95	58.90 - 59.10	
115	18315.82	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.66	0.745	0.900	
59	0.63	0.785	0.900	
115	0.56	0.730	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0001	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.03		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1093 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221222B.b
Acq. Date-Time	2022-12-23 11:27:59
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

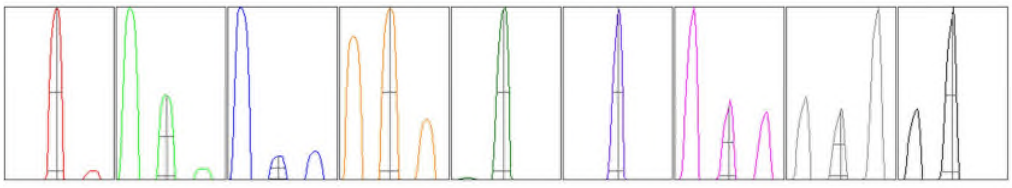
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	6529	65287.65	500.00		4.041	5.000
24	10.00	21720	217204.83	500.00		3.926	5.000
25	10.00	2927	29271.89	500.00		4.481	5.000
26	10.00	3424	34241.95	500.00		4.355	5.000
59	10.00	40188	401876.55	500.00		3.580	5.000
115	10.00	42415	424149.89	500.00		3.265	5.000
206	10.00	8300	82998.98	500.00		4.046	5.000
207	10.00	7385	73845.76	500.00		3.570	5.000
208	10.00	16903	169026.58	500.00		4.350	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.744 %
Doubly Charged	70 / 140 0.989 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	6678.38	8.95	8.90 - 9.10	
24	23493.33	23.90	23.90 - 24.10	
25	3119.69	24.90	24.90 - 25.10	
26	3729.70	25.90	25.90 - 26.10	
59	40789.99	58.95	58.90 - 59.10	
115	43275.18	115.05	114.90 - 115.10	
206	8052.51	206.00	205.90 - 206.10	
207	7314.95	207.00	206.90 - 207.10	
208	17612.34	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.36	0.444	0.900	
24	0.41	0.494	0.900	
25	0.41	0.494	0.900	
26	0.41	0.534	0.900	
59	0.35	0.484	0.900	
115	0.29	0.432	0.900	
206	0.33	0.460	0.900	
207	0.33	0.487	0.900	
208	0.31	0.483	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0005	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.16		

Hardware Settings

Torch

Torch H	1.4 mm	Torch V	1.2 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1105 V

[H2]

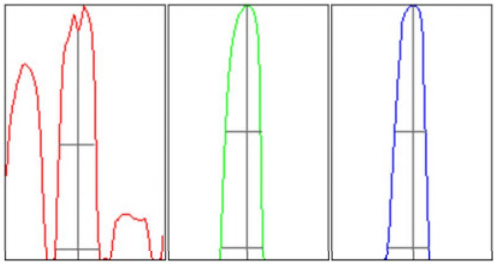
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		204	2036.12			8.160	
59		4275	42747.28			3.715	
115		42319	423194.94			3.881	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.526 %
Doubly Charged	70 / 140 0.258 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	198.27	25.90	25.90 - 26.10	
59	4461.85	59.00	58.90 - 59.10	
115	43923.22	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.68	0.829	0.900	
59	0.66	0.788	0.900	
115	0.59	0.772	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	128	Axis Gain	1.0004	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.08		

Hardware Settings

Torch

Torch H	1.4 mm	Torch V	1.2 mm		

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1105 V

[He]

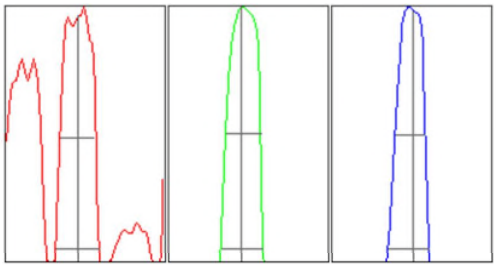
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		159	1589.27			7.698	
59		12741	127411.08			3.665	
115		12914	129138.72			3.602	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.290 %
Doubly Charged	70 / 140 0.849 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	164.76	25.90	25.90 - 26.10	
59	13086.28	58.90	58.90 - 59.10	
115	13018.80	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.67	0.829	0.900	
59	0.66	0.787	0.900	
115	0.58	0.770	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	128	Axis Gain	1.0004	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.08		

Hardware Settings

Torch

Torch H	1.4 mm	Torch V	1.2 mm

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1105 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221224A.b
Acq. Date-Time	2022-12-27 10:41:19
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

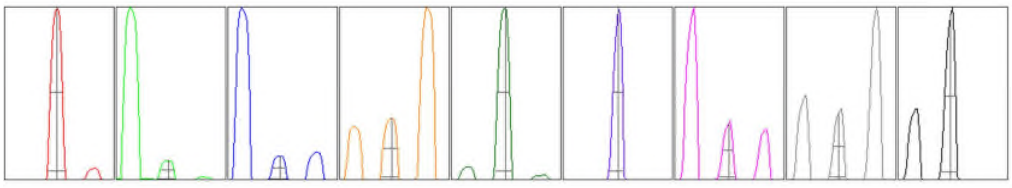
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	6288	62880.67	500.00		3.011	5.000
24	10.00	31001	310014.80	500.00		2.601	5.000
25	10.00	4201	42009.39	500.00		2.759	5.000
26	10.00	4868	48675.49	500.00		2.503	5.000
59	10.00	57236	572355.37	500.00		2.604	5.000
115	10.00	99810	998101.04	500.00		2.821	5.000
206	10.00	16584	165843.09	500.00		2.789	5.000
207	10.00	14541	145407.88	500.00		2.805	5.000
208	10.00	35712	357118.48	500.00		2.559	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 1.098 %
Doubly Charged	70 / 140 0.632 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	6484.86	8.95	8.90 - 9.10	
24	32132.90	23.95	23.90 - 24.10	
25	4323.13	24.95	24.90 - 25.10	
26	5054.37	25.95	25.90 - 26.10	
59	57503.81	59.00	58.90 - 59.10	
115	106051.94	115.05	114.90 - 115.10	
206	17256.58	206.00	205.90 - 206.10	
207	14024.94	206.95	206.90 - 207.10	
208	35446.88	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.34	0.484	0.900	
24	0.38	0.487	0.900	
25	0.38	0.485	0.900	
26	0.40	0.493	0.900	
59	0.35	0.487	0.900	
115	0.28	0.418	0.900	
206	0.31	0.478	0.900	
207	0.32	0.447	0.900	
208	0.31	0.466	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.14		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2132 V	Pulse HV	1109 V

[H2]

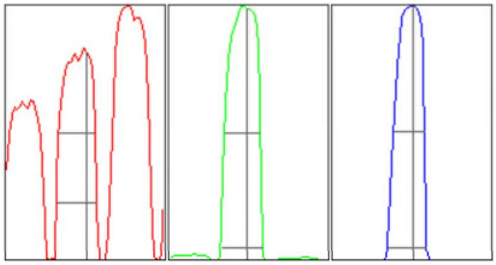
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		276	2764.83			7.709	
59		4132	41322.70			4.043	
115		80533	805328.99			3.198	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 1.088 %
Doubly Charged	70 / 140 0.197 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	279.78	26.05	25.90 - 26.10	
59	4303.21	59.00	58.90 - 59.10	
115	84169.77	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.67	0.763	0.900	
59	0.68	0.790	0.900	
115	0.59	0.738	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0002	QP Bias	-15.0 V
Mass Offset	123	Axis Offset	-0.08		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2132 V	Pulse HV	1109 V

[He]

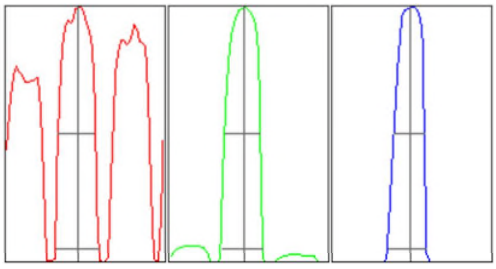
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		241	2412.97			6.065	
59		17362	173616.50			2.095	
115		24061	240610.93			2.717	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.438 %
Doubly Charged	70 / 140 0.675 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	262.28	25.90	25.90 - 26.10	
59	17826.41	58.95	58.90 - 59.10	
115	24596.29	115.00	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.69	0.833	0.900	
59	0.67	0.790	0.900	
115	0.58	0.736	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0002	QP Bias	-13.0 V
Mass Offset	123	Axis Offset	-0.08		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm

EM

Discriminator	4.5 mV	Analog HV	2132 V	Pulse HV	1109 V

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 221216A

Instrument ID: ICPMS-03

Analyte	Data File	A1216002.d	A1216003.d	A1216004.d	A1216005.d	A1216006.d	A1216007.d	A1216008.d	A1216009.d	A1216010.d	
	Acq. Date-Time	12/16/2022 11:01 AM	12/16/2022 11:07 AM	12/16/2022 11:13 AM	12/16/2022 11:19 AM	12/16/2022 11:25 AM	12/16/2022 11:31 AM	12/16/2022 11:37 AM	12/16/2022 11:43 AM	12/16/2022 11:49 AM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	68385		62657.2	61235.1	59555.8	60779	58327.2	55186.5	55924.4	
55 Mn [2]	CPS	98.8		1293	12590	24910.8	50847.1	98492.5	233174.2	458875.9	0.9999
52 Cr [2]	CPS	180		2204.6	20937.7	40846.8	83058.6	158207.1	375858.4	748396.6	1.0000
72 Ge (ISTD) [1]	CPS	91236.1		84947.1	82485.8	80262.5	81155.7	78522.9	74978.6	75409.5	
78 Se [1]	CPS	2.2		134.4	1238.9	2458	4804.1	9442.8	22714.8	46085	1.0000
72 Ge (ISTD) [2]	CPS	52403.7	53679	49408.9	48421.4	47368.3	48664.4	46758.9	44139.4	44455.9	
75 As [2]	CPS	14.3	66.6	385.5	3350.2	6800.2	13907.9	26788.2	62860.6	125250.5	1.0000
103 Rh (ISTD) [2]	CPS	1349921.8		1323766.9	1300982.1	1286367	1312261.3	1284192.8	1200944.9	1196330.2	
95 Mo [2]	CPS	24.4		1577.9	15463	31250.3	63483.7	124648.4	294184.1	588103.4	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221223A

Instrument ID: ICPMS-03

Analyte	Data File	A1223002.d	A1223003.d	A1223004.d	A1223005.d	A1223006.d	A1223007.d	A1223008.d	A1223009.d	A1223010.d	
	Acq. Date-Time	12/23/2022 11:46 AM	12/23/2022 11:52 AM	12/23/2022 11:58 AM	12/23/2022 12:04 PM	12/23/2022 12:10 PM	12/23/2022 12:16 PM	12/23/2022 12:22 PM	12/23/2022 12:29 PM	12/23/2022 12:35 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
72 Ge (ISTD) [1]	CPS	92599.6		88715.9	92466.3	88849	88963.8	89531.4	89141.6	90583.8	
78 Se [1]	CPS	2.2		114.4	1290.1	2623.6	5182	10376.7	26321.3	53164.3	1.0000
72 Ge (ISTD) [2]	CPS	49152.5	47765.1	47595.7	48056	47307.1	47609.1	48477.2	48639.9	48181.8	
75 As [2]	CPS	13.3	97.7	344.4	3512.5	7083.6	14497.3	29182.3	73403	148826.7	0.9999

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221227A

Instrument ID: ICPMS-03

Analyte	Data File	A1227002.d	A1227004.d	A1227005.d	A1227006.d	A1227007.d	A1227008.d	A1227009.d	A1227010.d	
	Acq. Date-Time	12/27/2022 11:19 AM	12/27/2022 11:31 AM	12/27/2022 11:37 AM	12/27/2022 11:43 AM	12/27/2022 11:50 AM	12/27/2022 11:56 AM	12/27/2022 12:02 PM	12/27/2022 12:08 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	54909.8	54429.3	55004.5	53842.1	54682.4	54420.5	54776.1	53659.2	
52 Cr [2]	CPS	370	2006.8	17884.1	35038	71738.5	140363	356863.2	702308.7	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.124	0.10	10.00	0	101	90	110				
Manganese	102.341	0.50	100.0	0	102	90	110				
Molybdenum	10.161	0.50	10.00	0	102	90	110				
Selenium	10.075	0.50	10.00	0	101	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.111	0.10	0.1000	0	111	80	120				
Manganese	0.539	0.50	0.5000	0	108	80	120				
Molybdenum	0.521	0.50	0.5000	0	104	80	120				
Selenium	0.528	0.50	0.5000	0	106	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976081**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.360	0.10	20.00	0	102	90	110				
Manganese	20.712	0.50	20.00	0	104	90	110				
Molybdenum	19.586	0.50	20.00	0	97.9	90	110				
Selenium	19.526	0.50	20.00	0	97.6	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.189	0.10	20.00	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.216	0.50	20.00	0	101	90	110				
Molybdenum	19.533	0.50	20.00	0	97.7	90	110				
Selenium	19.670	0.50	20.00	0	98.4	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976103**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.839	0.10	20.00	0	104	90	110				
Manganese	21.118	0.50	20.00	0	106	90	110				
Molybdenum	20.572	0.50	20.00	0	103	90	110				
Selenium	20.805	0.50	20.00	0	104	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.949	0.10	20.00	0	105	90	110				
Manganese	21.233	0.50	20.00	0	106	90	110				
Molybdenum	20.665	0.50	20.00	0	103	90	110				
Selenium	21.054	0.50	20.00	0	105	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.523	0.10	20.00	0	103	90	110				
Manganese	20.925	0.50	20.00	0	105	90	110				
Molybdenum	20.746	0.50	20.00	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV4**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	21.314	0.50	20.00	0	107	90	110				

Sample ID **CCV5**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.217	0.10	20.00	0	106	90	110				
Manganese	20.572	0.50	20.00	0	103	90	110				
Molybdenum	20.661	0.50	20.00	0	103	90	110				
Selenium	19.834	0.50	20.00	0	99.2	90	110				

Sample ID **CCV6**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.050	0.10	20.00	0	105	90	110				
Manganese	20.455	0.50	20.00	0	102	90	110				
Molybdenum	21.030	0.50	20.00	0	105	90	110				
Selenium	19.365	0.50	20.00	0	96.8	90	110				

Sample ID **CCV7**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.614	0.10	20.00	0	108	90	110				
Manganese	20.440	0.50	20.00	0	102	90	110				
Molybdenum	20.760	0.50	20.00	0	104	90	110				
Selenium	19.972	0.50	20.00	0	99.9	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV8** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.636	0.10	20.00	0	108	90	110				
Manganese	20.543	0.50	20.00	0	103	90	110				
Molybdenum	20.929	0.50	20.00	0	105	90	110				
Selenium	19.542	0.50	20.00	0	97.7	90	110				

Sample ID **CCV9** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.834	0.10	20.00	0	109	90	110				
Manganese	20.255	0.50	20.00	0	101	90	110				
Molybdenum	20.686	0.50	20.00	0	103	90	110				
Selenium	20.154	0.50	20.00	0	101	90	110				

Sample ID **CCV10** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/17/2022** SeqNo: **4976193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.561	0.10	20.00	0	108	90	110				
Manganese	20.414	0.50	20.00	0	102	90	110				
Molybdenum	20.820	0.50	20.00	0	104	90	110				
Selenium	20.112	0.50	20.00	0	101	90	110				

Sample ID **CCV11** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/17/2022** SeqNo: **4976197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.573	0.10	20.00	0	108	90	110				
Manganese	19.986	0.50	20.00	0	99.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV11** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **CCV** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/17/2022** SeqNo: **4976197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	20.947	0.50	20.00	0	105	90	110				
Selenium	20.358	0.50	20.00	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.812	0.10	10.00	0	98.1	90	110				
Manganese	103.420	0.50	100.0	0	103	90	110				
Selenium	9.771	0.50	10.00	0	97.7	90	110				

Sample ID **MLCCV** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988168**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.733	0.10	20.00	0	98.7	90	110				
Manganese	20.258	0.50	20.00	0	101	90	110				
Selenium	19.337	0.50	20.00	0	96.7	90	110				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.302	0.10	20.00	0	96.5	90	110				
Manganese	21.046	0.50	20.00	0	105	90	110				
Selenium	19.787	0.50	20.00	0	98.9	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.656	0.10	20.00	0	93.3	90	110				
Manganese	21.197	0.50	20.00	0	106	90	110				
Selenium	20.384	0.50	20.00	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.511	0.10	20.00	0	92.6	90	110				
Manganese	22.156	0.50	20.00	0	111	90	110				S
Selenium	19.914	0.50	20.00	0	99.6	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.779	0.10	20.00	0	93.9	90	110				
Manganese	23.242	0.50	20.00	0	116	90	110				S
Selenium	20.661	0.50	20.00	0	103	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988225**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.458	0.10	20.00	0	92.3	90	110				
Manganese	22.939	0.50	20.00	0	115	90	110				S
Selenium	20.888	0.50	20.00	0	104	90	110				

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.739	0.10	20.00	0	93.7	90	110				
Manganese	21.450	0.50	20.00	0	107	90	110				
Selenium	19.630	0.50	20.00	0	98.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

%Rec of Mn in several CCVs failed, high bias. However, N054089 samples are reported withi CCV9/CCB9 to CCV10/CCB10. Thus, unaffected by the failed CCVs.

1/5/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV7** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.044	0.10	20.00	0	95.2	90	110				
Manganese	21.136	0.50	20.00	0	106	90	110				
Selenium	20.190	0.50	20.00	0	101	90	110				

Sample ID **CCV8** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.018	0.10	20.00	0	95.1	90	110				
Manganese	21.237	0.50	20.00	0	106	90	110				
Selenium	19.704	0.50	20.00	0	98.5	90	110				

Sample ID **CCV9** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988268**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.170	0.10	20.00	0	95.9	90	110				
Manganese	20.986	0.50	20.00	0	105	90	110				
Selenium	19.994	0.50	20.00	0	100	90	110				

Sample ID **CCV10** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **CCV** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/24/2022** SeqNo: **4988276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.182	0.10	20.00	0	95.9	90	110				
Manganese	20.856	0.50	20.00	0	104	90	110				
Selenium	20.082	0.50	20.00	0	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **ZZZZZZ**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4989147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.514	0.50	0.5000	0	103	80	120				
Selenium	0.595	0.50	0.5000	0	119	80	120				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **ZZZZZZ**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4989151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.080	0.10	0.1000	0	80.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.437	1.0	10.00	0	104	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.022	1.0	1.000	0	102	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.499	1.0	20.00	0	102	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.247	1.0	20.00	0	101	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.819	1.0	20.00	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**CCV3**	SampType:	**CCV**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168270**
Client ID:	**CCV**	Batch ID:	**R168270**	TestNo:	**EPA 6020**			Analysis Date:	**12/16/2022**	SeqNo:	**4975989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.228	1.0	20.00	0	106	90	110				

Sample ID	**CCV4**	SampType:	**CCV**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168270**
Client ID:	**CCV**	Batch ID:	**R168270**	TestNo:	**EPA 6020**			Analysis Date:	**12/16/2022**	SeqNo:	**4975997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.805	1.0	20.00	0	104	90	110				

Sample ID	**CCV5**	SampType:	**CCV**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168270**
Client ID:	**CCV**	Batch ID:	**R168270**	TestNo:	**EPA 6020**			Analysis Date:	**12/16/2022**	SeqNo:	**4976011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.550	1.0	20.00	0	103	90	110				

Sample ID	**CCV6**	SampType:	**CCV**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168270**
Client ID:	**CCV**	Batch ID:	**R168270**	TestNo:	**EPA 6020**			Analysis Date:	**12/16/2022**	SeqNo:	**4976024**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.541	1.0	20.00	0	103	90	110				

Sample ID	**CCV7**	SampType:	**CCV**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168270**
Client ID:	**CCV**	Batch ID:	**R168270**	TestNo:	**EPA 6020**			Analysis Date:	**12/16/2022**	SeqNo:	**4976035**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.287	1.0	20.00	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCV8**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.486	1.0	20.00	0	102	90	110				

Sample ID **CCV9**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.436	1.0	20.00	0	102	90	110				

Sample ID **CCV10**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.392	1.0	20.00	0	102	90	110				

Sample ID **CCV11**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCV**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.367	1.0	20.00	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **ICV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993272**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.560	1.0	10.00	0	106	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **ZZZZZZ**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.074	1.0	1.000	0	107	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.030	1.0	20.00	0	100	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993285**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.013	1.0	20.00	0	100	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.005	1.0	20.00	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCV3**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.965	1.0	20.00	0	99.8	90	110				

Sample ID **CCV4**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.816	1.0	20.00	0	99.1	90	110				

Sample ID **CCV5**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.823	1.0	20.00	0	99.1	90	110				

Sample ID **CCV6**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.773	1.0	20.00	0	98.9	90	110				

Sample ID **CCV7**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.752	1.0	20.00	0	98.8	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCV8**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCV**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.509	1.0	20.00	0	97.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID **CCB7**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB8**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB9**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB10**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB11**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **ICB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	0.062	0.50									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988201**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB7**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **CCB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/23/2022**	SeqNo: **4988245**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	CCB8	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168460
Client ID:	CCB	Batch ID:	R168460	TestNo:	EPA 6020			Analysis Date:	12/23/2022	SeqNo:	4988257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB9	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168460
Client ID:	CCB	Batch ID:	R168460	TestNo:	EPA 6020			Analysis Date:	12/24/2022	SeqNo:	4988269

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB10	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168460
Client ID:	CCB	Batch ID:	R168460	TestNo:	EPA 6020			Analysis Date:	12/24/2022	SeqNo:	4988277

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.307	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Mn in CCB10 is >1/2RL. However, only As and Se for N54089 are reported in this sequence.

1/5/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976025**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB7**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB8**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.074	1.0									

Sample ID **CCB9**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.103	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCB10**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.091	1.0									

Sample ID **CCB11**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **CCB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976074**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.053	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **ICB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993273**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB7**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB8**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID: **CCB**	Batch ID: **R168512**	TestNo: **EPA 6020**		Analysis Date: **12/27/2022**	SeqNo: **4993360**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976086**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.674	0.10	20.00	0	108	80	120				
Manganese	20.851	0.50	20.00	0	104	80	120				
Molybdenum	22.374	0.50	20.00	0	112	80	120				
Selenium	20.161	0.50	20.00	0	101	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.403	0.10	20.00	0	107	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ICSAB** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.481	0.50	20.00	0	102	80	120				
Molybdenum	22.650	0.50	20.00	0	113	80	120				
Selenium	19.603	0.50	20.00	0	98.0	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ICSA** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976123**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ICSAB** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.274	0.10	20.00	0	106	80	120				
Manganese	19.766	0.50	20.00	0	98.8	80	120				
Molybdenum	22.361	0.50	20.00	0	112	80	120				
Selenium	19.741	0.50	20.00	0	98.7	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ICSA** Batch ID: **R168270** TestNo: **EPA 6020** Analysis Date: **12/16/2022** SeqNo: **4976137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	ICSA4	SampType:	ICSA	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168270
Client ID:	ICSA	Batch ID:	R168270	TestNo:	EPA 6020			Analysis Date:	12/16/2022	SeqNo:	4976137

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID	ICSAB4	SampType:	ICSAB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168270
Client ID:	ICSAB	Batch ID:	R168270	TestNo:	EPA 6020			Analysis Date:	12/16/2022	SeqNo:	4976138

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.580	0.10	20.00	0	108	80	120				
Manganese	20.028	0.50	20.00	0	100	80	120				
Molybdenum	22.576	0.50	20.00	0	113	80	120				
Selenium	19.676	0.50	20.00	0	98.4	80	120				

Sample ID	ICSA5	SampType:	ICSA	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168270
Client ID:	ICSA	Batch ID:	R168270	TestNo:	EPA 6020			Analysis Date:	12/16/2022	SeqNo:	4976171

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	ICSAB5	SampType:	ICSAB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	168270
Client ID:	ICSAB	Batch ID:	R168270	TestNo:	EPA 6020			Analysis Date:	12/16/2022	SeqNo:	4976172

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.583	0.10	20.00	0	108	80	120				
Manganese	19.905	0.50	20.00	0	99.5	80	120				
Molybdenum	22.664	0.50	20.00	0	113	80	120				
Selenium	19.349	0.50	20.00	0	96.7	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA6**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976199**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB6**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.851	0.10	20.00	0	109	80	120				
Manganese	19.665	0.50	20.00	0	98.3	80	120				
Molybdenum	22.567	0.50	20.00	0	113	80	120				
Selenium	19.672	0.50	20.00	0	98.4	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSA** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988169**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSAB** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.121	0.10	20.00	0	106	80	120				
Manganese	21.620	0.50	20.00	0	108	80	120				
Selenium	20.702	0.50	20.00	0	104	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSA** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSAB** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988189**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.435	0.10	20.00	0	102	80	120				
Manganese	22.720	0.50	20.00	0	114	80	120				
Selenium	22.062	0.50	20.00	0	110	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSA** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSAB** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.833	0.10	20.00	0	99.2	80	120				
Manganese	24.477	0.50	20.00	0	122	80	120				S
Selenium	21.972	0.50	20.00	0	110	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSA** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB4** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168460**
Client ID: **ICSAB** Batch ID: **R168460** TestNo: **EPA 6020** Analysis Date: **12/23/2022** SeqNo: **4988247**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.784	0.10	20.00	0	98.9	80	120				
Manganese	22.588	0.50	20.00	0	113	80	120				
Selenium	21.541	0.50	20.00	0	108	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

%Rec of Mn in ICSAB3 failed, high bias. However, N054089 samples are reported within ICSA4/ICSAB4 to ICSA5/ICSAb5. Thus, unaffected.

1/5/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA5**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **ICSA**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/24/2022**	SeqNo: **4988278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB5**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **ICSAB**	Batch ID: **R168460**	TestNo: **EPA 6020**		Analysis Date: **12/24/2022**	SeqNo: **4988279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.104	0.10	20.00	0	101	80	120				
Manganese	21.783	0.50	20.00	0	109	80	120				
Selenium	20.929	0.50	20.00	0	105	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.938	1.0	20.00	0	105	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975968**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975969**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.243	1.0	20.00	0	101	80	120				

Sample ID **ICSA3**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4975999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSAB3**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.071	1.0	20.00	0	100	80	120				

Sample ID **ICSA4**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB4**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.262	1.0	20.00	0	101	80	120				

Sample ID **ICSA5**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.062	1.0									

Sample ID **ICSAB5**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/16/2022**	SeqNo: **4976048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.129	1.0	20.00	0	101	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSA6**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSA**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.066	1.0									

Sample ID **ICSAB6**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID: **ICSAB**	Batch ID: **R168270**	TestNo: **EPA 6020**		Analysis Date: **12/17/2022**	SeqNo: **4976076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.040	1.0	20.00	0	100	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**ICSA1**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSA**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	**ICSAB1**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSAB**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.344	1.0	20.00	0	102	80	120				

Sample ID	**ICSA2**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSA**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993293**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	**ICSAB2**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSAB**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.379	1.0	20.00	0	102	80	120				

Sample ID	**ICSA3**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSA**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**ICSAB3**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSAB**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.064	1.0	20.00	0	100	80	120				

Sample ID	**ICSA4**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSA**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	**ICSAB4**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSAB**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.829	1.0	20.00	0	99.1	80	120				

Sample ID	**ICSA5**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSA**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	**ICSAB5**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**168512**
Client ID:	**ICSAB**	Batch ID:	**R168512**	TestNo:	**EPA 6020**			Analysis Date:	**12/27/2022**	SeqNo:	**4993362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.945	1.0	20.00	0	99.7	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	68385	68385	100	PASS	30-150	52403.7	52403.7	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	69529.7	68385	101.67	PASS	30-150	53679	52403.7	102.43	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	62657.2	68385	91.62	PASS	30-150	49408.9	52403.7	94.29	PASS	30-150
Std3-5/50 ppb	ICAL	1	61235.1	68385	89.54	PASS	30-150	48421.4	52403.7	92.4	PASS	30-150
Std4-10/100 ppb	ICAL	1	59555.8	68385	87.09	PASS	30-150	47368.3	52403.7	90.39	PASS	30-150
Std5-20/200 ppb	ICAL	1	60779	68385	88.88	PASS	30-150	48664.4	52403.7	92.86	PASS	30-150
Std6-40/400 ppb	ICAL	1	58327.2	68385	85.29	PASS	30-150	46758.9	52403.7	89.23	PASS	30-150
Std7-100/1000 ppb	ICAL	1	55186.5	68385	80.7	PASS	30-150	44139.4	52403.7	84.23	PASS	30-150
Std8-200/2000 ppb	ICAL	1	55924.4	68385	81.78	PASS	30-150	44455.9	52403.7	84.83	PASS	30-150
ICV	ICV	1	54656.9	68385	79.93	PASS	30-150	44329.9	52403.7	84.59	PASS	30-150
ICB	ICB	1	51566.2	68385	75.41	PASS	30-150	42598.7	52403.7	81.29	PASS	30-150
LLICV1	LLICV	1	53234.6	68385	77.85	PASS	30-150	43806.2	52403.7	83.59	PASS	30-150
MLCCV	CCV	1	55163.1	68385	80.67	PASS	30-150	45084.2	52403.7	86.03	PASS	30-150
ICSA1	ICSA	1	44368.9	68385	64.88	PASS	30-150	36201.1	52403.7	69.08	PASS	30-150
ICSAB1	ICSAB	1	55388.3	68385	80.99	PASS	30-150	42576.4	52403.7	81.25	PASS	30-150
LLICV1	LLICV	1	59602.6	68385	87.16	PASS	30-150	47632.5	52403.7	90.9	PASS	30-150
ICSA1	ICSA	1	47031.6	68385	68.77	PASS	30-150	37613.2	52403.7	71.78	PASS	30-150
ICSAB1	ICSAB	1	56912.3	68385	83.22	PASS	30-150	43602.3	52403.7	83.2	PASS	30-150
CCV1	CCV	1	60230.5	68385	88.08	PASS	30-150	47935.6	52403.7	91.47	PASS	30-150
CCB1	CCB	1	55666.8	68385	81.4	PASS	30-150	44480.3	52403.7	84.88	PASS	30-150
ICSA2	ICSA	1	46838.8	68385	68.49	PASS	30-150	37853.7	52403.7	72.23	PASS	30-150
ICSAB2	ICSAB	1	58700.7	68385	85.84	PASS	30-150	43740.5	52403.7	83.47	PASS	30-150
CCV2	CCV	1	54315.8	68385	79.43	PASS	30-150	42486.2	52403.7	81.08	PASS	30-150
CCB2	CCB	1	52015.2	68385	76.06	PASS	30-150	41387.8	52403.7	78.98	PASS	30-150
CCV3	CCV	1	53853.2	68385	78.75	PASS	30-150	42879.3	52403.7	81.82	PASS	30-150
CCB3	CCB	1	52955.9	68385	77.44	PASS	30-150	41821.1	52403.7	79.81	PASS	30-150
CCV4	CCV	1	61285.2	68385	89.62	PASS	30-150	47673.6	52403.7	90.97	PASS	30-150
CCB4	CCB	1	59196.7	68385	86.56	PASS	30-150	46167.1	52403.7	88.1	PASS	30-150
ICSA3	ICSA	1	52836.7	68385	77.26	PASS	30-150	41446.8	52403.7	79.09	PASS	30-150
ICSAB3	ICSAB	1	71320.5	68385	104.29	PASS	30-150	52527.3	52403.7	100.24	PASS	30-150
CCV5	CCV	1	57537.7	68385	84.14	PASS	30-150	43765	52403.7	83.52	PASS	30-150
CCB5	CCB	1	55472.1	68385	81.12	PASS	30-150	42293.4	52403.7	80.71	PASS	30-150
ICSA4	ICSA	1	51335.4	68385	75.07	PASS	30-150	38902.8	52403.7	74.24	PASS	30-150
ICSAB4	ICSAB	1	59011.7	68385	86.29	PASS	30-150	44607.3	52403.7	85.12	PASS	30-150
CCV6	CCV	1	57544.4	68385	84.15	PASS	30-150	43055.4	52403.7	82.16	PASS	30-150
CCB6	CCB	1	54999.2	68385	80.43	PASS	30-150	41390.1	52403.7	78.98	PASS	30-150
CCV7	CCV	1	54578	68385	79.81	PASS	30-150	41204.1	52403.7	78.63	PASS	30-150
CCB7	CCB	1	51565.1	68385	75.4	PASS	30-150	39548.8	52403.7	75.47	PASS	30-150
CCV8	CCV	1	54163.2	68385	79.2	PASS	30-150	41092.6	52403.7	78.42	PASS	30-150
CCB8	CCB	1	47913.1	68385	70.06	PASS	30-150	36747.9	52403.7	70.12	PASS	30-150
ICSA5	ICSA	1	46474.5	68385	67.96	PASS	30-150	34888.3	52403.7	66.58	PASS	30-150

INTERNAL STANDARD: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
ICSAB5	ICSAB	1	56879	68385	83.17	PASS	30-150	42977.4	52403.7	82.01	PASS	30-150
MB-97207	MBLK	1	51756.7	68385	75.68	PASS	30-150	39813.9	52403.7	75.98	PASS	30-150
LCS-97207	LCS	1	53495.4	68385	78.23	PASS	30-150	40338.5	52403.7	76.98	PASS	30-150
N054021-001B	SAMP	1	42615.4	68385	62.32	PASS	30-150	32417.6	52403.7	61.86	PASS	30-150
N054021-002B	SAMP	1	38283.9	68385	55.98	PASS	30-150	29321.8	52403.7	55.95	PASS	30-150
N054021-003B	SAMP	1	41029.3	68385	60	PASS	30-150	31503.7	52403.7	60.12	PASS	30-150
N054021-004B	SAMP	1	42820.7	68385	62.62	PASS	30-150	32820.8	52403.7	62.63	PASS	30-150
N054021-005B	SAMP	1	41316.9	68385	60.42	PASS	30-150	31319	52403.7	59.76	PASS	30-150
N054021-006B	SAMP	1	36256	68385	53.02	PASS	30-150	27376.2	52403.7	52.24	PASS	30-150
N054021-007B	SAMP	1	34611.5	68385	50.61	PASS	30-150	26560.5	52403.7	50.68	PASS	30-150
CCV9	CCV	1	53283.7	68385	77.92	PASS	30-150	39368.4	52403.7	75.13	PASS	30-150
CCB9	CCB	1	53931.3	68385	78.86	PASS	30-150	40938.9	52403.7	78.12	PASS	30-150
N054021-008B	SAMP	1	37584.6	68385	54.96	PASS	30-150	28942.3	52403.7	55.23	PASS	30-150
N054021-008B	SAMP	5	43848.6	68385	64.12	PASS	30-150	33497.6	52403.7	63.92	PASS	30-150
N054021-008B-PS	PS	1	29043	68385	42.47	PASS	30-150	23024	52403.7	43.94	PASS	30-150
N054021-008BMS	MS	1	34079.3	68385	49.83	PASS	30-150	27731.3	52403.7	52.92	PASS	30-150
N054021-008BMSD	MSD	1	40043.6	68385	58.56	PASS	30-150	31326.6	52403.7	59.78	PASS	30-150
N054022-001C	SAMP	1	39074.7	68385	57.14	PASS	30-150	29492.1	52403.7	56.28	PASS	30-150
N054022-002C	SAMP	1	48408.8	68385	70.79	PASS	30-150	36494	52403.7	69.64	PASS	30-150
N054022-003C	SAMP	1	46767.5	68385	68.39	PASS	30-150	35455	52403.7	67.66	PASS	30-150
N054022-004C	SAMP	1	44772.2	68385	65.47	PASS	30-150	33572.2	52403.7	64.07	PASS	30-150
CCV10	CCV	1	55544.2	68385	81.22	PASS	30-150	42018.3	52403.7	80.18	PASS	30-150
CCB10	CCB	1	53517.7	68385	78.26	PASS	30-150	39600	52403.7	75.57	PASS	30-150
N054089-001C	SAMP	1	43901.9	68385	64.2	PASS	30-150	33060	52403.7	63.09	PASS	30-150
N054089-002C	SAMP	1	42290.1	68385	61.84	PASS	30-150	32711.6	52403.7	62.42	PASS	30-150
CCV11	CCV	1	52845.5	68385	77.28	PASS	30-150	40110.2	52403.7	76.54	PASS	30-150
CCB11	CCB	1	49549.9	68385	72.46	PASS	30-150	38159.9	52403.7	72.82	PASS	30-150
ICSA6	ICSA	1	46317.4	68385	67.73	PASS	30-150	35342.5	52403.7	67.44	PASS	30-150
ICSAB6	ICSAB	1	57434	68385	83.99	PASS	30-150	42981.8	52403.7	82.02	PASS	30-150

INTERNAL STANDARD: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	91236.1	91236.1	100	PASS	30-150	1349921.8	1349921.8	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	92769.2	91236.1	101.68	PASS	30-150	1397340	1349921.8	103.51	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	84947.1	91236.1	93.11	PASS	30-150	1323766.9	1349921.8	98.06	PASS	30-150
Std3-5/50 ppb	ICAL	1	82485.8	91236.1	90.41	PASS	30-150	1300982.1	1349921.8	96.37	PASS	30-150
Std4-10/100 ppb	ICAL	1	80262.5	91236.1	87.97	PASS	30-150	1286367	1349921.8	95.29	PASS	30-150
Std5-20/200 ppb	ICAL	1	81155.7	91236.1	88.95	PASS	30-150	1312261.3	1349921.8	97.21	PASS	30-150
Std6-40/400 ppb	ICAL	1	78522.9	91236.1	86.07	PASS	30-150	1284192.8	1349921.8	95.13	PASS	30-150
Std7-100/1000 ppb	ICAL	1	74978.6	91236.1	82.18	PASS	30-150	1200944.9	1349921.8	88.96	PASS	30-150
Std8-200/2000 ppb	ICAL	1	75409.5	91236.1	82.65	PASS	30-150	1196330.2	1349921.8	88.62	PASS	30-150
ICV	ICV	1	74954	91236.1	82.15	PASS	30-150	1215418.3	1349921.8	90.04	PASS	30-150
ICB	ICB	1	70221.1	91236.1	76.97	PASS	30-150	1163684.4	1349921.8	86.2	PASS	30-150
LLICV1	LLICV	1	73540.9	91236.1	80.61	PASS	30-150	1210920.3	1349921.8	89.7	PASS	30-150
MLCCV	CCV	1	76570.3	91236.1	83.93	PASS	30-150	1262310.4	1349921.8	93.51	PASS	30-150
ICSA1	ICSA	1	61430.3	91236.1	67.33	PASS	30-150	1016465.4	1349921.8	75.3	PASS	30-150
ICSAB1	ICSAB	1	71355.9	91236.1	78.21	PASS	30-150	1090355.1	1349921.8	80.77	PASS	30-150
LLICV1	LLICV	1	79916.3	91236.1	87.59	PASS	30-150	1296407.3	1349921.8	96.04	PASS	30-150
ICSA1	ICSA	1	63519.4	91236.1	69.62	PASS	30-150	1046792.4	1349921.8	77.54	PASS	30-150
ICSAB1	ICSAB	1	73776.4	91236.1	80.86	PASS	30-150	1124395.6	1349921.8	83.29	PASS	30-150
CCV1	CCV	1	78168	91236.1	85.68	PASS	30-150	1283714.1	1349921.8	95.1	PASS	30-150
CCB1	CCB	1	75268.7	91236.1	82.5	PASS	30-150	1211529.9	1349921.8	89.75	PASS	30-150
ICSA2	ICSA	1	63043.3	91236.1	69.1	PASS	30-150	1028068.9	1349921.8	76.16	PASS	30-150
ICSAB2	ICSAB	1	74649.4	91236.1	81.82	PASS	30-150	1097951.9	1349921.8	81.33	PASS	30-150
CCV2	CCV	1	70338.2	91236.1	77.1	PASS	30-150	1139735.3	1349921.8	84.43	PASS	30-150
CCB2	CCB	1	69915.3	91236.1	76.63	PASS	30-150	1117325.4	1349921.8	82.77	PASS	30-150
CCV3	CCV	1	70063.8	91236.1	76.79	PASS	30-150	1147375.1	1349921.8	85	PASS	30-150
CCB3	CCB	1	70042.4	91236.1	76.77	PASS	30-150	1148116.3	1349921.8	85.05	PASS	30-150
CCV4	CCV	1	81104.3	91236.1	88.89	PASS	30-150	1241368.4	1349921.8	91.96	PASS	30-150
CCB4	CCB	1	77359.5	91236.1	84.79	PASS	30-150	1226882.2	1349921.8	90.89	PASS	30-150
ICSA3	ICSA	1	69712.1	91236.1	76.41	PASS	30-150	1105201.6	1349921.8	81.87	PASS	30-150
ICSAB3	ICSAB	1	86287.3	91236.1	94.58	PASS	30-150	1263603.8	1349921.8	93.61	PASS	30-150
CCV5	CCV	1	75189.7	91236.1	82.41	PASS	30-150	1107136.4	1349921.8	82.02	PASS	30-150
CCB5	CCB	1	72324.6	91236.1	79.27	PASS	30-150	1078399.4	1349921.8	79.89	PASS	30-150
ICSA4	ICSA	1	67426.1	91236.1	73.9	PASS	30-150	979058.8	1349921.8	72.53	PASS	30-150
ICSAB4	ICSAB	1	76251.3	91236.1	83.58	PASS	30-150	1063623	1349921.8	78.79	PASS	30-150
CCV6	CCV	1	75618.3	91236.1	82.88	PASS	30-150	1096521.2	1349921.8	81.23	PASS	30-150
CCB6	CCB	1	72029.8	91236.1	78.95	PASS	30-150	1055404.7	1349921.8	78.18	PASS	30-150
CCV7	CCV	1	71695.1	91236.1	78.58	PASS	30-150	1020841.7	1349921.8	75.62	PASS	30-150
CCB7	CCB	1	68199.2	91236.1	74.75	PASS	30-150	980968.4	1349921.8	72.67	PASS	30-150
CCV8	CCV	1	71416.1	91236.1	78.28	PASS	30-150	1014860	1349921.8	75.18	PASS	30-150
CCB8	CCB	1	63766.9	91236.1	69.89	PASS	30-150	903677.6	1349921.8	66.94	PASS	30-150
ICSA5	ICSA	1	61819.6	91236.1	67.76	PASS	30-150	866726.2	1349921.8	64.21	PASS	30-150

INTERNAL STANDARD: 221216A

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
ICSAB5	ICSAB	1	75412.8	91236.1	82.66	PASS	30-150	993847.2	1349921.8	73.62	PASS	30-150
MB-97207	MBLK	1	68757	91236.1	75.36	PASS	30-150	977513.7	1349921.8	72.41	PASS	30-150
LCS-97207	LCS	1	69783.6	91236.1	76.49	PASS	30-150	993536.1	1349921.8	73.6	PASS	30-150
N054021-001B	SAMP	1	53117	91236.1	58.22	PASS	30-150	751353.1	1349921.8	55.66	PASS	30-150
N054021-002B	SAMP	1	48225.2	91236.1	52.86	PASS	30-150	685240	1349921.8	50.76	PASS	30-150
N054021-003B	SAMP	1	52880.6	91236.1	57.96	PASS	30-150	740994	1349921.8	54.89	PASS	30-150
N054021-004B	SAMP	1	56571.8	91236.1	62.01	PASS	30-150	769539.9	1349921.8	57.01	PASS	30-150
N054021-005B	SAMP	1	50285.8	91236.1	55.12	PASS	30-150	727700.8	1349921.8	53.91	PASS	30-150
N054021-006B	SAMP	1	47645.8	91236.1	52.22	PASS	30-150	639479.2	1349921.8	47.37	PASS	30-150
N054021-007B	SAMP	1	45571.1	91236.1	49.95	PASS	30-150	621360.5	1349921.8	46.03	PASS	30-150
CCV9	CCV	1	68133.3	91236.1	74.68	PASS	30-150	984308.3	1349921.8	72.92	PASS	30-150
CCB9	CCB	1	71690.7	91236.1	78.58	PASS	30-150	1009700	1349921.8	74.8	PASS	30-150
N054021-008B	SAMP	1	47261.4	91236.1	51.8	PASS	30-150	671632.4	1349921.8	49.75	PASS	30-150
N054021-008B	SAMP	5	60719.9	91236.1	66.55	PASS	30-150	772190.3	1349921.8	57.2	PASS	30-150
N054021-008B-PS	PS	1	43046.4	91236.1	47.18	PASS	30-150	532877.1	1349921.8	39.47	PASS	30-150
N054021-008BMS	MS	1	44857.9	91236.1	49.17	PASS	30-150	631615.4	1349921.8	46.79	PASS	30-150
N054021-008BMSD	MSD	1	50993.6	91236.1	55.89	PASS	30-150	726902.2	1349921.8	53.85	PASS	30-150
N054022-001C	SAMP	1	46339.9	91236.1	50.79	PASS	30-150	694754.9	1349921.8	51.47	PASS	30-150
N054022-002C	SAMP	1	63362.1	91236.1	69.45	PASS	30-150	853081.8	1349921.8	63.19	PASS	30-150
N054022-003C	SAMP	1	62275.7	91236.1	68.26	PASS	30-150	819150.7	1349921.8	60.68	PASS	30-150
N054022-004C	SAMP	1	58491.9	91236.1	64.11	PASS	30-150	778594.5	1349921.8	57.68	PASS	30-150
CCV10	CCV	1	72584.7	91236.1	79.56	PASS	30-150	1033423.1	1349921.8	76.55	PASS	30-150
CCB10	CCB	1	70157.4	91236.1	76.9	PASS	30-150	989427.1	1349921.8	73.3	PASS	30-150
N054089-001C	SAMP	1	56410.3	91236.1	61.83	PASS	30-150	768464.2	1349921.8	56.93	PASS	30-150
N054089-002C	SAMP	1	54643.1	91236.1	59.89	PASS	30-150	751041.9	1349921.8	55.64	PASS	30-150
CCV11	CCV	1	70669.6	91236.1	77.46	PASS	30-150	972456	1349921.8	72.04	PASS	30-150
CCB11	CCB	1	65437.8	91236.1	71.72	PASS	30-150	933337.4	1349921.8	69.14	PASS	30-150
ICSA6	ICSA	1	61128.1	91236.1	67	PASS	30-150	873789.4	1349921.8	64.73	PASS	30-150
ICSAB6	ICSAB	1	73087.9	91236.1	80.11	PASS	30-150	981889	1349921.8	72.74	PASS	30-150

INTERNAL STANDARD: 221223A

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	49152.5	49152.5	100	PASS	30-150	92599.6	92599.6	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	47765.1	49152.5	97.18	PASS	30-150	90152.5	92599.6	97.36	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	47595.7	49152.5	96.83	PASS	30-150	88715.9	92599.6	95.81	PASS	30-150
Std3-5/50 ppb	ICAL	1	48056	49152.5	97.77	PASS	30-150	92466.3	92599.6	99.86	PASS	30-150
Std4-10/100 ppb	ICAL	1	47307.1	49152.5	96.25	PASS	30-150	88849	92599.6	95.95	PASS	30-150
Std5-20/200 ppb	ICAL	1	47609.1	49152.5	96.86	PASS	30-150	88963.8	92599.6	96.07	PASS	30-150
Std6-40/400 ppb	ICAL	1	48477.2	49152.5	98.63	PASS	30-150	89531.4	92599.6	96.69	PASS	30-150
Std7-100/1000 ppb	ICAL	1	48639.9	49152.5	98.96	PASS	30-150	89141.6	92599.6	96.27	PASS	30-150
Std8-200/2000 ppb	ICAL	1	48181.8	49152.5	98.03	PASS	30-150	90583.8	92599.6	97.82	PASS	30-150
ICV	ICV	1	4.4	49152.5	0.01	NR!	30-150	10	92599.6	0.01	NR!	30-150
ICV	ICV	1	47818.7	49152.5	97.29	PASS	30-150	89275.4	92599.6	96.41	PASS	30-150
ICB	ICB	1	47882.1	49152.5	97.42	PASS	30-150	91135.6	92599.6	98.42	PASS	30-150
LLICV1	LLICV	1	47432	49152.5	96.5	PASS	30-150	87825.6	92599.6	94.84	PASS	30-150
MLCCV	CCV	1	47762.9	49152.5	97.17	PASS	30-150	88379.4	92599.6	95.44	PASS	30-150
ICSA1	ICSA	1	46655.1	49152.5	94.92	PASS	30-150	87242.5	92599.6	94.21	PASS	30-150
ICSAB1	ICSAB	1	46663.1	49152.5	94.94	PASS	30-150	87397.5	92599.6	94.38	PASS	30-150
LLICV1	LLICV	1	46464.8	49152.5	94.53	PASS	30-150	88115.1	92599.6	95.16	PASS	30-150
CCV1	CCV	1	48949.7	49152.5	99.59	PASS	30-150	89584.8	92599.6	96.74	PASS	30-150
CCB1	CCB	1	46882.8	49152.5	95.38	PASS	30-150	84210.1	92599.6	90.94	PASS	30-150
CCV2	CCV	1	45976.7	49152.5	93.54	PASS	30-150	80549.5	92599.6	86.99	PASS	30-150
CCB2	CCB	1	43807.4	49152.5	89.13	PASS	30-150	76227.9	92599.6	82.32	PASS	30-150
ICSA2	ICSA	1	43157.9	49152.5	87.8	PASS	30-150	75320.5	92599.6	81.34	PASS	30-150
ICSAB2	ICSAB	1	42819.2	49152.5	87.11	PASS	30-150	74773.4	92599.6	80.75	PASS	30-150
CCV3	CCV	1	44899.4	49152.5	91.35	PASS	30-150	82231.6	92599.6	88.8	PASS	30-150
CCB3	CCB	1	44284.4	49152.5	90.1	PASS	30-150	80431.1	92599.6	86.86	PASS	30-150
CCV3	CCV	1	44448.2	49152.5	90.43	PASS	30-150	80247	92599.6	86.66	PASS	30-150
CCB3	CCB	1	42504.2	49152.5	86.47	PASS	30-150	76567.3	92599.6	82.69	PASS	30-150
CCV4	CCV	1	42494.1	49152.5	86.45	PASS	30-150	75781.4	92599.6	81.84	PASS	30-150
CCB4	CCB	1	40625.9	49152.5	82.65	PASS	30-150	72312.6	92599.6	78.09	PASS	30-150
ICSA3	ICSA	1	40927.9	49152.5	83.27	PASS	30-150	70464.7	92599.6	76.1	PASS	30-150
ICSAB3	ICSAB	1	39548.9	49152.5	80.46	PASS	30-150	69186.9	92599.6	74.72	PASS	30-150
CCV5	CCV	1	43853.1	49152.5	89.22	PASS	30-150	77147.8	92599.6	83.31	PASS	30-150
CCB5	CCB	1	42046.2	49152.5	85.54	PASS	30-150	73003.3	92599.6	78.84	PASS	30-150
CCV6	CCV	1	46306.5	49152.5	94.21	PASS	30-150	82160.9	92599.6	88.73	PASS	30-150
CCB6	CCB	1	45892.1	49152.5	93.37	PASS	30-150	82009.2	92599.6	88.56	PASS	30-150
CCV7	CCV	1	45249.2	49152.5	92.06	PASS	30-150	80819.6	92599.6	87.28	PASS	30-150
CCB7	CCB	1	45295.9	49152.5	92.15	PASS	30-150	80719.5	92599.6	87.17	PASS	30-150
ICSA4	ICSA	1	43936.8	49152.5	89.39	PASS	30-150	78192.5	92599.6	84.44	PASS	30-150
ICSAB4	ICSAB	1	43488.9	49152.5	88.48	PASS	30-150	77662.5	92599.6	83.87	PASS	30-150
MB-97207	MBLK	1	50326.1	49152.5	102.39	PASS	30-150	87686	92599.6	94.69	PASS	30-150
LCS-97207	LCS	1	48538.5	49152.5	98.75	PASS	30-150	83857.1	92599.6	90.56	PASS	30-150

INTERNAL STANDARD: 221223A

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [2]					72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N054021-001B	SAMP	1	38098.7	49152.5	77.51	PASS	30-150	63824	92599.6	68.92	PASS	30-150
N054021-002B	SAMP	1	37320.2	49152.5	75.93	PASS	30-150	63400.2	92599.6	68.47	PASS	30-150
N054021-003B	SAMP	1	37490.7	49152.5	76.27	PASS	30-150	65588.7	92599.6	70.83	PASS	30-150
N054021-004B	SAMP	1	43166.9	49152.5	87.82	PASS	30-150	74978.8	92599.6	80.97	PASS	30-150
N054021-005B	SAMP	1	43158	49152.5	87.8	PASS	30-150	74739.8	92599.6	80.71	PASS	30-150
N054021-006B	SAMP	1	45293.6	49152.5	92.15	PASS	30-150	78812.3	92599.6	85.11	PASS	30-150
CCV8	CCV	1	45028.5	49152.5	91.61	PASS	30-150	81031.8	92599.6	87.51	PASS	30-150
CCB8	CCB	1	44736.7	49152.5	91.02	PASS	30-150	80688	92599.6	87.14	PASS	30-150
N054021-007B	SAMP	1	42580.8	49152.5	86.63	PASS	30-150	72306.9	92599.6	78.09	PASS	30-150
N054021-008B	SAMP	1	37039.7	49152.5	75.36	PASS	30-150	62510	92599.6	67.51	PASS	30-150
N054021-008B	SAMP	5	45967.8	49152.5	93.52	PASS	30-150	78918.2	92599.6	85.23	PASS	30-150
N054021-008B	SAMP	25	44940.6	49152.5	91.43	PASS	30-150	77781.8	92599.6	84	PASS	30-150
N054021-008B-PS	PS	1	37132.1	49152.5	75.54	PASS	30-150	63721.4	92599.6	68.81	PASS	30-150
N054021-008B-PS	PS	5	41933.7	49152.5	85.31	PASS	30-150	72714.5	92599.6	78.53	PASS	30-150
N054021-008BMS	MS	1	37077.5	49152.5	75.43	PASS	30-150	63548.4	92599.6	68.63	PASS	30-150
N054021-008BMS	MS	5	40823	49152.5	83.05	PASS	30-150	70095.1	92599.6	75.7	PASS	30-150
N054021-008BMSD	MSD	1	36727.9	49152.5	74.72	PASS	30-150	62088.5	92599.6	67.05	PASS	30-150
N054021-008BMSD	MSD	5	41723.1	49152.5	84.89	PASS	30-150	71834.7	92599.6	77.58	PASS	30-150
CCV9	CCV	1	44095	49152.5	89.71	PASS	30-150	80116.3	92599.6	86.52	PASS	30-150
CCB9	CCB	1	43817.4	49152.5	89.15	PASS	30-150	76835.2	92599.6	82.98	PASS	30-150
N054022-001C	SAMP	1	39301.6	49152.5	79.96	PASS	30-150	67107	92599.6	72.47	PASS	30-150
N054022-001C	SAMP	5	39744.9	49152.5	80.86	PASS	30-150	69744.6	92599.6	75.32	PASS	30-150
N054022-004C	SAMP	1	41901.3	49152.5	85.25	PASS	30-150	72004.4	92599.6	77.76	PASS	30-150
N054089-002C	SAMP	1	43185.7	49152.5	87.86	PASS	30-150	72513.5	92599.6	78.31	PASS	30-150
N054089-002C	SAMP	1	42193.2	49152.5	85.84	PASS	30-150	71595	92599.6	77.32	PASS	30-150
N054089-002C	SAMP	1	43183.6	49152.5	87.86	PASS	30-150	73732.2	92599.6	79.62	PASS	30-150
CCV10	CCV	1	42985.3	49152.5	87.45	PASS	30-150	75895.4	92599.6	81.96	PASS	30-150
CCB10	CCB	1	42405	49152.5	86.27	PASS	30-150	73708.7	92599.6	79.6	PASS	30-150
ICSA5	ICSA	1	41921.3	49152.5	85.29	PASS	30-150	72450.8	92599.6	78.24	PASS	30-150
ICSAB5	ICSAB	1	41872.4	49152.5	85.19	PASS	30-150	72849.3	92599.6	78.67	PASS	30-150

INTERNAL STANDARD: 221227A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	54909.8	54909.8	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	54769.4	54909.8	99.74	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	54429.3	54909.8	99.12	PASS	30-150
Std3-5/50 ppb	ICAL	1	55004.5	54909.8	100.17	PASS	30-150
Std4-10/100 ppb	ICAL	1	53842.1	54909.8	98.06	PASS	30-150
Std5-20/200 ppb	ICAL	1	54682.4	54909.8	99.59	PASS	30-150
Std6-40/400 ppb	ICAL	1	54420.5	54909.8	99.11	PASS	30-150
Std7-100/1000 ppb	ICAL	1	54776.1	54909.8	99.76	PASS	30-150
Std8-200/2000 ppb	ICAL	1	53659.2	54909.8	97.72	PASS	30-150
ICV	ICV	1	52102.1	54909.8	94.89	PASS	30-150
ICB	ICB	1	51518	54909.8	93.82	PASS	30-150
ICV	ICV	1	51863.4	54909.8	94.45	PASS	30-150
ICB	ICB	1	51694.1	54909.8	94.14	PASS	30-150
LLICV1	LLICV	1	51056.6	54909.8	92.98	PASS	30-150
MLCCV	CCV	1	52350.7	54909.8	95.34	PASS	30-150
ICSA1	ICSA	1	51257.2	54909.8	93.35	PASS	30-150
ICSAB1	ICSAB	1	51462.2	54909.8	93.72	PASS	30-150
N054021-008B	SAMP	25	60762.2	54909.8	110.66	PASS	30-150
N054021-008B	SAMP	125	56594.4	54909.8	103.07	PASS	30-150
N054021-008B-PS	PS	25	53041.6	54909.8	96.6	PASS	30-150
N054021-008BMS	MS	25	53090.6	54909.8	96.69	PASS	30-150
N054021-008BMSD	MSD	25	53253.4	54909.8	96.98	PASS	30-150
N054022-004C	SAMP	1	61300.8	54909.8	111.64	PASS	30-150
CCV1	CCV	1	53731.7	54909.8	97.85	PASS	30-150
CCB1	CCB	1	53003.9	54909.8	96.53	PASS	30-150
CCV2	CCV	1	57189.7	54909.8	104.15	PASS	30-150
CCB2	CCB	1	55015.8	54909.8	100.19	PASS	30-150
ICSA2	ICSA	1	55084.9	54909.8	100.32	PASS	30-150
ICSAB2	ICSAB	1	55747.1	54909.8	101.52	PASS	30-150
CCV3	CCV	1	51337.5	54909.8	93.49	PASS	30-150
CCB3	CCB	1	50412.4	54909.8	91.81	PASS	30-150
CCV4	CCV	1	52880	54909.8	96.3	PASS	30-150
CCB4	CCB	1	50907.3	54909.8	92.71	PASS	30-150
ICSA3	ICSA	1	51248.3	54909.8	93.33	PASS	30-150
ICSAB3	ICSAB	1	51357.5	54909.8	93.53	PASS	30-150
CCV5	CCV	1	51220.5	54909.8	93.28	PASS	30-150
CCB5	CCB	1	50331	54909.8	91.66	PASS	30-150
CCV6	CCV	1	55237.6	54909.8	100.6	PASS	30-150
CCB6	CCB	1	53129.8	54909.8	96.76	PASS	30-150
ICSA4	ICSA	1	52848.8	54909.8	96.25	PASS	30-150
ICSAB4	ICSAB	1	53209	54909.8	96.9	PASS	30-150

INTERNAL STANDARD: 221227A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
CCV7	CCV	1	44076.8	54909.8	80.27	PASS	30-150
CCB7	CCB	1	43521	54909.8	79.26	PASS	30-150
CCV8	CCV	1	49027.2	54909.8	89.29	PASS	30-150
CCB8	CCB	1	47033.7	54909.8	85.66	PASS	30-150
ICSA5	ICSA	1	46836.4	54909.8	85.3	PASS	30-150
ICSAB5	ICSAB	1	46803.1	54909.8	85.24	PASS	30-150
CCV9	CCV	1	45351.4	54909.8	82.59	PASS	30-150
CCB9	CCB	1	44747.5	54909.8	81.49	PASS	30-150
CCV10	CCV	1	44222.7	54909.8	80.54	PASS	30-150
CCB10	CCB	1	42965.1	54909.8	78.25	PASS	30-150
ICSA6	ICSA	1	42182	54909.8	76.82	PASS	30-150
ICSAB6	ICSAB	1	42786.8	54909.8	77.92	PASS	30-150

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N054089
Test Method: EPA 6020
Analysis Date: 12 / 16 & 27 / 2022

Matrix: Groundwater
Batch No.: 97207

Instrument ID: ICPMS-03
Instrument Description: Agilent 7800

Comments:

Analyzed By: Diane Jetajobe

Dilution test for Cr failed.
Dilution test is not applicable to As, Mn, Mo. The calculated concentration is <25RL.

Sample ID	Analyte	Symbol	Units	Calc Val	Oqual	SAMPRefVal	%DIFF	%DIFFlimit
N054021-008B DT 5x	Arsenic	As	µg/L	0.7452616	NA	1.061743	29.81%	10
N054021-008B DT 5x	Manganese	Mn	µg/L	0.2195882	NA	0.2357997	6.88%	10
N054021-008B DT 5x	Molybdenum	Mo	µg/L	10.5452	NA	9.484254	11.19%	10
N054021-008B DT 5x	Selenium	Se	µg/L	45.0285	PASS	41.88492	7.51%	10
N054021-008B DT 125x	Chromium	Cr	µg/L	3428.168	FAIL	3110.2	10.22%	10

Reviewed by:

JRB 1/15/2023

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N054021-008B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97207** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.466	0.10	10.00	1.062	104	80	120				
Manganese	89.912	0.50	100.0	0.2358	89.7	80	120				
Molybdenum	20.126	0.50	10.00	9.484	106	80	120				
Selenium	47.276	0.50	10.00	41.88	53.9	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054089
Project: PG&E Topock - DOM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **N054021-008B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **168512**
Client ID: **ZZZZZZ** Batch ID: **97207** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/27/2022** SeqNo: **4993280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3486.022	25	250.0	3110	150	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

Method Detection Limit

Analytical Method: EPA 6020 / 200.8
Digestion Method: EPA 3010A
Date of Analysis: 9/13, 9/14, 9/15/20
Digestion Date: 9/13, 9/14, 9/15/20
Instrument Name: ICPMS2
Analysts: MEI

Matrix: Water
Units: ug/L

Analyte	MDLs	MDLb	MDL	LOD	PQL
ANTIMONY	0.0376	0.2164	0.2164	0.30	0.50
ARSENIC	0.0496	0.0181	0.0496	0.05	0.10
BARIUM	0.0831	0.0302	0.0831	0.30	1.00
BERYLLIUM	0.0305	0.0083	0.0305	0.10	0.50
CADMIUM	0.0450	0.0019	0.0450	0.10	0.50
CHROMIUM	0.0353	0.0008	0.0353	0.10	1.00
COBALT	0.0169	0.0000	0.0169	0.05	0.50
COPPER	0.0458	0.0082	0.0458	0.10	1.00
IRON	0.2260	0.0939	0.2260	0.75	10.00
LEAD	0.0178	0.0087	0.0178	0.07	1.00
MANGANESE	0.0263	0.0026	0.0263	0.10	0.50
MOLYBDENUM	0.0372	0.1197	0.1197	0.25	0.50
NICKEL	0.0343	0.0041	0.0343	0.10	1.00
SELENIUM	0.0366	0.0438	0.0438	0.10	0.50
SILVER	0.0280	0.0006	0.0280	0.10	0.50
THALLIUM	0.1154	0.0282	0.1154	0.25	0.50
URANIUM	0.0364	0.0005	0.0364	0.10	0.50
VANADIUM	0.0672	0.0000	0.0672	0.25	1.00
ZINC	0.2626	0.0216	0.2626	1.00	10.00
ALUMINUM	0.3533	0.0372	0.3533	1.00	10.00

LOD & PQL Verification 2020

Analytical Method: EPA 6020 / 200.8
Digestion Method: EPA 3010A
Date of Analysis: 9/17/2020
Digestion Date: 9/18/2020
Instrument Name: ICPMS2
Analysts: MEI

Matrix: Water
Units: ug/L

Analyte	MDLs	LOD	ACTUAL LOD	PQL	ACTUAL PQL	% RECOVERY
ANTIMONY	0.2164	0.30	0.157	0.50	0.586	117
ARSENIC	0.0496	0.05	0.028	0.10	0.111	111
BARIUM	0.0831	0.30	0.282	1.00	1.046	105
BERYLLIUM	0.0305	0.10	0.135	0.50	0.518	104
CADMIUM	0.0450	0.10	0.116	0.50	0.518	104
CHROMIUM	0.0353	0.10	0.276	1.00	1.008	101
COBALT	0.0169	0.05	0.129	0.50	0.515	103
COPPER	0.0458	0.10	0.271	1.00	1.020	102
IRON	0.2260	0.75	3.046	10.00	10.321	103
LEAD	0.0178	0.07	0.279	1.00	1.051	105
MANGANESE	0.0263	0.10	0.153	0.50	0.529	106
MOLYBDENUM	0.1197	0.25	0.123	0.50	0.518	104
NICKEL	0.0343	0.10	0.291	1.00	1.214	121
SELENIUM	0.0438	0.10	0.092	0.50	0.465	93
SILVER	0.0280	0.10	0.136	0.50	0.570	114
THALLIUM	0.1154	0.25	0.115	0.50	0.490	98
URANIUM	0.0364	0.10	0.137	0.50	0.551	110
VANADIUM	0.0672	0.25	0.264	1.00	1.018	102
ZINC	0.2626	1.00	3.066	10.00	10.362	104
ALUMINUM	0.3533	1.00	8.218	10.00	11.093	111

Method Detection Limit

Analytical Method: EPA 6020 / 200.8
Digestion Method: EPA 3010A
Date of Analysis: 9/13/20, 9/14/20, 9/15/20
Digestion Date: 9/13/20, 9/14/20, 9/15/20
Instrument Name: ICPMS2
Analysts: MEI

Matrix: Water
Amount of Sample: 25 mL
Units: ug/L

Analyte	AMT SPIKED, ppb	1	2	3	4	5	6	7	SD	MDL	LOD	ACTUAL LOD	PQL	ACTUAL PQL	% REC
ANTIMONY	0.50	0.560	0.559	0.537	0.553	0.577	0.562	0.560	0.0120	0.0376	0.100	0.157	0.50	0.586	117
ARSENIC	0.10	0.105	0.096	0.083	0.121	0.108	0.128	0.120	0.0158	0.0496	0.080	0.028	0.10	0.111	111
BARIUM	1.00	0.962	0.954	0.983	0.960	1.006	0.934	1.001	0.0265	0.0831	0.250	0.282	1.00	1.046	105
BERYLLIUM	0.50	0.487	0.472	0.468	0.477	0.480	0.488	0.496	0.0097	0.0305	0.100	0.135	0.50	0.518	104
CADMIUM	0.50	0.471	0.488	0.511	0.508	0.484	0.503	0.492	0.0143	0.0450	0.100	0.116	0.50	0.518	104
CHROMIUM	1.00	0.938	0.956	0.929	0.930	0.949	0.928	0.946	0.0112	0.0353	0.250	0.276	1.00	1.008	101
COBALT	0.50	0.476	0.482	0.486	0.480	0.469	0.479	0.477	0.0054	0.0169	0.100	0.129	0.50	0.515	103
COPPER	1.00	0.987	0.949	0.988	0.981	0.969	0.973	0.990	0.0146	0.0458	0.500	0.271	1.00	1.020	102
IRON	10.00	9.395	9.548	9.522	9.390	9.453	9.362	9.397	0.0720	0.2260	2.500	3.046	10.00	10.321	103
LEAD	1.00	0.967	0.972	0.968	0.966	0.964	0.976	0.979	0.0057	0.0178	0.250	0.279	1.00	1.051	105
MANGANESE	0.50	0.556	0.567	0.558	0.542	0.564	0.558	0.549	0.0084	0.0263	0.100	0.153	0.50	0.529	106
MOLYBDENUM	0.50	0.493	0.475	0.470	0.489	0.488	0.503	0.475	0.0118	0.0372	0.250	0.123	0.50	0.518	104
NICKEL	1.00	0.981	1.000	0.993	0.969	0.988	0.983	0.972	0.0109	0.0343	0.250	0.291	1.00	1.214	121
SELENIUM	0.50	0.479	0.475	0.492	0.466	0.478	0.471	0.455	0.0116	0.0366	0.400	0.092	0.50	0.465	93
SILVER	0.50	0.620	0.620	0.613	0.594	0.608	0.608	0.610	0.0089	0.0280	0.250	0.136	0.50	0.570	114
THALLIUM	0.50	0.478	0.405	0.406	0.477	0.407	0.478	0.419	0.0368	0.1154	0.250	0.115	0.50	0.490	98
URANIUM	0.50	0.594	0.591	0.607	0.579	0.574	0.602	0.593	0.0116	0.0364	0.100	0.137	0.50	0.551	110
VANADIUM	1.00	0.938	0.978	0.948	0.945	0.946	0.913	0.919	0.0214	0.0672	0.500	0.264	1.00	1.018	102
ZINC	10.00	9.701	9.527	9.642	9.695	9.497	9.696	9.644	0.0836	0.2626	2.500	3.066	10.00	10.362	104
ALUMINUM	10.00	9.415	9.220	9.282	9.234	9.507	9.303	9.203	0.1125	0.3533	0.100	8.218	10.00	11.093	111

MDL BLANK

Analyte		1	2	3	4	5	6	7	Mean	SD	MDL
ANTIMONY		0.133669	0.051403	0.03612	0.12283	0.04951	0.12493	0.05574	0.0820	0.0428	0.2164
ARSENIC		<0.000	<0.000	0.01035	0.00034	0.00312	<0.000	0.00102	0.0037	0.0046	0.0181
BARIUM		<0.000	<0.000	0.00085	0.01018	0.00756	0.01192	0.01865	0.0098	0.0065	0.0302
BERYLLIUM		0.002366	0.000513	<0.000	0.00421	0.0046	0.00405	0.00102	0.0028	0.0018	0.0083
CADMIUM		0.000699	0.000365	0.00076	<0.000	<0.000	0.00107	6.7E-06	0.0006	0.0004	0.0019
CHROMIUM		0	0	0.00059	0	0	0	0	0.0001	0.0002	0.0008
COBALT		0	0	0	0	0	0	0	0.0000	0.0000	0.0000
COPPER		0.002351	0.004587	0.00295	<0.000	0.00025	<0.000	<0.000	0.0025	0.0018	0.0082
IRON		0.051023	0.040696	0.03201	0.04658	0.02249	0.07272	0.03432	0.0428	0.0162	0.0939
LEAD		0.004641	0.001836	0.0013	0.00571	0.00403	0.00444	0.002	0.0034	0.0017	0.0087
MANGANESE		<0.000	0.001528	0.00193	<0.000	<0.000	<0.000	0.00197	0.0018	0.0002	0.0026
MOLYBDENUM		0.065007	0.029611	0.01408	0.0689	0.02847	0.07342	0.03014	0.0442	0.0240	0.1197
NICKEL		<0.000	0.00196	0.00283	0.00108	0.00111	<0.000	0.00104	0.0016	0.0008	0.0041
SELENIUM		0.027254	0.013201	0.00812	0.02313	0.02686	0.01549	<0.000	0.0190	0.0079	0.0438
SILVER		0.000595	<0.000	<0.000	<0.000	<0.000	<0.000	<0.000	0.0006	0.0000	0.0006
THALLIUM		0.020258	0.010021	0.00738	0.01683	0.01051	0.01646	0.00889	0.0129	0.0049	0.0282
URANIUM		0.000287	3.89E-05	0.00011	0.00012	0.00012	0.00031	<0.000	0.0002	0.0001	0.0005
VANADIUM		0	0	0	0	0	0	0	0.0000	0.0000	0.0000
ZINC		0.009084	<0.000	<0.000	<0.000	<0.000	0.011	0.00244	0.0075	0.0045	0.0216
ALUMINUM		0.034605	<0.000	<0.000	<0.000	<0.000	0.03586	0.03492	0.0351	0.0006	0.0372

BC LABORATORIES, INC.

Work Order Number: 2230190

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N54089A

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Case Narrative

Sample Receipt

Work Order: 2230190
COC Number:
Default Cooler was received at 0.8 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

There were no qualifiers for the samples.

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B157468	SM-4500-NH3G	2229886-01	<Not Client Sample>

The difference between duplicate readings is less than the quantitation limit.

Lab Number	Method	Analyte
B157468-DUP1	SM-4500-NH3G	Ammonia as N (Distilled)

LCS / LCSD

The LCS recoveries were within QC limits.

Chain of Custody and Cooler Receipt Form for 2230190 Page 1 of 2

CHAIN-OF-CUSTODY RECORD

2230190

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

22-30190

QC Level: Level IV

Field Sampler: Nara Tep

19-Dec-22

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: Ammonia SM4500-NH3D
N054089-001B / PM-03-Q422 -1	Groundwater	12/12/2022 10:05:00 AM	16OZP	1
N054089-002B / PM-04-Q422 -2	Groundwater	12/12/2022 10:35:00 AM	16OZP	1

CHK BY DISTRIBUTION SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N54089A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by:Standard TAT.
Please analyze for Ammonia by SM4500. EDD requirement Labspec7 edada.

GSO #: 558453045

	Date/Time		Date/Time
Relinquished by: YRodriguez	12/19/2022 1630	Received by:	12-20-22 1616
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2230190 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-30190

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity 0.97 Container: PE Thermometer ID: 337 Date/Time 12-20-22

Temperature: (A) 1.0 °C / (C) 0.8 °C Analyst Init SMH 1910

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES					1					
2oz Cr6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS	NA	NA								
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: [illegible] Date/Time: 12/20/22 1722

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 23]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2230190**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2230190
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N054089-001B / PM-03-Q422	2230190-01
N054089-002B / PM-04-Q422	2230190-02

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-10-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N054089-001B / PM-03-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2230190-01
File ID: 20230109001-NH3-033
Sampled: 12/12/22 10:05
Prepared: 01/06/23 14:15
Analyzed: 01/09/23 12:41
Solids: 0.00
Preparation: No Prep
Initial/Final: 5.16 ml / 6 ml
Batch: B157468
Sequence: 2300366
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.12	1.16	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N054089-002B / PM-04-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2230190-02
File ID: 20230109001-NH3-034
Sampled: 12/12/22 10:35
Prepared: 01/06/23 14:15
Analyzed: 01/09/23 12:42
Solids: 0.00
Preparation: No Prep
Initial/Final: 5.14 ml / 6 ml
Batch: B157468
Sequence: 2300366
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.12	1.17	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B157468
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N054089-001B / PM-03-Q422	2230190-01	20230109001-NH3-033	01/06/23 14:15	
N054089-002B / PM-04-Q422	2230190-02	20230109001-NH3-034	01/06/23 14:15	
Blank	B157468-BLK1	20230109001-NH3-021	01/06/23 14:15	
LCS	B157468-BS1	20230109001-NH3-020	01/06/23 14:15	
LCS Dup	B157468-BSD1	20230109001-NH3-037	01/06/23 14:15	
Duplicate	B157468-DUP1	20230109001-NH3-023	01/06/23 14:15	
Matrix Spike	B157468-MS1	20230109002-NH3-006	01/06/23 14:15	
Matrix Spike Dup	B157468-MSD1	20230109001-NH3-025	01/06/23 14:15	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2230190	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B157468-BLK1	File ID:	20230109001-NH3-021
Prepared:	01/06/23 14:15	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	01/09/23 12:30	Instrument:	SC-1		
Batch:	B157468	Sequence:	2300366	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.067	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

Duplicate

DUPLICATES
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B157468
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2230190
Project: Level IV + labSpec7
Laboratory ID: B157468-DUP1
Lab Source ID: 2229886-01
Initial/Final: 5.67 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	0.17090		0.12455		31.4		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B157468
Preparation: No Prep
Source Sample Number: 2229886-01

SDG: 2230190
Project: Level IV + labSpec7
Laboratory ID: B157468-MS1
Initial/Final: 5.1 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.3529	0.17090	2.6205	104	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	2.3529	2.6268	104	0.242	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B157468
Laboratory ID: B157468-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	2.0060	100	85 - 115

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	2.0218	101	0.785	20	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield	SDG:	2230190
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2300366	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2300366-ICV1	20230109001-NH3-018	01/09/23 12:27
Initial Cal Blank	2300366-ICB1	20230109001-NH3-019	01/09/23 12:29
LCS	B157468-BS1	20230109001-NH3-020	01/09/23 12:29
Blank	B157468-BLK1	20230109001-NH3-021	01/09/23 12:30
Duplicate	B157468-DUP1	20230109001-NH3-023	01/09/23 12:32
Matrix Spike Dup	B157468-MSD1	20230109001-NH3-025	01/09/23 12:34
Calibration Check	2300366-CCV1	20230109001-NH3-028	01/09/23 12:36
Calibration Blank	2300366-CCB1	20230109001-NH3-029	01/09/23 12:38
N054089-001B / PM-03-Q422	2230190-01	20230109001-NH3-033	01/09/23 12:41
N054089-002B / PM-04-Q422	2230190-02	20230109001-NH3-034	01/09/23 12:42
LCS Dup	B157468-BSD1	20230109001-NH3-037	01/09/23 12:45
Calibration Check	2300366-CCV2	20230109001-NH3-038	01/09/23 12:45
Calibration Blank	2300366-CCB2	20230109001-NH3-039	01/09/23 12:47
Calibration Check	2300366-CCV3	20230109002-NH3-004	01/09/23 14:38
Calibration Blank	2300366-CCB3	20230109002-NH3-005	01/09/23 14:39
Matrix Spike	B157468-MS1	20230109002-NH3-006	01/09/23 14:40
Calibration Check	2300366-CCV4	20230109002-NH3-007	01/09/23 14:41
Calibration Blank	2300366-CCB4	20230109002-NH3-008	01/09/23 14:41

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Project: Level IV + labSpec7
Sequence: 2300366
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2300366-ICB1	Ammonia as N (Distilled)	0.051800	0.20	mg/L		SM-4500-NH3G
2300366-CCB1	Ammonia as N (Distilled)	0.045500	0.20	mg/L		SM-4500-NH3G
2300366-CCB2	Ammonia as N (Distilled)	0.043600	0.20	mg/L		SM-4500-NH3G
2300366-CCB3	Ammonia as N (Distilled)	0.048300	0.20	mg/L		SM-4500-NH3G
2300366-CCB4	Ammonia as N (Distilled)	0.042600	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2230190
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2300366

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2300366-ICV1	Ammonia as N (Distilled)	2.0000	1.9768	98.8	mg/L	SM-4500-NH3G
2300366-CCV1	Ammonia as N (Distilled)	2.0000	2.0389	102	mg/L	SM-4500-NH3G
2300366-CCV2	Ammonia as N (Distilled)	2.0000	2.0091	100	mg/L	SM-4500-NH3G
2300366-CCV3	Ammonia as N (Distilled)	2.0000	2.0272	101	mg/L	SM-4500-NH3G
2300366-CCV4	Ammonia as N (Distilled)	2.0000	2.0361	102	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2230190
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N054089-001B / PM-03-Q422	12/12/22 10:05	12/20/22 10:10	01/06/23 14:15	28.00	28.00	01/09/23 12:41	28.00	28.00	
N054089-002B / PM-04-Q422	12/12/22 10:35	12/20/22 10:10	01/06/23 14:15	28.00	28.00	01/09/23 12:42	28.00	28.00	

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0540**	**0.00**	**12:12:53 PM**
DIL-1	**RBL**	**0.0000**	**0.0539**	**0.00**	**12:13:11 PM**
DIL-1	**RBL**	**0.0000**	**0.0533**	**0.00**	**12:14:41 PM**
DIL-1	**Std-1**	**0.0000**	**-0.0004**	**0.00**	**12:14:59 PM**
DIL-1	**Std-1**	**0.0000**	**-0.0001**	**0.00**	**12:16:29 PM**
SR5-1	**Std-2**	**0.2000**	**0.0264**	**0.00**	**12:16:47 PM**
SR5-1	**Std-2**	**0.2000**	**0.0302**	**0.00**	**12:18:17 PM**
SR5-2	**Std-3**	**0.5000**	**0.0693**	**0.00**	**12:18:35 PM**
SR5-2	**Std-3**	**0.5000**	**0.0709**	**0.00**	**12:20:05 PM**
SR5-3	**Std-4**	**1.0000**	**0.1442**	**0.00**	**12:20:23 PM**
SR5-3	**Std-4**	**1.0000**	**0.1504**	**0.00**	**12:21:53 PM**
SR5-4	**Std-5**	**2.0000**	**0.3047**	**0.00**	**12:22:11 PM**
SR5-4	**Std-5**	**2.0000**	**0.2993**	**0.00**	**12:23:41 PM**
SR5-5	**Std-6**	**5.0000**	**0.7763**	**0.00**	**12:23:59 PM**
SR5-5	**Std-6**	**5.0000**	**0.7958**	**0.00**	**12:25:29 PM**
ST-2	**^CCV (2 mg/L)**	**2.0072**	**0.3102**	**100.36**	**12:25:47 PM**
R-5	**~CCB (0 mg/L)**	**0.0436**	**0.0003**	**0.00**	**12:27:17 PM**
1	**ICV**	**1.9768**	**0.3054**	**0.00**	**12:27:35 PM**
2	**ICB**	**0.0518**	**0.0016**	**0.00**	**12:29:05 PM**
3	**B157468-BS1**	**2.0060**	**0.3100**	**0.00**	**12:29:23 PM**
4	**B157468-BLK1**	**0.0506**	**0.0014**	**0.00**	**12:30:53 PM**
5	**2229886-01**	**0.1615**	**0.0189**	**0.00**	**12:31:11 PM**
6	**B157468-DUP1**	**0.1177**	**0.0120**	**0.00**	**12:32:41 PM**
7	**B157468-MS1**	**2.3868**	**0.3701**	**0.00**	**12:32:59 PM**
8	**B157468-MSD1**	**2.2328**	**0.3458**	**0.00**	**12:34:30 PM**
9	**2229886-02**	**0.1146**	**0.0115**	**0.00**	**12:34:47 PM**
10	**2229886-03**	**0.1152**	**0.0116**	**0.00**	**12:36:18 PM**
ST-2	**^CCV (2 mg/L)**	**2.0389**	**0.3152**	**101.95**	**12:36:36 PM**
R-5	**~CCB (0 mg/L)**	**0.0455**	**0.0005**	**0.00**	**12:38:06 PM**
11	**2229886-04**	**0.1127**	**0.0112**	**0.00**	**12:38:23 PM**
12	**2229886-05**	**0.1184**	**0.0121**	**0.00**	**12:39:54 PM**
13	**2229856-01**	**0.4479**	**0.0641**	**0.00**	**12:40:12 PM**
14	**2230190-01**	**0.1006**	**0.0092**	**0.00**	**12:41:42 PM**
15	**2230190-02**	**0.0987**	**0.0089**	**0.00**	**12:42:00 PM**
16	**2230392-01**	**2.6257**	**0.4078**	**0.00**	**12:43:30 PM**
17	**2230392-02**	**3.1199**	**0.4858**	**0.00**	**12:43:48 PM**

Report Date :01/09/2023 **Run Date :01/09/2023** **Operator : WESTCO** **Plan # :20230109001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
18	**B157468-BSD1**	**2.0218**	**0.3125**	**0.00**	**12:45:18 PM**
ST-2	**^CCV (2 mg/L)**	**2.0091**	**0.3105**	**100.46**	**12:45:36 PM**
R-5	**~CCB (0 mg/L)**	**0.0436**	**0.0003**	**0.00**	**12:47:06 PM**

Report Date :01/09/2023 **Run Date :01/09/2023** **Operator : WESTCO** **Plan # :20230109001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0552**	**0.00**	**2:36:15 PM**
DIL-1	**RBL**	**0.0000**	**0.0554**	**0.00**	**2:36:33 PM**
DIL-1	**RBL**	**0.0000**	**0.0541**	**0.00**	**2:38:03 PM**
ST-2	**^CCV (2 mg/L)**	**2.0272**	**0.3133**	**101.36**	**2:38:21 PM**
R-5	**~CCB (0 mg/L)**	**0.0483**	**0.0010**	**0.00**	**2:39:51 PM**
8	**B157468-MS1**	**2.2274**	**0.3449**	**0.00**	**2:40:09 PM**
ST-2	**^CCV (2 mg/L)**	**2.0361**	**0.3147**	**101.80**	**2:41:39 PM**
R-5	**~CCB (0 mg/L)**	**0.0426**	**0.0001**	**0.00**	**2:41:57 PM**

Report Date :01/09/2023 **Run Date :01/09/2023** **Operator : WESTCO** **Plan # :20230109002**

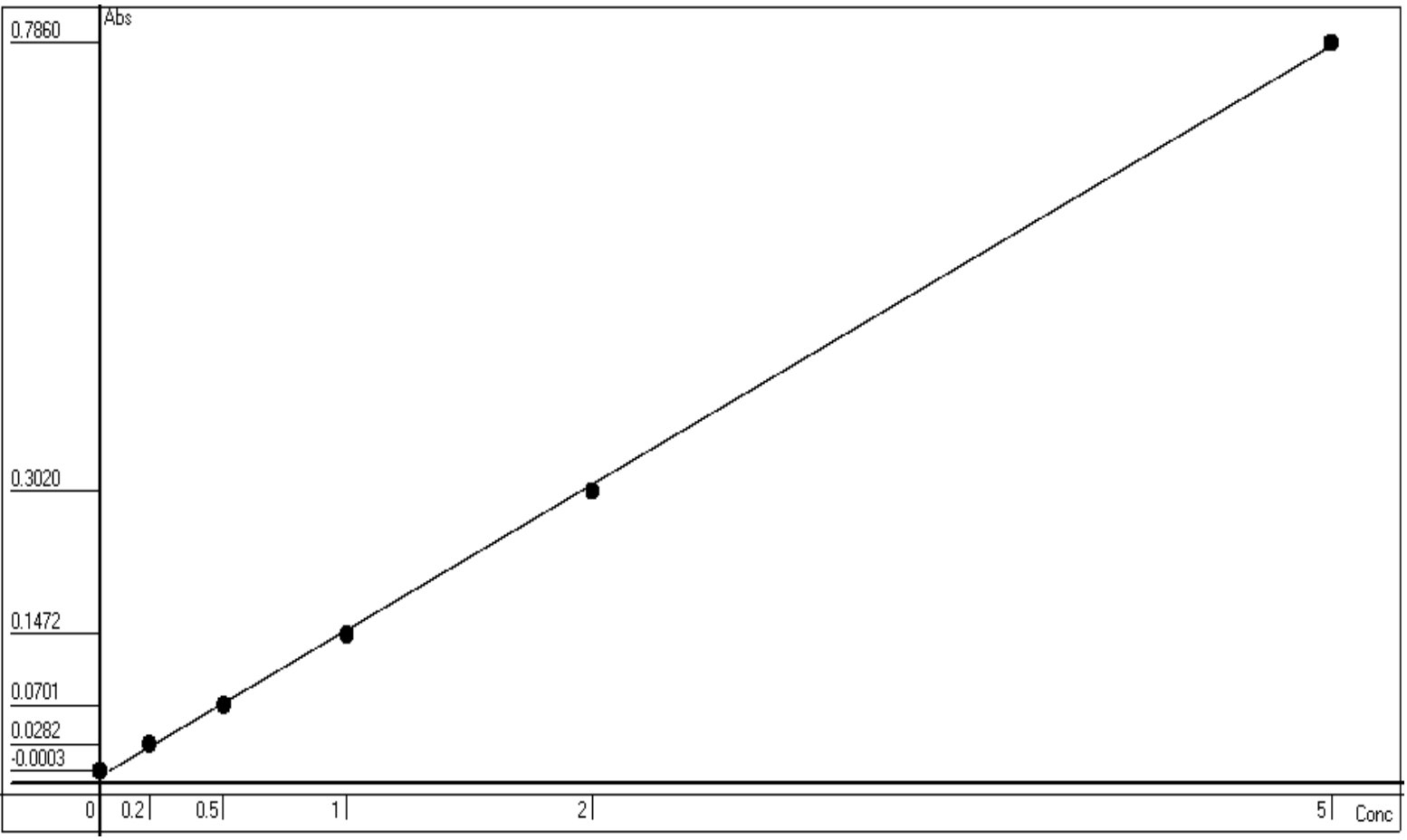
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20230109001 Description : [NH3] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0003	0	0.0401	4.01
2	0.0282	0.2	0.2207	10.35
3	0.0701	0.5	0.4862	-2.76
4	0.1472	1	0.9747	-2.53
5	0.3020	2	1.9556	-2.22
6	0.7860	5	5.0223	0.45

Conc= +6.3363*Abso +0.042 R^2=0.9997

RBL
0.054
0

Report Date 1/9/2023 Run Date 1/9/2023

Replicate Report - BNH3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0004	-0.0001	/	/
2	0.0264	0.0302	/	/
3	0.0693	0.0708	/	/
4	0.1442	0.1504	/	/
5	0.3047	0.2993	/	/
6	0.7763	0.7958	/	/

Print Date:1/9/2023 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B157468

BC Laboratories

Printed: 1/10/2023 3:44:26PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2229856-01 C	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	5.61	6					
2229886-01 B	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	5.67	6					
2229886-01 B	iSM4500NH3Gw Dist NH3 as N	1/6/2023 2:15PM	AKC	5.67	6					
2229886-02 B	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	5.69	6					
2229886-03 B	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	5.7	6					
2229886-04 B	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	5.71	6					
2229886-05 B	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	5.71	6					
2230190-01 A	iSM4500NH3Gw Dist NH3 as N	1/6/2023 2:15PM	AKC	5.16	6					
2230190-02 A	iSM4500NH3Gw Dist NH3 as N	1/6/2023 2:15PM	AKC	5.14	6					
2230392-01 K	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	0.288	6					
2230392-02 K	i350.1w Ammonia as N	1/6/2023 2:15PM	AKC	0.298	6					
B157468-BLK1	QC	1/6/2023 2:15PM	AKC	6	6					
B157468-BS1	QC	1/6/2023 2:15PM	AKC	6	6	3A04027		600		
B157468-BSD1	QC	1/6/2023 2:15PM	AKC	6	6	3A04027		600		
B157468-DUP1	QC	1/6/2023 2:15PM	AKC	5.67	6		2229886-01			
B157468-MS1	QC	1/6/2023 2:15PM	AKC	5.1	6	3A04027	2229886-01	600		
B157468-MSD1	QC	1/6/2023 2:15PM	AKC	5.1	6	3A04027	2229886-01	600		

Spike Mixes	Description	Solvent	Prepared	Expires
3A04027	NH3-N STD 20 SPIKE WATER	DI	1/4/2023 11 by Isaiah Orizaga	3/31/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2300366

Instrument: SC-1
Calibration ID:
Sequence Date: 01/09/2023
Printed: 1/10/2023 3:44:26PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2300366-ICV1	QC		1		3A04023		
2300366-ICB1	QC		2				
B157468-BS1	QC		3				
B157468-BLK1	QC		4				
2229886-01	i350.1w Ammonia as N	B	5				
2229886-01	iSM4500NH3Gw Dist NH3 as N	B	6				
B157468-DUP1	QC		7				
B157468-MSD1	QC		8				
2229886-02	i350.1w Ammonia as N	B	9				
2229886-03	i350.1w Ammonia as N	B	10				
2300366-CCV1	QC		11		3A04026		
2300366-CCB1	QC		12				
2229886-04	i350.1w Ammonia as N	B	13				
2229886-05	i350.1w Ammonia as N	B	14				
2229856-01	i350.1w Ammonia as N	C	15				
2230190-01	iSM4500NH3Gw Dist NH3 as N	A	16				
2230190-02	iSM4500NH3Gw Dist NH3 as N	A	17				
2230392-01	i350.1w Ammonia as N	K	18				
2230392-02	i350.1w Ammonia as N	K	19				
B157468-BSD1	QC		20				
2300366-CCV2	QC		21		3A04026		
2300366-CCB2	QC		22				
2300366-CCV3	QC		23		3A04026		
2300366-CCB3	QC		24				
B157468-MS1	QC		25				
2300366-CCV4	QC		26		3A04026		
2300366-CCB4	QC		27				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:44:26PM
Project: Level IV + labSpec7
Project Number: N54089A
Project Manager: Sonny Lorenzo

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 29, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054096

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 13, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N054096

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N054096
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054096-001A	MW-66BR-270-Q422	Groundwater	12/13/2022 12:20:00 PM	12/13/2022	12/29/2022
N054096-001B	MW-66BR-270-Q422	Groundwater	12/13/2022 12:20:00 PM	12/13/2022	12/29/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q422
Lab Order:	N054096		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/13/2022 12:20:00 PM
Lab ID:	N054096-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221227A**	QC Batch: **R168501**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/27/2022 05:36 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221223B**	QC Batch: **97353**			PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/23/2022 07:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054096
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168501	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	PBW	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992040

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R168501	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	LCSW	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992041

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.926	0.20	5.000	0	98.5	90	110				

Sample ID	N054215-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	866.650	20	500.0	368.1	99.7	90	110				

Sample ID	N054215-002AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	872.240	20	500.0	368.1	101	90	110	866.7	0.643	20	

Sample ID	N054158-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3366.750	100						3278	2.68	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054096
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N054158-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5773.750	100	2500	3278	99.8	90	110				

Sample ID **N054219-002DMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992049**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.927	0.20	1.000	0	92.7	90	110				

Sample ID **N054166-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	602.000	10	250.0	358.5	97.4	90	110				

Sample ID **N054166-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.619	1.0	25.00	33.88	95.0	90	110				

Sample ID **N054166-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1106.470	20	500.0	638.6	93.6	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054096
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N054215-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	857.040	20	500.0	383.7	94.7	90	110				

Sample ID **N054215-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	824.090	20	500.0	350.0	94.8	90	110				

Sample ID **N054158-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.970	0.20	1.000	0	97.0	90	110				

Sample ID **N054096-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.812	1.0	5.000	0	96.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054096
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-97353	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	LCSW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.796	1.0	10.00	0	98.0	85	115				

Sample ID	N053873-001C-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990773

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.446	1.0	10.00	0.9552	94.9	75	125				

Sample ID	N053873-001C-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.979	1.0	10.00	0.9552	90.2	75	125	10.45	4.58	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q422
Lab Order:	N054096		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/13/2022 12:20:00 PM
Lab ID:	N054096-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97353**			PrepDate:	**12/21/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/23/2022 07:44 PM
Manganese	1300	0.66	12		µg/L	25	12/24/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054096
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID	LCS-97353	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	LCSW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.297	0.10	10.00	0	93.0	85	115				

Sample ID	N053873-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988223

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.888	0.10	10.00	1.730	91.6	75	125				

Sample ID	N053873-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988224

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.418	0.10	10.00	1.730	86.9	75	125	10.89	4.41	20	

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990841

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054096
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	LCS-97353	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	LCSW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990842

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.872	0.50	100.0	0	95.9	85	115				

Sample ID	N053873-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.589	0.50	100.0	0.1075	93.5	75	125				

Sample ID	N053873-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990847

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.308	0.50	100.0	0.1075	89.2	75	125	93.59	4.68	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (Specify: RWQCB); Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III ✓; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition (Y / N): 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: ICE; Sample Temp: 3.6°C
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	
Submitted By: Reggie Tep		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: 12/13/22 Date:	Sampled By: Reggie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - RCM	Signature: Date: 12/13/22		
Project Number: 30121866.4Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N054096-001	MW-66BR-270-Q422	12/13/2022	12:20		X		X	X			E	3	P	BNS	
2		~~EB-751-Q422~~	~~12/13/2022~~			~~X~~						E	~~1~~	P	BNS	
3												~~E~~	~~3~~	~~P~~	~~BNS~~	
4												~~E~~	~~4~~	~~P~~	~~BNS~~	
5												~~E~~	~~3~~	~~P~~	~~BNS~~	MSMSD
												~~E~~	~~3~~	~~P~~	~~BNS~~	
7												~~E~~	~~1~~	~~P~~	~~BNS~~	
8																
9																
10																
11																
12																
13																
14																

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Reggie Tep	12/13/22 1610	Dante Ortiz	12-13-22 16:10
Dante Ortiz	12-13-22 18:25	Dante Ortiz	12-13-22 18:25

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 12/13/2022 Workorder: N054096

Rep sample Temp (Deg C): 3.6 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/14/2022

Reviewed By: for: MBC 12/23/2022

ASSET Laboratories

WORK ORDER Summary

23-Dec-22

WorkOrder: N054096

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/13/2022 6:55 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054096-001A	MW-66BR-270-Q422	12/13/2022 12:20:00 PM	12/29/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054096-001B			12/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054096-002A	FOLDER	12/29/2022	12/29/2022		Folder	Folder	☐	☐	☐	LAB
			12/29/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/29/2022		Folder	Folder	☐	☐	☐	LAB

December 30, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054158

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 15, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N054158

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of sample upon the addition of eluent.

ASSET Laboratories

Date: *30-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N054158
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054158-001A	TW-01-Q422	Groundwater	12/15/2022 2:02:00 PM	12/15/2022	12/30/2022
N054158-001B	TW-01-Q422	Groundwater	12/15/2022 2:02:00 PM	12/15/2022	12/30/2022
N054158-001C	TW-01-Q422	Groundwater	12/15/2022 2:02:00 PM	12/15/2022	12/30/2022
N054158-002A	EB-755-Q422	Groundwater	12/15/2022 2:20:00 PM	12/15/2022	12/30/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-01-Q422
Lab Order:	N054158		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/15/2022 2:02:00 PM
Lab ID:	N054158-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221227A**	QC Batch: **R168501**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3300	12	100		µg/L	500	12/27/2022 02:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221224B**	QC Batch: **97353**			PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	3200	4.4	120		µg/L	125	12/24/2022 08:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-755-Q422
Lab Order:	N054158		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/15/2022 2:20:00 PM
Lab ID:	N054158-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221227A**	QC Batch: **R168501**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/27/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168501	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	PBW	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992040

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R168501	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	LCSW	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992041

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.926	0.20	5.000	0	98.5	90	110				

Sample ID	N054215-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	866.650	20	500.0	368.1	99.7	90	110				

Sample ID	N054215-002AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	872.240	20	500.0	368.1	101	90	110	866.7	0.643	20	

Sample ID	N054158-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3366.750	100						3278	2.68	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N054158-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5773.750	100	2500	3278	99.8	90	110				

Sample ID **N054219-002DMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992049**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.927	0.20	1.000	0	92.7	90	110				

Sample ID **N054166-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	602.000	10	250.0	358.5	97.4	90	110				

Sample ID **N054166-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.619	1.0	25.00	33.88	95.0	90	110				

Sample ID **N054166-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1106.470	20	500.0	638.6	93.6	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054215-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992059

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	857.040	20	500.0	383.7	94.7	90	110				

Sample ID	N054215-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992063

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	824.090	20	500.0	350.0	94.8	90	110				

Sample ID	N054158-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992065

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.970	0.20	1.000	0	97.0	90	110				

Sample ID	N054096-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168501
Client ID:	ZZZZZZ	Batch ID:	R168501	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4992067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.812	1.0	5.000	0	96.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-97353	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	LCSW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.796	1.0	10.00	0	98.0	85	115				

Sample ID	N053873-001C-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990773

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.446	1.0	10.00	0.9552	94.9	75	125				

Sample ID	N053873-001C-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.979	1.0	10.00	0.9552	90.2	75	125	10.45	4.58	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-01-Q422
Lab Order:	N054158		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/15/2022 2:02:00 PM
Lab ID:	N054158-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221216A**	QC Batch: **R168272**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.6	0.095	0.50		mg/L	10	12/16/2022 10:26 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R168272_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168272
Client ID:	PBW	Batch ID:	R168272	TestNo:	EPA 300.0			Analysis Date:	12/16/2022	SeqNo:	4976754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.013	0.050									

Sample ID	LCS-R168272_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168272
Client ID:	LCSW	Batch ID:	R168272	TestNo:	EPA 300.0			Analysis Date:	12/16/2022	SeqNo:	4976755

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.292	0.050	1.250	0	103	90	110				

Sample ID	N054158-001BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168272
Client ID:	ZZZZZZ	Batch ID:	R168272	TestNo:	EPA 300.0			Analysis Date:	12/16/2022	SeqNo:	4976757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	20.273	0.50	12.50	8.562	93.7	80	120				

Sample ID	N054158-001BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168272
Client ID:	ZZZZZZ	Batch ID:	R168272	TestNo:	EPA 300.0			Analysis Date:	12/16/2022	SeqNo:	4976758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	20.374	0.50	12.50	8.562	94.5	80	120	20.27	0.497	20	

Sample ID	N054158-001BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168272
Client ID:	ZZZZZZ	Batch ID:	R168272	TestNo:	EPA 300.0			Analysis Date:	12/16/2022	SeqNo:	4976759

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.526	0.50						8.562	0.421	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-01-Q422
Lab Order:	N054158		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/15/2022 2:02:00 PM
Lab ID:	N054158-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221223D**	QC Batch: **97353**			PrepDate:	**12/21/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/23/2022 08:07 PM
Manganese	19	0.026	0.50		µg/L	1	12/24/2022 08:03 PM
Molybdenum	13	0.12	0.50		µg/L	1	12/24/2022 08:03 PM
Selenium	24	0.044	0.50		µg/L	1	12/23/2022 08:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Selenium	0.058	0.50									

Sample ID	LCS-97353	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	LCSW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.297	0.10	10.00	0	93.0	85	115				
Selenium	9.958	0.50	10.00	0	99.6	85	115				

Sample ID	N053873-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988223

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.888	0.10	10.00	1.730	91.6	75	125				
Selenium	13.538	0.50	10.00	3.517	100	75	125				

Sample ID	N053873-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168460
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988224

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.418	0.10	10.00	1.730	86.9	75	125	10.89	4.41	20	
Selenium	13.448	0.50	10.00	3.517	99.3	75	125	13.54	0.672	20	

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990841

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054158
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97353	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	PBW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990841

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									

Sample ID	LCS-97353	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	LCSW	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990842

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.872	0.50	100.0	0	95.9	85	115				
Molybdenum	9.848	0.50	10.00	0	98.5	85	115				

Sample ID	N053873-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.589	0.50	100.0	0.1075	93.5	75	125				
Molybdenum	42.070	0.50	10.00	30.94	111	75	125				

Sample ID	N053873-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/21/2022	RunNo:	168478
Client ID:	ZZZZZZ	Batch ID:	97353	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4990847

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.308	0.50	100.0	0.1075	89.2	75	125	93.59	4.68	20	
Molybdenum	43.265	0.50	10.00	30.94	123	75	125	42.07	2.80	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

ARCUS02 C: 12/30/202 12:00 AM
FOLDER R: 12/15/2021
N054158-003A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#
Submitted By: Nara Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:
Title: Project Manage	Sampled By: Nara Tep	
Signature: Date: 12/15/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 12/15/22	
Project Name: PG&E Topock - RCM		
Project Number: 30121866.4Q22GW		

EDD Requirements

Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		

Sample Temp: 2.1°C

Courier: ASSET

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	125mL poly: Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N054158-001	TW-01-Q422	12/15/2022	14:02		Ground X Sediment	X	X	X	X	X		E	3	P	BNS	
2	N054158-002	EB-755-Q422	12/15/22	14:20		Potable / Soil / NPDES / Other Solid / Surface	X						E	1	P	BNS	
3																	
4																	
5																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nara Tep	12/15/22 1455	Ramiro Alcantara	12/15/22 1485
Ramiro Alcantara	12/15/22 1020	Ramiro Alcantara	12/15/22 1020

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/15/2022	Workorder:	N054158
Rep sample Temp (Deg C):	2.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For: 12/16/2022

Checklist Completed By: EF YRodriguez

Reviewed By: for: MBC 12/23/2022

ASSET Laboratories

WORK ORDER Summary

23-Dec-22

WorkOrder: N054158

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/15/2022 10:20 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054158-001A	TW-01-Q422	12/15/2022 2:02:00 PM	1/2/2023	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054158-001B			1/2/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054158-001C			1/2/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/2/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			1/2/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054158-002A	EB-755-Q422	12/15/2022 2:20:00 PM	1/2/2023		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054158-003A	FOLDER	1/2/2023	1/2/2023		Folder	Folder	☐	☐	☐	LAB
			1/2/2023		Folder	Level IV Report	☐	☐	☐	LAB
			1/2/2023		Folder	Folder	☐	☐	☐	LAB

January 04, 2023

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054166

RE: PG&E Topock - OMM EXW Annual, 30106892

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Andrew Garaniel
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrogen, Nitrite in QC samples N054166-002CMS and N054166-002CMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N054166-001H-MS and N054166-001H-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery and RPD criteria for some analytes in QC samples N054166-003B-MS1 and N054166-003B-MSD1 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate are outside recovery and RPD criteria for some analytes in QC samples N054166-001B-MS2 and N054166-001B-MSD2 since the analyte concentration in the

sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed; however, the Laboratory Control Sample (LCS) validated the analytical batch.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N054106-001C-MS and N054106-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Manganese in QC sample N054106-001C-MS since the analyte concentration in the sample is disproportionate to the spike level. Post Spike passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N054166-001GMS and N054166-001GMSD at lower dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N054166-001G and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM EXW Annual, 30106892
Lab Order: N054166
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054166-001A	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001B	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001C	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001D	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001E	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001F	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001G	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-001H	IRZ-13D-210-121622	Groundwater	12/16/2022 11:00:00 AM	12/16/2022	1/4/2023
N054166-002A	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002B	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002C	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002D	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002E	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002F	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002G	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-002H	IRZ-13S-095-121622	Groundwater	12/16/2022 10:15:00 AM	12/16/2022	1/4/2023
N054166-003A	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003B	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003C	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003D	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003E	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003F	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003G	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023
N054166-003H	IRZ-23-143-121622	Groundwater	12/16/2022 8:45:00 AM	12/16/2022	1/4/2023

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622

Lab Order: N054166

Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM

Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221219J**	QC Batch: **97313**			PrepDate:	**12/19/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	10000	100	100		mg/L	1	12/19/2022 12:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622

Lab Order: N054166

Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM

Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221219J**	QC Batch: **97313**			PrepDate:	**12/19/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4900	50	50		mg/L	1	12/19/2022 12:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-121622
Lab Order:	N054166		
Project:	PG&E Topock - OMM EXW Annual, 30106892	**Collection Date:**	12/16/2022 8:45:00 AM
Lab ID:	N054166-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221219J**	QC Batch: **97313**			PrepDate:	**12/19/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4500	50	50		mg/L	1	12/19/2022 12:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-97313**	SampType: **LCS**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/19/2022**	RunNo: **168371**
Client ID: **LCSW**	Batch ID: **97313**	TestNo: **SM2540C**		Analysis Date: **12/19/2022**	SeqNo: **4981657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	971.000	10	1000	0	97.1	80	120				

Sample ID: **MB-97313**	SampType: **MBLK**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/19/2022**	RunNo: **168371**
Client ID: **PBW**	Batch ID: **97313**	TestNo: **SM2540C**		Analysis Date: **12/19/2022**	SeqNo: **4981658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: **N054166-001DDUP**	SampType: **DUP**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/19/2022**	RunNo: **168371**
Client ID: **ZZZZZZ**	Batch ID: **97313**	TestNo: **SM2540C**		Analysis Date: **12/19/2022**	SeqNo: **4981660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	10770.000	100						10500	2.54	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM
Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221227A** QC Batch: **R168501**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	360	1.2	10		µg/L	50	12/27/2022 03:24 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221227C** QC Batch: **97404**				PrepDate:	**12/27/2022**		Analyst: **DJ**
Chromium	390	0.18	5.0		µg/L	5	12/27/2022 11:40 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221229D** QC Batch: **97353**				PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	410	0.18	5.0		µg/L	5	12/29/2022 05:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221227A** QC Batch: **R168501**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	34	0.12	1.0		µg/L	5	12/27/2022 03:43 PM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221227C** QC Batch: **97404**				PrepDate:	**12/27/2022**		Analyst: **DJ**
Chromium	37	0.035	1.0		µg/L	1	12/27/2022 11:45 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221224B** QC Batch: **97353**				PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	34	0.035	1.0		µg/L	1	12/24/2022 08:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221227A** QC Batch: **R168501**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	640	2.4	20		µg/L	100	12/27/2022 04:02 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221227C** QC Batch: **97404**				PrepDate:	**12/27/2022**		Analyst: **DJ**
Chromium	630	0.18	5.0		µg/L	5	12/28/2022 12:03 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221229D** QC Batch: **97353**				PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	620	0.18	5.0		µg/L	5	12/29/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168501**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **PBW**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168501**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **LCSW**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.926	0.20	5.000	0	98.5	90	110				

Sample ID: **N054215-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	866.650	20	500.0	368.1	99.7	90	110				

Sample ID: **N054215-002AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	872.240	20	500.0	368.1	101	90	110	866.7	0.643	20	

Sample ID: **N054158-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3366.750	100						3278	2.68	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054158-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168501**
Client ID: **ZZZZZZ** Batch ID: **R168501** TestNo: **EPA 218.6** Analysis Date: **12/27/2022** SeqNo: **4992048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5773.750	100	2500	3278	99.8	90	110				

Sample ID: **N054219-002DMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168501**
Client ID: **ZZZZZZ** Batch ID: **R168501** TestNo: **EPA 218.6** Analysis Date: **12/27/2022** SeqNo: **4992049**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.927	0.20	1.000	0	92.7	90	110				

Sample ID: **N054166-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168501**
Client ID: **ZZZZZZ** Batch ID: **R168501** TestNo: **EPA 218.6** Analysis Date: **12/27/2022** SeqNo: **4992053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	602.000	10	250.0	358.5	97.4	90	110				

Sample ID: **N054166-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168501**
Client ID: **ZZZZZZ** Batch ID: **R168501** TestNo: **EPA 218.6** Analysis Date: **12/27/2022** SeqNo: **4992055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.619	1.0	25.00	33.88	95.0	90	110				

Sample ID: **N054166-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168501**
Client ID: **ZZZZZZ** Batch ID: **R168501** TestNo: **EPA 218.6** Analysis Date: **12/27/2022** SeqNo: **4992057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1106.470	20	500.0	638.6	93.6	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054215-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	857.040	20	500.0	383.7	94.7	90	110				

Sample ID: **N054215-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	824.090	20	500.0	350.0	94.8	90	110				

Sample ID: **N054158-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.970	0.20	1.000	0	97.0	90	110				

Sample ID: **N054096-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168501**
Client ID: **ZZZZZZ**	Batch ID: **R168501**	TestNo: **EPA 218.6**		Analysis Date: **12/27/2022**	SeqNo: **4992067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.812	1.0	5.000	0	96.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-97404**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **PBW**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-97404**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **LCSW**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994261**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.853	1.0	10.00	0	98.5	85	115				

Sample ID: **N054106-001C-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **ZZZZZZ**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	672.443	5.0	10.00	601.7	707	75	125				S

Sample ID: **N054106-001C-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **ZZZZZZ**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	630.869	5.0	10.00	601.7	291	75	125	672.4	6.38	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97353**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **PBW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-97353**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **LCSW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.796	1.0	10.00	0	98.0	85	115				

Sample ID: **N053873-001C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.446	1.0	10.00	0.9552	94.9	75	125				

Sample ID: **N053873-001C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.979	1.0	10.00	0.9552	90.2	75	125	10.45	4.58	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **N054106-001C-PS** SampType: **PS** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: RunNo: **168524**
Client ID: **ZZZZZZ** Batch ID: **97404** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/27/2022** SeqNo: **4994264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	623.820	5.0	50.00	601.7	44.2	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622

Lab Order: N054166

Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM

Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	59	1.2	5.0		mg/L	1	12/17/2022 12:50 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/17/2022 12:50 PM
Alkalinity, Total (As CaCO3)	59	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622

Lab Order: N054166

Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM

Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	64	1.2	5.0		mg/L	1	12/17/2022 12:50 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/17/2022 12:50 PM
Alkalinity, Total (As CaCO3)	64	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221217A**	QC Batch: **R168265**			PrepDate:			Analyst: **LR**
Alkalinity, Bicarbonate (As CaCO3)	120	1.2	5.0		mg/L	1	12/17/2022 12:50 PM
Alkalinity, Carbonate (As CaCO3)	ND	1.2	5.0		mg/L	1	12/17/2022 12:50 PM
Alkalinity, Total (As CaCO3)	120	1.2	5.0		mg/L	1	12/17/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R168265** SampType: **LCS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **168265**
Client ID: **LCSW** Batch ID: **R168265** TestNo: **SM 2320 B** Analysis Date: **12/17/2022** SeqNo: **4975315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	97.959	5.0	100.0	0	98.0	85	115				
Alkalinity, Total (As CaCO3)	97.959	5.0	100.0	0	98.0	85	115				

Sample ID: **MB-R168265** SampType: **MBLK** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **168265**
Client ID: **PBW** Batch ID: **R168265** TestNo: **SM 2320 B** Analysis Date: **12/17/2022** SeqNo: **4975316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5.0									
Alkalinity, Carbonate (As CaCO3)	ND	5.0									
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N054166-001DDUP** SampType: **DUP** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **168265**
Client ID: **ZZZZZZ** Batch ID: **R168265** TestNo: **SM 2320 B** Analysis Date: **12/17/2022** SeqNo: **4975321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	59.184	5.0						59.18	0	30	
Alkalinity, Carbonate (As CaCO3)	ND	5.0						0	0	30	
Alkalinity, Total (As CaCO3)	59.184	5.0						59.18	0	30	

Sample ID: **N054166-001DMS** SampType: **MS** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **168265**
Client ID: **ZZZZZZ** Batch ID: **R168265** TestNo: **SM 2320 B** Analysis Date: **12/17/2022** SeqNo: **4975322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	155.102	5.0	100.0	59.18	95.9	75	125				
Alkalinity, Total (As CaCO3)	155.102	5.0	100.0	59.18	95.9	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **N054166-001DMSD** SampType: **MSD** TestCode: **2320_W_SP** Units: **mg/L** Prep Date: RunNo: **168265**
Client ID: **ZZZZZZ** Batch ID: **R168265** TestNo: **SM 2320 B** Analysis Date: **12/17/2022** SeqNo: **4975323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	157.143	5.0	100.0	59.18	98.0	75	125	155.1	1.31	20	
Alkalinity, Total (As CaCO3)	157.143	5.0	100.0	59.18	98.0	75	125	155.1	1.31	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM
Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Bromide	ND	0.23	5.0		mg/L	10	12/17/2022 10:50 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Chloride	5400	130	1000		mg/L	2000	12/17/2022 02:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Fluoride	3.0	0.13	1.0		mg/L	10	12/17/2022 10:50 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	12/17/2022 10:50 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Sulfate	900	6.1	50		mg/L	100	12/17/2022 12:32 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	12/17/2022 10:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Bromide	ND	0.23	5.0		mg/L	10	12/17/2022 11:04 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Chloride	2300	65	500		mg/L	1000	12/17/2022 03:09 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Fluoride	3.1	0.13	1.0		mg/L	10	12/17/2022 11:04 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	12/17/2022 11:04 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Sulfate	450	3.0	25		mg/L	50	12/17/2022 01:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.095	0.50		mg/L	10	12/17/2022 11:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Bromide	ND	0.23	5.0		mg/L	10	12/17/2022 11:18 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Chloride	2000	65	500		mg/L	1000	12/17/2022 04:06 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Fluoride	2.5	0.13	1.0		mg/L	10	12/17/2022 11:18 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	12/17/2022 11:18 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	12/17/2022 02:12 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221217A** QC Batch: **R168273**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.9	0.095	0.50		mg/L	10	12/17/2022 11:18 AM

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Results are wet unless otherwise specified
- DO Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_BRPGE

Sample ID: **MB-R168273_BR**	SampType: **MBLK**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **PBW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	ND	0.50									

Sample ID: **LCS-R168273_BR**	SampType: **LCS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **LCSW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	1.248	0.50	1.250	0	99.8	90	110				

Sample ID: **N054166-002CMS**	SampType: **MS**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	14.627	5.0	12.50	0.3440	114	80	120				

Sample ID: **N054166-002CMSD**	SampType: **MSD**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	14.373	5.0	12.50	0.3440	112	80	120	14.63	1.75	20	

Sample ID: **N054166-003CDUP**	SampType: **DUP**	TestCode: **300_W_BRP**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	0.536	5.0						0.5520	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R168273_CL** SampType: **MBLK** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **168273**
Client ID: **PBW** Batch ID: **R168273** TestNo: **EPA 300.0** Analysis Date: **12/17/2022** SeqNo: **4977565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R168273_CL** SampType: **LCS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **168273**
Client ID: **LCSW** Batch ID: **R168273** TestNo: **EPA 300.0** Analysis Date: **12/17/2022** SeqNo: **4977566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.128	0.50	2.000	0	106	90	110				

Sample ID: **N054166-001CMS** SampType: **MS** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **168273**
Client ID: **ZZZZZZ** Batch ID: **R168273** TestNo: **EPA 300.0** Analysis Date: **12/17/2022** SeqNo: **4977570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9246.800	1000	4000	5356	97.3	80	120				

Sample ID: **N054166-001CMSD** SampType: **MSD** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **168273**
Client ID: **ZZZZZZ** Batch ID: **R168273** TestNo: **EPA 300.0** Analysis Date: **12/17/2022** SeqNo: **4977571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	9189.000	1000	4000	5356	95.8	80	120	9247	0.627	20	

Sample ID: **N054166-002CDUP** SampType: **DUP** TestCode: **300_W_CLP** Units: **mg/L** Prep Date: RunNo: **168273**
Client ID: **ZZZZZZ** Batch ID: **R168273** TestNo: **EPA 300.0** Analysis Date: **12/17/2022** SeqNo: **4977573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2291.800	500						2291	0.0262	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R168273_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **PBW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R168273_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **LCSW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.297	0.10	1.250	0	104	90	110				

Sample ID: **N054166-002CMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	15.791	1.0	12.50	3.146	101	80	120				

Sample ID: **N054166-002CMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977553**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	15.874	1.0	12.50	3.146	102	80	120	15.79	0.524	20	

Sample ID: **N054166-003CDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.384	1.0						2.542	6.41	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R168273_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **PBW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R168273_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **LCSW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.292	0.50	1.250	0	103	90	110				

Sample ID: **N054166-002CMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	15.708	5.0	12.50	0	126	80	120				S

Sample ID: **N054166-002CMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	15.613	5.0	12.50	0	125	80	120	15.71	0.607	20	S

Sample ID: **N054166-003CDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R168273_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **PBW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.226	0.50									

Sample ID: **LCS-R168273_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **LCSW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.981	0.50	4.000	0	99.5	90	110				

Sample ID: **N054166-001CMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1297.640	50	400.0	898.7	99.7	80	120				

Sample ID: **N054166-001CMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1293.230	50	400.0	898.7	98.6	80	120	1298	0.340	20	

Sample ID: **N054166-002CDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	447.420	25						449.5	0.470	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R168273_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **PBW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R168273_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **LCSW**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.298	0.050	1.250	0	104	90	110				

Sample ID: **N054166-002CMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.434	0.50	12.50	1.753	93.4	80	120				

Sample ID: **N054166-002CMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.394	0.50	12.50	1.753	93.1	80	120	13.43	0.298	20	

Sample ID: **N054166-003CDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **168273**
Client ID: **ZZZZZZ**	Batch ID: **R168273**	TestNo: **EPA 300.0**		Analysis Date: **12/17/2022**	SeqNo: **4977626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	3.992	0.50						3.895	2.46	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-121622
Lab Order:	N054166		
Project:	PG&E Topock - OMM EXW Annual, 30106892	**Collection Date:**	12/16/2022 11:00:00 AM
Lab ID:	N054166-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221219A**	QC Batch: **R168319**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	12/19/2022 03:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221219A**	QC Batch: **R168319**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/19/2022 12:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221219A**	QC Batch: **R168319**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/19/2022 01:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R168319**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168319**
Client ID: **PBW**	Batch ID: **R168319**	TestNo: **SM 5310C**		Analysis Date: **12/19/2022**	SeqNo: **4978741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R168319**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168319**
Client ID: **LCSW**	Batch ID: **R168319**	TestNo: **SM 5310C**		Analysis Date: **12/19/2022**	SeqNo: **4978742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.046	1.0	5.000	0	101	85	115				

Sample ID: **N054166-001GMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168319**
Client ID: **ZZZZZZ**	Batch ID: **R168319**	TestNo: **SM 5310C**		Analysis Date: **12/19/2022**	SeqNo: **4978753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	234.620	50	250.0	0	93.8	75	125				

Sample ID: **N054166-001GMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168319**
Client ID: **ZZZZZZ**	Batch ID: **R168319**	TestNo: **SM 5310C**		Analysis Date: **12/19/2022**	SeqNo: **4978754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	231.945	50	250.0	0	92.8	75	125	234.6	1.15	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622

Lab Order: N054166

Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM

Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HARDNESS BY CALCULATION							
	EPA 3010A			**SM 2340 B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97398**			PrepDate:	**12/26/2022**		Analyst: **DJ**
Hardness, Calcium (As CaCO3)	1100000	0.50	0.50		mg/L	1	12/29/2022 02:46 PM
Hardness, Magnesium (As CaCO3)	180000	0.50	0.50		mg/L	1	12/29/2022 02:46 PM
Total Hardness (As CaCO3)	1300000	1.0	1.0		mg/L	1	12/29/2022 02:46 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97398**			PrepDate:	**12/26/2022**		Analyst: **DJ**
Calcium	430000	900	2500		µg/L	5	12/29/2022 02:53 PM
Iron	ND	13	20		µg/L	1	12/29/2022 02:46 PM
Magnesium	45000	17	100		µg/L	1	12/29/2022 02:46 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97403**			PrepDate:	**12/27/2022**		Analyst: **DJ**
Calcium	670000	900	2500		µg/L	5	12/29/2022 02:32 PM
Iron	22	13	20		µg/L	1	12/29/2022 01:17 PM
Magnesium	48000	17	100		µg/L	1	12/29/2022 01:17 PM
Potassium	38000	690	2500		µg/L	5	12/31/2022 01:08 PM
Sodium	2700000	170000	250000		µg/L	500	12/31/2022 01:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HARDNESS BY CALCULATION							
	EPA 3010A			**SM 2340 B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97398**			PrepDate:	**12/26/2022**		Analyst: **DJ**
Hardness, Calcium (As CaCO3)	640000	0.50	0.50		mg/L	1	12/29/2022 02:57 PM
Hardness, Magnesium (As CaCO3)	95000	0.50	0.50		mg/L	1	12/29/2022 02:57 PM
Total Hardness (As CaCO3)	730000	1.0	1.0		mg/L	1	12/29/2022 02:57 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97398**			PrepDate:	**12/26/2022**		Analyst: **DJ**
Calcium	250000	180	500		µg/L	1	12/29/2022 02:57 PM
Iron	ND	13	20		µg/L	1	12/29/2022 02:57 PM
Magnesium	23000	17	100		µg/L	1	12/29/2022 02:57 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97403**			PrepDate:	**12/27/2022**		Analyst: **DJ**
Calcium	280000	180	500		µg/L	1	12/29/2022 01:23 PM
Iron	1200	13	20		µg/L	1	12/29/2022 01:23 PM
Magnesium	23000	17	100		µg/L	1	12/29/2022 01:23 PM
Potassium	17000	690	2500		µg/L	5	12/31/2022 01:12 PM
Sodium	1600000	42000	62000		µg/L	125	12/31/2022 02:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HARDNESS BY CALCULATION							
	EPA 3010A			**SM 2340 B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97398**			PrepDate:	**12/26/2022**		Analyst: **DJ**
Hardness, Calcium (As CaCO3)	800000	0.50	0.50		mg/L	1	12/29/2022 03:03 PM
Hardness, Magnesium (As CaCO3)	170000	0.50	0.50		mg/L	1	12/29/2022 03:03 PM
Total Hardness (As CaCO3)	970000	1.0	1.0		mg/L	1	12/29/2022 03:03 PM
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97398**			PrepDate:	**12/26/2022**		Analyst: **DJ**
Calcium	320000	180	500		µg/L	1	12/29/2022 03:03 PM
Iron	ND	13	20		µg/L	1	12/29/2022 03:03 PM
Magnesium	41000	17	100		µg/L	1	12/29/2022 03:03 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221229A**	QC Batch: **97403**			PrepDate:	**12/27/2022**		Analyst: **DJ**
Calcium	340000	180	500		µg/L	1	12/29/2022 01:44 PM
Iron	1200	13	20		µg/L	1	12/29/2022 01:44 PM
Magnesium	44000	17	100		µg/L	1	12/29/2022 01:44 PM
Potassium	25000	690	2500		µg/L	5	12/31/2022 01:23 PM
Sodium	1200000	42000	62000		µg/L	125	12/31/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-97398**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/26/2022**	RunNo: **168544**
Client ID: **PBW**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	500									
Iron	ND	20									
Magnesium	ND	100									

Sample ID: **LCS-97398**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/26/2022**	RunNo: **168544**
Client ID: **LCSW**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9319.773	500	10000	0	93.2	85	115				
Iron	90.177	20	100.0	0	90.2	85	115				
Magnesium	9895.750	100	10000	0	99.0	85	115				

Sample ID: **N054166-001H-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/26/2022**	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.967	20	100.0	0	121	75	125				
Magnesium	61640.321	100	10000	44670	170	75	125				S

Sample ID: **N054166-001H-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/26/2022**	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	114.528	20	100.0	0	115	75	125	121.0	5.47	20	
Magnesium	67037.590	100	10000	44670	224	75	125	61640	8.39	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N054166-001H-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/26/2022**	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	818816.349	2500	10000	429900	3890	75	125				S

Sample ID: **N054166-001H-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/26/2022**	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	819658.970	2500	10000	429900	3900	75	125	818800	0.103	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **MB-97403**	SampType: **MBLK**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168544**
Client ID: **PBW**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	500									
Iron	ND	20									
Magnesium	ND	100									

Sample ID: **LCS1-97403**	SampType: **LCS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168544**
Client ID: **LCSW**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9078.828	500	10000	0	90.8	85	115				
Iron	111.435	20	100.0	0	111	85	115				
Magnesium	8931.924	100	10000	0	89.3	85	115				

Sample ID: **N054166-003B-MS1**	SampType: **MS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995382**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	353637.324	500	10000	341400	122	75	125				
Iron	125.104	20	100.0	1180	-1060	75	125				S
Magnesium	52746.522	100	10000	43750	90.0	75	125				

Sample ID: **N054166-003B-MSD**	SampType: **MSD**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	371482.004	500	10000	341400	301	75	125	353600	4.92	20	S
Iron	614.257	20	100.0	1180	-566	75	125	125.1	132	20	SR
Magnesium	54552.485	100	10000	43750	108	75	125	52750	3.37	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **MB-97403**	SampType: **MBLK**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168601**
Client ID: **PBW**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	500									
Sodium	ND	500									

Sample ID: **LCS2-97403**	SampType: **LCS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168601**
Client ID: **LCSW**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	19304.889	500	20000	0	96.5	85	115				
Sodium	19236.707	500	20000	0	96.2	85	115				

Sample ID: **N054166-001B-MS2**	SampType: **MS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168601**
Client ID: **ZZZZZZ**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	103925.977	2500	20000	37860	330	75	125				S

Sample ID: **N054166-001B-MS2**	SampType: **MS**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168601**
Client ID: **ZZZZZZ**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3113228.858	250000	20000	2682000	2150	75	125				S

Sample ID: **N054166-001B-MSD**	SampType: **MSD**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168601**
Client ID: **ZZZZZZ**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	77139.907	2500	20000	37860	196	75	125	103900	29.6	20	SR

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N054166-001B-MSD**	SampType: **MSD**	TestCode: **6010_WPGE**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168601**
Client ID: **ZZZZZZ**	Batch ID: **97403**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3030033.909	250000	20000	2682000	1740	75	125	3113000	2.71	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N054166-001H-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	118.336	20	100.0	0	118	80	120				
Magnesium	64658.061	100	10000	44670	200	80	120				S

Sample ID: **N054166-001H-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **168544**
Client ID: **ZZZZZZ**	Batch ID: **97398**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	774309.635	2500	50000	429900	689	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N054166-003B-PS** SampType: **PS** TestCode: **6010_WPGE** Units: **µg/L** Prep Date: RunNo: **168544**
Client ID: **ZZZZZZ** Batch ID: **97403** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/29/2022** SeqNo: **4995381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	359507.625	500	10000	341400	181	80	120				S
Iron	383.138	20	100.0	1180	-797	80	120				S
Magnesium	54747.777	100	10000	43750	110	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM
Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221227A** QC Batch: **97353**				PrepDate:		**12/21/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/27/2022 09:49 PM
TOTAL METALS BY ICPMS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221227C** QC Batch: **97404**				PrepDate:		**12/27/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/27/2022 11:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221224B**	QC Batch: **97353**			PrepDate:		**12/21/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/24/2022 08:38 PM
TOTAL METALS BY ICPMS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221227C**	QC Batch: **97404**			PrepDate:		**12/27/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/27/2022 11:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221224B**	QC Batch: **97353**			PrepDate:		**12/21/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/24/2022 08:44 PM
TOTAL METALS BY ICPMS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221227C**	QC Batch: **97404**			PrepDate:		**12/27/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/27/2022 11:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97353**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **PBW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-97353**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **LCSW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.872	0.50	100.0	0	95.9	85	115				

Sample ID: **N053873-001C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.589	0.50	100.0	0.1075	93.5	75	125				

Sample ID: **N053873-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168478**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/24/2022**	SeqNo: **4990847**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.308	0.50	100.0	0.1075	89.2	75	125	93.59	4.68	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_TPK

Sample ID: **MB-97404**	SampType: **MBLK**	TestCode: **6020_W_TPK**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **PBW**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994378**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-97404**	SampType: **LCS**	TestCode: **6020_W_TPK**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **LCSW**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	97.489	0.50	100.0	0	97.5	85	115				

Sample ID: **N054106-001C-MS**	SampType: **MS**	TestCode: **6020_W_TPK**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **ZZZZZZ**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	187.525	2.5	100.0	59.21	128	75	125				S

Sample ID: **N054106-001C-MSD**	SampType: **MSD**	TestCode: **6020_W_TPK**	Units: **µg/L**	Prep Date: **12/27/2022**	RunNo: **168524**
Client ID: **ZZZZZZ**	Batch ID: **97404**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4994384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	173.620	2.5	100.0	59.21	114	75	125	187.5	7.70	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_TPK

Sample ID: **N054106-001C-PS** SampType: **PS** TestCode: **6020_W_TPK** Units: **µg/L** Prep Date: RunNo: **168524**
Client ID: **ZZZZZZ** Batch ID: **97404** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/27/2022** SeqNo: **4994382**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	168.135	2.5	100.0	59.21	109	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM
Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
APPROXIMATE IRB POPULATION BY IRB-BART							
			BART				
RunID: **NV00922-WC_221217D** QC Batch: **R168509**				PrepDate:			Analyst: **GGJ**
Iron Related Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:10 AM
APPROXIMATE SLIME POPULATION BY SLYM-BART							
			BART				
RunID: **NV00922-WC_221217E** QC Batch: **R168510**				PrepDate:			Analyst: **GGJ**
Slime Forming Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:20 AM
APPROXIMATE SRB POPULATION BY SRB-BART							
			BART				
RunID: **NV00922-WC_221217C** QC Batch: **R168508**				PrepDate:			Analyst: **GGJ**
Sulfate Reducing Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
APPROXIMATE IRB POPULATION BY IRB-BART							
			BART				
RunID: **NV00922-WC_221217D** QC Batch: **R168509**				PrepDate:			Analyst: **GGJ**
Iron Related Bacteria	25	0	0		cfu/mL	1	12/17/2022 10:10 AM
APPROXIMATE SLIME POPULATION BY SLYM-BART							
			BART				
RunID: **NV00922-WC_221217E** QC Batch: **R168510**				PrepDate:			Analyst: **GGJ**
Slime Forming Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:20 AM
APPROXIMATE SRB POPULATION BY SRB-BART							
			BART				
RunID: **NV00922-WC_221217C** QC Batch: **R168508**				PrepDate:			Analyst: **GGJ**
Sulfate Reducing Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
APPROXIMATE IRB POPULATION BY IRB-BART							
			BART				
RunID: **NV00922-WC_221217D** QC Batch: **R168509**				PrepDate:			Analyst: **GGJ**
Iron Related Bacteria	9000	0	0		cfu/mL	1	12/17/2022 10:10 AM
APPROXIMATE SLIME POPULATION BY SLYM-BART							
			BART				
RunID: **NV00922-WC_221217E** QC Batch: **R168510**				PrepDate:			Analyst: **GGJ**
Slime Forming Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:20 AM
APPROXIMATE SRB POPULATION BY SRB-BART							
			BART				
RunID: **NV00922-WC_221217C** QC Batch: **R168508**				PrepDate:			Analyst: **GGJ**
Sulfate Reducing Bacteria	Absent	0	0		cfu/mL	1	12/17/2022 10:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: IRB-BART

Sample ID: **N054166-001F-DUP** SampType: **DUP** TestCode: **IRB-BART** Units: **cfu/mL** Prep Date: RunNo: **168509**
Client ID: **ZZZZZZ** Batch ID: **R168509** TestNo: **BART** Analysis Date: **12/17/2022** SeqNo: **4992563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron Related Bacteria	Absent	0						0	0	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: SLYM-BART

Sample ID: **N054166-001F-DUP** SampType: **DUP** TestCode: **SLYM-BART** Units: **cfu/mL** Prep Date: RunNo: **168510**
Client ID: **ZZZZZZ** Batch ID: **R168510** TestNo: **BART** Analysis Date: **12/17/2022** SeqNo: **4992567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Slime Forming Bacteria	Absent	0						0	0	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054166
Project: PG&E Topock - OMM EXW Annual, 3010689

ANALYTICAL QC SUMMARY REPORT

TestCode: SRB-BART

Sample ID: **N054166-001F-DUP** SampType: **DUP** TestCode: **SRB-BART** Units: **cfu/mL** Prep Date: RunNo: **168508**
Client ID: **ZZZZZZ** Batch ID: **R168508** TestNo: **BART** Analysis Date: **12/17/2022** SeqNo: **4992559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate Reducing Bacteria	Absent	0						0	0	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 11:00:00 AM
Lab ID: N054166-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
MODIFIED FOULING INDEX BY AUTOMATED INSPECTOR							
				MFI			
RunID: **NV00922-WC_221222A** QC Batch: **R168609**				PrepDate:			Analyst: **MBC**
Modified Fouling Index (MFI-0.45)	ND	0.10	0.10		s/L2	1	12/22/2022

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 10:15:00 AM
Lab ID: N054166-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
MODIFIED FOULING INDEX BY AUTOMATED INSPECTOR							
				MFI			
RunID: **NV00922-WC_221222A** QC Batch: **R168609** PrepDate: Analyst: **MBC**							
Modified Fouling Index (MFI-0.45)	0.16	0.10	0.10		s/L2	1	12/22/2022

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-121622
Lab Order: N054166
Project: PG&E Topock - OMM EXW Annual, 30106892 **Collection Date:** 12/16/2022 8:45:00 AM
Lab ID: N054166-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
MODIFIED FOULING INDEX BY AUTOMATED INSPECTOR					**MFI**		
RunID: **NV00922-WC_221222A** QC Batch: **R168609** PrepDate: Analyst: **MBC**							
Modified Fouling Index (MFI-0.45)	1.1	0.10	0.10		s/L2	1	12/22/2022

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critiseg.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@ptvox.com	P.O.# SWA-ASSET-C9617-051
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200	Fax:
Title: O and M Operator	Phone: 916-786-3302 Fax:		
Signature: Date: 12/16/22	Sampled By: Mark Goldman	Matrix: Ground x Sediment; Potable Soil; NPDES Other Solid; Surface	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally misstating the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - OMM EXW Annual	Signature: Date: 12/16/22		
Project Number: 30106892			

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number		"S
6. Method of Cooling: ICE		
Sample Temp: 2-4C		
Courier: ASSET		
Tracking No.:		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH; Filtered 250 mL poly	Silica (EPA6010), HNO3; Filtered 500 mL poly	Hardness SM 2340B), HNO3 600 mL poly	Ammonia as Nitrogen (SM4500-NH3C); H2SO4 500 mL poly	Total Kjeldahl Nitrogen (SM4500-Norg); H2SO4 600 mL poly	Biochemical Oxygen Demand (SM5210B); None 1 liter poly	Nitrate, Bromide, Nitrite, Sulfate, Fluoride, Chloride (EPA 300.0) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Sulfide (SM23208); Zn4c/NaOH 500 mL poly	Alkalinity Total (23208); None 1 liter poly	Bicarbonate (SM 23208); None 1 liter poly	Biological Activity Tests (HACH); None 1 liter poly	Carbonate (SM 23208); None 1 liter poly	Modified Fouling Index (ASTM); None 6x 1 L poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Dissolved chromium, iron and manganese (EPA6010B) HNO3; filtered 500 mL poly	Dissolved metals Title 22 (SW 6020), HNO3; filtered 500 mL poly	Calcium, Magnesium, Potassium, Sodium (SW6010B); HNO3, no filter 500 mL poly	Total chromium, iron and manganese (EPA6010B); HNO3, no filter 500 mL poly	Total metals Title 22 (SW 6020), HNO3, no filter 500 mL poly	Total Phosphorus(EPA365.3) H2SO4 8 oz poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1																															
2	N054166-001	IRZ-13D-210-121622	12/16/22	11am		X		X				X	X		X	X	X	X	X	X	X		X	X		E	14	PV	BNS	
3	-002	IRZ-13S-095-121622	12/16/22	10:15am		X		X				X	X		X	X	X	X	X	X	X		X	X		E	14	PV	BNS	
4	-003	IRZ-23-143-121622	12/16/22	8:45am		X		X				X	X		X	X	X	X	X	X	X		X	X		E	14	PV	BNS	
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															
13																															
14																															

Relinquished by (Signature and Printed Name): Kevin Ashley Date/Time: 12/16/22 1250
Received by (Signature and Printed Name): Romeo Arcantara Date/Time: 12/16/22 1250
Relinquished by (Signature and Printed Name): Romeo Arcantara Date/Time: 12/16/22 1540
Received by (Signature and Printed Name): Date/Time: 12/16/22 1540
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)2	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analyses, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customers Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/16/2022	Workorder:	N054166
Rep sample Temp (Deg C):	2.4	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/19/2022

Reviewed By: for: MBC 12/26/2022

Subject: RE: PG&E Topock - OMM Baseline, 30106892 (ASSET Labs No. N054166)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 12/19/2022, 1:32 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi Yoandra,
Please add the diss Ca and Mg to be able to complete the Hardness calculation.

Thanks,
Laura

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Monday, December 19, 2022 3:35 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: Re: PG&E Topock - OMM Baseline, 30106892 (ASSET Labs No. N054166)

Hi Laura,

Noted. But Hardness is done by Calculation, which needs Diss Ca and Diss Mg to be logged as well.

Please confirm if it is OK to add these analytes to Diss metals.

Thanks,

On 12/19/2022 1:19 PM, Madsen, Laura wrote:

> Hi Yoandra,
> We need total cations which would be total Ca, potassium, sodium and Mg. For the metals we need total and dissolved iron and manganese, and dissolved chromium.
>
> Thanks,
> Laura
>
> **Laura Madsen** PG
> Project Geologist
> Arcadis U.S., Inc.
> M +1 303 653 5749
>
> ---
>
> **From:** Yoandra Rodriguez <yoandra@assetlaboratories.com>
> **Sent:** Monday, December 19, 2022 2:51 PM
> **To:** Madsen, Laura <Laura.Madsen@arcadis.com>

Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PG&E Topock - OMM Baseline, 30106892 (ASSET Labs No. N054166)

Hi Laura,

I'd like to confirm if we need to analyze Ca ad Mg for both total and dissolved fractions.

Hardness is always logged in the diss fraction, so we need Diss Ca and Diss Mg, but it is not requested on the COC.

Please advise how to proceed.

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

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--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

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ASSET Laboratories

WORK ORDER Summary

27-Dec-22

WorkOrder: N054166

Client ID: ARCUS02

Project: PG&E Topock - OMM EXW Annual, 3010689 **QC Level:** Level IV **Date Received:** 12/16/2022 3:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054166-001A	IRZ-13D-210-121622	12/16/2022 11:00:00 AM	1/3/2023	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054166-001B			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/3/2023		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			1/3/2023		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N054166-001C			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054166-001D			1/3/2023		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			1/3/2023			Total Dissolved Solids Prep	☐	☐	☐	WW
			1/3/2023		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
N054166-001E			1/3/2023		MFI	Modified Fouling Index by Automated Inspector	☐	☐	☐	WW
N054166-001F			1/3/2023		BART	Approximate IRB Population by IRB-BART	☐	☐	☐	WW
			1/3/2023		BART	Approximate Slime Population by SLYM-BART	☐	☐	☐	WW
			1/3/2023		BART	Approximate SRB Population by SRB-BART	☐	☐	☐	WW
N054166-001G			1/3/2023		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

27-Dec-22

WorkOrder: N054166

Client ID: ARCUS02

Project: PG&E Topock - OMM EXW Annual, 3010689 **QC Level:** Level IV **Date Received:** 12/16/2022 3:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054166-001H	IRZ-13D-210-121622	12/16/2022 11:00:00 AM	1/3/2023	Groundwater	SM 2340 B	Hardness by Calculation	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/3/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			1/3/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054166-002A	IRZ-13S-095-121622	12/16/2022 10:15:00 AM	1/3/2023		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054166-002B			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/3/2023		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			1/3/2023		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N054166-002C			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054166-002D			1/3/2023		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			1/3/2023			Total Dissolved Solids Prep	☐	☐	☐	WW
			1/3/2023		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Dec-22

WorkOrder: N054166

Client ID: ARCUS02

Project: PG&E Topock - OMM EXW Annual, 3010689 **QC Level:** Level IV **Date Received:** 12/16/2022 3:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054166-002E	IRZ-13S-095-121622	12/16/2022 10:15:00 AM	1/3/2023	Groundwater	MFI	Modified Fouling Index by Automated Inspector	☐	☐	☐	WW
N054166-002F			1/3/2023		BART	Approximate IRB Population by IRB-BART	☐	☐	☐	WW
			1/3/2023		BART	Approximate Slime Population by SLYM-BART	☐	☐	☐	WW
			1/3/2023		BART	Approximate SRB Population by SRB-BART	☐	☐	☐	WW
N054166-002G			1/3/2023		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054166-002H			1/3/2023		SM 2340 B	Hardness by Calculation	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/3/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			1/3/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054166-003A	IRZ-23-143-121622	12/16/2022 8:45:00 AM	1/3/2023		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054166-003B			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/3/2023		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			1/3/2023		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N054166-003C			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Dec-22

WorkOrder: N054166

Client ID: ARCUS02

Project: PG&E Topock - OMM EXW Annual, 3010689 **QC Level:** Level IV **Date Received:** 12/16/2022 3:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054166-003C	IRZ-23-143-121622	12/16/2022 8:45:00 AM	1/3/2023	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			1/3/2023		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054166-003D			1/3/2023		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			1/3/2023			Total Dissolved Solids Prep	☐	☐	☐	WW
			1/3/2023		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
N054166-003E			1/3/2023		MFI	Modified Fouling Index by Automated Inspector	☐	☐	☐	WW
N054166-003F			1/3/2023		BART	Approximate IRB Population by IRB-BART	☐	☐	☐	WW
			1/3/2023		BART	Approximate Slime Population by SLYM-BART	☐	☐	☐	WW
			1/3/2023		BART	Approximate SRB Population by SRB-BART	☐	☐	☐	WW
N054166-003G			1/3/2023		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054166-003H			1/3/2023		SM 2340 B	Hardness by Calculation	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/3/2023		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			1/3/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			1/3/2023		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054166-004A	FOLDER	1/3/2023	1/3/2023		Folder	Folder	☐	☐	☐	LAB
			1/3/2023		Folder	Level IV Report	☐	☐	☐	LAB
			1/3/2023		Folder	Folder	☐	☐	☐	LAB

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 02-01-2023
EMAX Batch No.: 22L206

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 12/14/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-55-045-Q422	L206-01	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS
MW-55-045-EB-Q422	L206-02	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-55-120-Q422	L206-03	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Page 1 of 1

22L206

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		1. Chilled		
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	Labspec		CalTrans		3. Container Intact		
Submitted By: Rissie Tap		Phone: 916-786-3302 Fax:	Others	✓	LEVEL III		4. Seal Present		
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB		LEVEL IV		5. IR number		
			Global ID:		Regulatory		6. Method of Cooling:		
					Specify State:		Sample Temp:		

Signature:	Date:	Sampled By:	Matrix				Courier:
RT	12/13/22	Rissie Tap	Ground water	x	Sediment		
I hereby authorize ASSET Labs to perform the tests indicated below.		*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*	Potable		Soil		Tracking No.:
Project Name: PG&E Topock - AZ RCM		Signature:	NPDES		Other Solid		
Project Number: 30121866.4Q22GW		RT	Surface				

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 125 mL poly	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH 250 mL poly	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 250 mL poly	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 250 mL poly	Dissolved metals arsenic, manganese, (SW6020B) FF; HNO3 250 mL poly	Dissolved metals Chromium; HNO3 250 mL poly	Alkalinity, Total (SM 2320B) 500 mL poly	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) 500 mL poly	TDS (SM 2540C) 500 mL poly	TOC (SM9060); HCl 125 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1		MW-55-045-Q422	12/13/2022	11:59		X				X	X					E	2	P	BN	
2		MW-55-045-EB-Q422	12/13/2022	11:42		X				X	X					E	2	P	BN	
3		MW-55-120-Q422	12/13/2022	12:26		X				X	X					E	2	P	BN	
4																E	2	P	BN	
5																E	2	P	BN	
6																E	2	P	BN	
7																E	1	P	BN	
8																E	2	P	BN	
9																E	2	P	BN	
10																E	2	P	BN	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Rissie Tap	12/13/22 1130	FEDEX	12/13/22
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time: 10:30
		Received by: Jhowin Zamora	12/14/22
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable/sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

temp 1.0

SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

Type of Delivery	Airbill / Tracking Number	ECN 22L206
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7707 6457 5935	Recipient JHOWIN ZAMORA
☐ EMAX Courier ☐ Client Delivery		Date 12/14/22 Time 1036

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☐ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: COC corrected, not initialed/dated

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☑ Bag
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 1.0 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* _____	*B - S/N* 210760237	*C - S/N* _____	*D - S/N* 210760272	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information JH 12/14/22	Corrective Action
1,3	2,5	D2	Only mentions ~~SW8260~~ 6020	18
1-3	1,3,4	D12	label reads 250 mL ~~HH~~ 12/14/22	↓
1,3	2,5	D12	label reads 500 mL	

12/14/22

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. MB 12/14/22

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO

☐ **Continue to next page.**

LEGEND:

Code	Description- Sample Management
D1	Analysis is not indicated in _____
(D2)	Analysis mismatch COC vs (label)
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
(D12)	Container size mismatch COC vs (received)

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and tine+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling JHOWIN ZAMORA — **Date** 12/14/22 12/14/22

SRF _____ — **Date** 12/14/22

PM MB — **Date** 12/14/22

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL IV

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

SDG#: 22L206

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L206

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of two(2) water samples were received on 12/14/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML024WL/IML024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Samples were reported from dilution due to suspected matrix interference exhibited by high Sodium concentrations.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22L206
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML024WB	1	NA	01/31/2320:31	12/20/2212:11	H6A23116	H6A23114	IML024W	Method Blank
LCS1W	IML024WL	1	NA	01/31/2320:34	12/20/2212:11	H6A23117	H6A23114	IML024W	Lab Control Sample (LCS)
LCD1W	IML024WC	1	NA	01/31/2320:37	12/20/2212:11	H6A23118	H6A23114	IML024W	LCS Duplicate
MW-55-045-Q422	L206-01G	5	NA	01/31/2321:42	12/20/2212:11	H6A23143	H6A23141	IML024W	Diluted Sample
MW-55-120-Q422	L206-03G	5	NA	01/31/2321:44	12/20/2212:11	H6A23144	H6A23141	IML024W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/13/22 11:59
Project : PG&E TOPOCK-GMP	Date Received: 12/14/22
SDG NO. : 22L206	Date Extracted: 12/20/22 12:11
Sample ID: MW-55-045-Q422	Date Analyzed: 01/31/23 21:42
Lab Samp ID: L206-01G	Dilution Factor: 5
Lab File ID: H6A23143	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6A23141	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	6.11	5.00	1.25
Chromium	5.60	5.00	1.25
Manganese	570	50.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/13/22 12:26
Project	: PG&E TOPOCK-GMP	Date Received:	12/14/22
SDG NO.	: 22L206	Date Extracted:	12/20/22 12:11
Sample ID:	MW-55-120-Q422	Date Analyzed:	01/31/23 21:44
Lab Samp ID:	L206-03G	Dilution Factor:	5
Lab File ID:	H6A23144	Matrix:	WATER
Ext Btch ID:	IML024W	% Moisture:	NA
Calib. Ref.:	H6A23141	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	6.68	5.00	1.25
Chromium	8.90	5.00	1.25
Manganese	ND	50.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: NA
Project : PG&E TOPOCK-GMP	Date Received: NA
SDG NO. : 22L206	Date Extracted: 12/20/22 12:11
Sample ID: MBLK1W	Date Analyzed: 01/31/23 20:31
Lab Samp ID: IML024WB	Dilution Factor: 1
Lab File ID: H6A23116	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6A23114	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	ND	10.0	0.500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L206
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML024WB	IML024WL	IML024WC
LAB FILE ID	: H6A23116	H6A23117	H6A23118
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 01/31/23 20:31	01/31/23 20:34	01/31/23 20:37
PREP BATCH	: IML024W	IML024W	IML024W
CALIBRATION REF:	H6A23114	H6A23114	H6A23114

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Arsenic	ND	30	30.1	100	30	30.1	100	0	85-115	20
Chromium	ND	30	33.1	110	30	33.4	111	1	85-115	20
Manganese	ND	30	32.4	108	30	32.7	109	1	85-115	20

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	3000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	300	25	20	0
B	100	300	50	20	0
Cd	500	300	250	20	0
Ca	50000	3000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	300	25000	100000	100000
Pb	500	300	250	20	0
Mg	50000	3000	25000	100000	100000
Mn	3000	300	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
K	50000	3000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	2000	0
Ag	50	30	25	20	0
Na	50000	3000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0
Li	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/31/23 14:11

End Date: 1/31/23 21:55

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

see analytical sequence

Micropipette ID: CU276702
CU270533
BU278098

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	1H6A23
Analytical Sequence:	H6A23
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☐ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B268701	MRL1 (1)	SM6B269802
S1	8702	MRL2 (10)	9801
S2	8801	MRL3 (CAL)	9802
S3	8802	MRL4	N/A
S4	8901	MRL5	↓
S5	8902	MRL6	↓
S6	N/A	Internal Standard	SM6B266701
S7	↓	Post-Spike 1	SM6A230203
ICV	SM6B267101	Post-Spike 2	↓ 0204
CCV	↓ 9002	Post-Spike 3	N/A
ICSA	SM6B270202	Post-Spike 4	↓
ICSAB	↓ 0301		
6020 TUNE SOLN.	SM6B269701		
200.8 TUNE SOLN.	↓ 9701		

Analyzed By: TH

Date: 2/1/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L206
Method : METHOD SW6020A
Sequence : IH6A23
InstrumentID: H6

		ICV			ICSA			ICSAB		
Lab Samp ID :		ICV			ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5			%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A23009			H6A23013			H6A23014		
DateAnalyed :		01/31/2314:29			01/31/2315:03			01/31/2315:05		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.91	30	1.8	93	0.62909	0	>0	20.404	20	102
Beryllium		30.48	30	3.0	102	0.0062042	0	<0.1	20.466	20	102
Boron		29.17	30	1.8	97	0.88189	0	<5.0	18.770	20	94
Sodium		31040	30000	0.6	103	112040	100000	112	99891	100000	100
Magnesium		30320	30000	1.6	101	108940	100000	109	96428	100000	96
Aluminum		31260	30000	0.5	104	110580	100000	111	97959	100000	98
Silicon		3157	3000	0.7	105	7.0233	0	<20	212.69	200	106
Phosphorus		285.8	300	1.2	95	104950	100000	105	91790	100000	92
Potassium		31440	30000	1.5	105	112950	100000	113	100160	100000	100
Calcium		30930	30000	0.7	103	112870	100000	113	100630	100000	101
Titanium		301.0	300	1.1	100	2267.8	2000	113	2019.3	2000	101
Vanadium		312.9	300	0.7	104	0.00019564	0	<0.5	20.584	20	103
Chromium	T	316.1	300	0.4	105	2.4104	0	>.25	23.039	20	115
Manganese	T	2014	2000	1.4	101	0.65852	0	>.5	20.784	20	104
Iron		31100	30000	0.3	104	112780	100000	113	100160	100000	100
Cobalt		308.5	300	1.8	103	0.17391	0	<0.2	20.446	20	102
Nickel		315.5	300	1.6	105	0.47806	0	>0.2	20.926	20	105
Copper		327.4	300	1.6	109	1.2991	0	>0.5	19.577	20	98
Zinc		312.8	300	1.5	104	4.4988	0	<10	23.584	20	118
Arsenic	T	306.9	300	0.7	102	0.077940	0	<.25	20.111	20	101
Selenium		304.4	300	0.1	101	0.070070	0	<0.3	20.266	20	101
Strontium		305.8	300	0.8	102	0.96526	0	<1.0	20.996	20	105
Zirconium		31.07	30	0.7	104	0.17178	0	<2.0	9.7353	20	49*
Molybdenum		296.9	300	1.6	99	2249.9	2000	112	2009.8	2000	100
Silver		30.79	30	1.6	103	0.090868	0	<0.2	20.059	20	100
Cadmium		299.8	300	0.9	100	0.044530	0	<0.2	20.165	20	101
Tin		305.8	300	0.6	102	0.10831	0	<0.2	20.068	20	100
Antimony		56.70	60	0.6	95	0.070456	0	<0.5	19.937	20	100
Barium		301.6	300	0.6	101	0.73128	0	>0.5	21.288	20	106
Tungsten		30.71	30	1.4	102	0.19043	0	<1.0	19.084	20	95
Mercury		2.856	3	1.6	95	0.0044935	0	<0.1	1.9030	2	95
Thallium		304.0	300	0.6	101	0.0058886	0	<0.2	20.156	20	101
Lead		304.6	300	0.8	102	0.066197	0	<0.1	20.404	20	102
Uranium		304.9	300	0.8	102	0.021096	0	<0.1	20.967	20	105

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L206
Method : METHOD SW6020A
Sequence : IH6A23
Instrument ID: H6

CCV SampleID		: CCV10			CCV11			CCV13			CCV14		
CCV DataFileID		: H6A23114			H6A23126			H6A23141			H6A23147		
CCV DateTime		: 01/31/23 20:26			01/31/23 20:57			01/31/23 21:37			01/31/23 21:52		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.5	98	1.5	24.8	99	2.3	24.1	96	2.7	24.4	98	1.1
Beryllium		25	25.2	101	0.4	25.5	102	1.9	22.8	91	2.5	23.7	95	1.4
Boron		50	57.9	116*	0.4	53.0	106	3.4	50.7	101	3.7	48.1	96	1.3
Sodium		25000	24700	99	0.8	25100	100	0.8	24300	97	0.6	24600	98	0.5
Magnesium		25000	23800	95	0.6	24700	99	1.9	23700	95	1.3	23700	95	1.2
Aluminum		25000	23900	96	0.7	24600	98	1.5	23800	95	0.6	23900	96	2.2
Silicon		2500	2340	94	0.6	2360	94	1.0	2260	90	0.6	2290	92	1.2
Phosphorus		250	240	96	1.0	249	100	1.5	214	86*	1.1	221	88*	1.5
Potassium		25000	24200	97	0.9	24700	99	0.9	24300	97	0.4	24500	98	0.8
Calcium		25000	24200	97	0.7	24600	99	0.5	23500	94	1.5	24300	97	0.4
Titanium		250	238	95	0.3	242	97	1.4	230	92	0.8	233	93	0.5
Vanadium		250	249	100	0.7	249	100	1.0	241	96	1.4	244	97	0.5
Chromium	T	250	248	99	1.1	250	100	1.0	241	97	1.2	244	98	0.8
Manganese	T	1500	1470	98	0.9	1490	100	1.6	1430	95	0.9	1470	98	1.0
Iron		25000	24900	100	1.4	24900	100	0.4	24100	96	0.5	24400	98	0.3
Cobalt		250	240	96	0.7	243	97	2.2	229	91	1.0	232	93	2.2
Nickel		250	257	103	0.7	254	102	1.2	245	98	0.9	247	99	0.3
Copper		250	251	101	0.4	249	100	2.1	241	96	0.8	242	97	1.1
Zinc		250	246	98	0.8	249	100	0.2	235	94	1.1	240	96	1.2
Arsenic	T	250	251	100	1.1	239	96	0.6	235	94	1.1	236	94	0.2
Selenium		250	258	103	0.6	255	102	2.8	239	96	1.4	245	98	1.0
Strontium		250	248	99	1.2	249	100	0.7	243	97	2.0	246	98	2.2
Zirconium		25	24.7	99	2.7	24.6	98	0.3	23.7	95	1.8	24.0	96	1.8
Molybdenum		250	229	92	0.4	230	92	1.4	219	87*	2.1	227	91	1.6
Silver		25	23.6	94	0.6	24.0	96	0.9	22.7	91	0.7	23.6	95	1.3
Cadmium		250	243	97	0.7	245	98	0.7	231	92	1.1	238	95	0.4
Tin		250	236	94	1.3	240	96	0.8	230	92	0.7	235	94	1.0
Antimony		50	46.6	93	1.4	46.9	94	0.4	44.1	88*	1.0	45.6	91	0.9
Barium		500	491	98	1.9	488	98	0.5	470	94	1.3	486	97	0.9
Tungsten		25	24.6	99	0.5	25.0	100	0.8	24.3	97	0.8	24.7	99	2.4
Mercury		2.5	2.56	102	4.3	2.54	102	1.6	2.37	95	2.7	2.46	98	0.8
Thallium		250	249	99	1.3	249	100	0.2	240	96	1.1	250	100	2.3
Lead		250	248	99	1.2	249	100	0.7	240	96	0.9	247	99	2.0
Uranium		250	246	98	2.1	245	98	1.4	239	96	0.9	247	99	2.8

| Unit: ug/L
| T: Target analyte
|%Rec QC Limit: 90-110
| RSD QC Limit: <5
| CCV EV: CCV Expected Value ug/L
| Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L206
Method : SW6020A
Sequence : IH6A23
Instrument ID: H6

CB SampleID		: ICB		CCB10		CCB11		CCB13		CCB14	
CB DataFileID		: H6A23010		H6A23115		H6A23127		H6A23142		H6A23148	
CB DateTime		: 01/31/2314:45		01/31/2320:29		01/31/2321:00		01/31/2321:39		01/31/2321:55	
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.1	>0	0.6	>0	0.6	>0	0.3	>0	0.6	>0
Beryllium		0.1	0.0005	<0.1	0.003	<0.1	0.007	<0.1	0.0004	<0.1	0.0004	<0.1
Boron		5.0	0.2	<5.0	4	<5.0	2	<5.0	3	<5.0	2	<5.0
Sodium		50	10	<50	30	<50	40	<50	30	<50	20	<50
Magnesium		10	0.2	<10	5	<10	4	<10	4	<10	9	<10
Aluminum		20	0.08	<20	5	<20	3	<20	4	<20	9	<20
Silicon		20	0.3	<20	1	<20	0.9	<20	1	<20	1	<20
Phosphorus		25	0.3	<25	4	<25	1	<25	2	<25	6	<25
Potassium		20	1	<20	50	>20	10	<20	10	<20	40	>20
Calcium		25	0.1	<25	20	<25	9	<25	10	<25	10	<25
Titanium		0.5	0.007	<0.5	0.2	<0.5	0.03	<0.5	0.03	<0.5	0.1	<0.5
Vanadium		0.5	0.002	<0.5	0.06	<0.5	0.06	<0.5	0.05	<0.5	0.04	<0.5
Chromium	T	.25	0.02	<.25	0.06	<.25	0.02	<.25	0.01	<.25	0.04	<.25
Manganese	T	.5	0.002	<.5	0.4	<.5	0.3	<.5	0.3	<.5	0.4	<.5
Iron		10	0.08	<10	5	<10	4	<10	5	<10	10	>10
Cobalt		0.2	0.0008	<0.2	0.03	<0.2	0.03	<0.2	0.03	<0.2	0.04	<0.2
Nickel		0.2	0.02	<0.2	0.02	<0.2	0.03	<0.2	0.01	<0.2	0.001	<0.2
Copper		0.5	0.8	>0.5	1	>0.5	2	>0.5	2	>0.5	2	>0.5
Zinc		10	0.01	<10	0.1	<10	0.1	<10	0.1	<10	0.2	<10
Arsenic	T	.25	0.02	<.25	0.02	<.25	0.006	<.25	0.02	<.25	0.04	<.25
Selenium		0.3	0.0004	<0.3	0.10	<0.3	0.06	<0.3	0.05	<0.3	0.1	<0.3
Strontium		1.0	0.002	<1.0	0.1	<1.0	0.04	<1.0	0.06	<1.0	0.05	<1.0
Zirconium		2.0	0.004	<2.0	0.003	<2.0	0.006	<2.0	0.006	<2.0	0.004	<2.0
Molybdenum		0.5	0.002	<0.5	0.05	<0.5	0.06	<0.5	0.06	<0.5	0.2	<0.5
Silver		0.2	0.0002	<0.2	0.005	<0.2	0.004	<0.2	0.005	<0.2	0.009	<0.2
Cadmium		0.2	0.006	<0.2	0.05	<0.2	0.05	<0.2	0.06	<0.2	0.08	<0.2
Tin		0.2	0.03	<0.2	0.02	<0.2	0.02	<0.2	0.04	<0.2	0.03	<0.2
Antimony		0.5	0.004	<0.5	0.08	<0.5	0.08	<0.5	0.08	<0.5	0.09	<0.5
Barium		0.5	0.006	<0.5	0.09	<0.5	0.09	<0.5	0.1	<0.5	0.1	<0.5
Tungsten		1.0	0.002	<1.0	0.005	<1.0	0.003	<1.0	0.005	<1.0	0.010	<1.0
Mercury		0.1	0.006	<0.1	0.01	<0.1	0.02	<0.1	0.02	<0.1	0.02	<0.1
Thallium		0.2	0.01	<0.2	0.07	<0.2	0.07	<0.2	0.07	<0.2	0.09	<0.2
Lead		0.1	0.002	<0.1	0.03	<0.1	0.03	<0.1	0.04	<0.1	0.05	<0.1
Uranium		0.1	0.002	<0.1	0.04	<0.1	0.05	<0.1	0.05	<0.1	0.06	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	CalBlk	BLANK		1101	H6A23001.d		1
2	Skip	CalBlk	BLANK		1101	H6A23002.d		1
3	Skip	CalBlk	S0		1102	H6A23003.d		1
4	Skip	CalStd	S1		1103	H6A23004.d		2
5	Skip	CalStd	S2		1104	H6A23005.d		3
6	Skip	CalStd	S3		1105	H6A23006.d		4
7	Skip	CalStd	S4		1106	H6A23007.d		5
8	Skip	CalStd	S5		1107	H6A23008.d		6
9	Skip	ICV	ICV		1204	H6A23009.d	1	
10	Skip	ICB	ICB		1102	H6A23010.d	1	
11	Skip	LLCCV	MRLA3101	1/100/10 ppb ↓Cu	1306	H6A23011.d	1	
12	Skip	LLCCV2	MRLA3102	0.4/40/4 ppb	1307	H6A23012.d	1	
13	Skip	ICS-A	ICSA		1304	H6A23013.d	1	
14	Skip	ICSB	ICSAB		1305	H6A23014.d	1	
15	Skip	Sample	MRLA3103	500 ppb CAT	1207	H6A23015.d	1	
16	Skip	CCV	CCV1		1206	H6A23016.d	1	
17	Skip	CCB	CCB1		1102	H6A23017.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	Blank	IMA017WB	↑Na	2101	H6A23018.d	1	
2	Skip	LCSW	IMA017WL	↓B	2102	H6A23019.d	1	
3	Skip	LCSW	IMA017WC		2103	H6A23020.d	1	
4	Skip	Sample	A148-02	TOT ↑Zn	2104	H6A23021.d	1	
5	Skip	Sample	A148-02	DISS ↑Ca Zn	2105	H6A23022.d	1	
6	Skip	Sample	A169-01	TOT ↑Zn	2106	H6A23023.d	1	
7	Skip	Sample	A169-02	TOT	2107	H6A23024.d	1	
8	Skip	Blank	IMA017WB ✓	REPREP	2101	H6A23025.d	1	
9	Skip	LCSW	IMA017WL ✓	REPREP	2102	H6A23026.d	1	
10	Skip	CCV	CCV2		1206	H6A23027.d	1	
11	Skip	CCB	CCB2		1102	H6A23028.d	1	
12	Skip	Sample	A169-01	DISS ↑B Na Ca Zn	2108	H6A23029.d	1	
13	Skip	Sample	A169-02	DISS ↑B Mg Na Ca	2109	H6A23030.d	1	
14	Skip	Sample	A148-02I	TOT	2110	H6A23031.d	10	
15	Skip	Sample	A148-02I	DISS	2111	H6A23032.d	10	
16	Skip	Sample	A169-01I	TOT	2112	H6A23033.d	10	
17	Skip	Sample	A169-02I	TOT	2201	H6A23034.d	10	
18	Skip	Sample	A169-01I	DISS	2202	H6A23035.d	10	
19	Skip	Sample	A169-02I	DISS	2203	H6A23036.d	10	
20	Skip	LLCCV	MRLA3104	1/100/10 ppb ↓Cu	1306	H6A23037.d	1	
21	Skip	LLCCV2	MRLA3105	0.4/40/4 ppb	1307	H6A23038.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
22	Skip	CCV	CCV3		1206	H6A23039.d	1	
23	Skip	CCB	CCB3		1102	H6A23040.d	1	
24	Skip	Sample	A145-02A	TOT	2204	H6A23041.d	1	
25	Skip	Sample	A145-02	TOT	2205	H6A23042.d	1	
26	Skip	Sample	A145-02J	TOT	2206	H6A23043.d	5	
27	Skip	Sample	A145-02M	TOT	2207	H6A23044.d	1	
28	Skip	Sample	A145-02S	TOT	2208	H6A23045.d	1	
29	Skip	Sample	A145-03	TOT	2209	H6A23046.d	1	
30	Skip	Sample	A145-04	TOT	2210	H6A23047.d	1	
31	Skip	Sample	A145-05	TOT	2211	H6A23048.d	1	
32	Skip	Sample	A145-06	TOT	2212	H6A23049.d	1	
33	Skip	CCV	CCV4		1206	H6A23050.d	1	
34	Skip	CCB	CCB4		1102	H6A23051.d	1	
35	Skip	Sample	A145-02A	DISS	2301	H6A23052.d	1	
36	Skip	Sample	A145-02	DISS	2302	H6A23053.d	1	
37	Skip	Sample	A145-02J	DISS	2303	H6A23054.d	5	
38	Skip	Sample	A145-02M	DISS	2304	H6A23055.d	1	
39	Skip	Sample	A145-02S	DISS	2305	H6A23056.d	1	
40	Skip	Sample	A145-03	DISS	2306	H6A23057.d	1	
41	Skip	Sample	A145-04	DISS	2307	H6A23058.d	1	
42	Skip	Sample	A145-05	DISS	2308	H6A23059.d	1	
43	Skip	Sample	A145-06	DISS	2309	H6A23060.d	1	
44	Skip	CCV	CCV5		1206	H6A23061.d	1	
45	Skip	CCB	CCB5		1102	H6A23062.d	1	
46	Skip	Blank	IMA025WB		2504	H6A23063.d	1	
47	Skip	LCSW	IMA025WL		2505	H6A23064.d	1	
48	Skip	LCSW	IMA025WC		2506	H6A23065.d	1	
49	Skip	Sample	A204-01N	TOT	2507	H6A23066.d	1	
50	Skip	Sample	A204-02A	TOT ↑Na Ca Zn	2508	H6A23067.d	1	
51	Skip	Sample	A204-02N	TOT	2509	H6A23068.d	1	
52	Skip	Sample	A204-02J	TOT	2510	H6A23069.d	5	
53	Skip	Sample	A204-02M	TOT	2511	H6A23070.d	1	
54	Skip	Sample	A204-02S	TOT	2512	H6A23071.d	1	
55		CCV	CCV6		1206	H6A23072.d	1	
56		CCB	CCB6		1102	H6A23073.d	1	
57		Sample	A204-01N	DISS	3101	H6A23074.d	1	
58		Sample	A204-02N	DISS ↑Na Ca	3102	H6A23075.d	1	
59		Sample	A258-01N	TOT	3103	H6A23076.d	1	
60		Sample	A258-01N	DISS	3104	H6A23077.d	1	
61		LLCCV	MRLA3106	1/100/10 ppb Na, Mn↑	1306	H6A23078.d	1	
62		LLCCV2	MRLA3107	0.4/40/4 ppb	1307	H6A23079.d	1	
63		CCV	CCV7		1206	H6A23080.d	1	
64		CCB	CCB7		1102	H6A23081.d	1	
65		Sample	L237-13N		3105	H6A23082.d	1	
66		Sample	A900-02N		3106	H6A23083.d	1	
67		Sample	A907-01N		3107	H6A23084.d	1	
68		Sample	A008-06A		3108	H6A23085.d	5	
69		Sample	A008-06G		3109	H6A23086.d	5	
70		Sample	A008-06J		3110	H6A23087.d	25	
71		Sample	A008-06M		3111	H6A23088.d	5	
72		Sample	A008-06S		3112	H6A23089.d	5	
73		CCV	CCV8		1206	H6A23090.d	1	
74		CCB	CCB8		1102	H6A23091.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
75		Sample	L024-11S		3201	H6A23092.d	1	
76		Sample	L024-12N		3202	H6A23093.d	1	
77		Sample	L024-13N		3203	H6A23094.d	1	
78		Sample	L024-14N		3204	H6A23095.d	1	
79		Sample	K224-02A		3205	H6A23096.d	5	
80		Sample	K224-02G		3206	H6A23097.d	5	
81		Sample	K224-02J		3207	H6A23098.d	25	
82		Sample	K224-02M		3208	H6A23099.d	5	
83		Sample	K224-02S		3209	H6A23100.d	5	
84		Sample	K224-09G		3210	H6A23101.d	5	
85		CCV	CCV9		1206	H6A23102.d	1	
86		CCB	CCB9		1102	H6A23103.d	1	
87		Sample	L025-02N		3211	H6A23104.d	1	
88		Sample	L025-03N		3212	H6A23105.d	1	
89		Sample	L025-04N		3301	H6A23106.d	1	
90		Sample	L025-05N		3302	H6A23107.d	1	
91		Sample	L025-06N		3303	H6A23108.d	1	
92		Sample	L025-07N		3304	H6A23109.d	1	
93		Sample	L025-08N		3305	H6A23110.d	1	
94		Sample	L025-09N		3306	H6A23111.d	1	
95		Sample	L025-10N		3307	H6A23112.d	1	
96		Sample	L025-11N		3308	H6A23113.d	1	
97		CCV	CCV10		1206	H6A23114.d	1	
98		CCB	CCB10		1102	H6A23115.d	1	
99		Blank	IML024WB		3309	H6A23116.d	1	
100		LCSW	IML024WL		3310	H6A23117.d	1	
101		LCSW	IML024WC		3311	H6A23118.d	1	
102		Sample	L207-01K	TOT	3312	H6A23119.d	20	
103		Sample	L207-02K	TOT	3401	H6A23120.d	20	
104		Sample	L207-03K	TOT	3402	H6A23121.d	20	
105		Sample	L207-04A	TOT	3403	H6A23122.d	20	
106		Sample	L207-04K	TOT	3404	H6A23123.d	20	
107		Sample	L207-04J	TOT	3405	H6A23124.d	100	
108		Sample	L207-04M	TOT	3406	H6A23125.d	20	
109		CCV	CCV11		1206	H6A23126.d	1	
110		CCB	CCB11		1102	H6A23127.d	1	
111		Sample	L207-04S	TOT	3407	H6A23128.d	20	
112		Sample	L207-05K	TOT	3408	H6A23129.d	20	
113		CCV	CCV12		1206	H6A23130.d	1	
114		CCB	CCB12		1102	H6A23131.d	1	
115		Sample	L207-01G	DISS ↑Na	3409	H6A23132.d	5	
116		Sample	L207-02G	DISS	3410	H6A23133.d	5	
117		Sample	L207-03G	DISS	3411	H6A23134.d	5	
118		Sample	L207-04A	DISS	3412	H6A23135.d	5	
119		Sample	L207-04G	DISS	3501	H6A23136.d	5	
120		Sample	L207-04J	DISS	3502	H6A23137.d	25	
121		Sample	L207-04M	DISS	3503	H6A23138.d	5	
122		Sample	L207-04S	DISS	3504	H6A23139.d	5	
123		Sample	L207-05G	DISS	3505	H6A23140.d	5	
124		CCV	CCV13	↓Sb Mo	1206	H6A23141.d	1	
125		CCB	CCB13		1102	H6A23142.d	1	
126		Sample	L206-01G		3506	H6A23143.d	5	
127		Sample	L206-03G		3507	H6A23144.d	5	

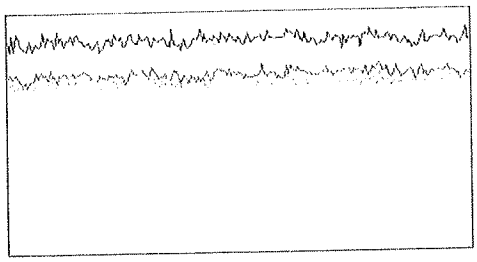
Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
128	ICS-A	ICSA2		1304	H6A23145.d	1	
129	ICSB	ICSAB2		1305	H6A23146.d	1	
130	CCV	CCV14		1206	H6A23147.d	1	
131	CCB	CCB14		1102	H6A23148.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-31 11:33:19
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



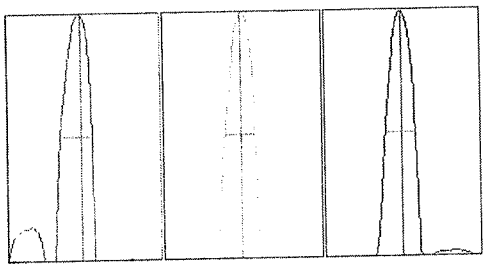
Mass	Range	Count	RSD%	Background
7	5000	3713	2.161	0.300
89	20000	14132	1.889	1.900
205	10000	8848	2.261	5.650

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.898 %
Doubly Charged	70 / 140 1.751 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	3704.74	7.00	0.62	0.76
89	14413.51	89.00	0.57	0.75
205	8850.18	205.00	0.58	0.77

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.6 V	Deflect	13.6 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.3 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.2 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	122	Axis Gain	0.9996		
Mass Offset	125	Axis Offset	-0.06		

EM

Discriminator	3.2 mV	Analog HV	2797 V	Pulse HV	1512 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.98	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.18E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.8	°C
Nebulizer Gas(DP)	4.81E+0	kPa
MU./Dil. Gas(DP)	-1.16E-2	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	4.22E+2	kPa
MU./Dil. Gas(BP)	-1.93E-2	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.31E+1	kPa
S/C Temp (H)	16.2	°C
S/C Temp (L)	1.8	°C
Peltier Voltage	2.2	V
IF/BK Press	2.43E+2	Pa
Analyzer Press	7.28E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.65	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	204.4	V
OctP RF Set	3.9	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.1	V
+U Voltage	5.2	V

Name	Value	Unit
-U Voltage	-12.0	V
V Voltage	31.6	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.0	V
-120V	-129.7	V
-720V	-738.7	V
Prefilter Bias	-5.00	V
Pickup Heater I	0.07	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2801	V
Pulse HV	1526	V
EM Gate	98.9	V
Pulse Gate	2.6	V
EM Entrance	0.2	V
EM HV Gain	-1470.0	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.6	V
RF PS +48V	48.0	V
Forward Power	1551	W
Reflected Power	4	W
Plasma Freq.	26.72	MHz
Drain I 1	11.30	A
Drain I 2	10.86	A
Drain I 3	10.69	A
Drain I 4	10.04	A
Temp Sensor	2.8	V
Driver I	5.58	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	-7.8	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.69E+0	kPa
ORS AMFC Temp	30.7	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-200.3	V
Omega Bias	-110.1	V
Omega Lens	7.6	V
Cell Entrance	-29.9	V
Cell Exit	-50.1	V
Deflect	13.5	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.2	°C
Internal Temp	34.0	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.42	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

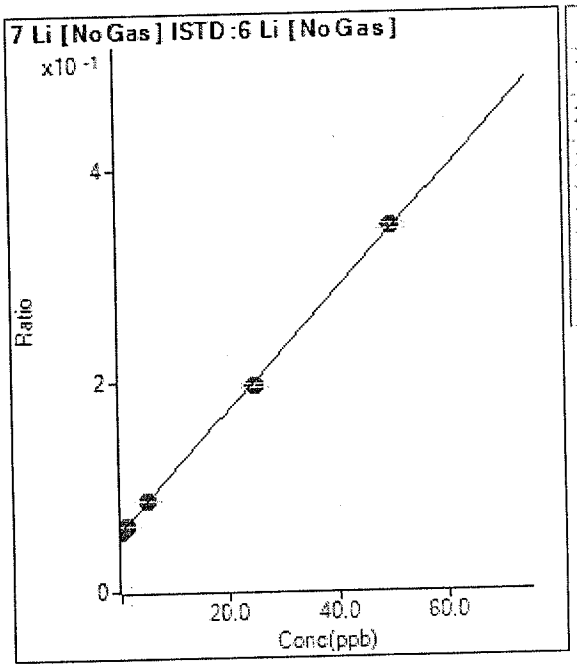
Performance Report History

Sensitivity

Calibration for H6A23009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b\
Analysis File: IH6A23.batch.bin
DA Date-Time: 2023-01-31 14:30:52
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

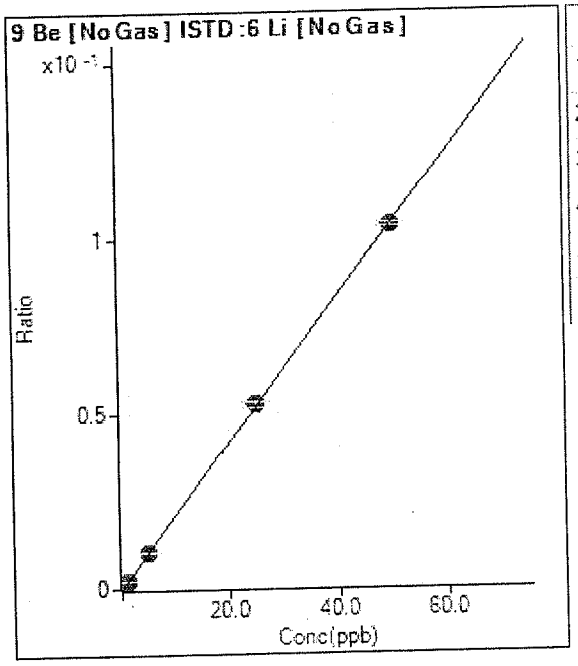
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A23003.d	S0	2023-01-31 14:11:52
2	H6A23004.d	S1	2023-01-31 14:14:42
3	H6A23005.d	S2	2023-01-31 14:17:33
4	H6A23006.d	S3	2023-01-31 14:20:24
5	H6A23007.d	S4	2023-01-31 14:23:32
6	H6A23008.d	S5	2023-01-31 14:26:23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	41810.71	0.0570	P	0.3
2	☐	0.500	0.629	44372.96	0.0606	P	0.9
3	☐	1.000	0.992	38665.16	0.0627	P	1.1
4	☐	5.000	4.984	61719.10	0.0855	P	0.6
5	☐	25.000	24.296	124047.75	0.1959	P	1.6
6	☐	50.000	50.353	252202.88	0.3450	P	1.3

y = 0.0057 * x + 0.0570
R = 0.9998
DL = 0.07603
BEC = 9.969

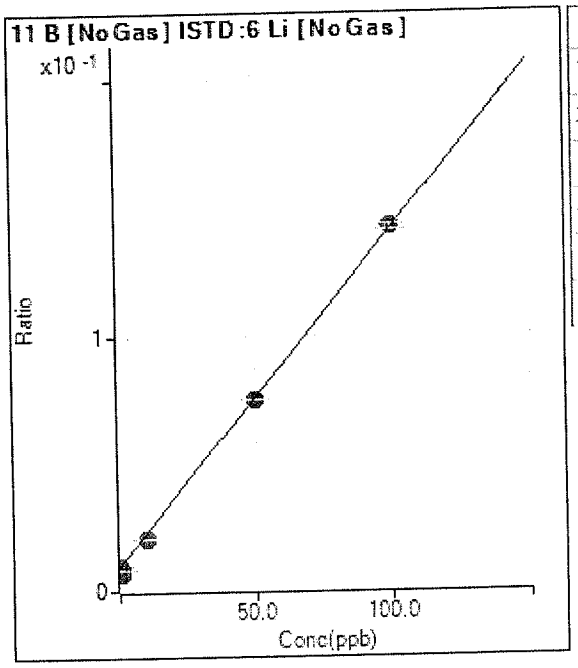
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	12.4
2	☐	0.500	0.440	696.68	0.0010	P	9.3
3	☐	1.000	0.973	1271.17	0.0021	P	4.1
4	☐	5.000	4.996	7529.80	0.0104	P	2.2
5	☐	25.000	25.278	33301.58	0.0526	P	3.3
6	☐	50.000	49.863	75892.57	0.1038	P	0.9

y = 0.0021 * x + 3.6354E-005
R = 1.0000
DL = 0.006477
BEC = 0.01747

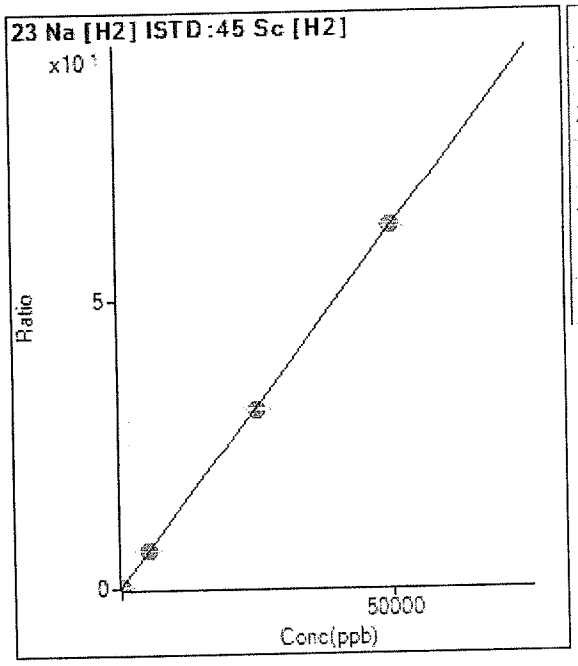
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7218.52	0.0098	P	2.0
2	☐	0.500	-2.273	5014.23	0.0068	P	2.9
3	☐	1.000	-0.927	5317.68	0.0086	P	1.3
4	☐	10.000	7.911	14623.15	0.0203	P	1.5
5	☐	50.000	49.180	47257.17	0.0746	P	0.4
6	☐	100.000	100.652	104126.94	0.1424	P	1.9

y = 0.0013 * x + 0.0098
R = 0.9997
DL = 0.4532
BEC = 7.472

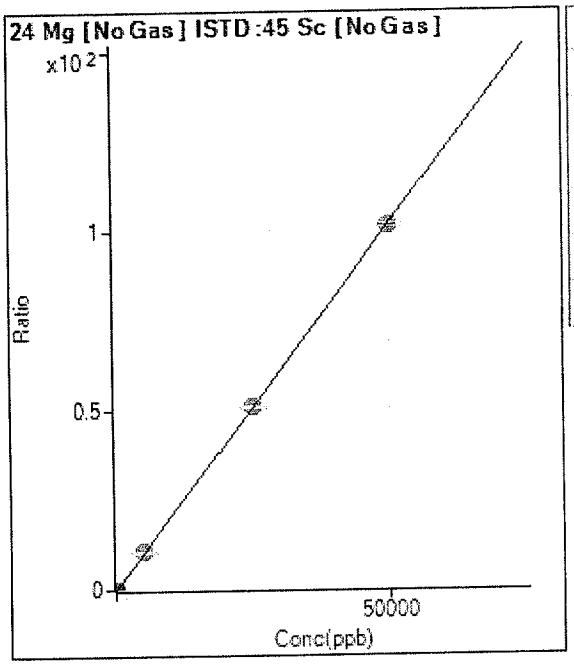
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	970383.79	0.3661	A	0.7
2	☐	50.000	53.894	1144177.00	0.4334	A	0.5
3	☐	100.000	97.543	1305306.00	0.4879	A	0.4
4	☐	5000.000	5109.353	18032048.00	6.7488	A	0.7
5	☐	25000.000	24696.412	86057866.67	31.2172	A	0.5
6	☐	50000.000	50140.860	173960234.67	63.0028	A	1.0

y = 0.0012 * x + 0.3661
R = 1.0000
DL = 5.805
BEC = 293.1

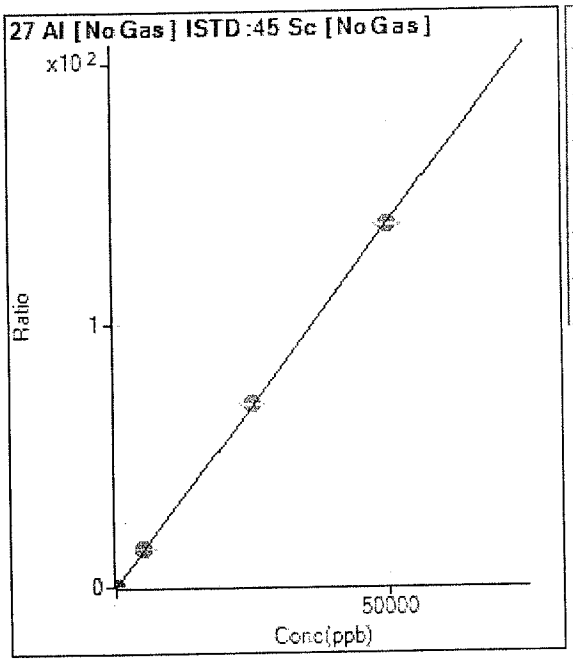
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7574.78	0.0024	P	13.9
2	☐	50.000	51.214	337570.51	0.1062	P	0.0
3	☐	100.000	103.336	559769.39	0.2119	P	1.1
4	☐	5000.000	5171.764	33518038.00	10.4881	A	0.9
5	☐	25000.000	25050.820	143404416.00	50.7928	A	1.4
6	☐	50000.000	49957.406	341455050.67	101.2907	A	0.9

y = 0.0020 * x + 0.0024
R = 1.0000
DL = 0.4859
BEC = 1.168

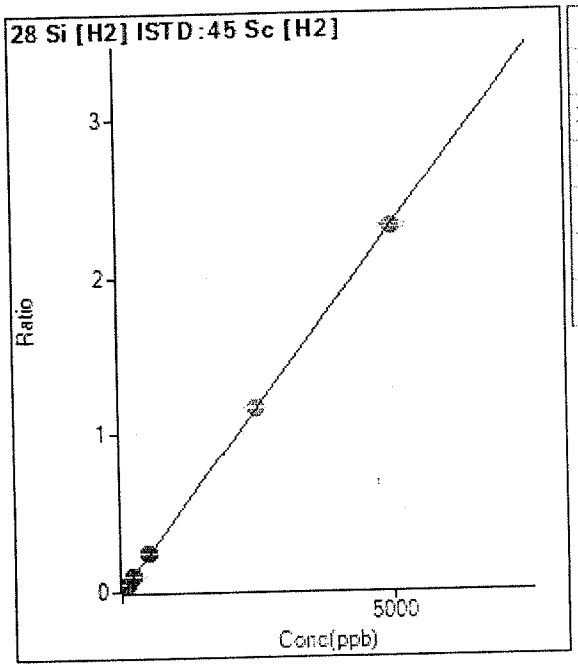
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8249.17	0.0026	P	9.5
2	☐	50.000	51.387	460769.55	0.1450	P	2.3
3	☐	100.000	103.700	765958.16	0.2899	P	2.4
4	☐	5000.000	5175.020	45837097.65	14.3425	A	0.5
5	☐	25000.000	25243.133	197563310.39	69.9510	A	0.6
6	☐	50000.000	49860.922	465750326.39	138.1666	A	0.5

y = 0.0028 * x + 0.0026
R = 1.0000
DL = 0.2643
BEC = 0.9304

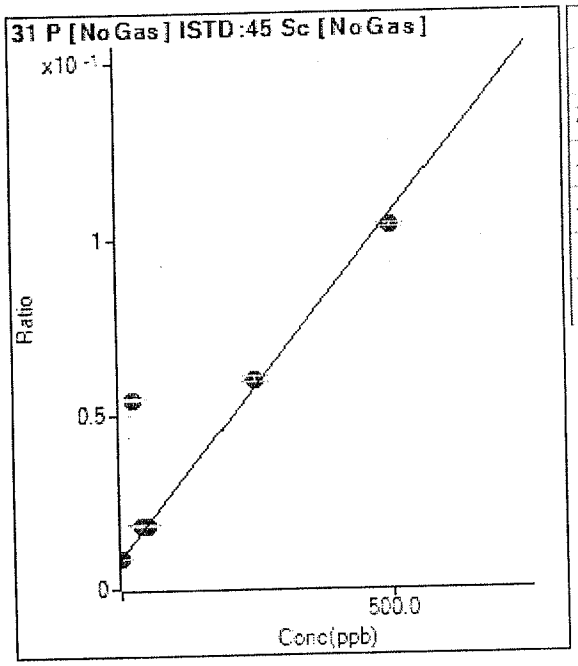
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3177.03	0.0012	P	2.4
2	☐	100.000	101.596	127513.82	0.0483	P	0.7
3	☐	200.000	200.902	252383.58	0.0943	P	0.4
4	☐	500.000	523.610	651874.67	0.2440	P	0.7
5	☐	2500.000	2517.975	3221555.67	1.1686	A	0.7
6	☐	5000.000	4988.584	6389457.67	2.3141	A	1.0

y = 4.6363E-004 * x + 0.0012
R = 1.0000
DL = 0.188
BEC = 2.585

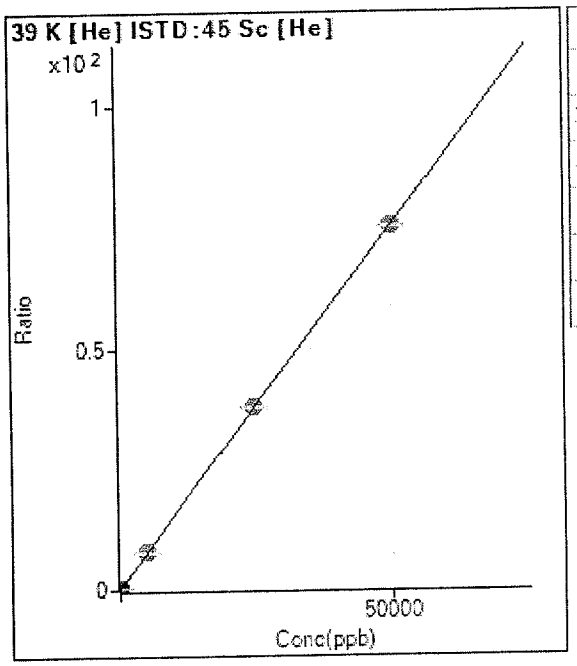
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28178.54	0.0088	P	0.5
2	☐	25.000	233.364	173200.44	0.0545	P	0.8
3	☐	40.000	48.355	48264.95	0.0183	P	1.3
4	☐	50.000	48.813	58672.87	0.0184	P	0.9
5	☐	250.000	261.557	169381.59	0.0600	P	2.1
6	☐	500.000	483.253	348604.95	0.1034	P	0.9

y = 1.9578E-004 * x + 0.0088
R = 0.9008
DL = 0.6329
BEC = 44.96

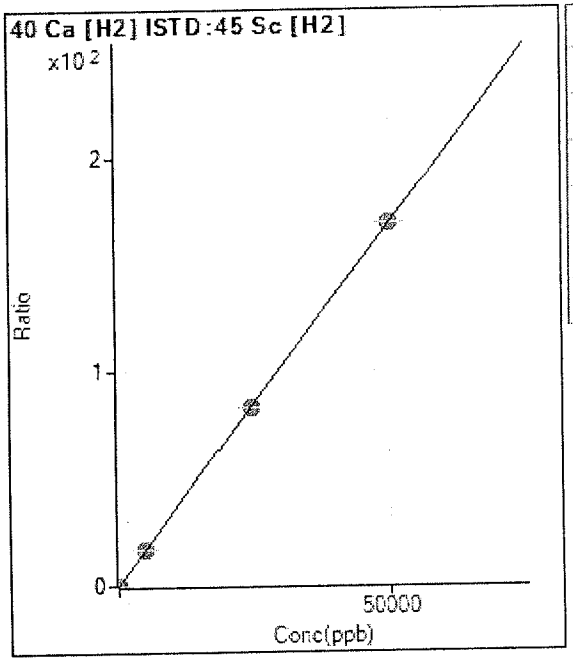
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	92077.08	0.2277	P	4.5
2	☐	50.000	51.735	123628.30	0.3052	P	2.8
3	☐	100.000	102.875	156408.76	0.3819	P	2.1
4	☐	5000.000	5083.398	3159033.25	7.8493	A	2.5
5	☐	25000.000	24972.586	15929469.33	37.6694	A	1.9
6	☐	50000.000	50005.359	32161536.00	75.2015	A	0.7

y = 0.0015 * x + 0.2277
R = 1.0000
DL = 20.39
BEC = 151.8

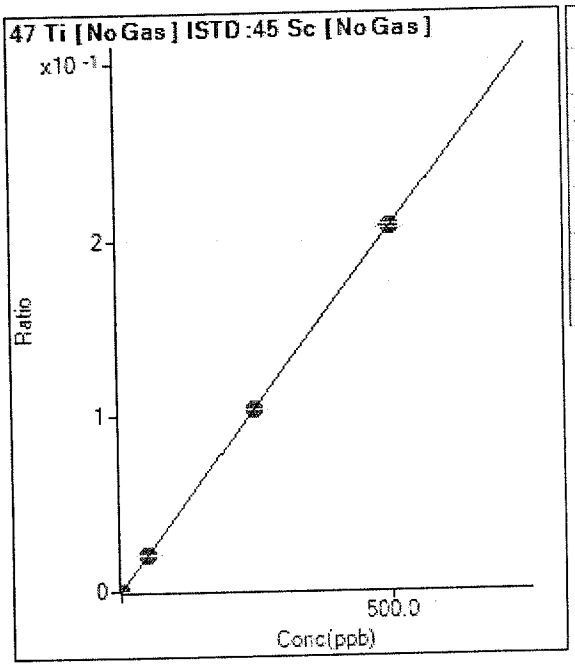
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	69007.78	0.0260	P	0.6
2	☐	50.000	54.340	552222.10	0.2092	P	0.4
3	☐	100.000	100.464	975462.77	0.3646	A	0.6
4	☐	5000.000	5031.837	45384568.00	16.9856	A	0.7
5	☐	25000.000	24671.007	229302997.33	83.1786	A	0.6
6	☐	50000.000	50161.308	466917674.67	169.0925	A	0.1

y = 0.0034 * x + 0.0260
R = 1.0000
DL = 0.1483
BEC = 7.724

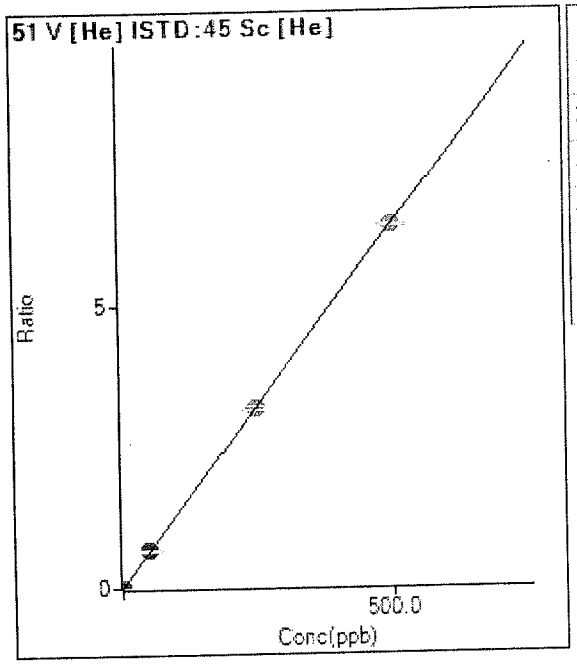
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	132.00	0.0000	P	20.1
2	☐	0.500	0.569	878.69	0.0003	P	6.5
3	☐	1.000	1.052	1258.73	0.0005	P	7.0
4	☐	50.000	50.833	67334.96	0.0211	P	0.3
5	☐	250.000	249.757	291882.83	0.1034	P	0.3
6	☐	500.000	500.038	697418.88	0.2069	P	1.1

y = 4.1366E-004 * x + 4.1198E-005
R = 1.0000
DL = 0.06007
BEC = 0.09959

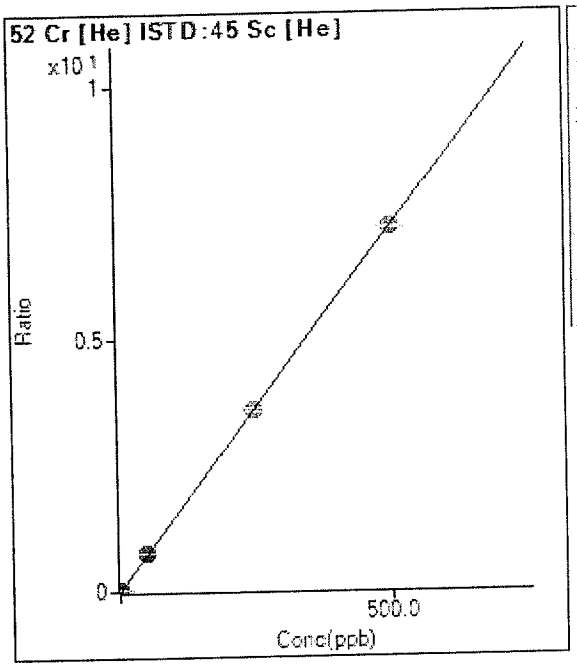
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1484.08	0.0037	P	1.6
2	☐	0.500	0.496	4060.61	0.0100	P	0.9
3	☐	1.000	1.023	6873.72	0.0168	P	2.5
4	☐	50.000	51.594	267637.04	0.6650	P	3.5
5	☐	250.000	248.940	1350933.54	3.1946	A	1.3
6	☐	500.000	500.371	2744681.75	6.4174	A	0.8

y = 0.0128 * x + 0.0037
R = 1.0000
DL = 0.01363
BEC = 0.2862

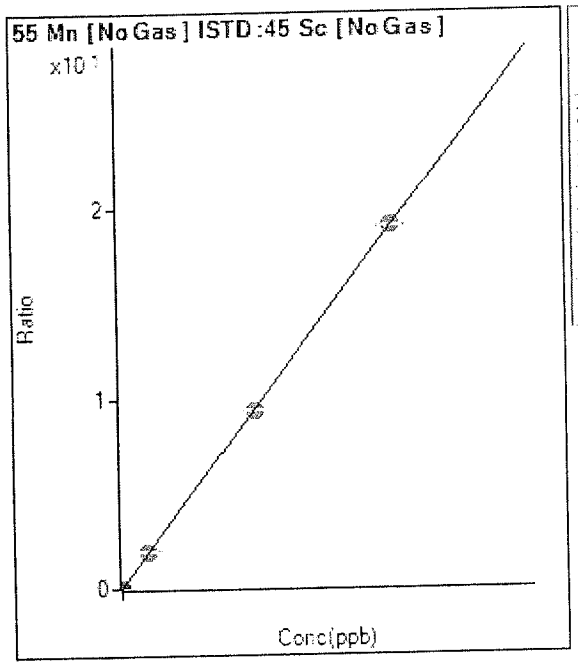
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2022.81	0.0050	P	2.6
2	☐	0.500	0.557	5273.02	0.0130	P	2.8
3	☐	1.000	1.069	8355.88	0.0204	P	2.4
4	☐	50.000	52.365	305514.03	0.7592	P	3.1
5	☐	250.000	249.439	1521302.96	3.5975	A	1.6
6	☐	500.000	500.044	3082248.75	7.2068	A	0.4

y = 0.0144 * x + 0.0050
R = 1.0000
DL = 0.02659
BEC = 0.3472

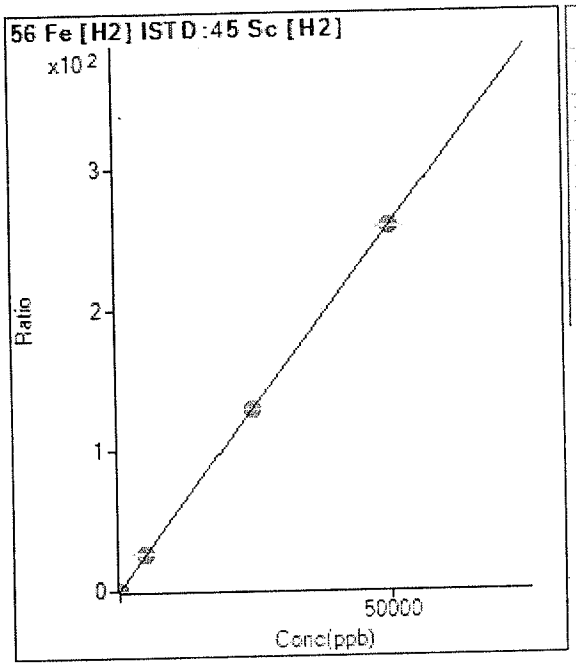
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7360.65	0.0023	P	3.6
2	☐	0.500	0.541	18231.47	0.0057	P	2.3
3	☐	1.000	1.109	24694.26	0.0093	P	0.9
4	☐	300.000	310.276	6307905.17	1.9738	A	0.4
5	☐	1500.000	1485.982	26665535.33	9.4440	A	0.9
6	☐	3000.000	3005.981	64393204.00	19.1019	A	0.6

y = 0.0064 * x + 0.0023
R = 1.0000
DL = 0.03921
BEC = 0.3619

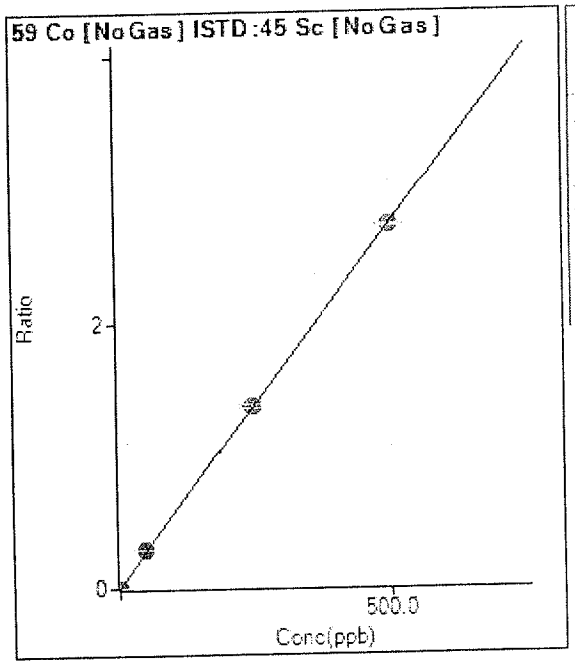
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13970.47	0.0053	P	2.1
2	☐	50.000	52.701	734226.21	0.2781	P	0.9
3	☐	100.000	102.667	1435987.50	0.5368	A	1.3
4	☐	5000.000	5146.851	71212720.00	26.6521	A	0.9
5	☐	25000.000	24994.001	356745098.67	129.4067	A	0.2
6	☐	50000.000	49988.307	714627840.00	258.8097	A	0.7

y = 0.0052 * x + 0.0053
R = 1.0000
DL = 0.06403
BEC = 1.018

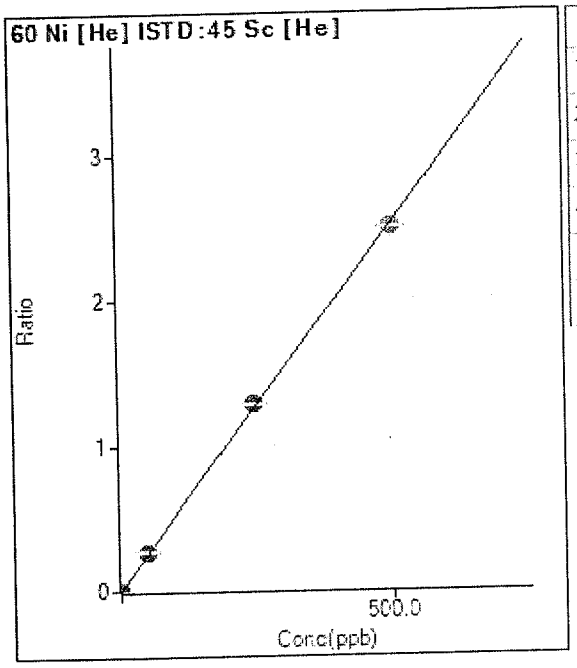
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	452.01	0.0001	P	4.0
2	☐	0.500	0.541	9834.88	0.0031	P	2.2
3	☐	1.000	1.095	16166.92	0.0061	P	3.4
4	☐	50.000	53.311	930705.46	0.2913	P	1.9
5	☐	250.000	250.985	3870141.75	1.3707	A	1.5
6	☐	500.000	499.176	9189106.00	2.7260	A	0.4

y = 0.0055 * x + 1.4123E-004
R = 1.0000
DL = 0.003121
BEC = 0.02586

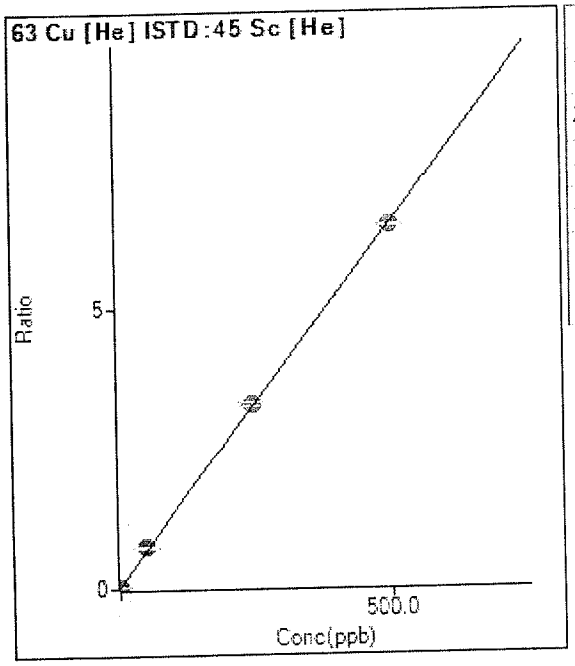
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	234.67	0.0006	P	9.3
2	☐	0.500	0.523	1303.40	0.0032	P	4.3
3	☐	1.000	1.106	2521.57	0.0062	P	2.4
4	☐	50.000	53.443	108662.25	0.2700	P	2.6
5	☐	250.000	254.725	543157.42	1.2845	P	1.7
6	☐	500.000	497.293	1072223.50	2.5071	A	0.4

y = 0.0050 * x + 5.8032E-004
R = 0.9999
DL = 0.03228
BEC = 0.1151

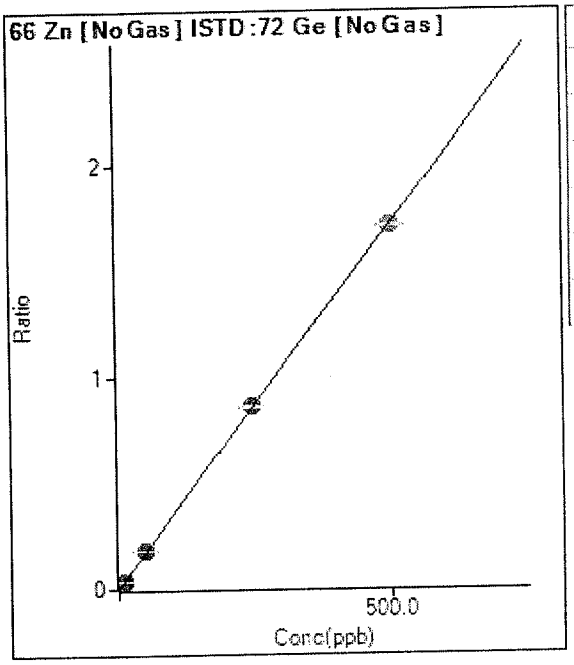
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10768.26	0.0266	P	0.5
2	☐	0.500	0.603	13939.13	0.0344	P	2.2
3	☐	1.000	0.816	15227.85	0.0372	P	1.5
4	☐	50.000	55.226	298302.68	0.7414	P	3.5
5	☐	250.000	252.319	1392176.09	3.2922	A	1.3
6	☐	500.000	498.318	2769750.42	6.4760	A	0.4

y = 0.0129 * x + 0.0266
R = 0.9999
DL = 0.03234
BEC = 2.057

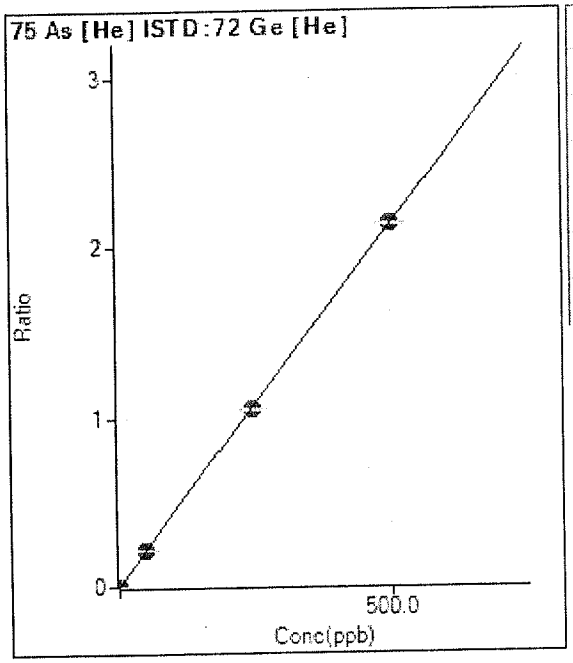
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1214.72	0.0017	P	6.1
2	☐	1.000	1.237	4446.06	0.0059	P	2.2
3	☐	10.000	10.258	23363.40	0.0369	P	0.3
4	☐	50.000	51.439	136828.36	0.1782	P	0.5
5	☐	250.000	250.372	587635.27	0.8609	P	1.5
6	☐	500.000	499.665	1356317.25	1.7164	A	0.6

y = 0.0034 * x + 0.0017
R = 1.0000
DL = 0.08983
BEC = 0.4886

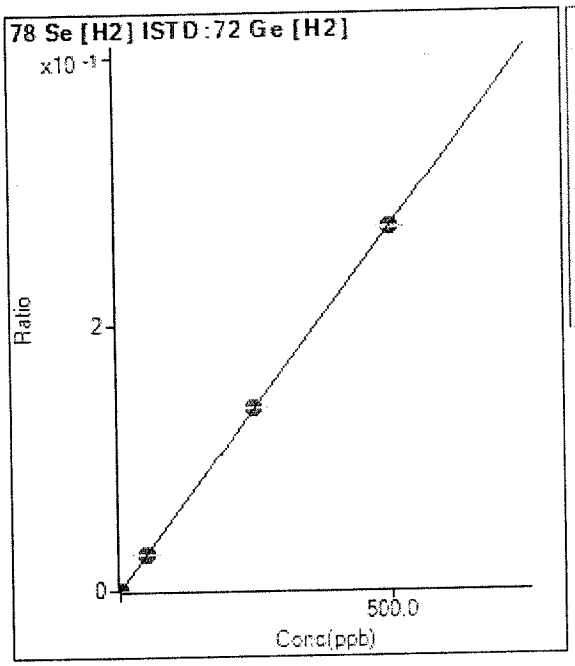
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	115.67	0.0005	P	6.4
2	☐	0.500	0.457	585.68	0.0024	P	5.4
3	☐	1.000	1.003	1138.71	0.0048	P	5.5
4	☐	50.000	50.129	51392.47	0.2137	P	1.6
5	☐	250.000	246.296	259612.82	1.0481	P	0.5
6	☐	500.000	501.839	528613.96	2.1350	P	0.2

y = 0.0043 * x + 4.9908E-004
R = 1.0000
DL = 0.0227
BEC = 0.1173

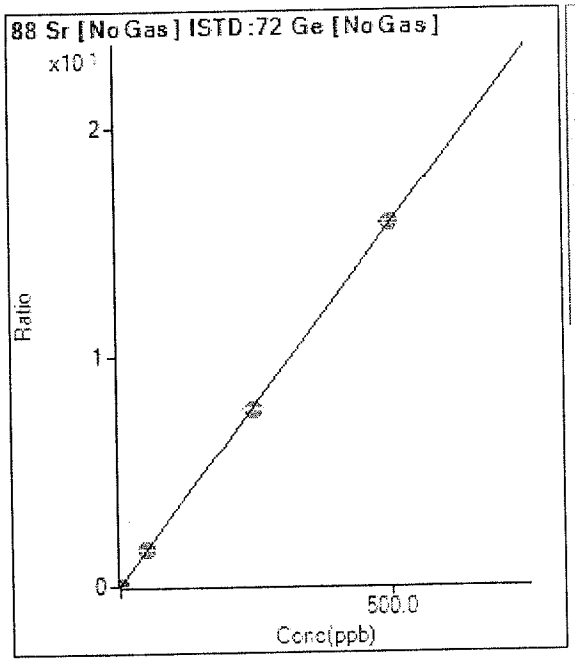
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37.67	0.0001	P	12.6
2	☐	0.500	0.476	232.00	0.0003	P	3.4
3	☐	1.000	1.011	451.01	0.0006	P	5.5
4	☐	50.000	50.812	20819.71	0.0278	P	0.8
5	☐	250.000	251.138	104002.74	0.1372	P	0.6
6	☐	500.000	499.350	208367.69	0.2727	P	0.3

y = 5.4605E-004 * x + 5.3126E-005
R = 1.0000
DL = 0.03688
BEC = 0.09729

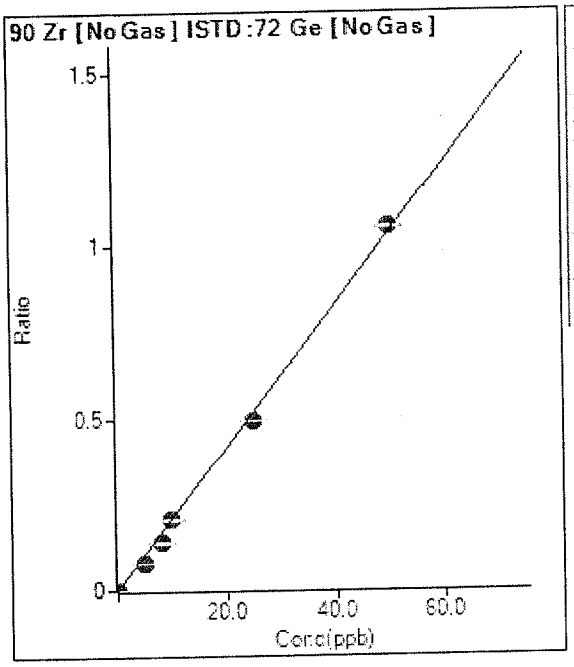
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	511.12	0.0007	P	7.1
2	☐	0.500	0.503	12412.42	0.0165	P	1.7
3	☐	1.000	1.001	20376.61	0.0322	P	1.2
4	☐	50.000	50.537	1220587.73	1.5896	A	0.5
5	☐	250.000	245.650	5276795.21	7.7242	A	0.9
6	☐	500.000	502.121	12475117.84	15.7879	A	1.1

y = 0.0314 * x + 7.0507E-004
R = 0.9999
DL = 0.004796
BEC = 0.02243

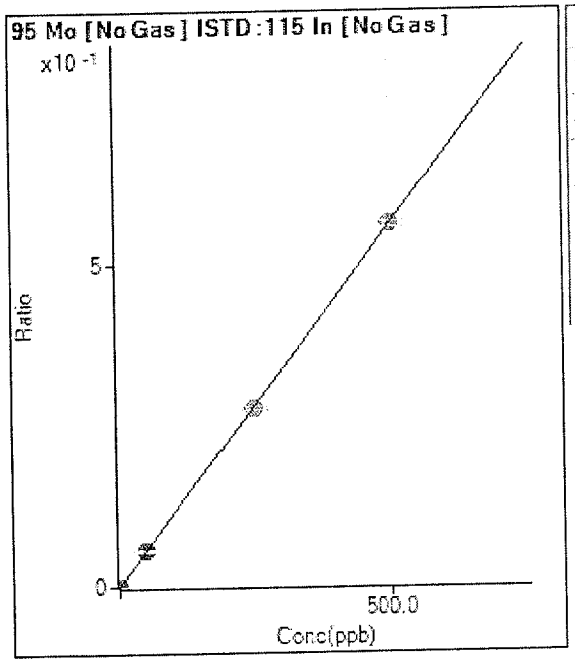
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	203.33	0.0003	P	22.8
2	☐	5.000	3.759	58742.13	0.0782	P	1.9
3	☐	8.000	6.631	87254.05	0.1378	P	3.2
4	☐	10.000	9.896	157792.00	0.2055	P	2.6
5	☐	25.000	23.810	337371.05	0.4940	P	0.7
6	☐	50.000	50.959	835144.96	1.0569	P	0.8

y = 0.0207 * x + 2.8086E-004
R = 0.9992
DL = 0.009248
BEC = 0.01355

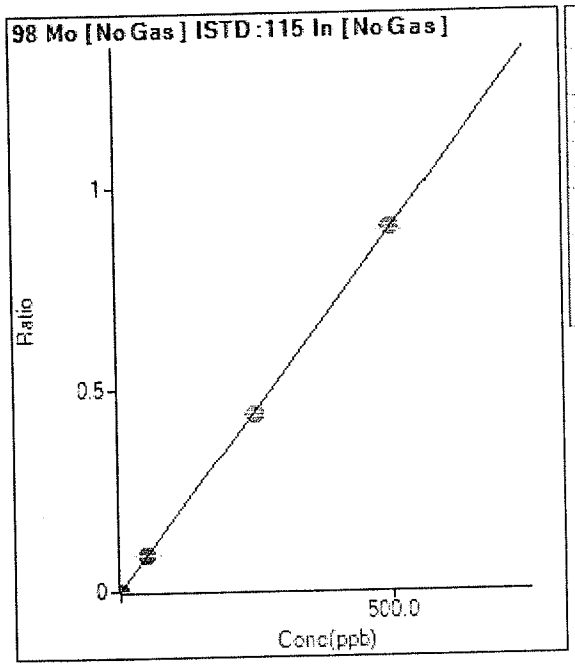
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45.56	0.0000	P	25.9
2	☐	0.500	0.469	2326.87	0.0005	P	4.2
3	☐	1.000	0.918	3754.98	0.0010	P	2.5
4	☐	50.000	49.257	234429.66	0.0552	P	0.7
5	☐	250.000	248.049	1026633.05	0.2778	M	2.1
6	☐	500.000	501.050	2380846.92	0.5612	A	1.6

y = 0.0011 * x + 1.0661E-005
R = 1.0000
DL = 0.007409
BEC = 0.009518

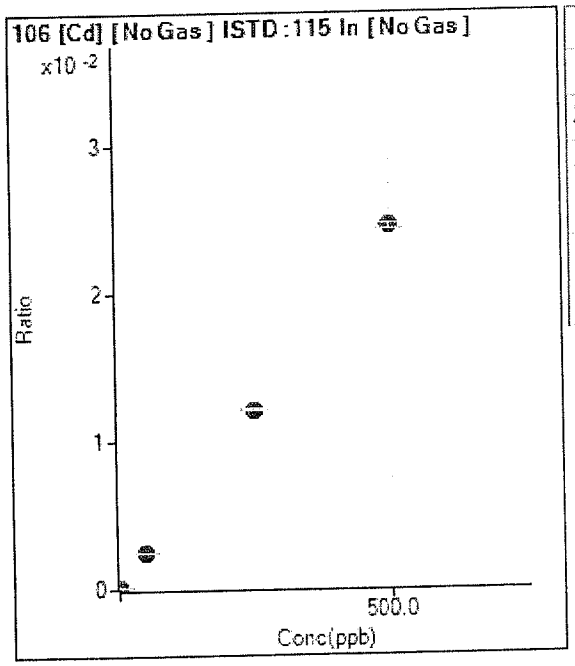
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	217.78	0.0001	P	14.7
2	☐	0.500	0.453	3727.19	0.0009	P	1.9
3	☐	1.000	0.923	6139.20	0.0017	P	4.7
4	☐	50.000	49.369	374581.99	0.0882	P	0.5
5	☐	250.000	245.560	1618956.60	0.4383	A	2.5
6	☐	500.000	502.283	3803350.82	0.8965	A	1.7

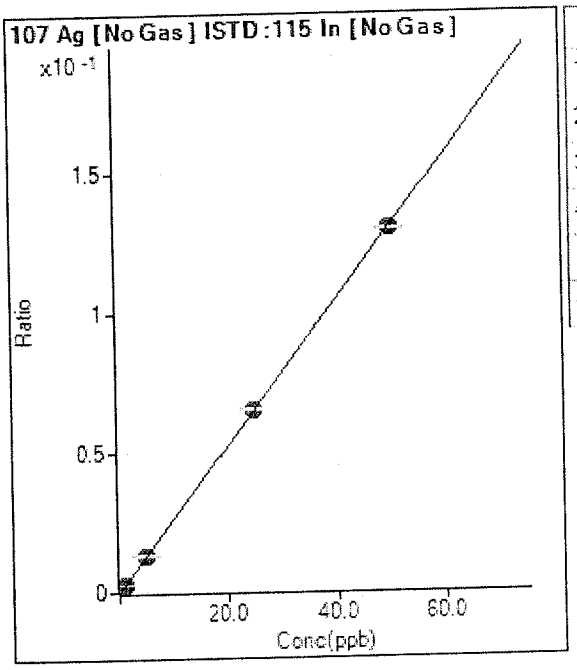
y = 0.0018 * x + 5.0937E-005
R = 0.9999
DL = 0.01262
BEC = 0.02854

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		4.00	0.0000	P	44.3
2	☐	0.500		255.33	0.0001	P	5.4
3	☐	1.000		409.01	0.0001	P	8.4
4	☐	50.000		10584.22	0.0025	P	1.1
5	☐	250.000		44712.16	0.0121	P	1.3
6	☐	500.000		103934.12	0.0245	P	1.8

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	23.4
2	☐	0.500	0.590	6699.48	0.0015	P	5.2
3	☐	1.000	1.094	10334.04	0.0029	P	1.6
4	☐	5.000	5.136	56888.51	0.0134	P	1.7
5	☐	25.000	25.222	242739.36	0.0657	P	1.7
6	☐	50.000	49.873	551521.69	0.1300	P	0.9

y = 0.0026 * x + 7.0336E-006

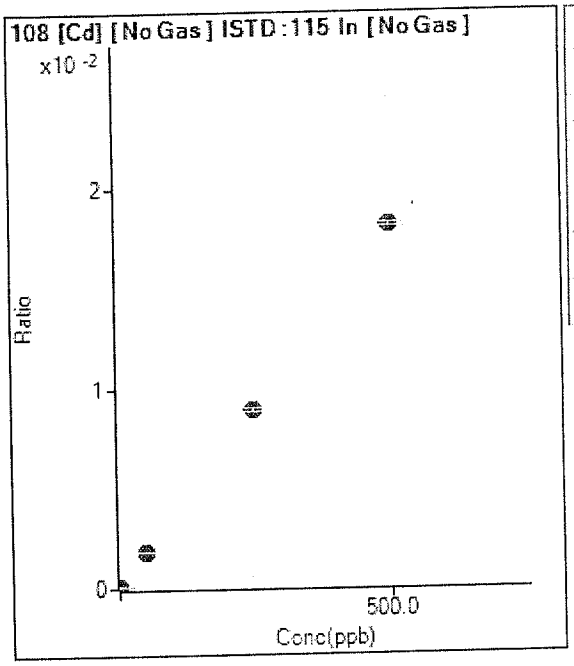
R = 1.0000

DL = 0.001891

BEC = 0.002699

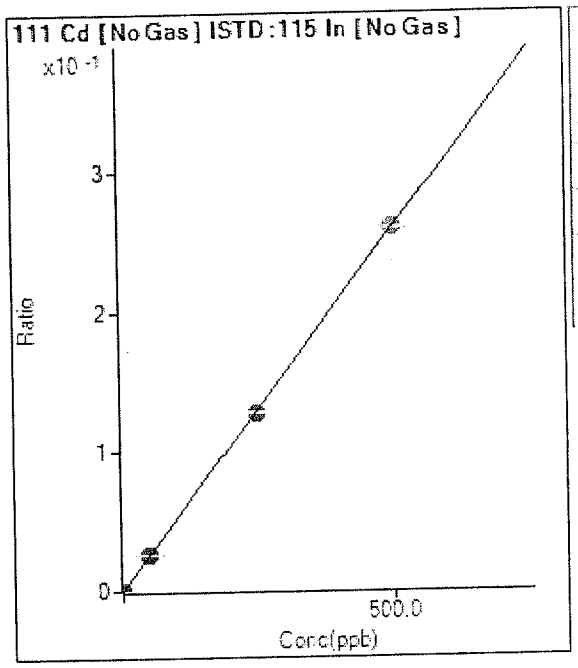
Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		6.67	0.0000	P	29.6
2	☐	0.500		169.67	0.0000	P	2.4
3	☐	1.000		253.33	0.0001	P	6.8
4	☐	50.000		7628.86	0.0018	P	1.1
5	☐	250.000		33121.47	0.0090	P	1.4
6	☐	500.000		77137.19	0.0182	P	1.2

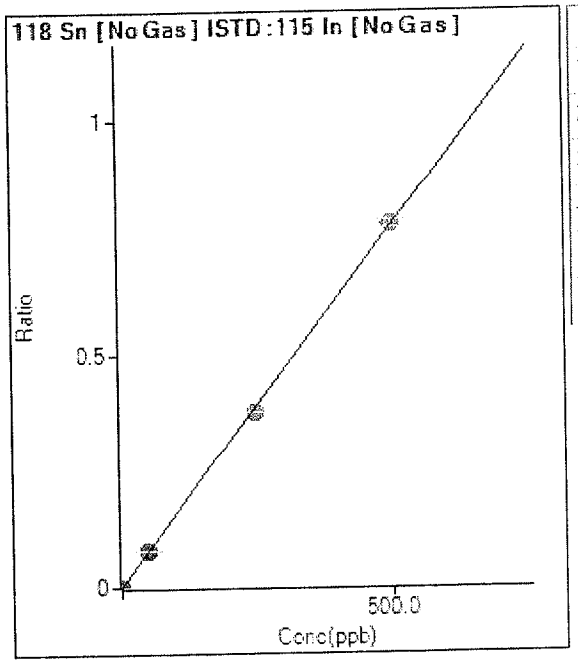
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	27.90	0.0000	P	33.1
2	☐	0.500	0.496	1143.07	0.0003	P	2.9
3	☐	1.000	1.031	1954.46	0.0005	P	2.3
4	☐	50.000	50.100	110313.73	0.0260	P	1.2
5	☐	250.000	247.546	473648.07	0.1283	P	0.9
6	☐	500.000	501.217	1101945.37	0.2597	A	0.6

y = 5.1816E-004 * x + 6.5491E-006
R = 1.0000
DL = 0.01256
BEC = 0.01264

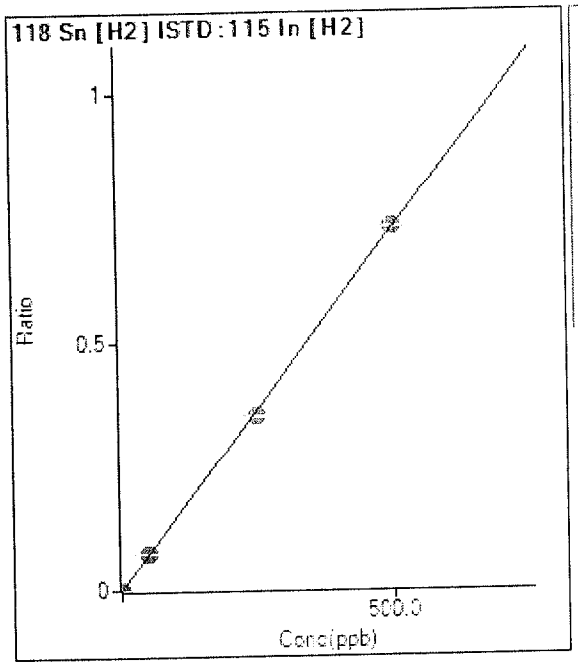
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	906.70	0.0002	P	10.9
2	☐	0.500	0.492	4210.68	0.0010	P	1.5
3	☐	1.000	0.923	5912.45	0.0016	P	5.0
4	☐	50.000	50.572	332472.71	0.0783	P	0.6
5	☐	250.000	243.134	1386694.32	0.3754	A	0.5
6	☐	500.000	503.376	3296445.50	0.7770	A	2.1

y = 0.0015 * x + 2.1207E-004
R = 0.9999
DL = 0.04492
BEC = 0.1374

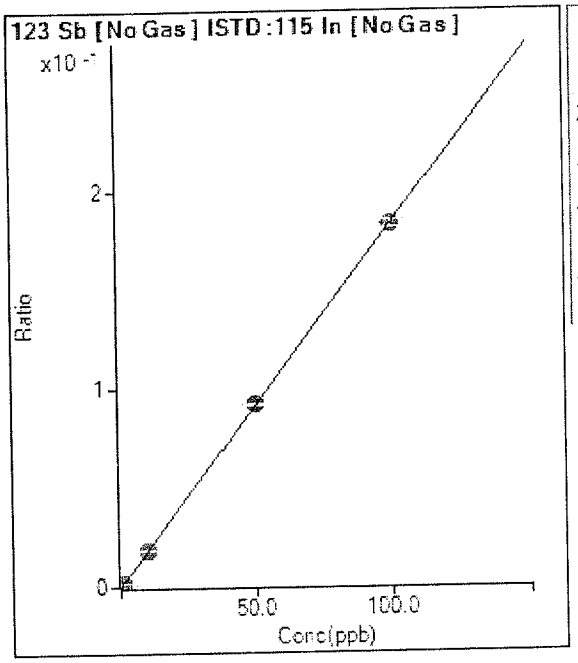
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1061.15	0.0002	P	5.0
2	☐	0.500	0.478	4697.51	0.0009	P	2.9
3	☐	1.000	0.984	8602.81	0.0016	P	2.2
4	☐	50.000	50.508	381682.13	0.0736	P	0.8
5	☐	250.000	241.921	1845935.20	0.3518	A	0.4
6	☐	500.000	503.989	3751547.91	0.7327	A	0.7

y = 0.0015 * x + 2.0562E-004
R = 0.9998
DL = 0.02119
BEC = 0.1415

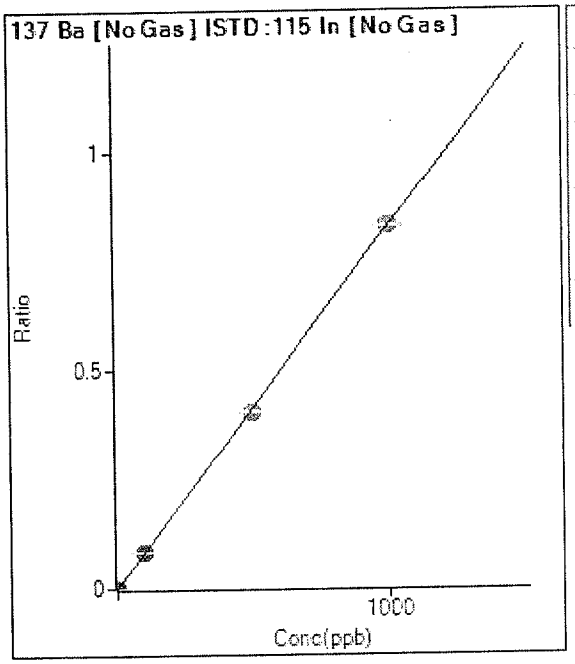
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	177.78	0.0000	P	20.2
2	☐	0.500	0.454	3786.11	0.0009	P	2.8
3	☐	1.000	0.964	6532.74	0.0018	P	2.9
4	☐	10.000	9.891	77128.28	0.0182	P	1.4
5	☐	50.000	50.070	338656.37	0.0917	P	1.2
6	☐	100.000	99.976	776853.79	0.1831	P	2.1

y = 0.0018 * x + 4.1631E-005
R = 1.0000
DL = 0.01379
BEC = 0.02274

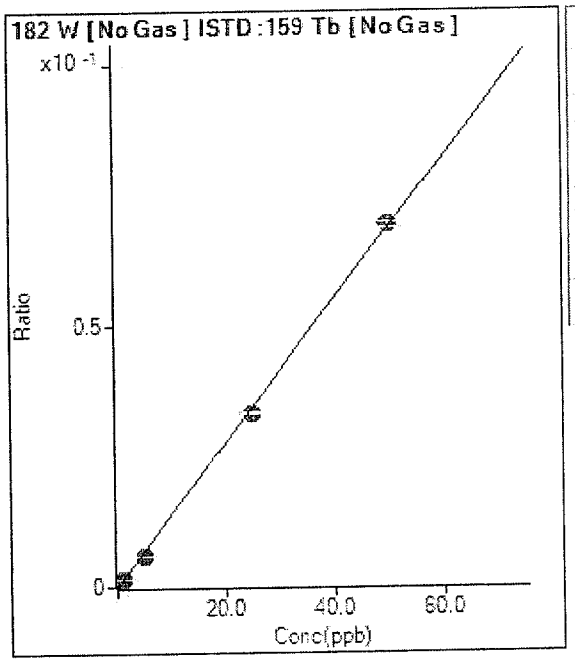
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.33	0.0000	P	39.2
2	☐	0.500	0.517	1939.04	0.0004	P	6.4
3	☐	1.000	1.056	3229.29	0.0009	P	0.7
4	☐	100.000	99.756	350498.40	0.0825	P	1.1
5	☐	500.000	491.934	1502313.87	0.4068	A	1.8
6	☐	1000.000	1004.057	3522482.36	0.8302	A	0.7

y = 8.2684E-004 * x + 1.9524E-005
R = 1.0000
DL = 0.02779
BEC = 0.02361

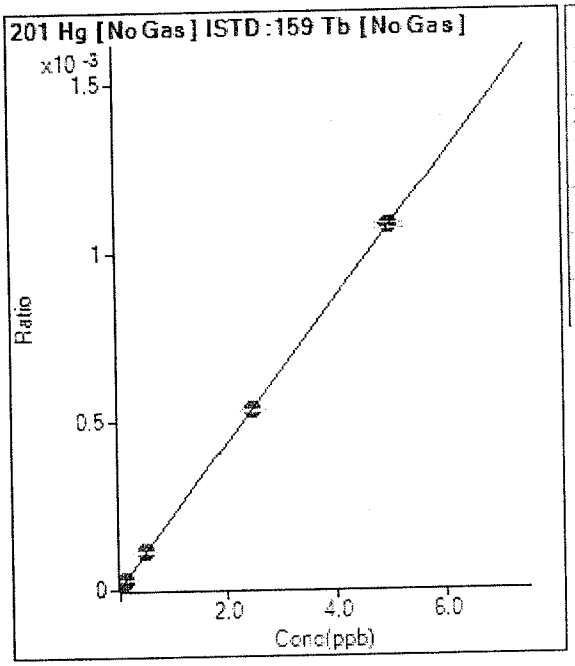
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	44.3
2	☐	0.500	0.256	2046.84	0.0004	P	4.9
3	☐	1.000	0.961	6244.90	0.0013	P	2.8
4	☐	5.000	4.327	33835.21	0.0060	P	1.2
5	☐	25.000	24.201	167706.78	0.0333	P	2.1
6	☐	50.000	50.470	408622.40	0.0694	P	1.5

y = 0.0014 * x + 9.9906E-006
R = 0.9998
DL = 0.009657
BEC = 0.007263

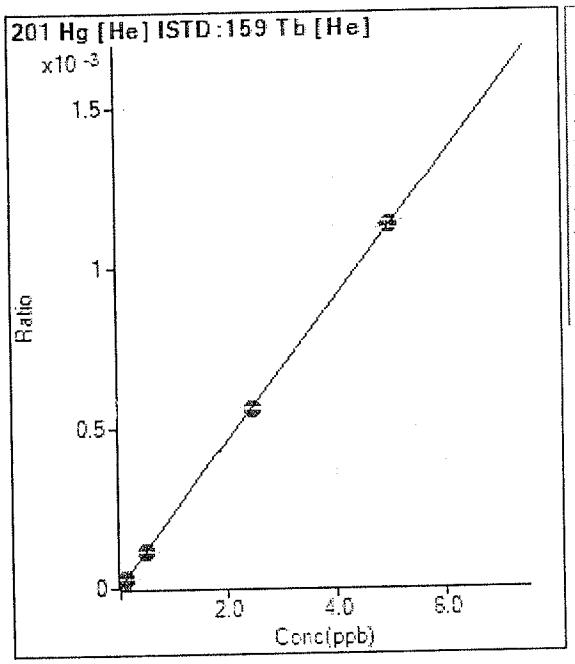
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	24.5
2	☐	0.050	0.053	88.00	0.0000	P	6.9
3	☐	0.100	0.112	131.67	0.0000	P	2.8
4	☐	0.500	0.505	636.52	0.0001	P	3.9
5	☐	2.500	2.475	2686.63	0.0005	P	1.1
6	☐	5.000	5.012	6338.94	0.0011	P	1.8

y = 2.1409E-004 * x + 4.1170E-006
R = 1.0000
DL = 0.01415
BEC = 0.01923

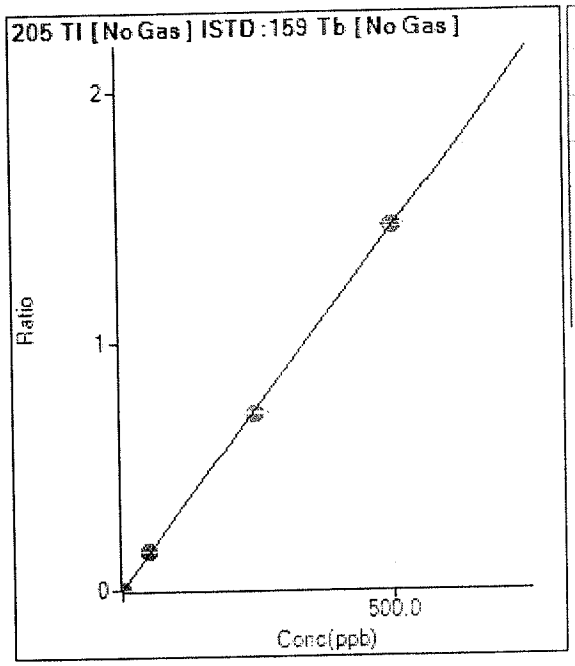
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.33	0.0000	P	29.7
2	☐	0.050	0.051	64.17	0.0000	P	4.3
3	☐	0.100	0.113	125.83	0.0000	P	4.8
4	☐	0.500	0.495	495.51	0.0001	P	3.4
5	☐	2.500	2.474	2516.75	0.0006	P	0.9
6	☐	5.000	5.013	5092.20	0.0011	P	2.2

y = 2.2479E-004 * x + 3.5444E-006
R = 1.0000
DL = 0.01406
BEC = 0.01577

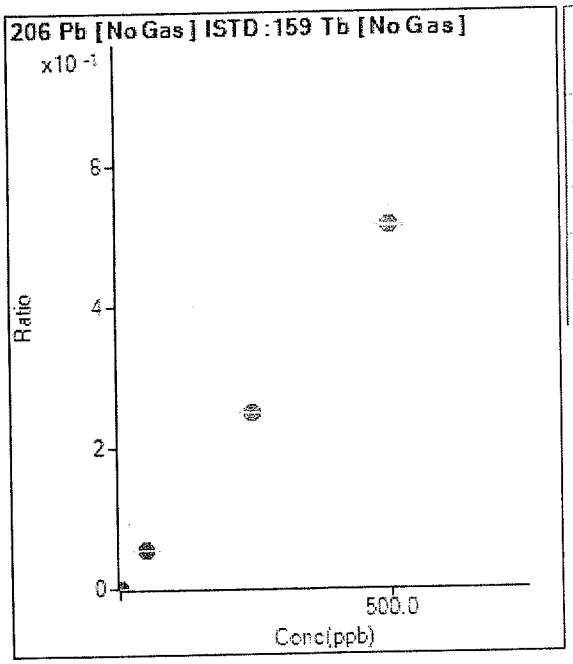
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	454.45	0.0001	P	13.5
2	☐	0.500	0.503	8727.50	0.0015	P	1.0
3	☐	1.000	0.996	13931.13	0.0030	P	3.0
4	☐	50.000	52.968	873437.69	0.1539	P	1.1
5	☐	250.000	245.471	3589228.89	0.7130	A	1.1
6	☐	500.000	501.968	8579814.94	1.4579	A	1.1

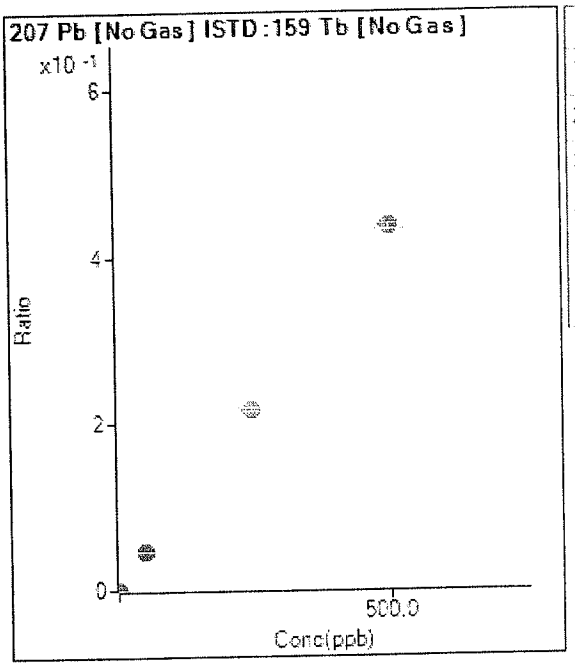
y = 0.0029 * x + 8.0124E-005
R = 0.9999
DL = 0.01121
BEC = 0.02759

Weight: <None>
Min Conc: 0



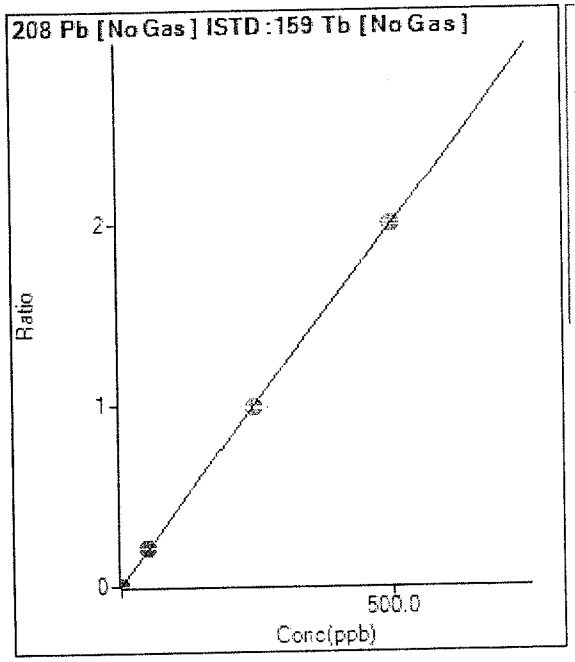
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		230.00	0.0000	P	28.2
2	☐	0.500		3243.77	0.0006	P	2.0
3	☐	1.000		5071.04	0.0011	P	4.6
4	☐	50.000		304413.02	0.0536	P	0.9
5	☐	250.000		1245386.78	0.2474	A	0.4
6	☐	500.000		3022966.72	0.5137	A	0.8

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		193.33	0.0000	P	17.4
2	☐	0.500		2616.95	0.0005	P	0.9
3	☐	1.000		4240.74	0.0009	P	4.7
4	☐	50.000		260623.18	0.0459	P	0.7
5	☐	250.000		1091877.02	0.2169	M	1.8
6	☐	500.000		2562169.49	0.4354	A	1.6

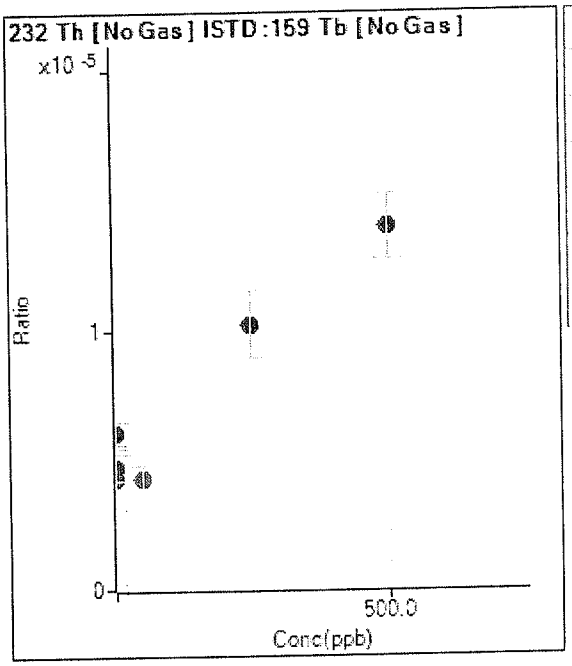
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	812.23	0.0001	P	7.2
2	☐	0.500	0.515	12426.90	0.0022	P	0.6
3	☐	1.000	1.034	19961.89	0.0043	P	1.6
4	☐	50.000	52.891	1196224.58	0.2108	P	0.8
5	☐	250.000	246.332	4937204.53	0.9812	A	0.8
6	☐	500.000	501.545	11755869.72	1.9976	A	1.1

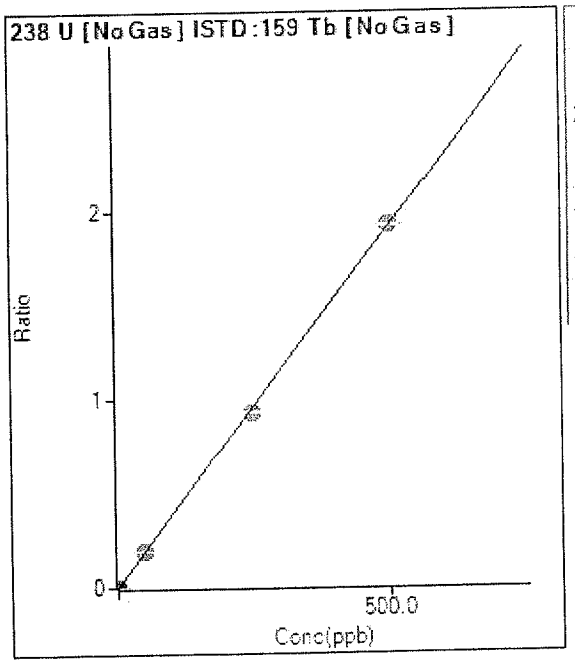
y = 0.0040 * x + 1.4315E-004
R = 0.9999
DL = 0.007742
BEC = 0.03594

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		24.45	0.0000	P	55.0
2	☐	0.500		34.44	0.0000	P	14.8
3	☐	1.000		22.22	0.0000	P	22.9
4	☐	50.000		24.44	0.0000	P	21.6
5	☐	250.000		51.11	0.0000	P	25.[illegible]
6	☐	500.000		82.22	0.0000	P	18.2

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67.78	0.0000	P	13.3
2	☐	0.500	0.511	11116.15	0.0020	P	1.3
3	☐	1.000	0.998	17911.98	0.0038	P	0.8
4	☐	50.000	50.684	1097770.30	0.1934	A	1.4
5	☐	250.000	243.513	4677394.26	0.9293	A	0.6
6	☐	500.000	503.175	11301048.16	1.9203	A	0.7

y = 0.0038 * x + 1.1953E-005
R = 0.9999
DL = 0.001249
BEC = 0.003132

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq. Date-Time	2023-01-31 11:56:38
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

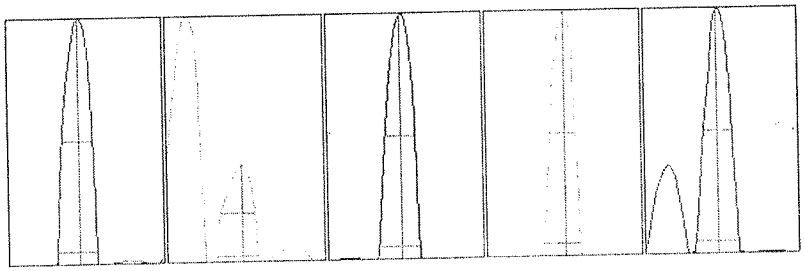
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	14169	141691.38			0.524	5.000
24	10.00	64674	646742.71			0.785	5.000
59	10.00	161839	1618387.55			0.548	5.000
115	10.00	189170	1891695.56			0.905	5.000
208	10.00	97068	970681.30			1.695	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	14062	14204	14122	14229	14229
24	63883	64533	65125	64735	65096
59	160406	161653	162404	162057	162673
115	187579	188052	188747	189539	191930
208	94563	96888	96845	98177	98869

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	25674.86	8.90	8.90 - 9.10	
24	116666.44	23.95	23.90 - 24.10	
59	292404.38	58.95	58.90 - 59.10	
115	381958.34	115.05	114.90 - 115.10	
208	181723.87	207.95	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.778	0.900	
24	0.62	0.787	0.900	
59	0.58	0.781	0.900	
115	0.51	0.725	0.900	
208	0.56	0.820	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.8 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-110 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.3 mm	Torch V	-0.2 mm		

EM

Discriminator	3.2 mV	Analog HV	2797 V	Pulse HV	1512 V

Calibration Blank Report

Sample Name	S0
File Name	H6A23003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:11:52
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	41810.71	0.5
Be	9	6	No Gas	26.67	12.5
B	11	6	No Gas	7218.52	2.3
Na	23	45	H2	970383.79	0.4
Mg	24	45	No Gas	7574.78	13.0
Al	27	45	No Gas	8249.17	8.6
Si	28	45	H2	3177.03	2.5
P	31	45	No Gas	28178.54	0.5
K	39	45	He	92077.08	3.8
Ca	40	45	H2	69007.78	1.4
Ti	47	45	No Gas	132.00	20.8
V	51	45	He	1484.08	1.1
Cr	52	45	He	2022.81	1.9
Mn	55	45	No Gas	7360.65	2.9
Fe	56	45	H2	13970.47	1.7
Co	59	45	No Gas	452.01	3.1
Ni	60	45	He	234.67	8.7
Cu	63	45	He	10768.26	0.3
Zn	66	72	No Gas	1214.72	5.3
As	75	72	He	115.67	5.5
Se	78	72	H2	37.67	13.1
Sr	88	72	No Gas	511.12	7.9
Zr	90	72	No Gas	203.33	22.2
Mo	95	115	No Gas	45.56	25.7
Mo	98	115	No Gas	217.78	15.1
[Cd]	106	115	No Gas	4.00	43.3
Ag	107	115	No Gas	30.00	22.2
[Cd]	108	115	No Gas	6.67	31.2
Cd	111	115	No Gas	27.90	32.0
Sn	118	115	No Gas	906.70	11.5
Sn	118	115	H2	1061.15	3.9
Sb	123	115	No Gas	177.78	19.5
Ba	137	115	No Gas	83.33	38.6
W	182	159	No Gas	56.67	44.4
Hg	201	159	No Gas	23.33	23.7

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	15.33	30.3
Tl	205	159	No Gas	454.45	13.0
Pb	206	159	No Gas	230.00	27.2
Pb	207	159	No Gas	193.33	18.2
Pb	208	159	No Gas	812.23	6.8
Th	232	159	No Gas	24.45	55.1
U	238	159	No Gas	67.78	12.4

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	733417.76	0.3
Sc	45	No Gas	3201327.00	0.9
Sc	45	H2	2650809.25	1.0
Sc	45	He	404532.51	0.7
Ge	72	No Gas	724682.77	0.8
Ge	72	H2	708729.75	1.1
Ge	72	He	231857.12	1.1
In	115	No Gas	4273868.93	1.5
Tb	159	No Gas	5675097.55	1.0
Tb	159	He	4319822.17	0.7

Calibration Standard Report

Sample Name	S1
File Name	H6A23004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:14:42
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	44372.96	0.9
Be	9	6	No Gas	696.68	9.1
B	11	6	No Gas	5014.23	3.2
Na	23	45	H2	1144177.00	0.6
Mg	24	45	No Gas	337570.51	0.3
Al	27	45	No Gas	460769.55	2.0
Si	28	45	H2	127513.82	1.0
P	31	45	No Gas	173200.44	0.9
K	39	45	He	123628.30	3.8
Ca	40	45	H2	552222.10	0.3
Ti	47	45	No Gas	878.69	6.2
V	51	45	He	4060.61	1.8
Cr	52	45	He	5273.02	3.3
Mn	55	45	No Gas	18231.47	2.1
Fe	56	45	H2	734226.21	1.2
Co	59	45	No Gas	9834.88	2.5
Ni	60	45	He	1303.40	5.1
Cu	63	45	He	13939.13	1.4
Zn	66	72	No Gas	4446.06	2.2
As	75	72	He	585.68	5.2
Se	78	72	H2	232.00	3.8
Sr	88	72	No Gas	12412.42	2.0
Zr	90	72	No Gas	58742.13	2.0
Mo	95	115	No Gas	2326.87	4.0
Ag	107	115	No Gas	6699.48	4.8
Cd	111	115	No Gas	1143.07	2.5
Sn	118	115	No Gas	4210.68	1.2
Sb	123	115	No Gas	3786.11	2.5
Ba	137	115	No Gas	1939.04	6.0
W	182	159	No Gas	2046.84	4.9
Hg	201	159	He	64.17	4.4
Tl	205	159	No Gas	8727.50	1.0
Pb	208	159	No Gas	12426.90	0.8
U	238	159	No Gas	11116.15	1.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	732178.18	0.3	733417.76	99.83	70	120	
Sc	45	No Gas	3178519.92	0.3	3201327	99.29	70	120	
Sc	45	H2	2639932.83	0.4	2650809.25	99.59	70	120	
Sc	45	He	404967.97	1.0	404532.51	100.11	70	120	
Ge	72	No Gas	750895.00	0.3	724682.77	103.62	70	120	
Ge	72	H2	740551.62	0.4	708729.75	104.49	70	120	
Ge	72	He	239968.52	0.5	231857.12	103.5	70	120	
In	115	No Gas	4337513.43	0.5	4273868.93	101.49	70	120	
Tb	159	No Gas	5660613.80	0.4	5675097.55	99.74	70	120	
Tb	159	He	4304306.00	0.2	4319822.17	99.64	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6A23005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 14:17:33
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	38665.16	1.2
Be	9	6	No Gas	1271.17	4.8
B	11	6	No Gas	5317.68	0.3
Na	23	45	H2	1305306.00	0.5
Mg	24	45	No Gas	559769.39	0.2
Al	27	45	No Gas	765958.16	2.2
Si	28	45	H2	252383.58	0.8
P	31	45	No Gas	48264.95	0.3
K	39	45	He	156408.76	2.2
Ca	40	45	H2	975462.77	0.5
Ti	47	45	No Gas	1258.73	7.9
V	51	45	He	6873.72	2.7
Cr	52	45	He	8355.88	2.5
Mn	55	45	No Gas	24694.26	1.0
Fe	56	45	H2	1435987.50	0.9
Co	59	45	No Gas	16166.92	2.4
Ni	60	45	He	2521.57	2.5
Cu	63	45	He	15227.85	1.8
Zn	66	72	No Gas	23363.40	1.3
As	75	72	He	1138.71	5.2
Se	78	72	H2	451.01	6.2
Sr	88	72	No Gas	20376.61	2.0
Zr	90	72	No Gas	87254.05	2.1
Mo	95	115	No Gas	3754.98	1.6
Ag	107	115	No Gas	10334.04	0.7
Cd	111	115	No Gas	1954.46	1.1
Sn	118	115	No Gas	5912.45	3.2
Sb	123	115	No Gas	6532.74	1.1
Ba	137	115	No Gas	3229.29	2.3
W	182	159	No Gas	6244.90	2.2
Hg	201	159	He	125.83	4.7
Tl	205	159	No Gas	13931.13	2.6
Pb	208	159	No Gas	19961.89	0.8
U	238	159	No Gas	17911.98	1.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	616848.88	1.0	733417.76	84.11	70	120	
Sc	45	No Gas	2642110.42	1.2	3201327	82.53	70	120	
Sc	45	H2	2675146.00	0.4	2650809.25	100.92	70	120	
Sc	45	He	409547.90	0.4	404532.51	101.24	70	120	
Ge	72	No Gas	633518.15	1.5	724682.77	87.42	70	120	
Ge	72	H2	744991.98	0.8	708729.75	105.12	70	120	
Ge	72	He	238923.77	0.3	231857.12	103.05	70	120	
In	115	No Gas	3616110.26	1.9	4273868.93	84.61	70	120	
Tb	159	No Gas	4687156.34	0.8	5675097.55	82.59	70	120	
Tb	159	He	4331039.67	0.3	4319822.17	100.26	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6A23006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 14:20:24
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	61719.10	0.9
Be	9	6	No Gas	7529.80	1.7
B	11	6	No Gas	14623.15	1.1
Na	23	45	H2	18032048.00	0.5
Mg	24	45	No Gas	33518038.00	0.8
Al	27	45	No Gas	45837097.65	0.9
Si	28	45	H2	651874.67	1.4
P	31	45	No Gas	58672.87	0.9
K	39	45	He	3159033.25	2.3
Ca	40	45	H2	45384568.00	0.8
Ti	47	45	No Gas	67334.96	1.2
V	51	45	He	267637.04	3.3
Cr	52	45	He	305514.03	2.5
Mn	55	45	No Gas	6307905.17	0.8
Fe	56	45	H2	71212720.00	1.0
Co	59	45	No Gas	930705.46	0.9
Ni	60	45	He	108662.25	3.2
Cu	63	45	He	298302.68	1.9
Zn	66	72	No Gas	136828.36	1.0
As	75	72	He	51392.47	1.1
Se	78	72	H2	20819.71	1.0
Sr	88	72	No Gas	1220587.73	1.0
Zr	90	72	No Gas	157792.00	3.4
Mo	95	115	No Gas	234429.66	0.8
Ag	107	115	No Gas	56888.51	0.3
Cd	111	115	No Gas	110313.73	0.4
Sn	118	115	No Gas	332472.71	1.1
Sb	123	115	No Gas	77128.28	1.4
Ba	137	115	No Gas	350498.40	0.5
W	182	159	No Gas	33835.21	1.5
Hg	201	159	He	495.51	2.6
Tl	205	159	No Gas	873437.69	0.2
Pb	208	159	No Gas	1196224.58	0.3
U	238	159	No Gas	1097770.30	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	721770.47	0.5	733417.76	98.41	70	120	
Sc	45	No Gas	3195946.25	1.0	3201327	99.83	70	120	
Sc	45	H2	2671975.92	0.7	2650809.25	100.8	70	120	
Sc	45	He	402691.69	4.0	404532.51	99.54	70	120	
Ge	72	No Gas	767838.98	0.9	724682.77	105.96	70	120	
Ge	72	H2	748924.71	0.2	708729.75	105.67	70	120	
Ge	72	He	240510.76	1.7	231857.12	103.73	70	120	
In	115	No Gas	4248807.76	1.4	4273868.93	99.41	70	120	
Tb	159	No Gas	5675448.80	1.1	5675097.55	100.01	70	120	
Tb	159	He	4319599.33	2.2	4319822.17	99.99	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6A23007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 14:23:32
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	124047.75	3.8
Be	9	6	No Gas	33301.58	1.9
B	11	6	No Gas	47257.17	4.9
Na	23	45	H2	86057866.67	0.2
Mg	24	45	No Gas	143404416.00	4.0
Al	27	45	No Gas	197563310.39	5.0
Si	28	45	H2	3221555.67	0.5
P	31	45	No Gas	169381.59	3.1
K	39	45	He	15929469.33	1.8
Ca	40	45	H2	229302997.33	0.6
Ti	47	45	No Gas	291882.83	4.7
V	51	45	He	1350933.54	1.2
Cr	52	45	He	1521302.96	1.4
Mn	55	45	No Gas	26665535.33	4.1
Fe	56	45	H2	356745098.67	0.4
Co	59	45	No Gas	3870141.75	4.3
Ni	60	45	He	543157.42	1.2
Cu	63	45	He	1392176.09	0.7
Zn	66	72	No Gas	587635.27	3.4
As	75	72	He	259612.82	0.5
Se	78	72	H2	104002.74	0.5
Sr	88	72	No Gas	5276795.21	5.9
Zr	90	72	No Gas	337371.05	5.2
Mo	95	115	No Gas	1026633.05	6.7
Ag	107	115	No Gas	242739.36	4.5
Cd	111	115	No Gas	473648.07	4.3
Sn	118	115	No Gas	1386694.32	5.3
Sb	123	115	No Gas	338656.37	3.9
Ba	137	115	No Gas	1502313.87	5.2
W	182	159	No Gas	167706.78	7.9
Hg	201	159	He	2516.75	1.0
Tl	205	159	No Gas	3589228.89	6.8
Pb	208	159	No Gas	4937204.53	5.7
U	238	159	No Gas	4677394.26	6.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	633402.24	5.2	733417.76	86.36	70	120	
Sc	45	No Gas	2824354.17	5.0	3201327	88.22	70	120	
Sc	45	H2	2756786.67	0.5	2650809.25	104	70	120	
Sc	45	He	422889.94	0.6	404532.51	104.54	70	120	
Ge	72	No Gas	682945.04	4.9	724682.77	94.24	70	120	
Ge	72	H2	758114.15	0.2	708729.75	106.97	70	120	
Ge	72	He	247708.02	0.4	231857.12	106.84	70	120	
In	115	No Gas	3693393.99	5.0	4273868.93	86.42	70	120	
Tb	159	No Gas	5032591.46	6.0	5675097.55	88.68	70	120	
Tb	159	He	4496951.00	0.2	4319822.17	104.1	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A23008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:26:23
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	252202.88	0.1
Be	9	6	No Gas	75892.57	1.0
B	11	6	No Gas	104126.94	1.9
Na	23	45	H2	173960234.67	0.3
Mg	24	45	No Gas	341455050.67	1.3
Al	27	45	No Gas	465750326.39	0.5
Si	28	45	H2	6389457.67	0.4
P	31	45	No Gas	348604.95	1.1
K	39	45	He	32161536.00	0.5
Ca	40	45	H2	466917674.67	1.0
Ti	47	45	No Gas	697418.88	1.4
V	51	45	He	2744681.75	1.3
Cr	52	45	He	3082248.75	0.9
Mn	55	45	No Gas	64393204.00	1.1
Fe	56	45	H2	714627840.00	0.5
Co	59	45	No Gas	9189106.00	0.6
Ni	60	45	He	1072223.50	0.3
Cu	63	45	He	2769750.42	1.1
Zn	66	72	No Gas	1356317.25	1.1
As	75	72	He	528613.96	0.5
Se	78	72	H2	208367.69	0.3
Sr	88	72	No Gas	12475117.84	0.6
Zr	90	72	No Gas	835144.96	0.6
Mo	95	115	No Gas	2380846.92	0.5
Ag	107	115	No Gas	551521.69	1.7
Cd	111	115	No Gas	1101945.37	0.7
Sn	118	115	No Gas	3296445.50	1.1
Sb	123	115	No Gas	776853.79	1.2
Ba	137	115	No Gas	3522482.36	0.6
W	182	159	No Gas	408622.40	1.4
Hg	201	159	He	5092.20	2.1
Tl	205	159	No Gas	8579814.94	1.0
Pb	208	159	No Gas	11755869.72	1.1
U	238	159	No Gas	11301048.16	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	731215.81	1.3	733417.76	99.7	70	120	
Sc	45	No Gas	3370963.67	0.5	3201327	105.3	70	120	
Sc	45	H2	2761294.75	0.9	2650809.25	104.17	70	120	
Sc	45	He	427683.81	0.7	404532.51	105.72	70	120	
Ge	72	No Gas	790202.25	0.6	724682.77	109.04	70	120	
Ge	72	H2	764027.96	0.3	708729.75	107.8	70	120	
Ge	72	He	247601.83	0.7	231857.12	106.79	70	120	
In	115	No Gas	4243081.84	1.2	4273868.93	99.28	70	120	
Tb	159	No Gas	5885099.49	0.2	5675097.55	103.7	70	120	
Tb	159	He	4504445.00	0.1	4319822.17	104.27	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6A23009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:29:09
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.913	ppb	1.8	158957.76	30	93.04	90	110	
Be	9	6	No Gas	30.478	ppb	3.0	46568.08	30	101.59	90	110	
B	11	6	No Gas	29.168	ppb	1.8	35402.29	30	97.23	90	110	
Na	23	45	H2	31040.708	ppb	0.6	107779205.33	30000	103.47	90	110	
Mg	24	45	No Gas	30319.382	ppb	1.6	204854138.67	30000	101.06	90	110	
Al	27	45	No Gas	31262.292	ppb	0.5	288646655.70	30000	104.21	90	110	
Si	28	45	H2	3157.303	ppb	0.7	4033912.00	3000	105.24	90	110	
P	31	45	No Gas	285.775	ppb	1.2	215759.61	300	95.26	90	110	
K	39	45	He	31442.049	ppb	1.5	19865970.00	30000	104.81	90	110	
Ca	40	45	H2	30927.665	ppb	0.7	287096608.00	30000	103.09	90	110	
Ti	47	45	No Gas	300.948	ppb	1.1	414964.61	300	100.32	90	110	
V	51	45	He	312.932	ppb	0.7	1683895.13	300	104.31	90	110	
Cr	52	45	He	316.056	ppb	0.4	1911214.54	300	105.35	90	110	
Mn	55	45	No Gas	2014.385	ppb	1.4	42658145.33	2000	100.72	90	110	
Fe	56	45	H2	31096.533	ppb	0.3	443322581.33	30000	103.66	90	110	
Co	59	45	No Gas	308.525	ppb	1.8	5614744.17	300	102.84	90	110	
Ni	60	45	He	315.514	ppb	1.6	667159.08	300	105.17	90	110	
Cu	63	45	He	327.392	ppb	1.6	1788126.08	300	109.13	90	110	
Zn	66	72	No Gas	312.841	ppb	1.5	841271.08	300	104.28	90	110	
As	75	72	He	306.912	ppb	0.7	319543.66	300	102.3	90	110	
Se	78	72	H2	304.404	ppb	0.1	125618.33	300	101.47	90	110	
Sr	88	72	No Gas	305.828	ppb	0.8	7522854.15	300	101.94	90	110	
Zr	90	72	No Gas	31.072	ppb	0.7	504186.51	30	103.57	90	110	
Mo	95	115	No Gas	296.889	ppb	1.6	1434477.27	300	98.96	90	110	
Ag	107	115	No Gas	30.792	ppb	1.6	346102.33	30	102.64	90	110	
Cd	111	115	No Gas	299.749	ppb	0.9	669901.62	300	99.92	90	110	
Sn	118	115	No Gas	305.780	ppb	0.6	2036221.03	300	101.93	90	110	
Sb	123	115	No Gas	56.704	ppb	0.6	448046.46	60	94.51	90	110	
Ba	137	115	No Gas	301.611	ppb	0.6	1075771.90	300	100.54	90	110	
W	182	159	No Gas	30.711	ppb	1.4	249655.68	30	102.37	90	110	
Hg	201	159	No Gas	2.856	ppb	1.6	3637.86	3	95.2	90	110	
Hg	201	159	He	2.909	ppb	1.2	2960.01	3	96.97	90	110	
Tl	205	159	No Gas	303.989	ppb	0.6	5218375.77	300	101.33	90	110	
Pb	208	159	No Gas	304.572	ppb	0.8	7168389.12	300	101.52	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	304.909	ppb	0.8	6876660.84	300	101.64	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	733661.91	2.0	733417.76	100.03	70	120	
Sc	45	No Gas	3331779.92	1.7	3201327	104.07	70	120	
Sc	45	H2	2753568.08	0.7	2650809.25	103.88	70	120	
Sc	45	He	419416.20	1.1	404532.51	103.68	70	120	
Ge	72	No Gas	782278.75	1.5	724682.77	107.95	70	120	
Ge	72	H2	755493.13	0.3	708729.75	106.6	70	120	
Ge	72	He	244705.14	0.7	231857.12	105.54	70	120	
In	115	No Gas	4313024.32	1.9	4273868.93	100.92	70	120	
Tb	159	No Gas	5909746.43	2.8	5675097.55	104.13	70	120	
Tb	159	He	4502030.17	0.7	4319822.17	104.22	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A23010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:45:40
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.129	ppb	26.7	41906.62	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	25.56	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	6992.85	4	
Na	23	45	H2	<0.000	ppb	N/A	943033.92	40	
Mg	24	45	No Gas	0.222	ppb	113.2	9032.33	10	
Al	27	45	No Gas	0.075	ppb	122.0	8939.58	15	
Si	28	45	H2	0.297	ppb	16.9	3567.79	8	
P	31	45	No Gas	<0.000	ppb	N/A	28075.01	10	
K	39	45	He	1.391	ppb	586.4	94259.27	20	
Ca	40	45	H2	0.110	ppb	20.4	70501.36	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	123.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1492.75	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1962.81	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	7337.97	0.2	
Fe	56	45	H2	0.084	ppb	10.1	15242.49	10	
Co	59	45	No Gas	<0.000	ppb	N/A	440.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	194.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	6867.07	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	1192.05	2	
As	75	72	He	0.016	ppb	79.8	132.00	0.2	
Se	78	72	H2	0.000	ppb	1222.4	38.00	0.2	
Sr	88	72	No Gas	0.002	ppb	210.2	566.68	0.2	
Zr	90	72	No Gas	0.004	ppb	55.8	270.00	2	
Mo	95	115	No Gas	0.002	ppb	221.0	56.67	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	27.78	0.08	
Cd	111	115	No Gas	0.006	ppb	69.0	41.53	0.2	
Sn	118	115	No Gas	0.028	ppb	31.9	1102.27	0.2	
Sb	123	115	No Gas	0.004	ppb	55.4	212.23	0.4	
Ba	137	115	No Gas	0.006	ppb	34.3	105.56	0.2	
W	182	159	No Gas	0.002	ppb	236.7	70.00	0.3	
Hg	201	159	No Gas	0.006	ppb	35.4	31.00	0.1	
Hg	201	159	He	0.005	ppb	97.8	20.17	0.1	
Tl	205	159	No Gas	0.010	ppb	30.6	631.13	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	766.68	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.002	ppb	33.5	113.33	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	725696.31	1.7	733417.76	98.95	70	120	
Sc	45	No Gas	3211603.67	1.8	3201327	100.32	70	120	
Sc	45	H2	2670321.75	0.8	2650809.25	100.74	70	120	
Sc	45	He	410310.54	0.8	404532.51	101.43	70	120	
Ge	72	No Gas	730850.90	2.0	724682.77	100.85	70	120	
Ge	72	H2	712219.39	1.0	708729.75	100.49	70	120	
Ge	72	He	232769.99	0.5	231857.12	100.39	70	120	
In	115	No Gas	4327238.44	1.1	4273868.93	101.25	70	120	
Tb	159	No Gas	5719144.21	1.7	5675097.55	100.78	70	120	
Tb	159	He	4407266.50	0.5	4319822.17	102.02	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3101
File Name	H6A23011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:53:02
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	1.166	ppb	3.1	46487.58	1	116.6	80	120	
Be	9	6	No Gas	0.936	ppb	2.0	1447.85	1	93.6	80	120	
B	11	6	No Gas	9.084	ppb	6.5	15924.60	10	90.84	80	120	
Na	23	45	H2	85.254	ppb	1.9	1281312.46	100	85.25	80	120	
Mg	24	45	No Gas	101.523	ppb	1.9	674779.64	100	101.52	80	120	
Al	27	45	No Gas	102.168	ppb	2.7	925925.61	100	102.17	80	120	
Si	28	45	H2	103.143	ppb	0.3	132904.25	100	103.14	80	120	
P	31	45	No Gas	46.346	ppb	2.0	57924.48	50	92.69	80	120	
K	39	45	He	104.980	ppb	5.2	159174.53	100	104.98	80	120	
Ca	40	45	H2	111.080	ppb	0.7	1085654.04	100	111.08	80	120	
Ti	47	45	No Gas	0.991	ppb	6.9	1462.08	1	99.1	80	120	
V	51	45	He	1.022	ppb	1.2	6931.75	1	102.2	80	120	
Cr	52	45	He	1.094	ppb	2.4	8580.69	1	109.4	80	120	
Mn	55	45	No Gas	1.161	ppb	0.3	31360.56	1	116.1	80	120	
Fe	56	45	H2	104.737	ppb	0.8	1484493.54	100	104.74	80	120	
Co	59	45	No Gas	1.066	ppb	0.4	19315.68	1	106.6	80	120	
Ni	60	45	He	1.102	ppb	0.9	2536.24	1	110.2	80	120	
Cu	63	45	He	0.213	ppb	5.2	12143.42	1	21.3	80	120	> +/- 20%
Zn	66	72	No Gas	11.783	ppb	1.6	32419.34	10	117.83	80	120	
As	75	72	He	1.044	ppb	2.7	1193.05	1	104.4	80	120	
Se	78	72	H2	0.985	ppb	1.4	443.34	1	98.5	80	120	
Sr	88	72	No Gas	2.114	ppb	2.5	51705.26	2	105.7	80	120	
Zr	90	72	No Gas	4.243	ppb	0.8	67935.83	5	84.86	80	120	
Mo	95	115	No Gas	0.943	ppb	2.9	4700.84	1	94.3	80	120	
Ag	107	115	No Gas	1.112	ppb	1.1	12800.64	1	111.2	80	120	
Cd	111	115	No Gas	1.017	ppb	3.0	2350.41	1	101.7	80	120	
Sn	118	115	No Gas	0.948	ppb	1.9	7379.85	1	94.8	80	120	
Sb	123	115	No Gas	0.929	ppb	3.3	7683.37	1	92.9	80	120	
Ba	137	115	No Gas	1.034	ppb	4.6	3852.80	1	103.4	80	120	
W	182	159	No Gas	2.004	ppb	1.7	16090.27	2	100.2	80	120	
Hg	201	159	No Gas	0.109	ppb	10.6	159.33	0.1	109	80	120	
Hg	201	159	He	0.109	ppb	6.0	123.67	0.1	109	80	120	
Tl	205	159	No Gas	1.016	ppb	2.2	17627.99	1	101.6	80	120	
Pb	208	159	No Gas	1.014	ppb	3.6	24333.84	1	101.4	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	1.010	ppb	1.6	22499.55	1	101	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	730058.76	1.3	733417.76	99.54	70	120	
Sc	45	No Gas	3240575.00	1.1	3201327	101.23	70	120	
Sc	45	H2	2711304.50	0.4	2650809.25	102.28	70	120	
Sc	45	He	413296.98	1.4	404532.51	102.17	70	120	
Ge	72	No Gas	769766.21	0.6	724682.77	106.22	70	120	
Ge	72	H2	750313.69	0.8	708729.75	105.87	70	120	
Ge	72	He	241576.34	1.0	231857.12	104.19	70	120	
In	115	No Gas	4404996.89	1.7	4273868.93	103.07	70	120	
Tb	159	No Gas	5817426.02	1.1	5675097.55	102.51	70	120	
Tb	159	He	4402655.83	0.5	4319822.17	101.92	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3102
File Name	H6A23012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:55:37
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.443	ppb	25.9	40053.71	0.4	110.75	80	120	
Be	9	6	No Gas	0.454	ppb	3.2	661.13	0.4	113.5	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	6425.92	0.4	-53.75	80	120	> +/- 20%
Na	23	45	H2	38.973	ppb	9.7	1099973.71	40	97.43	80	120	
Mg	24	45	No Gas	44.584	ppb	1.7	274348.95	40	111.46	80	120	
Al	27	45	No Gas	44.159	ppb	2.9	369713.11	40	110.4	80	120	
K	39	45	He	80.795	ppb	10.1	118391.44	40	201.99	80	120	> +/- 20%
Ca	40	45	H2	78.066	ppb	0.6	766869.63	40	195.17	80	120	> +/- 20%
Ti	47	45	No Gas	0.567	ppb	10.7	815.36	0.4	141.75	80	120	> +/- 20%
V	51	45	He	0.495	ppb	2.4	3397.76	0.4	123.75	80	120	> +/- 20%
Cr	52	45	He	0.762	ppb	3.7	5419.74	0.4	190.5	80	120	> +/- 20%
Mn	55	45	No Gas	0.624	ppb	7.2	18501.19	0.4	156	80	120	> +/- 20%
Fe	56	45	H2	47.826	ppb	0.1	670661.33	40	119.57	80	120	
Co	59	45	No Gas	0.436	ppb	2.3	7473.40	0.4	109	80	120	
Ni	60	45	He	0.523	ppb	2.9	1091.38	0.4	130.75	80	120	> +/- 20%
Cu	63	45	He	0.217	ppb	38.0	9978.99	0.4	54.25	80	120	> +/- 20%
Zn	66	72	No Gas	13.153	ppb	1.6	31625.68	4	328.82	80	120	> +/- 20%
As	75	72	He	0.503	ppb	3.2	517.34	0.4	125.75	80	120	> +/- 20%
Se	78	72	H2	0.428	ppb	7.5	206.33	0.4	107	80	120	
Sr	88	72	No Gas	0.486	ppb	0.5	10794.39	0.4	121.5	80	120	> +/- 20%
Mo	95	115	No Gas	0.391	ppb	3.2	1791.23	0.4	97.75	80	120	
Ag	107	115	No Gas	0.424	ppb	1.7	4450.76	0.4	106	80	120	
Cd	111	115	No Gas	0.408	ppb	6.5	870.26	0.4	102	80	120	
Sn	118	115	No Gas	0.465	ppb	2.2	3717.20	0.4	116.25	80	120	
Sb	123	115	No Gas	0.409	ppb	2.5	3158.16	0.4	102.25	80	120	
Ba	137	115	No Gas	0.529	ppb	6.3	1822.35	0.4	132.25	80	120	> +/- 20%
Tl	205	159	No Gas	0.414	ppb	4.6	6856.36	0.4	103.5	80	120	
Pb	208	159	No Gas	0.427	ppb	2.2	9819.31	0.4	106.75	80	120	
U	238	159	No Gas	0.404	ppb	1.2	8276.15	0.4	101	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	673023.89	7.0	733417.76	91.77	70	120	
Sc	45	No Gas	2958669.25	7.3	3201327	92.42	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	2652124.00	0.6	2650809.25	100.05	70	120	
Sc	45	He	339415.50	3.0	404532.51	83.9	70	120	
Ge	72	No Gas	675774.79	7.9	724682.77	93.25	70	120	
Ge	72	H2	718633.65	1.2	708729.75	101.4	70	120	
Ge	72	He	195887.22	2.2	231857.12	84.49	70	120	
In	115	No Gas	3996174.95	6.9	4273868.93	93.5	70	120	
Tb	159	No Gas	5329844.23	7.0	5675097.55	93.92	70	120	
Tb	159	He	3645504.17	2.5	4319822.17	84.39	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6A23013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:03:21
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.629	ppb	22.2	42891.87	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	16.67	0.4	-50	50	
B	11	6	No Gas	0.882	ppb	35.2	7783.27	10	-50	50	
Na	23	45	H2	112040.068	ppb	0.6	394894336.00	100000	80	120	
Mg	24	45	No Gas	108943.162	ppb	1.3	741190976.00	100000	80	120	
Al	27	45	No Gas	110578.904	ppb	1.0	1028223211.35	100000	80	120	
Si	28	45	H2	7.023	ppb	3.0	12535.03	50	-50	50	
P	31	45	No Gas	104945.900	ppb	0.6	68988204.00	100000	80	120	
K	39	45	He	112950.540	ppb	0.7	71915096.00	100000	80	120	
Ca	40	45	H2	112871.202	ppb	0.5	1070595306.67	100000	80	120	
Ti	47	45	No Gas	2267.778	ppb	0.6	3148542.08	2000	80	120	
V	51	45	He	0.000	ppb	11897.3	1556.76	1	-50	50	
Cr	52	45	He	2.410	ppb	0.4	16843.01	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.659	ppb	2.9	21752.61	1	-50	50	> +/- 20%
Fe	56	45	H2	112782.129	ppb	0.8	1643089152.00	100000	80	120	
Co	59	45	No Gas	0.174	ppb	2.3	3661.16	0.75	-50	50	
Ni	60	45	He	0.478	ppb	4.8	1268.06	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	4158.64	2	-50	50	> +/- 20%
Zn	66	72	No Gas	4.499	ppb	1.2	13634.18	20	-50	50	
As	75	72	He	0.078	ppb	24.7	205.33	1	-50	50	
Se	78	72	H2	0.070	ppb	32.7	70.00	1	-50	50	
Sr	88	72	No Gas	0.965	ppb	1.4	24736.16	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.172	ppb	7.5	3063.70	10	-50	50	
Mo	95	115	No Gas	2249.951	ppb	0.5	10737240.13	2000	80	120	
Ag	107	115	No Gas	0.091	ppb	0.3	1038.93	0.4	-50	50	
Cd	111	115	No Gas	0.045	ppb	87.7	126.17	1	-50	50	
Sn	118	115	No Gas	0.108	ppb	9.0	1614.54	1	-50	50	
Sb	123	115	No Gas	0.070	ppb	6.6	727.80	1	-50	50	
Ba	137	115	No Gas	0.731	ppb	1.6	2660.27	1	-50	50	> +/- 20%
W	182	159	No Gas	0.190	ppb	2.9	1626.78	1	-50	50	
Hg	201	159	No Gas	0.004	ppb	83.3	30.33	0.5	-50	50	
Hg	201	159	He	0.001	ppb	194.4	17.00	0.5	-50	50	
Tl	205	159	No Gas	0.006	ppb	70.4	582.24	0.5	-50	50	
Pb	208	159	No Gas	0.066	ppb	10.5	2435.66	0.5	-50	50	

TH 2/1/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.021	ppb	3.5	553.35	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	707652.34	1.7	733417.76	96.49	70	120	
Sc	45	No Gas	3356593.67	4.1	3201327	104.85	70	120	
Sc	45	H2	2814016.58	0.5	2650809.25	106.16	70	120	
Sc	45	He	424089.89	0.3	404532.51	104.83	70	120	
Ge	72	No Gas	796482.40	2.3	724682.77	109.91	70	120	
Ge	72	H2	766059.75	0.6	708729.75	108.09	70	120	
Ge	72	He	247220.62	0.2	231857.12	106.63	70	120	
In	115	No Gas	4260703.03	3.1	4273868.93	99.69	70	120	
Tb	159	No Gas	5984045.46	2.0	5675097.55	105.44	70	120	
Tb	159	He	4493997.17	0.6	4319822.17	104.03	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6A23014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:05:59
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.404	ppb	0.6	121633.10	20	80	120	
Be	9	6	No Gas	20.466	ppb	1.1	29855.00	20	80	120	
B	11	6	No Gas	18.770	ppb	3.0	24208.61	20	80	120	
Na	23	45	H2	99891.438	ppb	1.2	350773386.67	100000	80	120	
Mg	24	45	No Gas	96428.415	ppb	1.9	660251669.33	100000	80	120	
Al	27	45	No Gas	97958.583	ppb	1.3	916701666.34	100000	80	120	
Si	28	45	H2	212.691	ppb	0.9	279744.79	200	80	120	
P	31	45	No Gas	91789.642	ppb	1.9	60708996.00	100000	80	120	
K	39	45	He	100161.457	ppb	1.2	63412277.33	100000	80	120	
Ca	40	45	H2	100626.705	ppb	0.7	950669760.00	100000	80	120	
Ti	47	45	No Gas	2019.259	ppb	0.8	2820387.92	2000	80	120	
V	51	45	He	20.584	ppb	2.0	112784.09	20	80	120	
Cr	52	45	He	23.039	ppb	0.8	142007.12	20	80	120	
Mn	55	45	No Gas	20.784	ppb	0.5	453646.38	20	80	120	
Fe	56	45	H2	100163.292	ppb	0.5	1453493290.67	100000	80	120	
Co	59	45	No Gas	20.446	ppb	1.9	377485.12	20	80	120	
Ni	60	45	He	20.926	ppb	1.1	44713.14	20	80	120	
Cu	63	45	He	19.577	ppb	0.7	118047.85	20	80	120	
Zn	66	72	No Gas	23.584	ppb	1.4	65457.30	20	80	120	
As	75	72	He	20.111	ppb	1.0	21124.82	20	80	120	
Se	78	72	H2	20.266	ppb	1.0	8467.66	20	80	120	
Sr	88	72	No Gas	20.996	ppb	0.5	523586.40	20	80	120	
Zr	90	72	No Gas	9.735	ppb	1.7	160170.23	20	80	120	> +/- 20%
Mo	95	115	No Gas	2009.767	ppb	0.8	9656356.00	2000	80	120	
Ag	107	115	No Gas	20.059	ppb	0.5	224281.63	20	80	120	
Cd	111	115	No Gas	20.165	ppb	0.7	44845.25	20	80	120	
Sn	118	115	No Gas	20.068	ppb	1.2	133734.93	20	80	120	
Sb	123	115	No Gas	19.937	ppb	0.8	156785.77	20	80	120	
Ba	137	115	No Gas	21.288	ppb	0.1	75587.92	20	80	120	
W	182	159	No Gas	19.084	ppb	0.7	159340.57	20	80	120	
Hg	201	159	No Gas	1.903	ppb	2.0	2497.75	2	80	120	
Hg	201	159	He	1.961	ppb	1.5	2017.00	2	80	120	
Tl	205	159	No Gas	20.156	ppb	1.3	355699.47	20	80	120	
Pb	208	159	No Gas	20.404	ppb	1.3	493880.23	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.967	ppb	0.4	485598.49	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	700329.53	2.3	733417.76	95.49	70	120	
Sc	45	No Gas	3376636.25	2.3	3201327	105.48	70	120	
Sc	45	H2	2802854.17	0.3	2650809.25	105.74	70	120	
Sc	45	He	421620.24	0.6	404532.51	104.22	70	120	
Ge	72	No Gas	792282.50	1.4	724682.77	109.33	70	120	
Ge	72	H2	761558.69	1.0	708729.75	107.45	70	120	
Ge	72	He	245531.90	0.2	231857.12	105.9	70	120	
In	115	No Gas	4289593.54	1.7	4273868.93	100.37	70	120	
Tb	159	No Gas	6068212.40	2.3	5675097.55	106.93	70	120	
Tb	159	He	4538820.83	0.5	4319822.17	105.07	70	120	

Sample Report

Sample Name	MRLA3103
File Name	H6A23015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:08:36
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	0.113	0.113	ppb	165.4	39456.40	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	17.78	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4249.54	100	
Na	23	45	H2	605.694	605.694	ppb	0.5	2556851.50	50000	
Mg	24	45	No Gas	524.415	524.415	ppb	2.5	3354999.25	50000	
Al	27	45	No Gas	518.642	518.642	ppb	2.5	4536388.99	50000	
Si	28	45	H2	1.609	1.609	ppb	5.1	4428.70	5000	
P	31	45	No Gas	4.925	4.925	ppb	18.8	30760.08	500	
K	39	45	He	574.900	574.900	ppb	2.4	368834.72	50000	
Ca	40	45	H2	531.582	531.582	ppb	0.1	4139573.75	50000	
Ti	47	45	No Gas	0.241	0.241	ppb	11.2	444.01	500	
V	51	45	He	0.032	0.032	ppb	12.8	1379.40	500	
Cr	52	45	He	0.106	0.106	ppb	5.8	2210.18	500	
Mn	55	45	No Gas	0.155	0.155	ppb	8.7	10333.25	3000	
Fe	56	45	H2	551.966	551.966	ppb	0.8	6520088.17	50000	
Co	59	45	No Gas	0.016	0.016	ppb	20.6	721.35	500	
Ni	60	45	He	0.022	0.022	ppb	69.8	234.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3234.39	500	
Zn	66	72	No Gas	1.047	1.047	ppb	3.0	3867.89	500	
As	75	72	He	0.032	0.032	ppb	21.3	128.00	500	
Se	78	72	H2	0.062	0.062	ppb	68.7	55.00	500	
Sr	88	72	No Gas	0.034	0.034	ppb	9.5	1295.62	500	
Zr	90	72	No Gas	0.002	0.002	ppb	215.0	233.33	50	
Mo	95	115	No Gas	0.332	0.332	ppb	9.5	1664.55	500	
Ag	107	115	No Gas	0.074	0.074	ppb	5.5	874.48	50	
Cd	111	115	No Gas	0.013	0.013	ppb	53.6	58.08	500	
Sn	118	115	No Gas	0.015	0.015	ppb	10.9	1020.04	500	
Sb	123	115	No Gas	0.009	0.009	ppb	15.0	250.00	100	
Ba	137	115	No Gas	0.079	0.079	ppb	11.7	368.90	1000	
W	182	159	No Gas	0.002	0.002	ppb	14.3	76.67	50	
Hg	201	159	No Gas	0.011	0.011	ppb	49.7	37.83	5	
Hg	201	159	He	0.008	0.008	ppb	44.3	19.83	5	
Tl	205	159	No Gas	0.026	0.026	ppb	2.5	912.26	500	
Pb	208	159	No Gas	0.017	0.017	ppb	19.1	1235.58	500	
U	238	159	No Gas	0.011	0.011	ppb	8.8	312.23	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	684756.93	5.1	733417.76	93.37	70	120	
Sc	45	No Gas	3150177.17	5.8	3201327	98.4	70	120	
Sc	45	H2	2277360.75	0.3	2650809.25	85.91	70	120	
Sc	45	He	338414.43	3.3	404532.51	83.66	70	120	
Ge	72	No Gas	734140.88	5.9	724682.77	101.31	70	120	
Ge	72	H2	633013.92	1.2	708729.75	89.32	70	120	
Ge	72	He	201612.26	1.6	231857.12	86.96	70	120	
In	115	No Gas	4345642.81	4.7	4273868.93	101.68	70	120	
Tb	159	No Gas	5810026.16	4.5	5675097.55	102.38	70	120	
Tb	159	He	3780299.92	1.8	4319822.17	87.51	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6A23016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:11:12
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.779	ppb	2.0	131687.40	25	99.12	90	110	
Be	9	6	No Gas	25.427	ppb	1.8	35095.95	25	101.71	90	110	
B	11	6	No Gas	46.827	ppb	1.8	47404.27	50	93.65	90	110	
Na	23	45	H2	24636.183	ppb	0.6	84055074.67	25000	98.54	90	110	
Mg	24	45	No Gas	24971.470	ppb	0.9	160786202.67	25000	99.89	90	110	
Al	27	45	No Gas	24921.044	ppb	0.7	219297136.73	25000	99.68	90	110	
Si	28	45	H2	2422.075	ppb	0.4	3034171.58	2500	96.88	90	110	
P	31	45	No Gas	235.328	ppb	1.4	174222.66	250	94.13	90	110	
K	39	45	He	24863.918	ppb	0.9	15064712.00	25000	99.46	90	110	
Ca	40	45	H2	24647.753	ppb	0.3	224291050.67	25000	98.59	90	110	
Ti	47	45	No Gas	250.590	ppb	0.6	329304.00	250	100.24	90	110	
V	51	45	He	257.736	ppb	0.6	1328370.71	250	103.09	90	110	
Cr	52	45	He	261.485	ppb	1.3	1514617.92	250	104.59	90	110	
Mn	55	45	No Gas	1541.764	ppb	1.1	31117686.00	1500	102.78	90	110	
Fe	56	45	H2	25601.655	ppb	0.5	357768746.67	25000	102.41	90	110	
Co	59	45	No Gas	254.861	ppb	1.1	4420166.50	250	101.94	90	110	
Ni	60	45	He	267.892	ppb	1.5	542550.27	250	107.16	90	110	
Cu	63	45	He	262.835	ppb	0.6	1376976.88	250	105.13	90	110	
Zn	66	72	No Gas	249.825	ppb	0.9	659175.14	250	99.93	90	110	
As	75	72	He	250.482	ppb	0.1	253331.32	250	100.19	90	110	
Se	78	72	H2	253.058	ppb	0.2	103976.25	250	101.22	90	110	
Sr	88	72	No Gas	252.814	ppb	2.2	6101300.03	250	101.13	90	110	
Zr	90	72	No Gas	25.456	ppb	1.0	405275.97	25	101.82	90	110	
Mo	95	115	No Gas	244.387	ppb	0.6	1160374.64	250	97.75	90	110	
Ag	107	115	No Gas	25.281	ppb	1.0	279308.39	25	101.12	90	110	
Cd	111	115	No Gas	249.156	ppb	0.6	547284.28	250	99.66	90	110	
Sn	118	115	No Gas	248.822	ppb	0.1	1628601.33	250	99.53	90	110	
Sb	123	115	No Gas	50.184	ppb	0.3	389707.67	50	100.37	90	110	
Ba	137	115	No Gas	503.777	ppb	0.4	1765842.15	500	100.76	90	110	
W	182	159	No Gas	25.514	ppb	2.8	209311.62	25	102.06	90	110	
Hg	201	159	No Gas	2.478	ppb	1.8	3189.07	2.5	99.12	90	110	
Hg	201	159	He	2.660	ppb	1.2	2699.29	2.5	106.4	90	110	
Tl	205	159	No Gas	254.305	ppb	1.6	4405720.24	250	101.72	90	110	
Pb	208	159	No Gas	254.501	ppb	1.4	6045440.60	250	101.8	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	256.918	ppb	1.4	5847303.24	250	102.77	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	662732.47	1.8	733417.76	90.36	70	120	
Sc	45	No Gas	3175288.08	2.0	3201327	99.19	70	120	
Sc	45	H2	2699061.08	0.4	2650809.25	101.82	70	120	
Sc	45	He	401650.36	0.4	404532.51	99.29	70	120	
Ge	72	No Gas	767376.94	1.7	724682.77	105.89	70	120	
Ge	72	H2	752171.79	0.8	708729.75	106.13	70	120	
Ge	72	He	237677.77	1.0	231857.12	102.51	70	120	
In	115	No Gas	4239050.96	1.5	4273868.93	99.19	70	120	
Tb	159	No Gas	5963848.09	1.6	5675097.55	105.09	70	120	
Tb	159	He	4488518.17	0.2	4319822.17	103.91	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6A23017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:25:20
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.105	ppb	86.3	37761.57	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	21.11	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	6239.16	4	
Na	23	45	H2	2.690	ppb	60.3	957718.67	40	
Mg	24	45	No Gas	0.176	ppb	47.0	8463.28	10	
Al	27	45	No Gas	<0.000	ppb	N/A	7091.87	15	
Si	28	45	H2	<0.000	ppb	N/A	2680.93	8	
P	31	45	No Gas	<0.000	ppb	N/A	24246.46	10	
K	39	45	He	0.845	ppb	1123.9	88412.93	20	
Ca	40	45	H2	<0.000	ppb	N/A	58575.15	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	109.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1180.72	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1923.47	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	6490.21	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	13018.86	10	
Co	59	45	No Gas	<0.000	ppb	N/A	276.00	0.15	
Ni	60	45	He	<0.000	ppb	N/A	160.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2804.29	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	827.36	2	
As	75	72	He	<0.000	ppb	N/A	86.33	0.2	
Se	78	72	H2	0.013	ppb	27.3	42.33	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	381.12	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	70.00	2	
Mo	95	115	No Gas	0.007	ppb	32.3	77.78	0.2	
Ag	107	115	No Gas	0.001	ppb	65.8	43.33	0.08	
Cd	111	115	No Gas	0.008	ppb	40.4	47.02	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	504.46	0.2	
Sb	123	115	No Gas	0.002	ppb	74.9	194.45	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	62.22	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	33.33	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	20.67	0.1	
Hg	201	159	He	0.002	ppb	129.9	17.33	0.1	
Tl	205	159	No Gas	0.007	ppb	21.3	573.35	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	628.89	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	62.22	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	655481.66	0.9	733417.76	89.37	70	120	
Sc	45	No Gas	3105214.58	1.4	3201327	97	70	120	
Sc	45	H2	2592336.33	0.4	2650809.25	97.79	70	120	
Sc	45	He	386280.81	0.7	404532.51	95.49	70	120	
Ge	72	No Gas	708337.77	1.4	724682.77	97.74	70	120	
Ge	72	H2	702434.04	0.7	708729.75	99.11	70	120	
Ge	72	He	226182.13	0.2	231857.12	97.55	70	120	
In	115	No Gas	4298316.76	1.3	4273868.93	100.57	70	120	
Tb	159	No Gas	5684014.50	1.7	5675097.55	100.16	70	120	
Tb	159	He	4315282.67	1.4	4319822.17	99.89	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV10
File Name	H6A23114.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 20:26:39
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.545	ppb	1.5	109170.95	25	98.18	90	110	
Be	9	6	No Gas	25.248	ppb	0.4	29086.72	25	100.99	90	110	
B	11	6	No Gas	57.911	ppb	0.4	47642.87	50	115.82	90	110	> +/- 10%
Na	23	45	H2	24692.307	ppb	0.8	70835834.67	25000	98.77	90	110	
Mg	24	45	No Gas	23827.175	ppb	0.6	129038109.33	25000	95.31	90	110	
Al	27	45	No Gas	23927.174	ppb	0.7	177096384.03	25000	95.71	90	110	
Si	28	45	H2	2344.966	ppb	0.6	2470049.75	2500	93.8	90	110	
P	31	45	No Gas	239.723	ppb	1.0	148832.43	250	95.89	90	110	
K	39	45	He	24164.251	ppb	0.9	12363425.33	25000	96.66	90	110	
Ca	40	45	H2	24183.498	ppb	0.7	185040085.33	25000	96.73	90	110	
Ti	47	45	No Gas	237.702	ppb	0.3	262720.65	250	95.08	90	110	
V	51	45	He	249.197	ppb	0.7	1084497.42	250	99.68	90	110	
Cr	52	45	He	247.654	ppb	1.1	1211282.38	250	99.06	90	110	
Mn	55	45	No Gas	1472.665	ppb	0.9	24992258.00	1500	98.18	90	110	
Fe	56	45	H2	24931.587	ppb	1.4	292908842.67	25000	99.73	90	110	
Co	59	45	No Gas	240.198	ppb	0.7	3503672.50	250	96.08	90	110	
Ni	60	45	He	256.763	ppb	0.7	439092.23	250	102.71	90	110	
Cu	63	45	He	251.259	ppb	0.4	1111827.67	250	100.5	90	110	
Zn	66	72	No Gas	246.008	ppb	0.8	549834.33	250	98.4	90	110	
As	75	72	He	251.235	ppb	1.1	223117.06	250	100.49	90	110	
Se	78	72	H2	257.831	ppb	0.6	90508.52	250	103.13	90	110	
Sr	88	72	No Gas	248.015	ppb	1.2	5069216.05	250	99.21	90	110	
Zr	90	72	No Gas	24.697	ppb	2.7	333080.47	25	98.79	90	110	
Mo	95	115	No Gas	229.234	ppb	0.4	945436.04	250	91.69	90	110	
Ag	107	115	No Gas	23.601	ppb	0.6	226491.34	25	94.4	90	110	
Cd	111	115	No Gas	242.747	ppb	0.7	463139.46	250	97.1	90	110	
Sn	118	115	No Gas	235.683	ppb	1.3	1339769.91	250	94.27	90	110	
Sb	123	115	No Gas	46.607	ppb	1.4	314345.04	50	93.21	90	110	
Ba	137	115	No Gas	491.128	ppb	1.9	1494997.51	500	98.23	90	110	
W	182	159	No Gas	24.639	ppb	0.5	171120.33	25	98.56	90	110	
Hg	201	159	No Gas	2.557	ppb	4.3	2783.48	2.5	102.28	90	110	
Hg	201	159	He	2.565	ppb	1.1	2176.69	2.5	102.6	90	110	
Tl	205	159	No Gas	248.613	ppb	1.3	3644193.19	250	99.45	90	110	
Pb	208	159	No Gas	248.238	ppb	1.2	4990952.67	250	99.3	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	245.810	ppb	2.1	4735595.23	250	98.32	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	553216.93	2.7	733417.76	75.43	70	120	
Sc	45	No Gas	2670682.42	2.4	3201327	83.42	70	120	
Sc	45	H2	2269229.67	2.3	2650809.25	85.61	70	120	
Sc	45	He	339127.93	0.5	404532.51	83.83	70	120	
Ge	72	No Gas	649936.67	1.6	724682.77	89.69	70	120	
Ge	72	H2	642598.21	1.1	708729.75	90.67	70	120	
Ge	72	He	208710.19	0.5	231857.12	90.02	70	120	
In	115	No Gas	3682306.17	2.5	4273868.93	86.16	70	120	
Tb	159	No Gas	5047234.66	1.4	5675097.55	88.94	70	120	
Tb	159	He	3752092.50	0.1	4319822.17	86.86	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB10
File Name	H6A23115.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 20:29:15
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.580	ppb	28.8	37214.90	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	18.89	0.08	
B	11	6	No Gas	3.853	ppb	5.6	9206.37	4	
Na	23	45	H2	31.462	ppb	0.7	905298.10	40	
Mg	24	45	No Gas	5.127	ppb	11.5	36231.66	10	
Al	27	45	No Gas	4.697	ppb	13.5	44322.76	15	
Si	28	45	H2	1.168	ppb	4.2	3885.88	8	
P	31	45	No Gas	3.909	ppb	83.9	26857.94	10	
K	39	45	He	46.727	ppb	21.3	97877.89	20	>LOD
Ca	40	45	H2	17.765	ppb	0.5	191850.20	25	
Ti	47	45	No Gas	0.171	ppb	22.8	319.34	0.5	
V	51	45	He	<0.000	ppb	N/A	966.03	0.5	
Cr	52	45	He	0.063	ppb	4.0	1941.47	0.2	
Mn	55	45	No Gas	0.392	ppb	2.6	13517.40	0.2	>LOD
Fe	56	45	H2	5.487	ppb	0.8	75208.15	10	
Co	59	45	No Gas	0.026	ppb	22.7	804.69	0.15	
Ni	60	45	He	<0.000	ppb	N/A	155.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2705.60	0.4	
Zn	66	72	No Gas	0.128	ppb	8.1	1397.40	2	
As	75	72	He	0.022	ppb	52.2	116.67	0.2	
Se	78	72	H2	0.096	ppb	15.3	64.67	0.2	
Sr	88	72	No Gas	0.107	ppb	10.5	2695.84	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	143.33	2	
Mo	95	115	No Gas	0.046	ppb	9.1	250.00	0.2	
Ag	107	115	No Gas	0.005	ppb	29.9	81.11	0.08	
Cd	111	115	No Gas	0.054	ppb	10.8	140.06	0.2	
Sn	118	115	No Gas	0.017	ppb	73.8	965.60	0.2	
Sb	123	115	No Gas	0.085	ppb	8.3	793.36	0.4	
Ba	137	115	No Gas	0.093	ppb	19.0	390.01	0.2	
W	182	159	No Gas	0.005	ppb	84.5	86.67	0.3	
Hg	201	159	No Gas	0.012	ppb	51.6	36.17	0.1	
Hg	201	159	He	0.011	ppb	27.4	22.50	0.1	
Tl	205	159	No Gas	0.069	ppb	25.3	1532.32	0.1	
Pb	208	159	No Gas	0.035	ppb	15.9	1525.60	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.043	ppb	12.1	951.15	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	616784.02	9.0	733417.76	84.1	70	120	
Sc	45	No Gas	2820433.75	10.5	3201327	88.1	70	120	
Sc	45	H2	2233156.92	0.4	2650809.25	84.24	70	120	
Sc	45	He	328729.63	0.3	404532.51	81.26	70	120	
Ge	72	No Gas	659971.56	10.3	724682.77	91.07	70	120	
Ge	72	H2	612210.69	0.9	708729.75	86.38	70	120	
Ge	72	He	196970.32	0.6	231857.12	84.95	70	120	
In	115	No Gas	4018166.47	10.0	4273868.93	94.02	70	120	
Tb	159	No Gas	5378267.56	10.5	5675097.55	94.77	70	120	
Tb	159	He	3707912.25	0.7	4319822.17	85.83	70	120	

Blank Report

Sample Name	IML024WB
File Name	H6A23116.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 20:31:52
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.622	ppb	31.8	40843.51	0.4	>1/2LOQ
Be	9	6	No Gas	<0.000	ppb	N/A	8.89	0.08	
B	11	6	No Gas	0.188	ppb	365.1	6801.66	4	
Na	23	45	H2	<0.000	ppb	N/A	845305.92	40	
Mg	24	45	No Gas	3.964	ppb	2.6	32539.91	10	
Al	27	45	No Gas	3.470	ppb	0.4	38135.59	15	
Si	28	45	H2	3.484	ppb	3.8	7460.00	8	
P	31	45	No Gas	0.746	ppb	102.6	27988.16	10	
K	39	45	He	6.987	ppb	114.7	93790.19	20	
Ca	40	45	H2	11.252	ppb	5.8	169545.71	25	
Ti	47	45	No Gas	0.142	ppb	12.1	312.00	0.5	
V	51	45	He	<0.000	ppb	N/A	965.37	0.5	
Cr	52	45	He	0.047	ppb	23.5	2236.18	0.2	
Mn	55	45	No Gas	0.110	ppb	9.3	9368.54	0.2	
Fe	56	45	H2	3.322	ppb	3.8	59569.46	10	
Co	59	45	No Gas	<0.000	ppb	N/A	368.67	0.15	
Ni	60	45	He	<0.000	ppb	N/A	153.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2730.27	0.4	
Zn	66	72	No Gas	0.524	ppb	9.1	2574.25	2	
As	75	72	He	<0.000	ppb	N/A	92.67	0.2	
Se	78	72	H2	<0.000	ppb	N/A	35.67	0.2	
Sr	88	72	No Gas	0.050	ppb	11.3	1690.11	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	133.33	2	
Mo	95	115	No Gas	0.012	ppb	28.0	110.00	0.2	
Ag	107	115	No Gas	0.014	ppb	8.7	198.89	0.08	
Cd	111	115	No Gas	0.016	ppb	18.7	65.37	0.2	
Sn	118	115	No Gas	0.023	ppb	68.8	1106.71	0.2	
Sb	123	115	No Gas	0.043	ppb	12.3	533.34	0.4	
Ba	137	115	No Gas	0.123	ppb	11.3	541.12	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	56.67	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	24.00	0.1	
Hg	201	159	He	0.002	ppb	55.3	17.33	0.1	
Tl	205	159	No Gas	0.016	ppb	8.7	765.58	0.1	
Pb	208	159	No Gas	0.018	ppb	25.5	1282.25	0.1	

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.009	ppb	5.8	277.78	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	674427.33	1.1	733417.76	91.96	70	120	
Sc	45	No Gas	3127739.17	0.6	3201327	97.7	70	120	
Sc	45	H2	2651571.83	1.4	2650809.25	100.03	70	120	
Sc	45	He	393831.53	0.2	404532.51	97.35	70	120	
Ge	72	No Gas	741275.11	1.7	724682.77	102.29	70	120	
Ge	72	H2	723659.38	0.5	708729.75	102.11	70	120	
Ge	72	He	229940.49	0.6	231857.12	99.17	70	120	
In	115	No Gas	4465000.87	0.4	4273868.93	104.47	70	120	
Tb	159	No Gas	5992997.68	1.4	5675097.55	105.6	70	120	
Tb	159	He	4357611.00	0.3	4319822.17	100.87	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML024WL
File Name	H6A23117.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 20:34:28
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	30.882	ppb	2.1	155406.24	30	102.94	85	115	
Be	9	6	No Gas	29.896	ppb	1.2	41408.58	30	99.65	83	121	
B	11	6	No Gas	25.810	ppb	5.9	29165.81	30	86.03	85	115	
Na	23	45	H2	3180.558	ppb	0.3	11379676.67	3000	106.02	85	117	
Mg	24	45	No Gas	3063.638	ppb	1.4	19412521.33	3000	102.12	83	118	
Al	27	45	No Gas	3069.187	ppb	0.8	26575646.27	3000	102.31	84	117	
Si	28	45	H2	8.393	ppb	1.5	13347.73	3000	0.28	85	115	FAIL
P	31	45	No Gas	1.067	ppb	69.1	28149.16	300	0.36	85	115	FAIL
K	39	45	He	3118.720	ppb	0.2	1915465.67	3000	103.96	87	115	
Ca	40	45	H2	3122.827	ppb	0.9	27669094.67	3000	104.09	87	118	
Ti	47	45	No Gas	30.945	ppb	0.5	40121.16	30	103.15	85	115	
V	51	45	He	32.290	ppb	1.0	163101.28	30	107.63	86	115	
Cr	52	45	He	33.120	ppb	0.5	188281.84	30	110.4	85	116	
Mn	55	45	No Gas	32.427	ppb	1.0	650900.08	30	108.09	87	115	
Fe	56	45	H2	3226.517	ppb	0.5	43820120.00	3000	107.55	87	118	
Co	59	45	No Gas	31.413	ppb	0.7	536364.15	30	104.71	86	115	
Ni	60	45	He	33.104	ppb	0.5	65403.67	30	110.35	85	117	
Cu	63	45	He	33.110	ppb	0.1	177787.75	30	110.37	85	118	
Zn	66	72	No Gas	63.978	ppb	1.4	166006.10	60	106.63	83	119	
As	75	72	He	30.058	ppb	0.2	30296.91	30	100.19	84	116	
Se	78	72	H2	31.594	ppb	0.1	12589.54	30	105.31	80	120	
Sr	88	72	No Gas	32.315	ppb	1.1	762906.41	30	107.72	85	115	
Zr	90	72	No Gas	0.029	ppb	18.3	656.69	30	0.1	85	115	FAIL
Mo	95	115	No Gas	29.300	ppb	0.5	142829.63	30	97.67	85	115	
Ag	107	115	No Gas	30.871	ppb	1.0	350092.37	30	102.9	85	117	
Cd	111	115	No Gas	30.403	ppb	0.8	68573.21	30	101.34	87	115	
Sn	118	115	No Gas	31.383	ppb	1.3	211641.52	30	104.61	85	115	
Sb	123	115	No Gas	30.343	ppb	1.5	241938.49	30	101.14	85	117	
Ba	137	115	No Gas	30.838	ppb	1.5	111016.07	30	102.79	86	114	
W	182	159	No Gas	0.007	ppb	19.5	113.33	30	0.02	85	115	FAIL
Hg	201	159	No Gas	<0.000	ppb	N/A	21.83	2.5	-0.08	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	13.83	2.5	-0.08	82	119	FAIL
Tl	205	159	No Gas	32.588	ppb	0.9	560503.85	30	108.63	82	116	
Pb	208	159	No Gas	32.788	ppb	1.2	773511.91	30	109.29	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	32.192	ppb	0.8	727045.51	30	107.31	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	665213.33	0.6	733417.76	90.7	70	120	
Sc	45	No Gas	3124116.50	1.4	3201327	97.59	70	120	
Sc	45	H2	2622456.92	1.0	2650809.25	98.93	70	120	
Sc	45	He	390627.55	1.0	404532.51	96.56	70	120	
Ge	72	No Gas	750280.56	1.3	724682.77	103.53	70	120	
Ge	72	H2	727501.42	0.9	708729.75	102.65	70	120	
Ge	72	He	236062.38	0.6	231857.12	101.81	70	120	
In	115	No Gas	4350843.15	1.3	4273868.93	101.8	70	120	
Tb	159	No Gas	5917071.99	1.0	5675097.55	104.26	70	120	
Tb	159	He	4366918.67	0.7	4319822.17	101.09	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML024WC
File Name	H6A23118.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 20:37:05
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	31.427	ppb	1.7	158351.52	30	104.76	85	115	
Be	9	6	No Gas	29.434	ppb	1.0	40994.04	30	98.11	83	121	
B	11	6	No Gas	26.221	ppb	2.3	29685.75	30	87.4	85	115	
Na	23	45	H2	3176.910	ppb	0.7	11322455.33	3000	105.9	85	117	
Mg	24	45	No Gas	3135.034	ppb	0.7	19848354.67	3000	104.5	83	118	
Al	27	45	No Gas	3135.764	ppb	1.2	27129380.43	3000	104.53	84	117	
Si	28	45	H2	5.427	ppb	0.7	9703.38	3000	0.18	85	115	FAIL
P	31	45	No Gas	1.089	ppb	29.2	28141.78	300	0.36	85	115	FAIL
K	39	45	He	3145.353	ppb	0.5	1926531.04	3000	104.85	87	115	
Ca	40	45	H2	3157.673	ppb	1.1	27868076.00	3000	105.26	87	118	
Ti	47	45	No Gas	31.017	ppb	0.6	40179.27	30	103.39	85	115	
V	51	45	He	32.281	ppb	0.2	162684.87	30	107.6	86	115	
Cr	52	45	He	33.351	ppb	1.6	189131.96	30	111.17	85	116	
Mn	55	45	No Gas	32.655	ppb	0.5	654899.48	30	108.85	87	115	
Fe	56	45	H2	3246.266	ppb	0.7	43914440.00	3000	108.21	87	118	
Co	59	45	No Gas	31.905	ppb	0.4	544266.08	30	106.35	86	115	
Ni	60	45	He	33.032	ppb	1.0	65110.31	30	110.11	85	117	
Cu	63	45	He	32.938	ppb	0.8	176502.85	30	109.79	85	118	
Zn	66	72	No Gas	63.378	ppb	0.4	165098.46	60	105.63	83	119	
As	75	72	He	30.085	ppb	0.3	30318.28	30	100.28	84	116	
Se	78	72	H2	31.680	ppb	0.4	12682.62	30	105.6	80	120	
Sr	88	72	No Gas	32.338	ppb	1.0	766474.64	30	107.79	85	115	
Zr	90	72	No Gas	0.016	ppb	9.8	460.01	30	0.05	85	115	FAIL
Mo	95	115	No Gas	29.247	ppb	0.3	142798.48	30	97.49	85	115	
Ag	107	115	No Gas	31.202	ppb	0.3	354397.88	30	104.01	85	117	
Cd	111	115	No Gas	30.395	ppb	0.3	68662.85	30	101.32	87	115	
Sn	118	115	No Gas	31.387	ppb	0.7	212009.49	30	104.62	85	115	
Sb	123	115	No Gas	30.254	ppb	0.7	241603.15	30	100.85	85	117	
Ba	137	115	No Gas	30.992	ppb	1.3	111764.89	30	103.31	86	114	
W	182	159	No Gas	0.007	ppb	19.5	113.33	30	0.02	85	115	FAIL
Hg	201	159	No Gas	<0.000	ppb	N/A	16.67	2.5	-0.24	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	12.00	2.5	-0.12	82	119	FAIL
Tl	205	159	No Gas	32.689	ppb	1.2	563411.07	30	108.96	82	116	
Pb	208	159	No Gas	32.756	ppb	0.7	774451.56	30	109.19	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	32.124	ppb	0.7	727024.48	30	107.08	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	668896.63	0.6	733417.76	91.2	70	120	
Sc	45	No Gas	3121637.58	1.6	3201327	97.51	70	120	
Sc	45	H2	2612066.17	0.5	2650809.25	98.54	70	120	
Sc	45	He	389712.55	0.6	404532.51	96.34	70	120	
Ge	72	No Gas	753262.12	1.3	724682.77	103.94	70	120	
Ge	72	H2	730910.56	0.4	708729.75	103.13	70	120	
Ge	72	He	236014.86	0.3	231857.12	101.79	70	120	
In	115	No Gas	4357930.73	0.7	4273868.93	101.97	70	120	
Tb	159	No Gas	5929873.65	1.0	5675097.55	104.49	70	120	
Tb	159	He	4348365.33	1.0	4319822.17	100.66	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV11
File Name	H6A23126.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 20:57:58
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Ll	7	6	No Gas	24.836	ppb	2.3	113308.31	25	99.34	90	110	
Be	9	6	No Gas	25.477	ppb	1.9	30201.26	25	101.91	90	110	
B	11	6	No Gas	53.019	ppb	3.4	45363.17	50	106.04	90	110	
Na	23	45	H2	25057.322	ppb	0.8	80591480.00	25000	100.23	90	110	
Mg	24	45	No Gas	24729.208	ppb	1.9	132375890.67	25000	98.92	90	110	
Al	27	45	No Gas	24578.989	ppb	1.5	179803123.99	25000	98.32	90	110	
Si	28	45	H2	2358.749	ppb	1.0	2784018.25	2500	94.35	90	110	
P	31	45	No Gas	249.164	ppb	1.5	152004.41	250	99.67	90	110	
K	39	45	He	24732.308	ppb	0.9	14944607.33	25000	98.93	90	110	
Ca	40	45	H2	24642.230	ppb	0.5	211342186.67	25000	98.57	90	110	
Ti	47	45	No Gas	241.871	ppb	1.4	264222.54	250	96.75	90	110	
V	51	45	He	248.833	ppb	1.0	1279071.92	250	99.53	90	110	
Cr	52	45	He	249.860	ppb	1.0	1443453.58	250	99.94	90	110	
Mn	55	45	No Gas	1494.233	ppb	1.6	25071128.00	1500	99.62	90	110	
Fe	56	45	H2	24877.525	ppb	0.4	327679040.00	25000	99.51	90	110	
Co	59	45	No Gas	242.559	ppb	2.2	3497281.58	250	97.02	90	110	
Ni	60	45	He	254.153	ppb	1.2	513343.34	250	101.66	90	110	
Cu	63	45	He	249.163	ppb	2.1	1302252.17	250	99.67	90	110	
Zn	66	72	No Gas	249.495	ppb	0.2	552117.96	250	99.8	90	110	
As	75	72	He	238.927	ppb	0.6	240738.03	250	95.57	90	110	
Se	78	72	H2	255.284	ppb	2.8	97765.08	250	102.11	90	110	
Sr	88	72	No Gas	249.260	ppb	0.7	5044735.08	250	99.7	90	110	
Zr	90	72	No Gas	24.558	ppb	0.3	327905.94	25	98.23	90	110	
Mo	95	115	No Gas	229.528	ppb	1.4	934759.93	250	91.81	90	110	
Ag	107	115	No Gas	24.048	ppb	0.9	227887.21	25	96.19	90	110	
Cd	111	115	No Gas	245.289	ppb	0.7	462121.09	250	98.12	90	110	
Sn	118	115	No Gas	240.027	ppb	0.8	1347327.52	250	96.01	90	110	
Sb	123	115	No Gas	46.891	ppb	0.4	312322.55	50	93.78	90	110	
Ba	137	115	No Gas	488.327	ppb	0.5	1468054.70	500	97.67	90	110	
W	182	159	No Gas	25.006	ppb	0.8	170940.21	25	100.02	90	110	
Hg	201	159	No Gas	2.538	ppb	1.6	2720.63	2.5	101.52	90	110	
Hg	201	159	He	2.569	ppb	0.1	2541.42	2.5	102.76	90	110	
Tl	205	159	No Gas	249.077	ppb	0.2	3594342.57	250	99.63	90	110	
Pb	208	159	No Gas	248.984	ppb	0.7	4927227.39	250	99.59	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	245.336	ppb	1.4	4650862.32	250	98.13	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	569226.21	1.3	733417.76	77.61	70	120	
Sc	45	No Gas	2639656.67	1.7	3201327	82.46	70	120	
Sc	45	H2	2544078.33	6.4	2650809.25	95.97	70	120	
Sc	45	He	400591.15	1.2	404532.51	99.03	70	120	
Ge	72	No Gas	643607.60	1.9	724682.77	88.81	70	120	
Ge	72	H2	701771.83	5.4	708729.75	99.02	70	120	
Ge	72	He	236780.65	0.5	231857.12	102.12	70	120	
In	115	No Gas	3635496.50	1.7	4273868.93	85.06	70	120	
Tb	159	No Gas	4968303.00	2.5	5675097.55	87.55	70	120	
Tb	159	He	4374734.17	0.7	4319822.17	101.27	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB11
File Name	H6A23127.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:00:35
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.559	ppb	21.6	41896.56	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	14.44	0.08	
B	11	6	No Gas	1.550	ppb	19.0	8267.99	4	
Na	23	45	H2	<0.000	ppb	N/A	840920.19	40	
Mg	24	45	No Gas	3.631	ppb	16.8	30533.68	10	
Al	27	45	No Gas	3.254	ppb	16.9	36388.09	15	
Si	28	45	H2	0.910	ppb	7.9	4269.99	8	
P	31	45	No Gas	1.169	ppb	44.4	28374.26	10	
K	39	45	He	12.013	ppb	73.0	96574.02	20	
Ca	40	45	H2	8.747	ppb	3.4	146278.53	25	
Ti	47	45	No Gas	0.031	ppb	9.7	169.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1119.38	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1856.13	0.2	
Mn	55	45	No Gas	0.321	ppb	12.2	13622.12	0.2	>LOD
Fe	56	45	H2	3.630	ppb	2.1	63403.95	10	
Co	59	45	No Gas	0.028	ppb	16.1	926.03	0.15	
Ni	60	45	He	<0.000	ppb	N/A	169.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2235.52	0.4	
Zn	66	72	No Gas	0.102	ppb	1.5	1492.75	2	
As	75	72	He	0.006	ppb	202.5	119.33	0.2	
Se	78	72	H2	0.058	ppb	38.2	59.67	0.2	
Sr	88	72	No Gas	0.043	ppb	21.2	1512.31	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.059	ppb	2.1	332.23	0.2	
Ag	107	115	No Gas	0.004	ppb	60.4	80.00	0.08	
Cd	111	115	No Gas	0.053	ppb	14.8	147.75	0.2	
Sn	118	115	No Gas	0.021	ppb	44.7	1060.04	0.2	
Sb	123	115	No Gas	0.080	ppb	2.8	816.69	0.4	
Ba	137	115	No Gas	0.092	ppb	24.6	413.34	0.2	
W	182	159	No Gas	0.003	ppb	94.2	86.67	0.3	
Hg	201	159	No Gas	0.015	ppb	3.1	43.17	0.1	
Hg	201	159	He	0.007	ppb	35.5	22.17	0.1	
Tl	205	159	No Gas	0.065	ppb	15.9	1582.33	0.1	
Pb	208	159	No Gas	0.026	ppb	19.6	1442.26	0.1	

1H2/1/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.045	ppb	11.9	1081.16	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	695925.97	1.4	733417.76	94.89	70	120	
Sc	45	No Gas	3142157.75	1.6	3201327	98.15	70	120	
Sc	45	H2	2635239.25	0.7	2650809.25	99.41	70	120	
Sc	45	He	393087.71	0.4	404532.51	97.17	70	120	
Ge	72	No Gas	736858.07	1.1	724682.77	101.68	70	120	
Ge	72	H2	704218.60	0.6	708729.75	99.36	70	120	
Ge	72	He	228273.28	0.6	231857.12	98.45	70	120	
In	115	No Gas	4346999.67	1.3	4273868.93	101.71	70	120	
Tb	159	No Gas	5885395.88	1.7	5675097.55	103.71	70	120	
Tb	159	He	4380383.00	0.5	4319822.17	101.4	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV13
File Name	H6A23141.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:37:08
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.056	ppb	2.7	134007.73	25	96.22	90	110	
Be	9	6	No Gas	22.835	ppb	2.5	32752.53	25	91.34	90	110	
B	11	6	No Gas	50.677	ppb	3.7	52748.76	50	101.35	90	110	
Na	23	45	H2	24288.070	ppb	0.6	82249674.67	25000	97.15	90	110	
Mg	24	45	No Gas	23713.745	ppb	1.3	154620000.00	25000	94.85	90	110	
Al	27	45	No Gas	23825.636	ppb	0.6	212322243.51	25000	95.3	90	110	
Si	28	45	H2	2255.053	ppb	0.6	2803780.58	2500	90.2	90	110	
P	31	45	No Gas	213.945	ppb	1.1	163006.27	250	85.58	90	110	> +/- 10%
K	39	45	He	24282.712	ppb	0.4	14562568.33	25000	97.13	90	110	
Ca	40	45	H2	23522.240	ppb	1.5	212434645.33	25000	94.09	90	110	
Ti	47	45	No Gas	229.598	ppb	0.8	305540.15	250	91.84	90	110	
V	51	45	He	240.539	ppb	1.4	1227039.87	250	96.22	90	110	
Cr	52	45	He	241.285	ppb	1.2	1383337.50	250	96.51	90	110	
Mn	55	45	No Gas	1430.029	ppb	0.9	29228493.33	1500	95.34	90	110	
Fe	56	45	H2	24070.747	ppb	0.5	333817696.00	25000	96.28	90	110	
Co	59	45	No Gas	228.593	ppb	1.0	4014894.00	250	91.44	90	110	
Ni	60	45	He	244.659	ppb	0.9	490412.24	250	97.86	90	110	
Cu	63	45	He	240.793	ppb	0.8	1249363.88	250	96.32	90	110	
Zn	66	72	No Gas	235.219	ppb	1.1	613196.29	250	94.09	90	110	
As	75	72	He	235.003	ppb	1.1	232915.13	250	94	90	110	
Se	78	72	H2	239.044	ppb	1.4	94911.12	250	95.62	90	110	
Sr	88	72	No Gas	243.087	ppb	2.0	5794824.35	250	97.23	90	110	
Zr	90	72	No Gas	23.693	ppb	1.8	372647.78	25	94.77	90	110	
Mo	95	115	No Gas	218.682	ppb	2.1	1057112.11	250	87.47	90	110	> +/- 10%
Ag	107	115	No Gas	22.747	ppb	0.7	255837.73	25	90.99	90	110	
Cd	111	115	No Gas	230.616	ppb	1.1	515715.53	250	92.25	90	110	
Sn	118	115	No Gas	229.926	ppb	0.7	1532124.00	250	91.97	90	110	
Sb	123	115	No Gas	44.146	ppb	1.0	349021.97	50	88.29	90	110	> +/- 10%
Ba	137	115	No Gas	469.666	ppb	1.3	1676000.59	500	93.93	90	110	
W	182	159	No Gas	24.334	ppb	0.8	199496.77	25	97.34	90	110	
Hg	201	159	No Gas	2.375	ppb	2.7	3054.88	2.5	95	90	110	
Hg	201	159	He	2.511	ppb	2.9	2458.07	2.5	100.44	90	110	
Tl	205	159	No Gas	239.780	ppb	1.1	4150284.42	250	95.91	90	110	
Pb	208	159	No Gas	240.303	ppb	0.9	5703704.61	250	96.12	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	239.252	ppb	0.9	5440056.59	250	95.7	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	688762.98	0.7	733417.76	93.91	70	120	
Sc	45	No Gas	3215606.08	2.1	3201327	100.45	70	120	
Sc	45	H2	2678601.00	0.8	2650809.25	101.05	70	120	
Sc	45	He	397502.90	0.1	404532.51	98.26	70	120	
Ge	72	No Gas	758021.02	1.1	724682.77	104.6	70	120	
Ge	72	H2	726915.81	1.3	708729.75	102.57	70	120	
Ge	72	He	232911.42	0.3	231857.12	100.45	70	120	
In	115	No Gas	4315348.76	1.0	4273868.93	100.97	70	120	
Tb	159	No Gas	5958521.70	1.6	5675097.55	104.99	70	120	
Tb	159	He	4328830.00	0.9	4319822.17	100.21	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB13
File Name	H6A23142.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:39:45
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.342	ppb	90.4	40638.57	0.4	
Be	9	6	No Gas	0.000	ppb	977.1	25.56	0.08	
B	11	6	No Gas	3.374	ppb	12.5	9847.91	4	
Na	23	45	H2	<0.000	ppb	N/A	872256.00	40	
Mg	24	45	No Gas	4.393	ppb	1.8	34878.87	10	
Al	27	45	No Gas	3.821	ppb	1.7	40726.37	15	
Si	28	45	H2	1.357	ppb	3.4	4802.83	8	
P	31	45	No Gas	1.934	ppb	55.0	28396.42	10	
K	39	45	He	12.214	ppb	62.2	98821.27	20	
Ca	40	45	H2	9.982	ppb	2.0	156814.42	25	
Ti	47	45	No Gas	0.033	ppb	65.9	169.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1192.05	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1921.47	0.2	
Mn	55	45	No Gas	0.348	ppb	4.1	13945.10	0.2	>LOD
Fe	56	45	H2	4.948	ppb	3.7	81160.01	10	
Co	59	45	No Gas	0.031	ppb	11.8	967.37	0.15	
Ni	60	45	He	<0.000	ppb	N/A	208.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2006.15	0.4	
Zn	66	72	No Gas	0.142	ppb	18.0	1544.76	2	
As	75	72	He	0.016	ppb	38.4	129.00	0.2	
Se	78	72	H2	0.048	ppb	15.4	55.67	0.2	
Sr	88	72	No Gas	0.061	ppb	1.7	1866.80	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	116.67	2	
Mo	95	115	No Gas	0.057	ppb	16.2	313.34	0.2	
Ag	107	115	No Gas	0.005	ppb	24.0	82.22	0.08	
Cd	111	115	No Gas	0.058	ppb	15.4	154.33	0.2	
Sn	118	115	No Gas	0.035	ppb	30.7	1128.94	0.2	
Sb	123	115	No Gas	0.080	ppb	11.6	792.25	0.4	
Ba	137	115	No Gas	0.113	ppb	21.1	478.90	0.2	
W	182	159	No Gas	0.005	ppb	97.1	100.00	0.3	
Hg	201	159	No Gas	0.016	ppb	19.6	42.17	0.1	
Hg	201	159	He	0.006	ppb	46.8	21.17	0.1	
Tl	205	159	No Gas	0.074	ppb	3.4	1667.89	0.1	
Pb	208	159	No Gas	0.043	ppb	8.6	1774.50	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.055	ppb	10.3	1252.29	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	689542.72	2.7	733417.76	94.02	70	120	
Sc	45	No Gas	3093895.33	2.1	3201327	96.64	70	120	
Sc	45	H2	2628007.25	1.0	2650809.25	99.14	70	120	
Sc	45	He	401599.43	1.7	404532.51	99.27	70	120	
Ge	72	No Gas	713669.15	1.2	724682.77	98.48	70	120	
Ge	72	H2	701397.14	0.7	708729.75	98.97	70	120	
Ge	72	He	227906.99	1.0	231857.12	98.3	70	120	
In	115	No Gas	4237481.91	3.2	4273868.93	99.15	70	120	
Tb	159	No Gas	5678982.97	5.1	5675097.55	100.07	70	120	
Tb	159	He	4346774.33	1.1	4319822.17	100.62	70	120	

Sample Report

Sample Name	L206-01G
File Name	H6A23143.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:42:21
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	74.042	14.808	ppb	1.4	95260.07	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	16.66	50	
B	11	6	No Gas	471.759	94.352	ppb	3.1	90235.76	100	>LDR
Na	23	45	H2	226504.022	45300.804	ppb	0.9	154896090.67	50000	>LDR
Mg	24	45	No Gas	5696.372	1139.274	ppb	1.1	7162111.50	50000	
Al	27	45	No Gas	928.947	185.789	ppb	2.3	1603300.91	50000	
Si	28	45	H2	11941.576	2388.315	ppb	0.2	3014687.25	5000	
P	31	45	No Gas	15.872	3.174	ppb	61.4	29121.15	500	
K	39	45	He	3996.393	799.279	ppb	0.4	573547.19	50000	
Ca	40	45	H2	24707.064	4941.413	ppb	1.1	45363749.33	50000	
Ti	47	45	No Gas	0.575	0.115	ppb	11.0	274.00	500	
V	51	45	He	3.649	0.730	ppb	2.3	5238.34	500	
Cr	52	45	He	5.598	1.120	ppb	1.4	8496.63	500	
Mn	55	45	No Gas	569.618	113.924	ppb	0.3	2248309.04	3000	
Fe	56	45	H2	115.882	23.176	ppb	0.6	340661.25	50000	
Co	59	45	No Gas	0.082	0.016	ppb	17.1	715.35	500	
Ni	60	45	He	0.108	0.022	ppb	47.9	277.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2159.51	500	
Zn	66	72	No Gas	376.491	75.298	ppb	1.4	193407.33	500	
As	75	72	He	6.111	1.222	ppb	2.6	1376.07	500	
Se	78	72	H2	0.069	0.014	ppb	135.3	45.33	500	
Sr	88	72	No Gas	555.419	111.084	ppb	0.9	2599184.69	500	
Zr	90	72	No Gas	0.099	0.020	ppb	10.9	516.68	50	
Mo	95	115	No Gas	37.773	7.555	ppb	0.6	36316.25	500	
Ag	107	115	No Gas	0.022	0.004	ppb	11.2	78.89	50	
Cd	111	115	No Gas	0.082	0.016	ppb	53.5	63.77	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	640.02	500	
Sb	123	115	No Gas	0.308	0.062	ppb	15.3	660.02	100	
Ba	137	115	No Gas	373.503	74.701	ppb	1.4	264744.76	1000	
W	182	159	No Gas	12.652	2.530	ppb	3.5	20045.97	50	
Hg	201	159	No Gas	0.010	0.002	ppb	163.1	26.00	5	
Hg	201	159	He	0.034	0.007	ppb	51.1	22.33	5	
Tl	205	159	No Gas	0.339	0.068	ppb	6.1	1591.22	500	
Pb	208	159	No Gas	0.101	0.020	ppb	23.6	1281.14	500	
U	238	159	No Gas	3.691	0.738	ppb	1.1	16267.53	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	672124.04	6.4	733417.76	91.64	70	120	
Sc	45	No Gas	3095928.58	7.0	3201327	96.71	70	120	
Sc	45	H2	2719605.83	0.5	2650809.25	102.6	70	120	
Sc	45	He	402197.59	0.1	404532.51	99.42	70	120	
Ge	72	No Gas	744101.96	6.7	724682.77	102.68	70	120	
Ge	72	H2	748022.31	0.7	708729.75	105.54	70	120	
Ge	72	He	241523.51	0.4	231857.12	104.17	70	120	
In	115	No Gas	4287363.62	7.3	4273868.93	100.32	70	120	
Tb	159	No Gas	5751276.58	7.4	5675097.55	101.34	70	120	
Tb	159	He	4410121.67	0.6	4319822.17	102.09	70	120	

Sample Report

Sample Name	L206-03G
File Name	H6A23144.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 21:44:59
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	409.739	81.948	ppb	1.8	359208.96	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	17.78	50	
B	11	6	No Gas	1300.047	260.009	ppb	2.2	240934.37	100	>LDR
Na	23	45	H2	1308799.827	261759.965	ppb	1.1	899085866.67	50000	>LDR
Mg	24	45	No Gas	1053.076	210.615	ppb	1.1	1412092.42	50000	
Al	27	45	No Gas	9.759	1.952	ppb	2.5	26251.64	50000	
Si	28	45	H2	9666.509	1933.302	ppb	1.9	2464915.08	5000	
P	31	45	No Gas	13.109	2.622	ppb	7.6	30627.72	500	
K	39	45	He	15230.323	3046.065	ppb	1.4	2039803.21	50000	
Ca	40	45	H2	48316.167	9663.233	ppb	1.7	89520970.67	50000	
Ti	47	45	No Gas	0.671	0.134	ppb	20.1	317.33	500	
V	51	45	He	2.632	0.526	ppb	3.8	4430.72	500	
Cr	52	45	He	8.896	1.779	ppb	1.2	13029.53	500	
Mn	55	45	No Gas	0.986	0.197	ppb	3.0	11676.98	3000	
Fe	56	45	H2	11.455	2.291	ppb	3.6	47051.48	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	411.34	500	
Ni	60	45	He	0.108	0.022	ppb	17.5	293.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1979.48	500	
Zn	66	72	No Gas	10.358	2.072	ppb	1.7	6772.36	500	
As	75	72	He	6.679	1.336	ppb	1.6	1524.75	500	
Se	78	72	H2	0.411	0.082	ppb	13.0	72.67	500	
Sr	88	72	No Gas	1248.094	249.619	ppb	0.9	6050112.40	500	
Zr	90	72	No Gas	0.042	0.008	ppb	69.9	350.01	50	
Mo	95	115	No Gas	52.293	10.459	ppb	1.4	49998.05	500	
Ag	107	115	No Gas	0.018	0.004	ppb	13.8	68.89	50	
Cd	111	115	No Gas	0.016	0.003	ppb	26.7	34.94	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	563.35	500	
Sb	123	115	No Gas	0.188	0.038	ppb	14.3	471.12	100	
Ba	137	115	No Gas	35.691	7.138	ppb	0.8	25251.18	1000	
W	182	159	No Gas	2.274	0.455	ppb	2.5	3713.89	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	23.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.67	5	
Tl	205	159	No Gas	0.030	0.006	ppb	56.1	570.01	500	
Pb	208	159	No Gas	0.014	0.003	ppb	31.9	900.01	500	
U	238	159	No Gas	2.444	0.489	ppb	2.1	10968.25	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	683495.85	4.2	733417.76	93.19	70	120	
Sc	45	No Gas	3287957.50	2.9	3201327	102.71	70	120	
Sc	45	H2	2746708.08	1.2	2650809.25	103.62	70	120	
Sc	45	He	425445.44	0.6	404532.51	105.17	70	120	
Ge	72	No Gas	770715.35	2.2	724682.77	106.35	70	120	
Ge	72	H2	741310.83	0.3	708729.75	104.6	70	120	
Ge	72	He	246706.81	0.6	231857.12	106.4	70	120	
In	115	No Gas	4264408.45	1.9	4273868.93	99.78	70	120	
Tb	159	No Gas	5841012.55	1.5	5675097.55	102.92	70	120	
Tb	159	He	4404416.33	0.9	4319822.17	101.96	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A23145.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 21:47:33
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	1.208	ppb	2.9	44225.86	2	-50	50	> +/- 20%
Be	9	6	No Gas	<0.000	ppb	N/A	16.67	0.4	-50	50	
B	11	6	No Gas	9.353	ppb	19.4	15308.36	10	-50	50	> +/- 20%
Na	23	45	H2	115544.266	ppb	1.1	405666709.33	100000	80	120	
Mg	24	45	No Gas	108817.249	ppb	0.5	745609194.67	100000	80	120	
Al	27	45	No Gas	110110.495	ppb	1.6	1031486251.30	100000	80	120	
Si	28	45	H2	7.161	ppb	1.8	12667.09	50	-50	50	
P	31	45	No Gas	98832.670	ppb	0.9	65428132.00	100000	80	120	
K	39	45	He	114203.563	ppb	0.3	72453306.67	100000	80	120	
Ca	40	45	H2	114487.072	ppb	0.8	1081834325.33	100000	80	120	
Ti	47	45	No Gas	2235.732	ppb	0.5	3125994.92	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1377.41	1	-50	50	
Cr	52	45	He	2.346	ppb	1.7	16387.13	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.700	ppb	2.8	22785.63	1	-50	50	> +/- 20%
Fe	56	45	H2	114030.493	ppb	1.1	1655008554.67	100000	80	120	
Co	59	45	No Gas	0.163	ppb	1.3	3482.45	0.75	-50	50	
Ni	60	45	He	0.461	ppb	7.5	1227.39	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2892.98	2	-50	50	> +/- 20%
Zn	66	72	No Gas	8.729	ppb	1.5	24793.33	20	-50	50	
As	75	72	He	0.078	ppb	29.0	201.00	1	-50	50	
Se	78	72	H2	0.065	ppb	21.0	66.33	1	-50	50	
Sr	88	72	No Gas	1.028	ppb	1.0	25867.25	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.151	ppb	2.7	2666.94	10	-50	50	
Mo	95	115	No Gas	2235.155	ppb	1.9	10656933.74	2000	80	120	
Ag	107	115	No Gas	0.094	ppb	6.5	1075.60	0.4	-50	50	
Cd	111	115	No Gas	0.047	ppb	27.4	131.00	1	-50	50	
Sn	118	115	No Gas	0.067	ppb	18.5	1344.52	1	-50	50	
Sb	123	115	No Gas	0.105	ppb	6.5	993.37	1	-50	50	
Ba	137	115	No Gas	0.780	ppb	2.1	2828.09	1	-50	50	> +/- 20%
W	182	159	No Gas	0.164	ppb	13.3	1413.42	1	-50	50	
Hg	201	159	No Gas	<0.000	ppb	N/A	22.33	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	15.83	0.5	-50	50	
Tl	205	159	No Gas	0.001	ppb	62.8	495.57	0.5	-50	50	
Pb	208	159	No Gas	0.052	ppb	14.0	2106.74	0.5	-50	50	

TH 2/1/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.021	ppb	4.0	551.12	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	691965.87	2.3	733417.76	94.35	70	120	
Sc	45	No Gas	3379479.75	4.2	3201327	105.56	70	120	
Sc	45	H2	2803559.42	1.2	2650809.25	105.76	70	120	
Sc	45	He	422589.91	1.1	404532.51	104.46	70	120	
Ge	72	No Gas	783582.71	3.4	724682.77	108.13	70	120	
Ge	72	H2	749771.25	0.5	708729.75	105.79	70	120	
Ge	72	He	242362.79	0.6	231857.12	104.53	70	120	
In	115	No Gas	4255469.01	2.9	4273868.93	99.57	70	120	
Tb	159	No Gas	6015016.29	3.1	5675097.55	105.99	70	120	
Tb	159	He	4512913.67	0.8	4319822.17	104.47	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A23146.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:50:10
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.909	ppb	2.4	124105.13	20	80	120	
Be	9	6	No Gas	20.117	ppb	2.3	29450.84	20	80	120	
B	11	6	No Gas	21.745	ppb	3.1	27033.74	20	80	120	
Na	23	45	H2	102858.452	ppb	1.4	369817152.00	100000	80	120	
Mg	24	45	No Gas	96206.367	ppb	1.5	683154176.00	100000	80	120	
Al	27	45	No Gas	97517.522	ppb	1.4	946067452.57	100000	80	120	
Si	28	45	H2	213.175	ppb	0.3	287092.07	200	80	120	
P	31	45	No Gas	88767.504	ppb	0.7	60893340.00	100000	80	120	
K	39	45	He	101842.896	ppb	0.6	66196805.33	100000	80	120	
Ca	40	45	H2	101515.893	ppb	1.0	982041792.00	100000	80	120	
Ti	47	45	No Gas	2004.528	ppb	0.8	2903653.50	2000	80	120	
V	51	45	He	20.507	ppb	0.9	115369.97	20	80	120	
Cr	52	45	He	22.905	ppb	1.1	144964.39	20	80	120	
Mn	55	45	No Gas	20.846	ppb	0.3	471812.68	20	80	120	
Fe	56	45	H2	99799.890	ppb	0.5	1482920704.00	100000	80	120	
Co	59	45	No Gas	19.975	ppb	1.4	382307.96	20	80	120	
Ni	60	45	He	20.427	ppb	1.9	44816.15	20	80	120	
Cu	63	45	He	18.519	ppb	0.7	115274.26	20	80	120	
Zn	66	72	No Gas	23.334	ppb	1.0	66544.70	20	80	120	
As	75	72	He	19.857	ppb	1.0	21095.11	20	80	120	
Se	78	72	H2	20.891	ppb	1.5	8741.83	20	80	120	
Sr	88	72	No Gas	21.490	ppb	0.4	550518.12	20	80	120	
Zr	90	72	No Gas	9.511	ppb	0.5	160734.01	20	80	120	> +/- 20%
Mo	95	115	No Gas	2021.519	ppb	1.4	9952467.38	2000	80	120	
Ag	107	115	No Gas	20.082	ppb	0.6	230158.64	20	80	120	
Cd	111	115	No Gas	20.450	ppb	1.0	46612.85	20	80	120	
Sn	118	115	No Gas	20.463	ppb	0.9	139749.59	20	80	120	
Sb	123	115	No Gas	20.327	ppb	0.8	163816.42	20	80	120	
Ba	137	115	No Gas	21.691	ppb	1.7	78919.94	20	80	120	
W	182	159	No Gas	19.529	ppb	0.5	167383.54	20	80	120	
Hg	201	159	No Gas	1.941	ppb	0.8	2614.11	2	80	120	
Hg	201	159	He	1.970	ppb	2.6	2050.17	2	80	120	
Tl	205	159	No Gas	20.653	ppb	1.8	374116.69	20	80	120	
Pb	208	159	No Gas	20.775	ppb	1.9	516301.99	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	21.478	ppb	0.9	510604.30	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	702693.78	2.1	733417.76	95.81	70	120	
Sc	45	No Gas	3501518.33	3.5	3201327	109.38	70	120	
Sc	45	H2	2869975.08	0.2	2650809.25	108.27	70	120	
Sc	45	He	432890.13	1.0	404532.51	107.01	70	120	
Ge	72	No Gas	813887.44	1.7	724682.77	112.31	70	120	
Ge	72	H2	762767.21	0.5	708729.75	107.62	70	120	
Ge	72	He	248303.23	0.3	231857.12	107.09	70	120	
In	115	No Gas	4396640.64	2.9	4273868.93	102.87	70	120	
Tb	159	No Gas	6228775.45	2.4	5675097.55	109.76	70	120	
Tb	159	He	4592678.50	0.8	4319822.17	106.32	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV14
File Name	H6A23147.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:52:47
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.409	ppb	1.1	139268.73	25	97.64	90	110	
Be	9	6	No Gas	23.749	ppb	1.4	35036.92	25	95	90	110	
B	11	6	No Gas	48.121	ppb	1.3	51873.36	50	96.24	90	110	
Na	23	45	H2	24613.202	ppb	0.5	87744629.33	25000	98.45	90	110	
Mg	24	45	No Gas	23688.199	ppb	1.2	168905616.00	25000	94.75	90	110	
Al	27	45	No Gas	23909.558	ppb	2.2	233001903.20	25000	95.64	90	110	
Si	28	45	H2	2293.788	ppb	1.2	3002642.50	2500	91.75	90	110	
P	31	45	No Gas	220.840	ppb	1.5	183002.87	250	88.34	90	110	> +/- 10%
K	39	45	He	24527.778	ppb	0.8	15607023.00	25000	98.11	90	110	
Ca	40	45	H2	24342.018	ppb	0.4	231453354.67	25000	97.37	90	110	
Ti	47	45	No Gas	232.545	ppb	0.5	338417.55	250	93.02	90	110	
V	51	45	He	243.709	ppb	0.5	1319161.96	250	97.48	90	110	
Cr	52	45	He	243.833	ppb	0.8	1483326.71	250	97.53	90	110	
Mn	55	45	No Gas	1466.725	ppb	1.0	32780538.67	1500	97.78	90	110	
Fe	56	45	H2	24434.156	ppb	0.3	356779093.33	25000	97.74	90	110	
Co	59	45	No Gas	231.784	ppb	2.2	4451651.17	250	92.71	90	110	
Ni	60	45	He	246.996	ppb	0.3	525350.01	250	98.8	90	110	
Cu	63	45	He	241.985	ppb	1.1	1332188.54	250	96.79	90	110	
Zn	66	72	No Gas	240.363	ppb	1.2	680336.79	250	96.15	90	110	
As	75	72	He	235.627	ppb	0.2	247586.55	250	94.25	90	110	
Se	78	72	H2	244.772	ppb	1.0	102615.47	250	97.91	90	110	
Sr	88	72	No Gas	245.891	ppb	2.2	6364647.11	250	98.36	90	110	
Zr	90	72	No Gas	23.975	ppb	1.8	409436.76	25	95.9	90	110	
Mo	95	115	No Gas	227.430	ppb	1.6	1161062.84	250	90.97	90	110	
Ag	107	115	No Gas	23.645	ppb	1.3	280856.73	25	94.58	90	110	
Cd	111	115	No Gas	238.485	ppb	0.4	563252.00	250	95.39	90	110	
Sn	118	115	No Gas	234.857	ppb	1.0	1653123.69	250	93.94	90	110	
Sb	123	115	No Gas	45.634	ppb	0.9	381036.97	50	91.27	90	110	
Ba	137	115	No Gas	486.394	ppb	0.9	1833369.93	500	97.28	90	110	
W	182	159	No Gas	24.671	ppb	2.4	217554.67	25	98.68	90	110	
Hg	201	159	No Gas	2.460	ppb	0.8	3402.46	2.5	98.4	90	110	
Hg	201	159	He	2.556	ppb	0.8	2637.11	2.5	102.24	90	110	
Tl	205	159	No Gas	249.661	ppb	2.3	4646747.73	250	99.86	90	110	
Pb	208	159	No Gas	247.366	ppb	2.0	6314040.73	250	98.95	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	247.018	ppb	2.8	6040954.20	250	98.81	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	708388.83	1.1	733417.76	96.59	70	120	
Sc	45	No Gas	3516465.42	0.7	3201327	109.84	70	120	
Sc	45	H2	2820202.33	0.4	2650809.25	106.39	70	120	
Sc	45	He	421794.88	0.6	404532.51	104.27	70	120	
Ge	72	No Gas	823052.83	1.0	724682.77	113.57	70	120	
Ge	72	H2	767452.98	0.7	708729.75	108.29	70	120	
Ge	72	He	246925.57	0.5	231857.12	106.5	70	120	
In	115	No Gas	4558039.15	1.9	4273868.93	106.65	70	120	
Tb	159	No Gas	6410904.19	3.0	5675097.55	112.97	70	120	
Tb	159	He	4562027.33	0.8	4319822.17	105.61	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB14
File Name	H6A23148.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:55:25
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.570	ppb	27.5	35928.03	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	21.11	0.08	
B	11	6	No Gas	1.681	ppb	31.7	7188.51	4	
Na	23	45	H2	19.591	ppb	32.5	923843.06	40	
Mg	24	45	No Gas	9.413	ppb	11.3	61897.42	10	
Al	27	45	No Gas	8.801	ppb	13.3	77802.94	15	
Si	28	45	H2	1.388	ppb	20.0	4358.70	8	
P	31	45	No Gas	5.727	ppb	11.5	28641.49	10	
K	39	45	He	44.591	ppb	16.8	104869.75	20	>LOD
Ca	40	45	H2	14.414	ppb	7.8	176463.50	25	
Ti	47	45	No Gas	0.132	ppb	8.7	276.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1134.71	0.5	
Cr	52	45	He	0.036	ppb	51.6	1966.14	0.2	
Mn	55	45	No Gas	0.427	ppb	3.1	14459.64	0.2	>LOD
Fe	56	45	H2	10.110	ppb	10.3	136283.68	10	>LOD
Co	59	45	No Gas	0.038	ppb	6.7	1012.70	0.15	
Ni	60	45	He	<0.000	ppb	N/A	204.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1958.14	0.4	
Zn	66	72	No Gas	0.186	ppb	5.0	1551.42	2	
As	75	72	He	0.042	ppb	34.1	140.33	0.2	
Se	78	72	H2	0.114	ppb	7.9	74.33	0.2	
Sr	88	72	No Gas	0.053	ppb	10.3	1598.99	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	136.67	2	
Mo	95	115	No Gas	0.189	ppb	12.6	881.14	0.2	
Ag	107	115	No Gas	0.009	ppb	11.7	118.89	0.08	
Cd	111	115	No Gas	0.076	ppb	10.1	181.55	0.2	
Sn	118	115	No Gas	0.035	ppb	28.1	1053.38	0.2	
Sb	123	115	No Gas	0.095	ppb	9.9	852.25	0.4	
Ba	137	115	No Gas	0.119	ppb	7.6	467.79	0.2	
W	182	159	No Gas	0.010	ppb	21.7	123.33	0.3	
Hg	201	159	No Gas	0.022	ppb	23.1	46.67	0.1	
Hg	201	159	He	0.015	ppb	18.4	26.83	0.1	
Tl	205	159	No Gas	0.088	ppb	7.8	1785.68	0.1	
Pb	208	159	No Gas	0.052	ppb	4.9	1852.28	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.057	ppb	10.8	1207.84	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	596222.78	1.9	733417.76	81.29	70	120	
Sc	45	No Gas	2886282.42	1.1	3201327	90.16	70	120	
Sc	45	H2	2365829.33	1.3	2650809.25	89.25	70	120	
Sc	45	He	356058.96	0.8	404532.51	88.02	70	120	
Ge	72	No Gas	670365.21	0.7	724682.77	92.5	70	120	
Ge	72	H2	644332.67	0.4	708729.75	90.91	70	120	
Ge	72	He	207700.19	0.9	231857.12	89.58	70	120	
In	115	No Gas	3966401.74	0.9	4273868.93	92.81	70	120	
Tb	159	No Gas	5305819.24	0.1	5675097.55	93.49	70	120	
Tb	159	He	3872244.58	0.7	4319822.17	89.64	70	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SM5A-05-01-06

ALL SAMPLES PH<2

Book #: EIM-094
Batch: IML024W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.3 °C		94.0 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-23-02-03	.15
LCS-2	↓ -02-04	.15
MS	SAMESPIKES&DUPLICATES 1,2	
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SWIA-011-17-09	.5+1.0
HCl	↓ -17-10	.25+.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM6A-23-02-06	.1
pH Strip (0-14)	HC160347	N/A
Digestate Location	METALS	
Extract Location	N/A	
☑ Reagent Water ID:	SWIA-011-19-03	
☑ Thermometer ID:	21602428/E07	
☑ Pipette ID:	7427663331	
☐ Pipette ID:		
☐ Pipette ID:		
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask		
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask		

Prepared By: CK

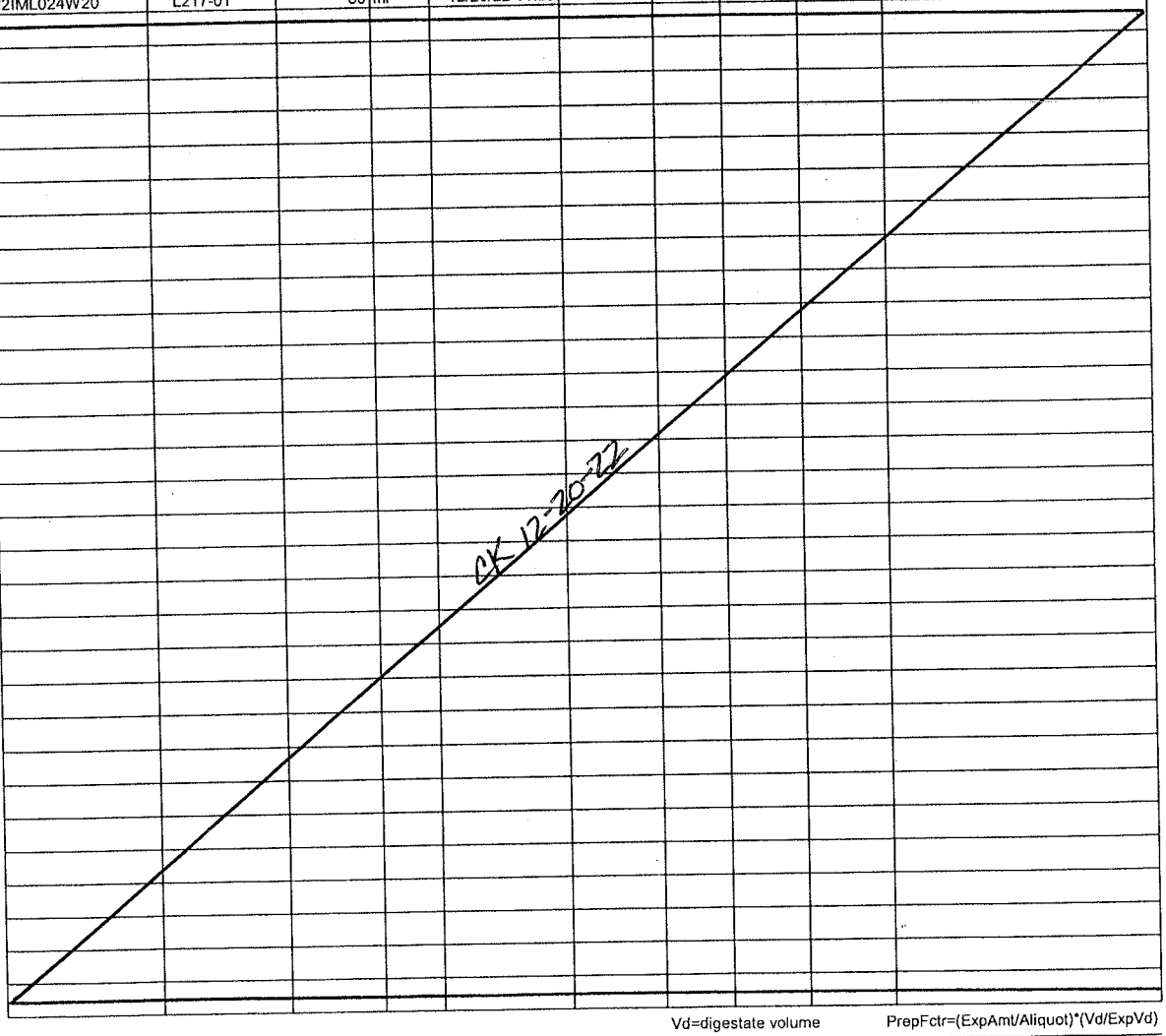
Standard Added By: CK Witnessed By:

Extract Rcvd By: Checked By: CK

EMAX LABORATORIES

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
22IML024W01	IML024WB	50	ml	12/20/22 11:29	50	50	50	1	
22IML024W02	IML024WL	50	ml	12/20/22 11:29	50	50	50	1	
22IML024W03	IML024WC	50	ml	12/20/22 11:29	50	50	50	1	
22IML024W04	L207-01	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W05	L207-02	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W06	L207-03	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W07	L207-04	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W08	L207-04M	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W09	L207-04S	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W10	L207-05	50	ml	12/20/22 11:29	50	50	50	1	TOTAL
22IML024W11	L207-01	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W12	L207-02	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W13	L207-03	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W14	L207-04	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W15	L207-04M	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W16	L207-04S	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W17	L207-05	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W18	L206-01	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W19	L206-03	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED
22IML024W20	L217-01	50	ml	12/20/22 11:29	50	50	50	1	DISSOLVED



Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 12/20/22 12:11

☑ Digestion Ended @ 12/20/22 14:41

Comments:

Prepared By: CKaing

Checked By: CK

Date 12-20-22

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD E218.6
HEXAVALENT CHROMIUM

SDG#: 22L206

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L206

METHOD E218.6
HEXAVALENT CHROMIUM

A total of three(3) water samples were received on 12/14/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Hexavalent Chromium was not detected in HCL009WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HCL009WL/HCL009WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

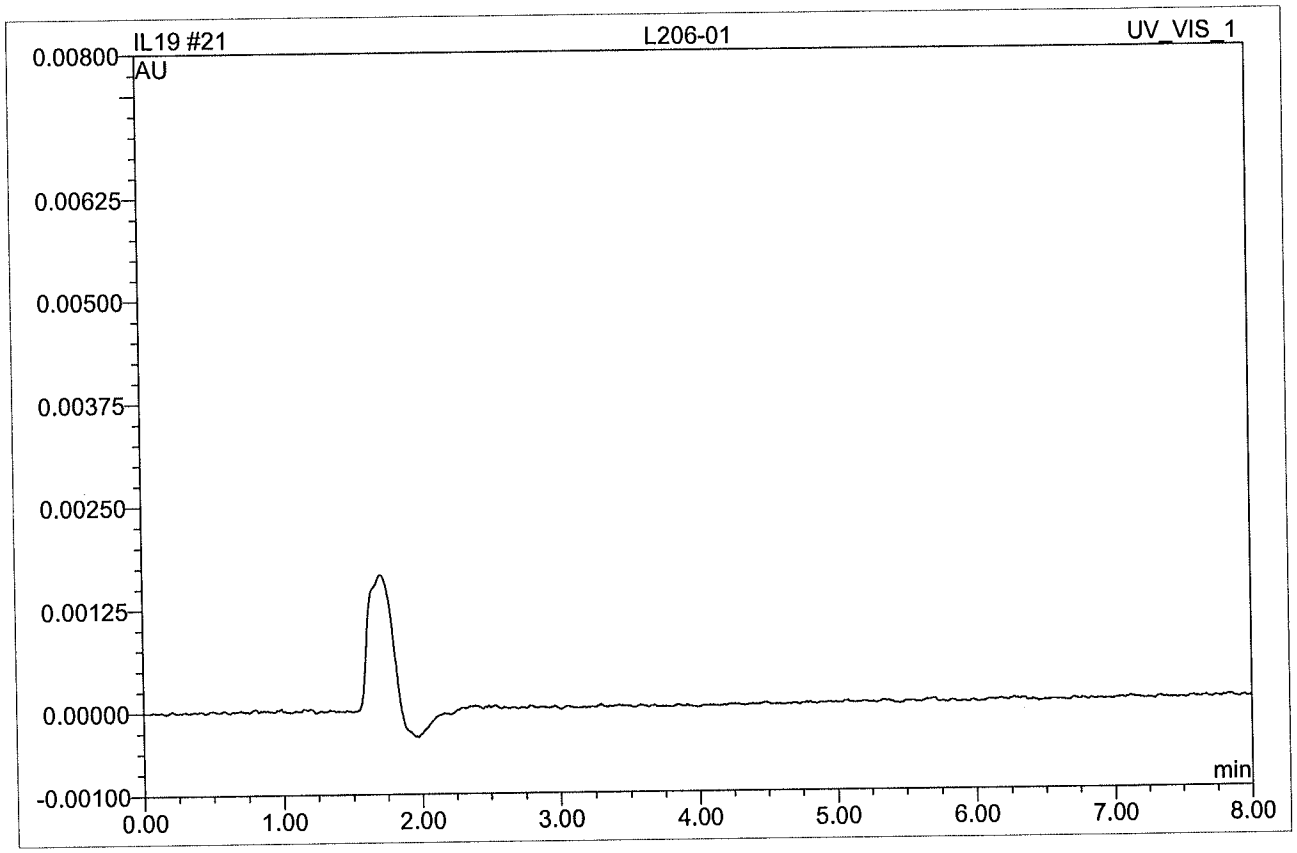
Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L206

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCL009WB	ND	1	NA	0.2	0.05	12/19/2220:25	NA	IL19015	IL19013	HCL009W	NA	NA
LCS1W	HCL009WL	2.00	1	NA	0.2	0.05	12/19/2220:36	NA	IL19016	IL19013	HCL009W	NA	NA
LCD1W	HCL009WC	2.00	1	NA	0.2	0.05	12/19/2220:46	NA	IL19017	IL19013	HCL009W	NA	NA
MW-55-045-Q422	L206-01	ND	1	NA	0.2	0.05	12/19/2221:30	NA	IL19021	IL19013	HCL009W	12/13/2211:59	12/14/22
MW-55-045-EB-Q422	L206-02	ND	1	NA	0.2	0.05	12/19/2221:41	NA	IL19022	IL19013	HCL009W	12/13/2211:42	12/14/22
MW-55-120-Q422	L206-03	8.50	1	NA	0.2	0.05	12/19/2221:51	NA	IL19023	IL19013	HCL009W	12/13/2212:26	12/14/22

IL19 021 L206-01

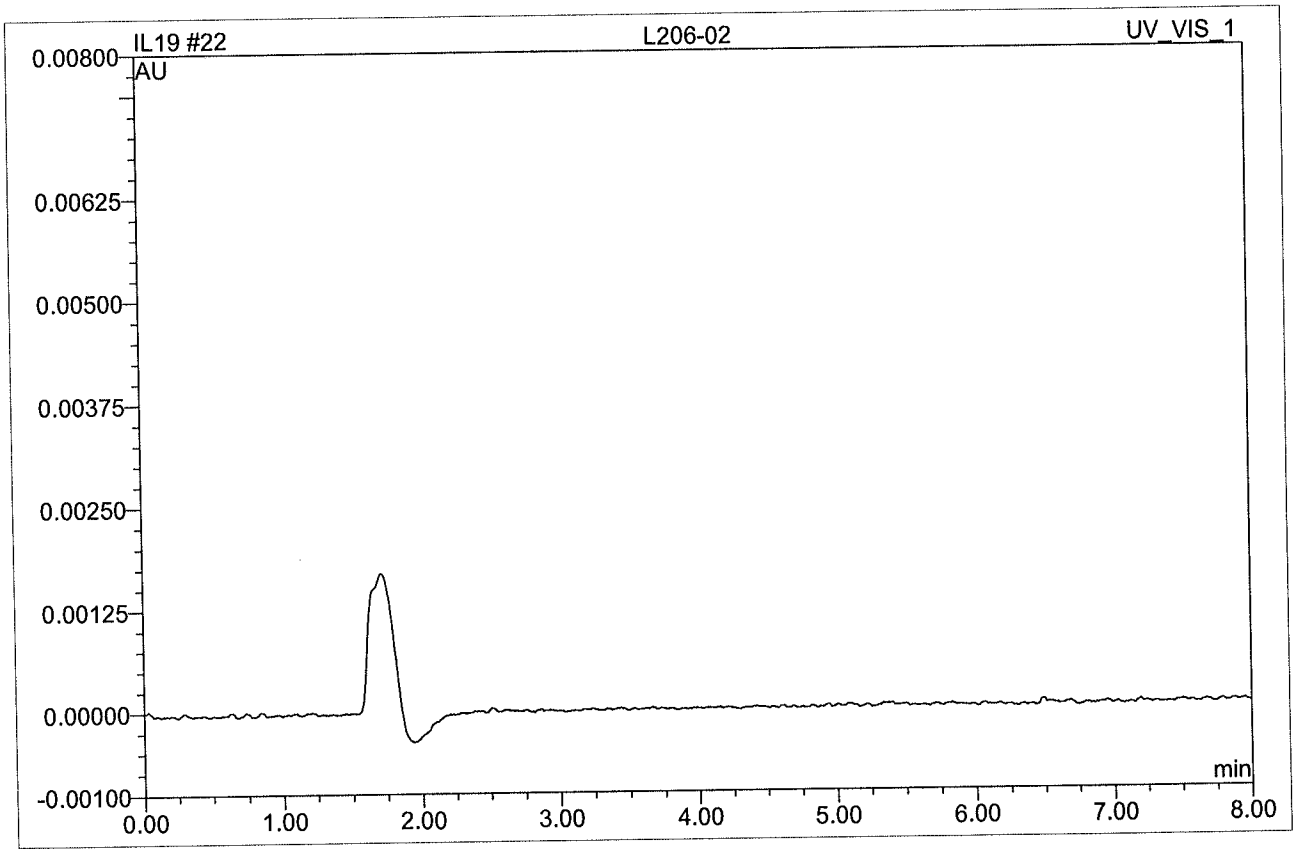
Sample Name:	**L206-01**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 21:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 022 L206-02

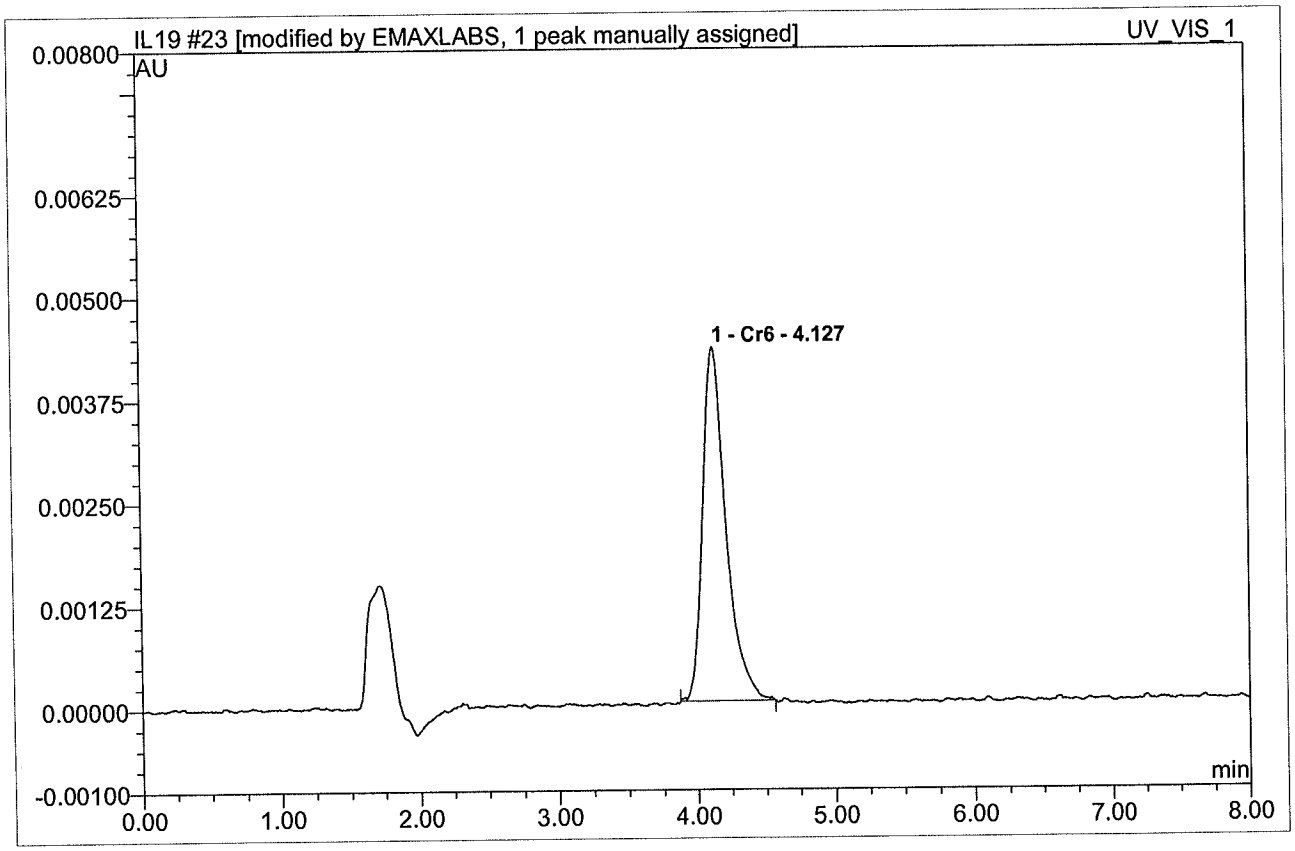
Sample Name:	**L206-02**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 21:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 023 L206-03

Sample Name:	**L206-03**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 21:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.13	Cr6	0.0042940	0.0008404	100.00	8.504	BMB*^
Total:			0.004	0.001	100.00	8.504	

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L206
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCL009WB	HCL009WL	HCL009WC
LAB FILE ID	: IL19015	IL19016	IL19017
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/19/2220:25	12/19/2220:36	12/19/2220:46
PREP BATCH	: HCL009W	HCL009W	HCL009W
CALIBRATION REF:	IL19013	IL19013	IL19013

ACCESSION:

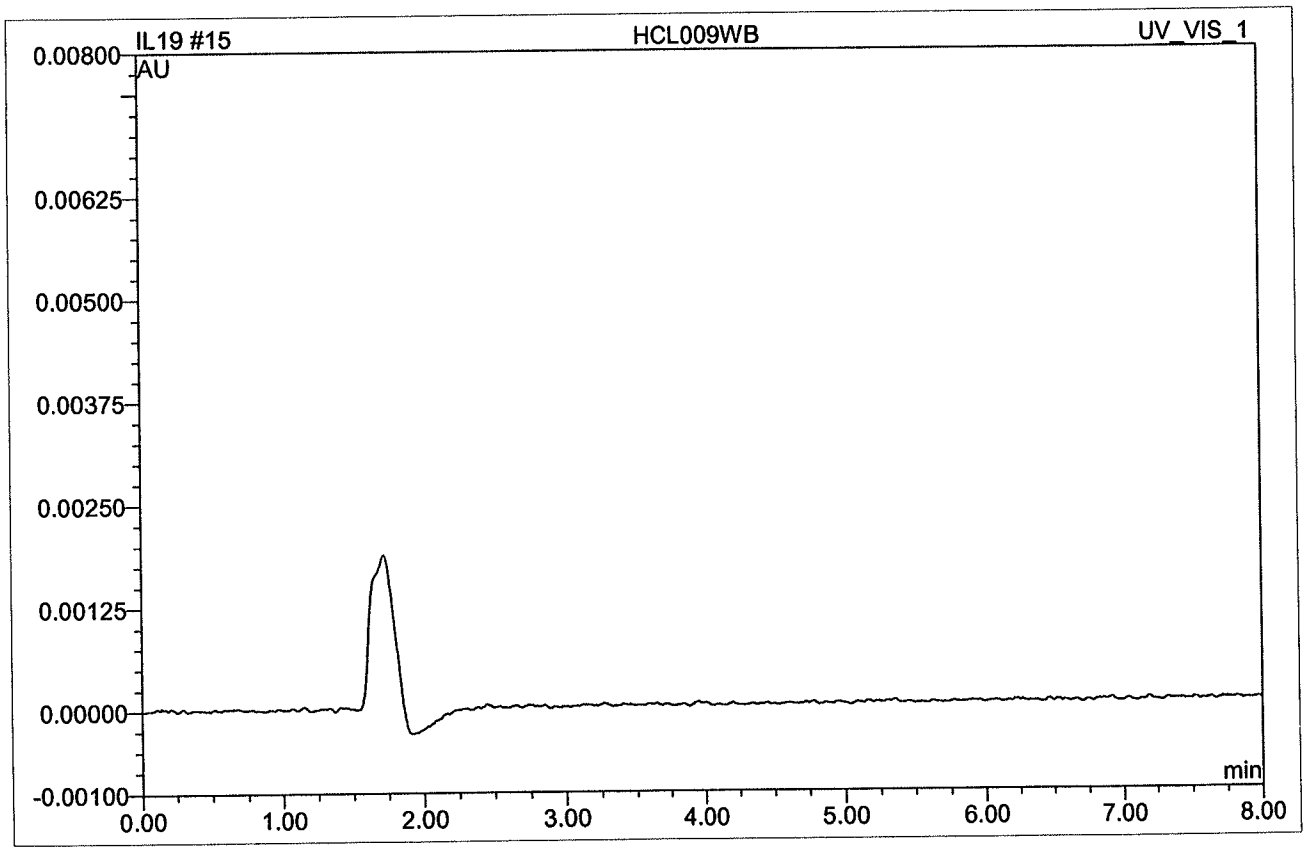
PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	2.00	100	2.00	2.00	100	0	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

QC DATA

IL19 015 HCL009WB

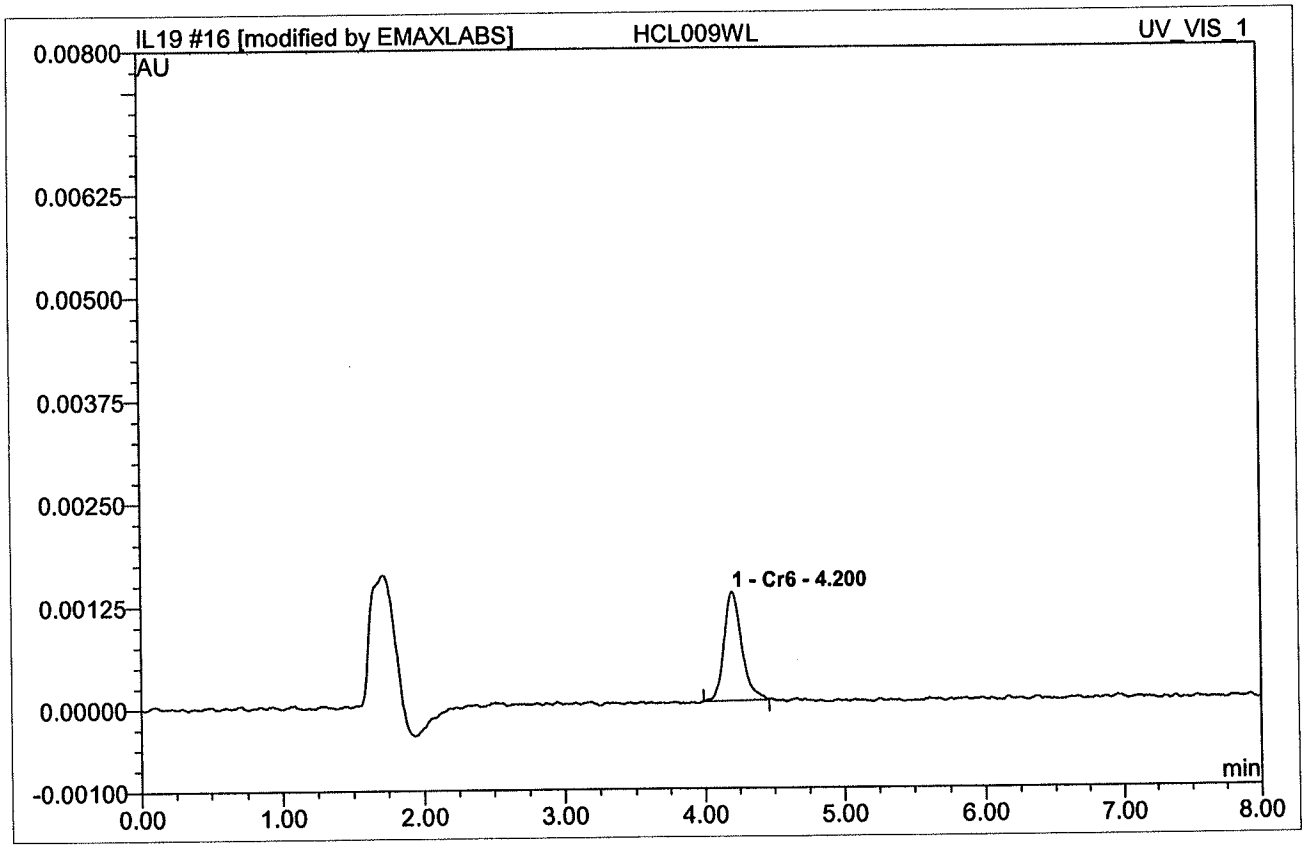
Sample Name:	**HCL009WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 20:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 016 HCL009WL

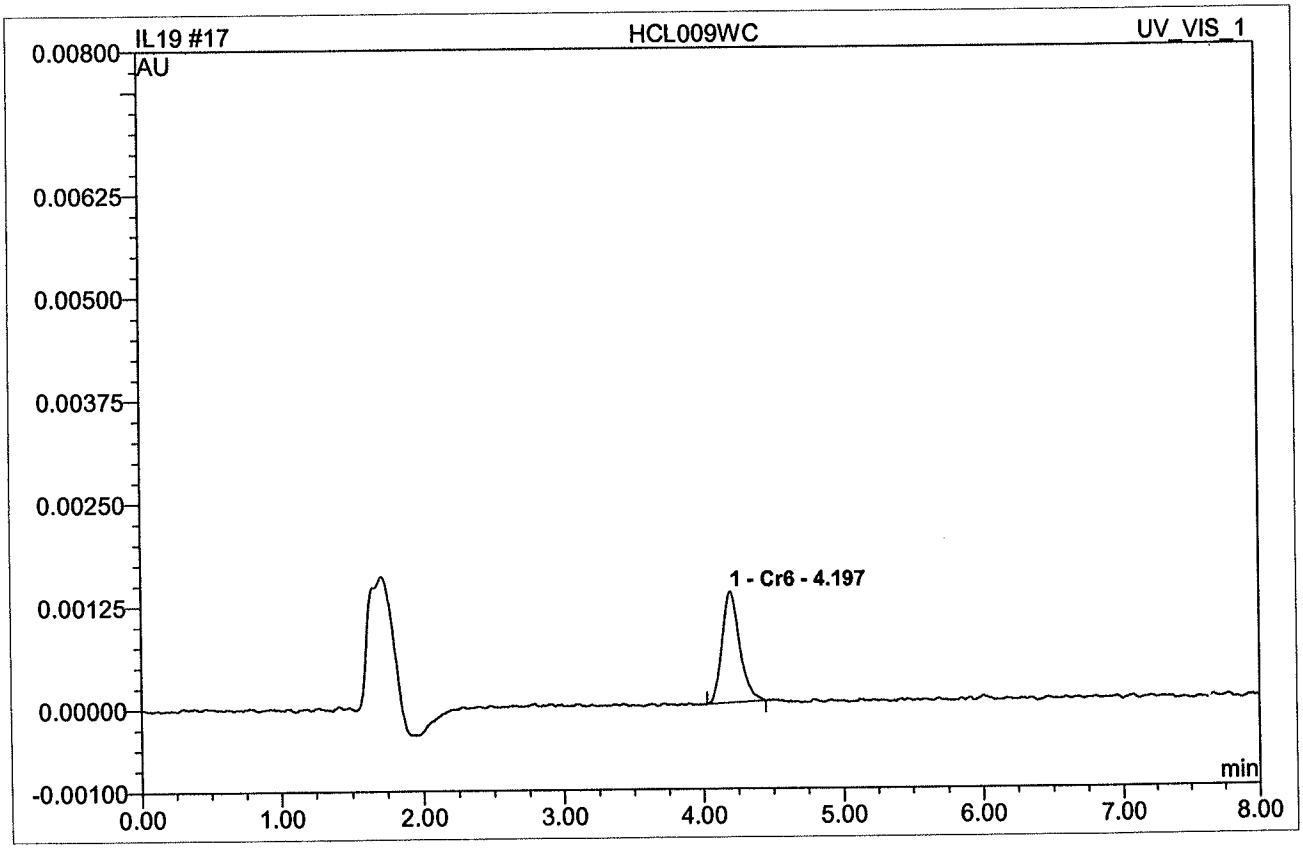
Sample Name:	**HCL009WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 20:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013290	0.0001969	100.00	2.001	BMB*
Total:			0.001	0.000	100.00	2.001	

IL19 017 HCL009WC

Sample Name:	**HCL009WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 20:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013540	0.0001970	100.00	2.002	BMB
Total:			0.001	0.000	100.00	2.002	

INITIAL CALIBRATION

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

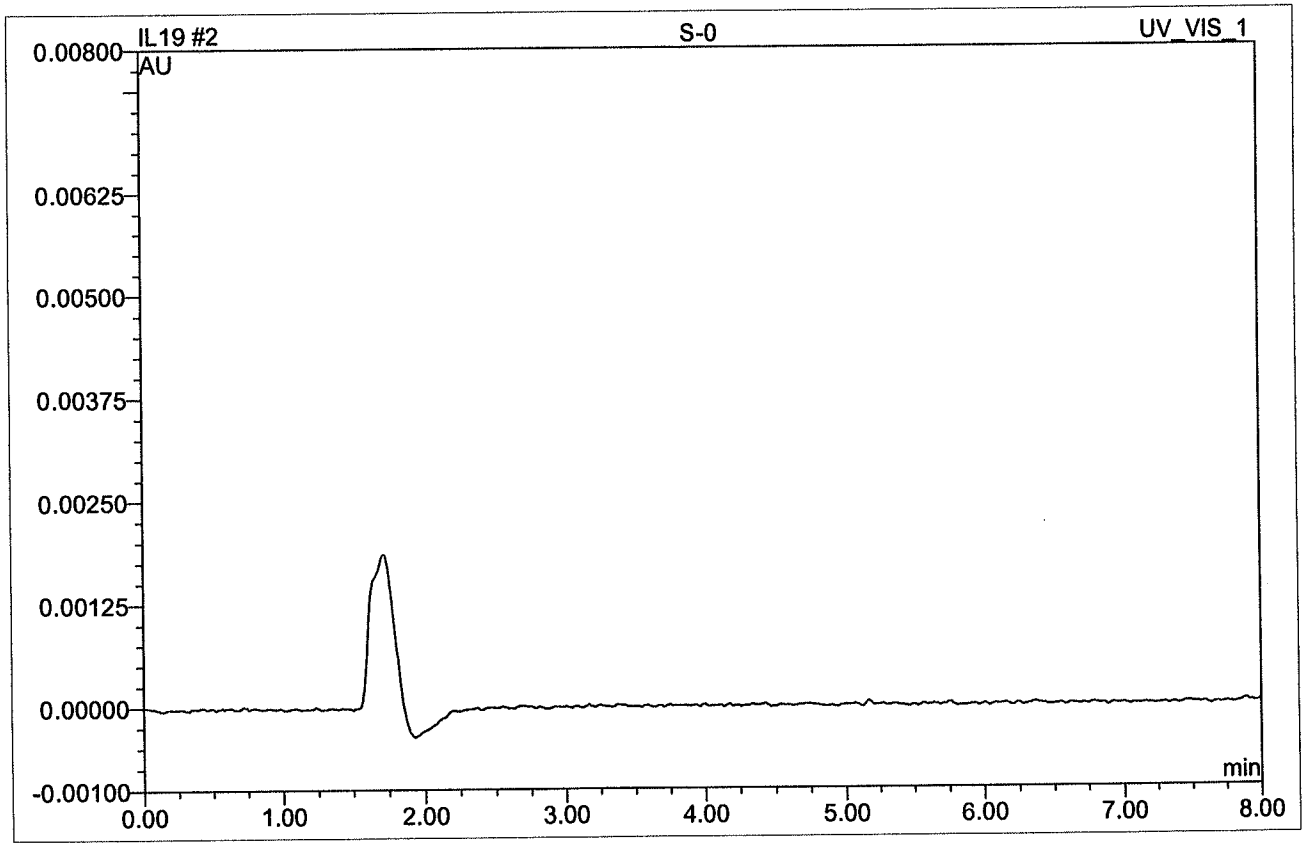
LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1

METHOD: IC59L19
SOLVENT: BUFFER (SP2-05-21-03)

12/27/22

IL19 002 S-0

Sample Name:	**S-0**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 17:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



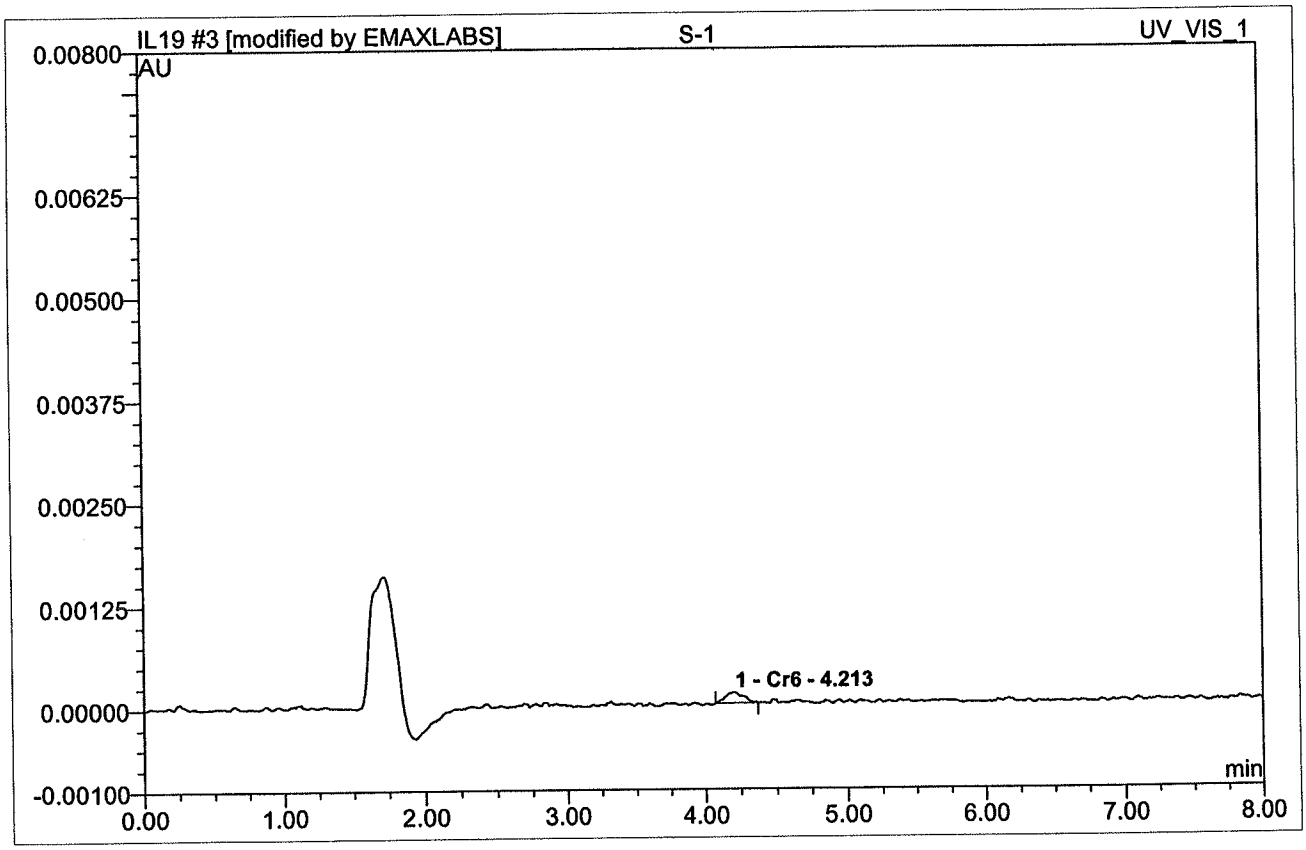
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LLC 12/27/22

IL19 003 S-1

0.2 PPB

Sample Name:	**S-1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 17:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



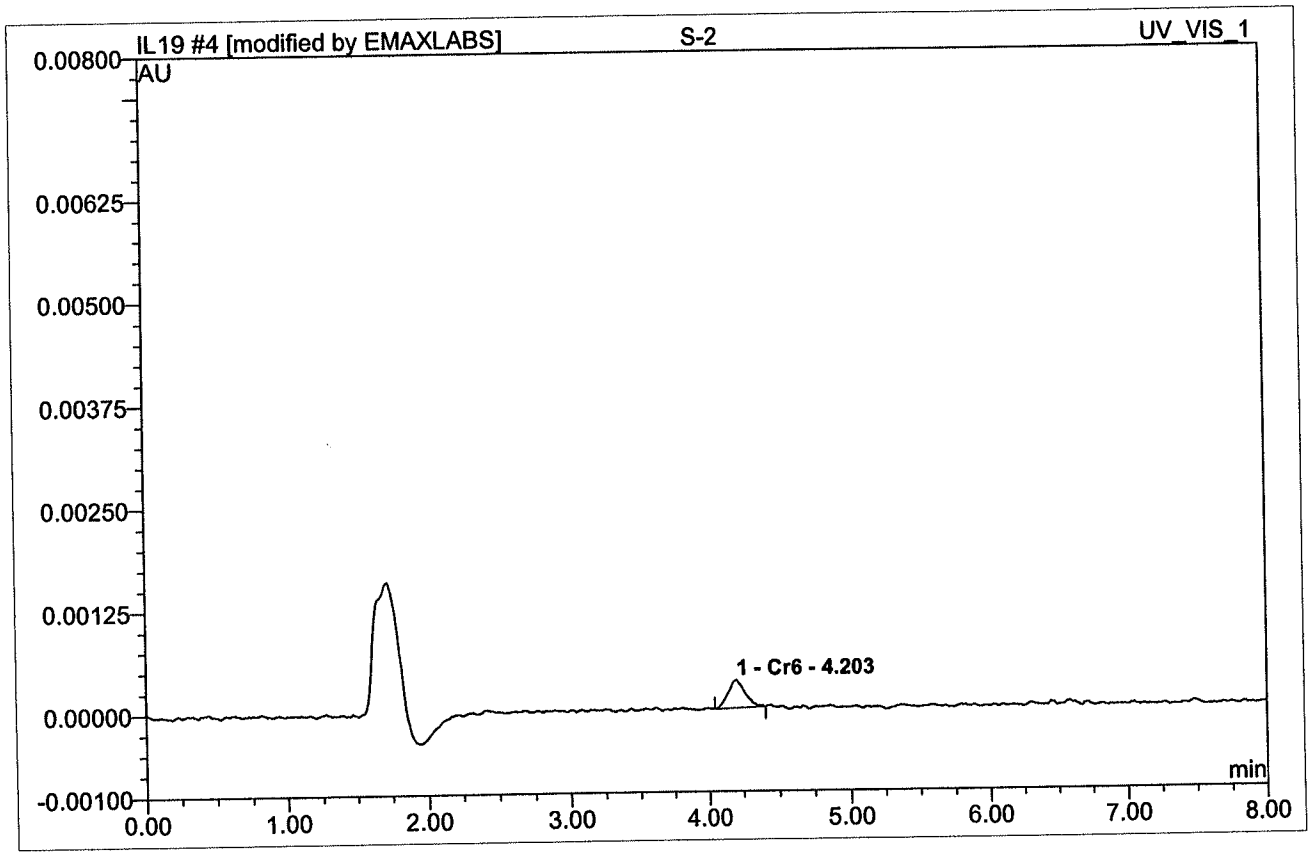
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0001310	0.0000190	100.00	0.204	BMB*
Total:			0.000	0.000	100.00	0.204	

12/27/22

IL19 004 S-2

0.5 PPB

Sample Name:	**S-2**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



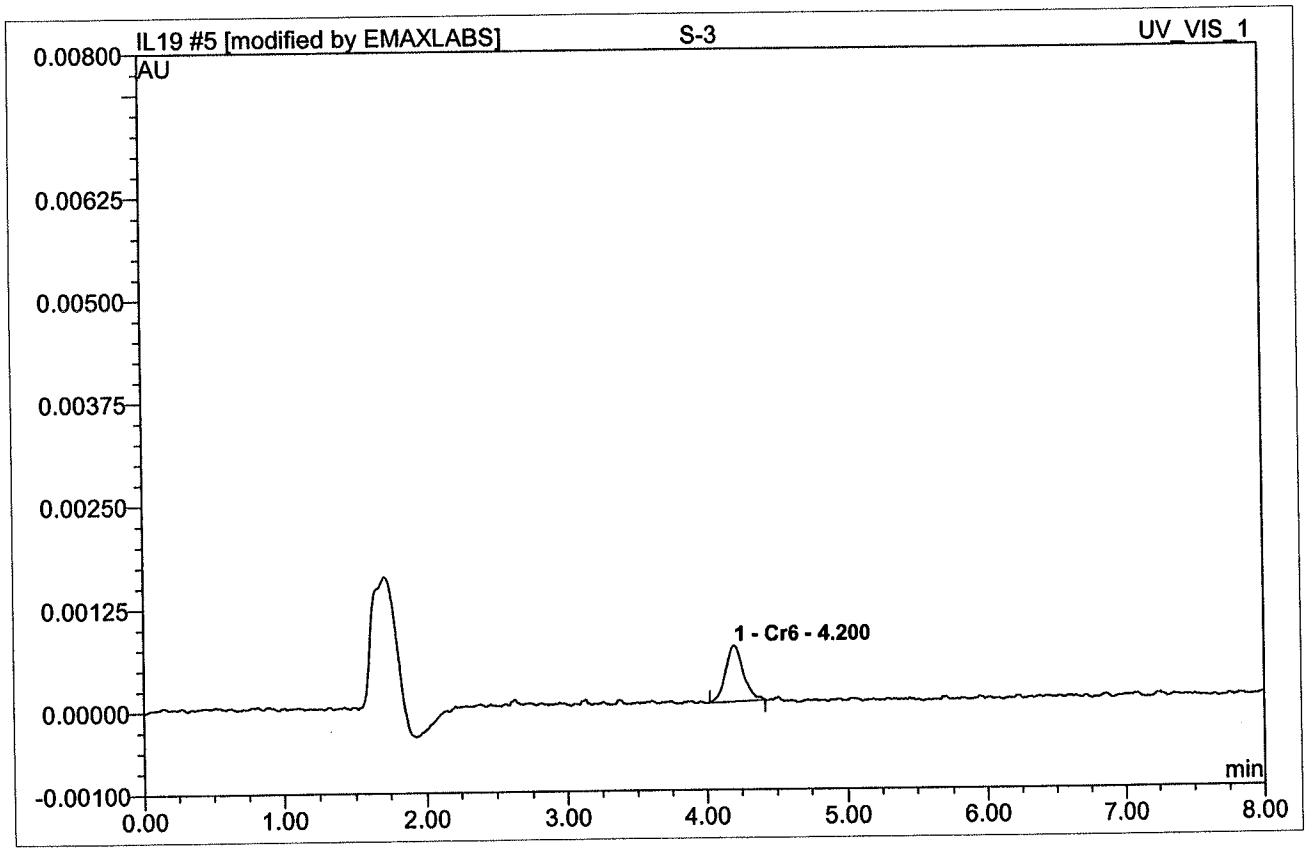
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0003400	0.0000480	100.00	0.496	BMB*
Total:			0.000	0.000	100.00	0.496	

12/27/22

IL19 005 S-3

1.0 PPB

Sample Name:	**S-3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



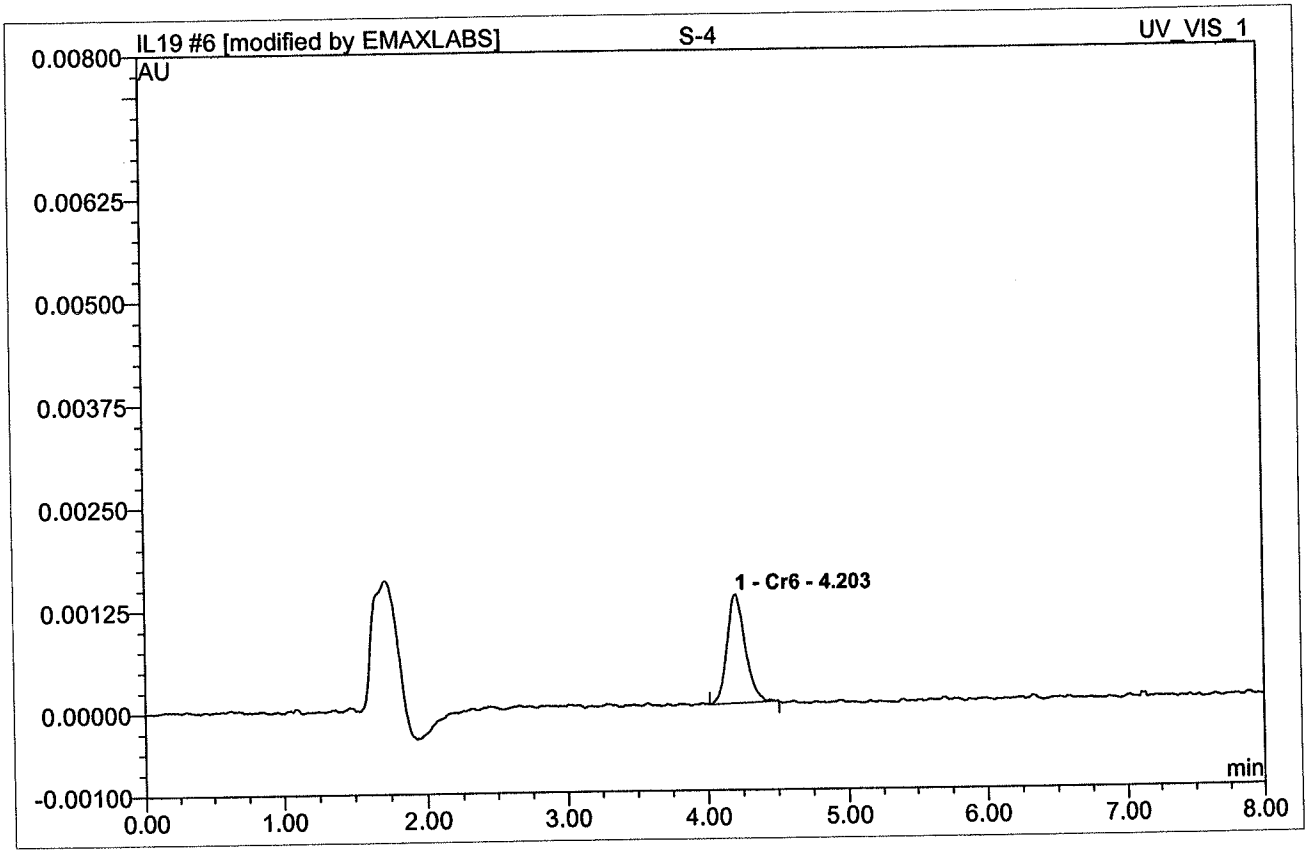
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0006780	0.0000991	100.00	1.013	BMB*
Total:			0.001	0.000	100.00	1.013	

12/27/22

IL19 006 S-4

2.0 PPB

Sample Name:	**S-4**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



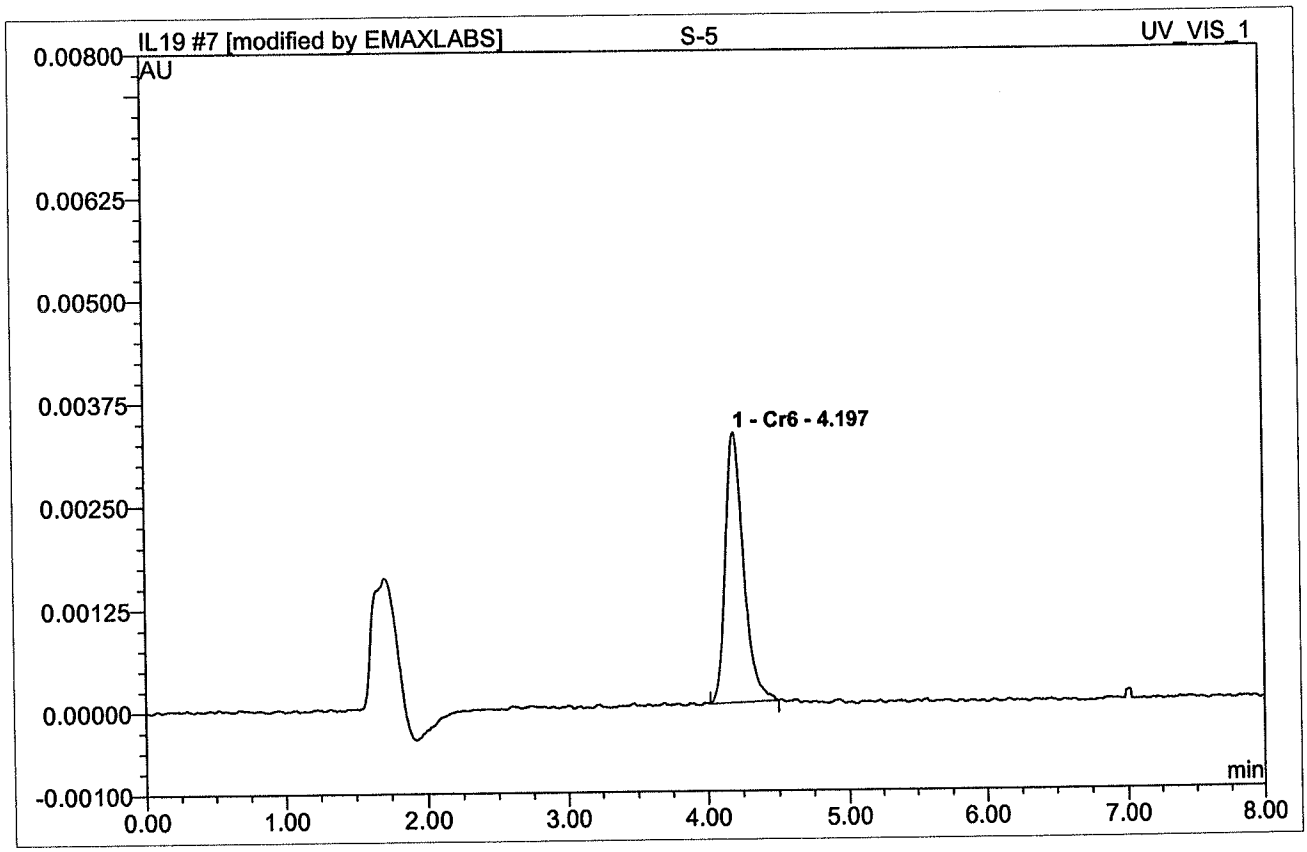
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013280	0.0001965	100.00	1.997	BMB*
Total:			0.001	0.000	100.00	1.997	

12/27/22

IL19 007 S-5

5.0 PPB

Sample Name:	**S-5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



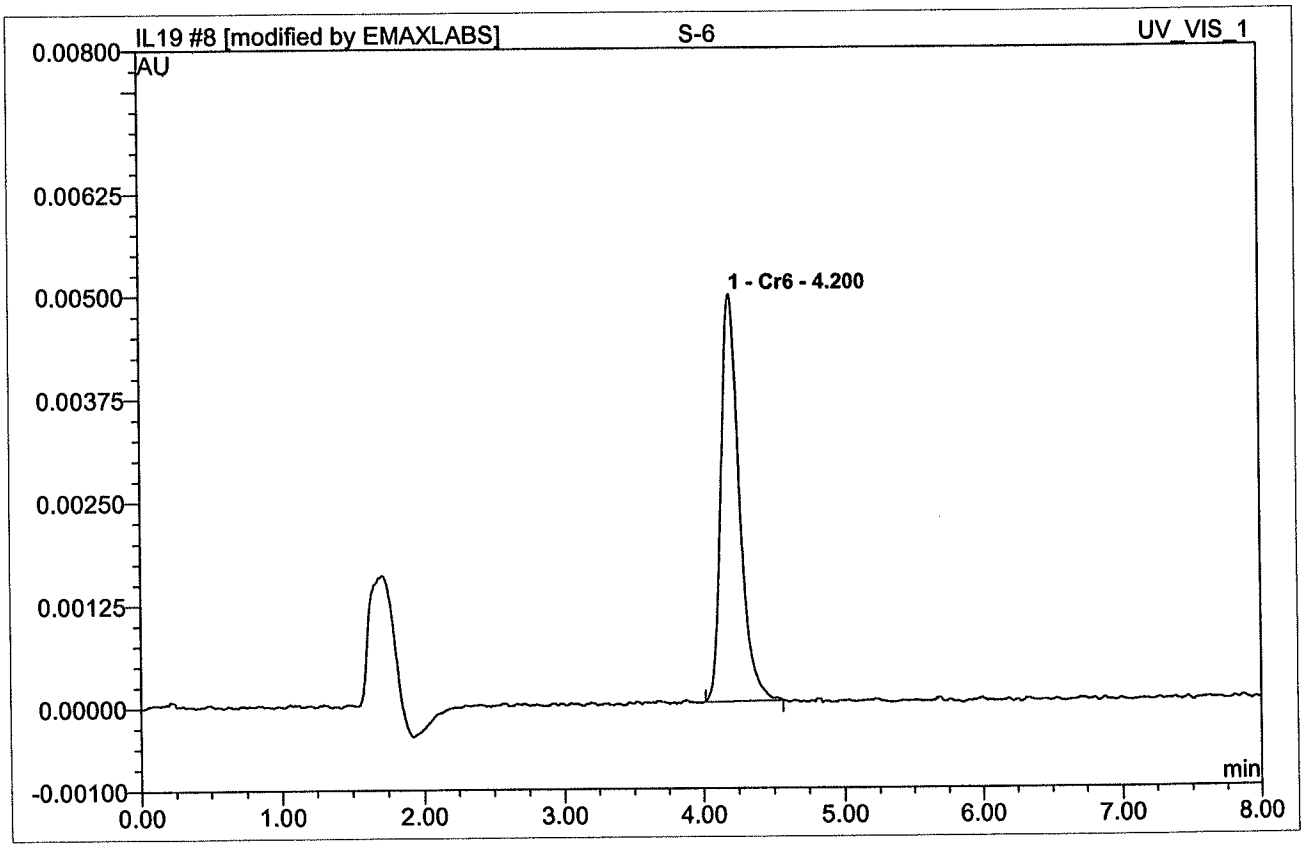
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0032810	0.0004904	100.00	4.967	BMB*
Total:			0.003	0.000	100.00	4.967	

LL 12/27/22

IL19 008 S-6

7.5 PPB

Sample Name:	**S-6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



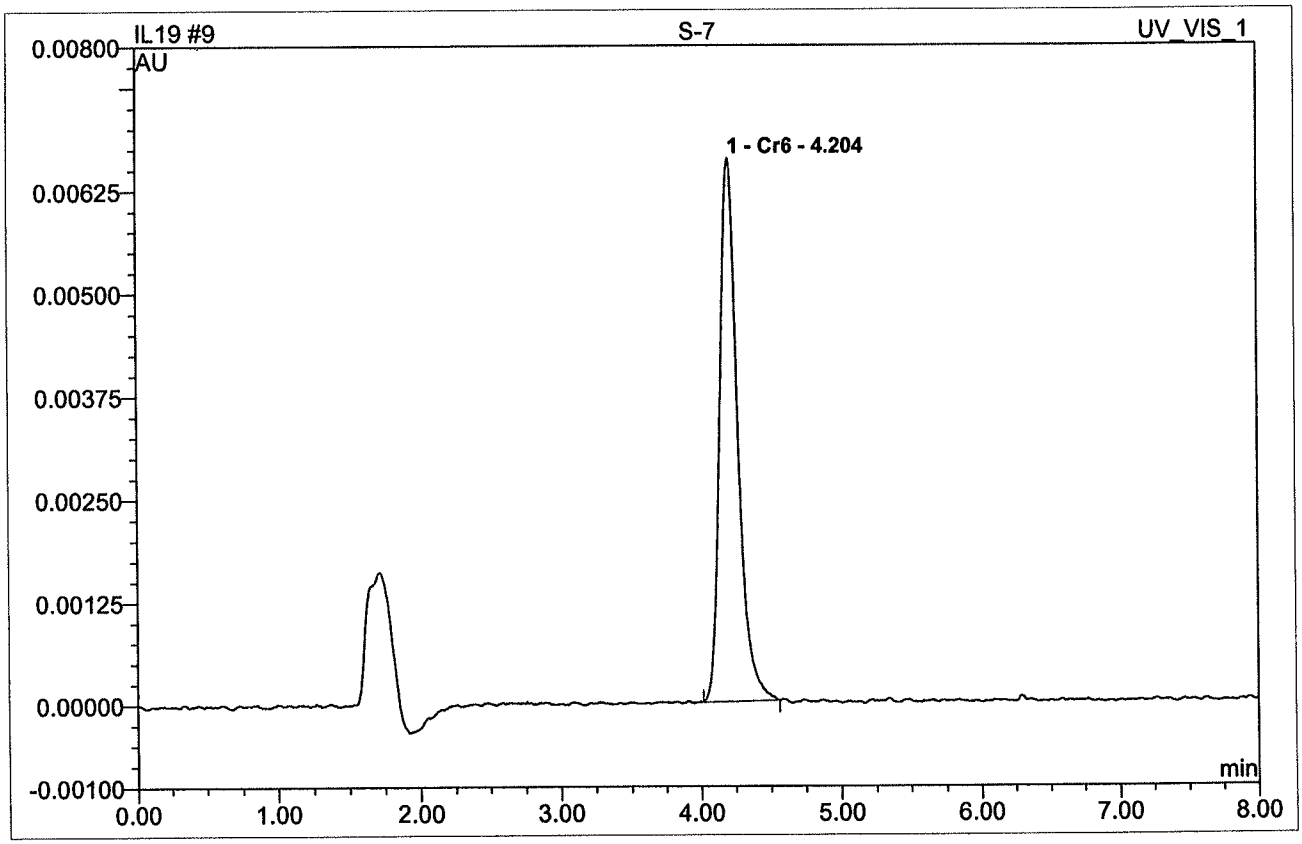
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0049460	0.0007398	100.00	7.487	BMB*
Total:			0.005	0.001	100.00	7.487	

12/27/22

IL19 009 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



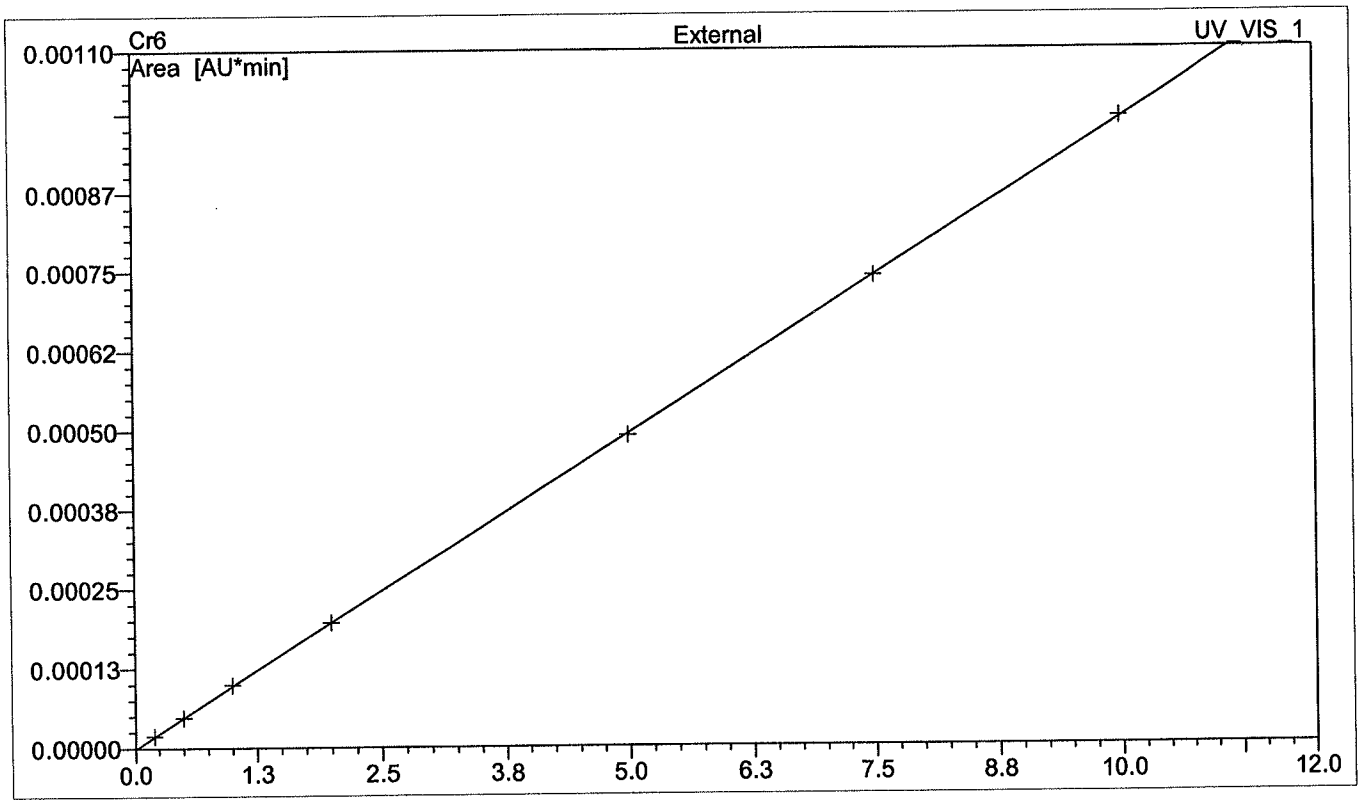
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0066050	0.0009910	100.00	10.026	BMB
Total:			0.007	0.001	100.00	10.026	

LEL 12/22/22

9 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/19/2022 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	R-Square	Offset	Slope	Curve
1	4.20	Cr6	0LOff	7	1.0000	-0.0000011	0.0000990	0.0000
Average:					1.0000	0.0000	0.0001	0.0000

12/27/22

SECOND SOURCE VERIFICATION

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1

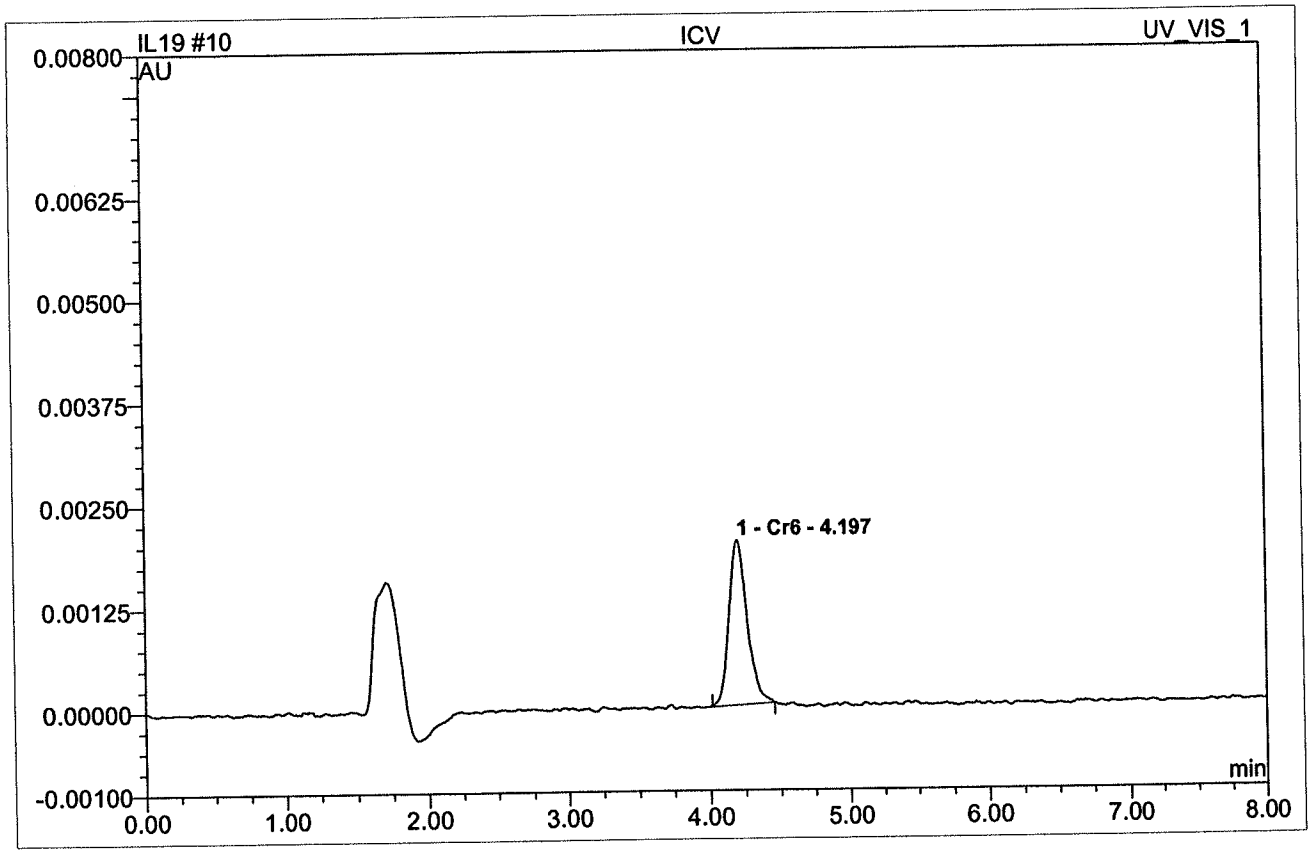
METHOD: IC59L19
SOLVENT: BUFFER (SP2-05-21-03)

12/27/22

IL19 010 ICV

3.0 PPB

Sample Name:	**ICV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0020020	0.0002970	100.00	3.012	BMB
Total:			0.002	0.000	100.00	3.012	

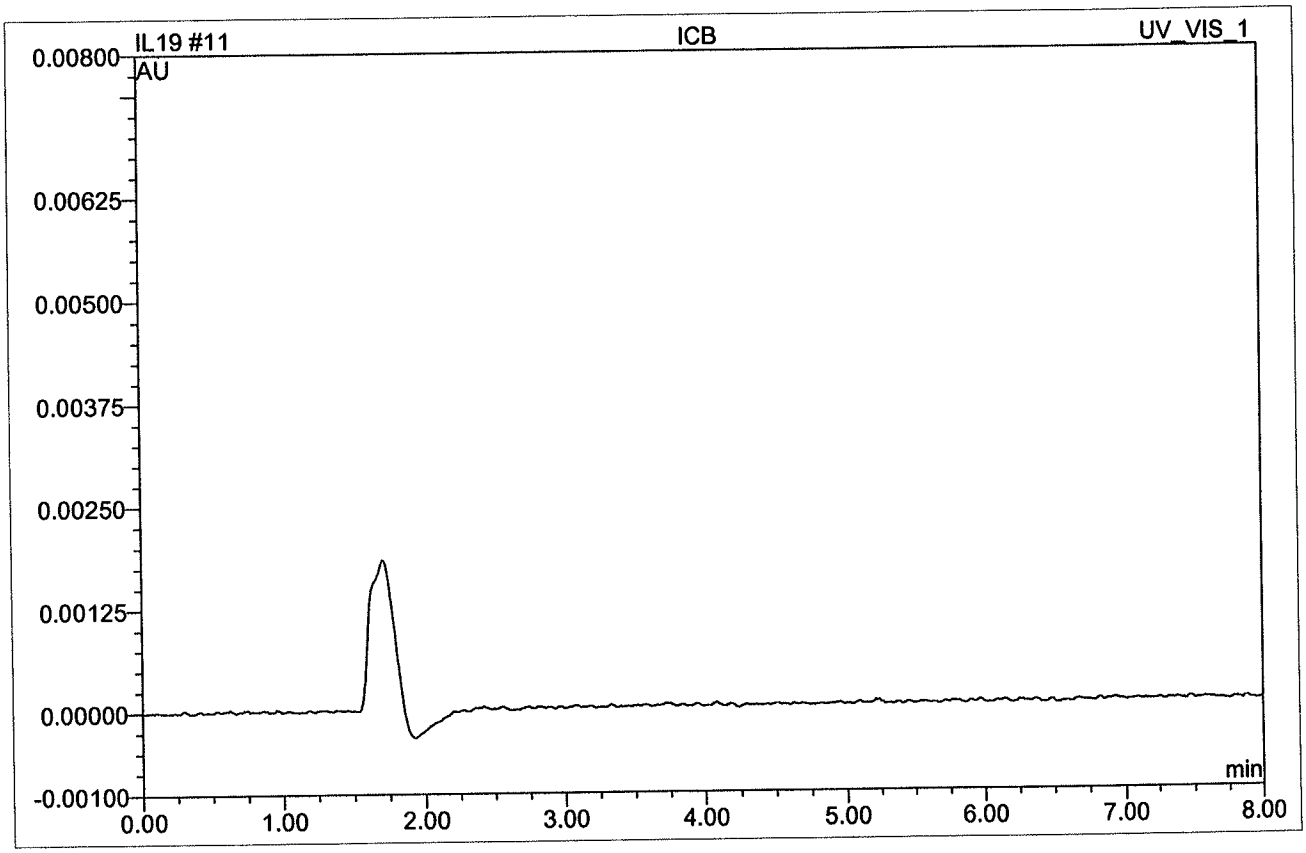
$$\text{conc.} = \frac{\text{Area} - \text{offset}}{\text{slope}}$$

$\Rightarrow$ 3.012 ppb

12/27/22

IL19 011 ICB

Sample Name:	**ICB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



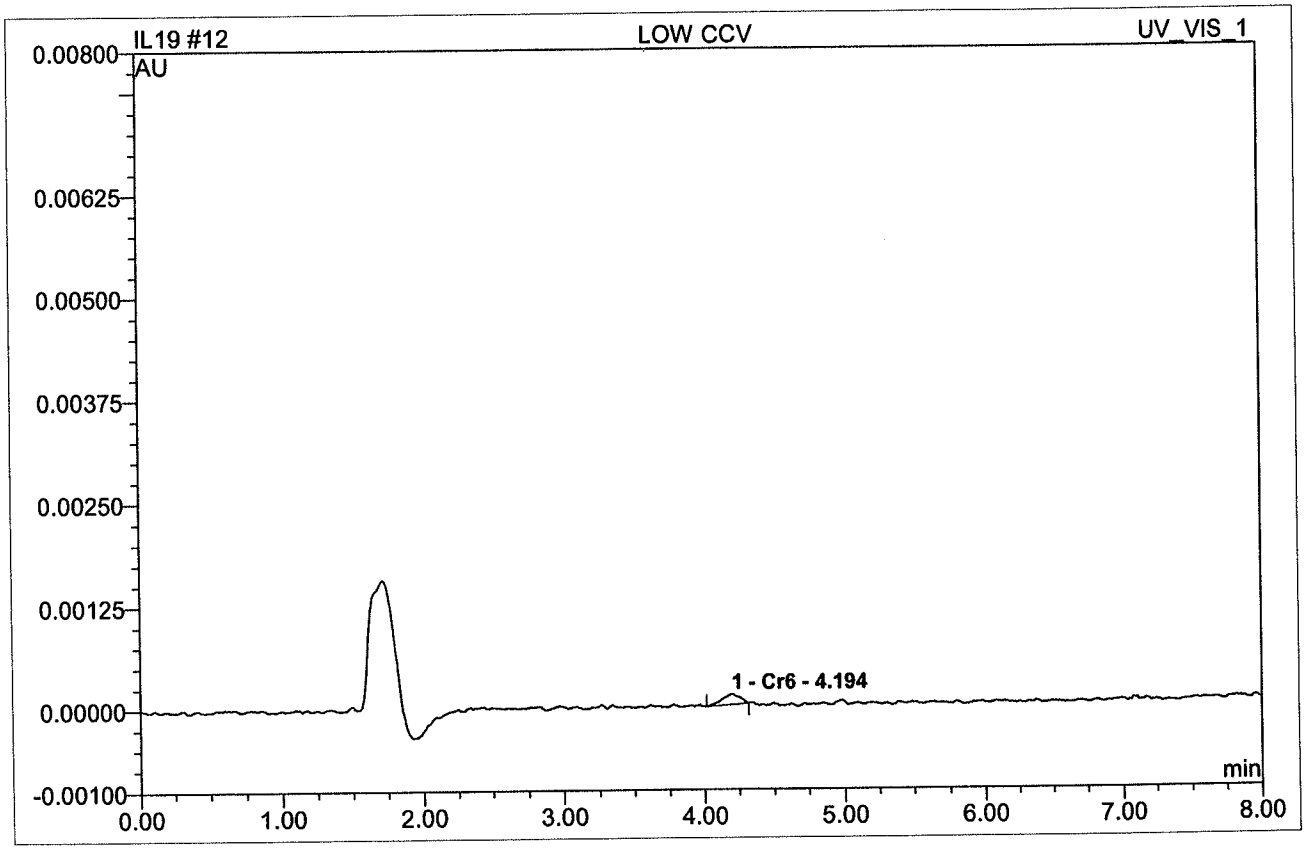
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LEE 12/27/22

IL19 012 LOW CCV

0.2 PPB

Sample Name:	**LOW CCV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0001260	0.0000186	100.00	0.199	BMB
Total:			0.000	0.000	100.00	0.199	

LEE 12/27/22

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L206
Method : E218.6
QuantMethod : IC59L19
InstrumentID: 59
Parameter : HEXAVALENT CHROMIUM

LFID	LSID	DF	Expected	Result	Unit	%Rec	AnalysisDateTime
IL19013	CCV1	1	2	2.032	ug/L	102	12/19/2220:05
IL19025	CCV3	1	2	2.003	ug/L	100	12/19/2222:12

CCV Acceptance Criteria: 95-105%

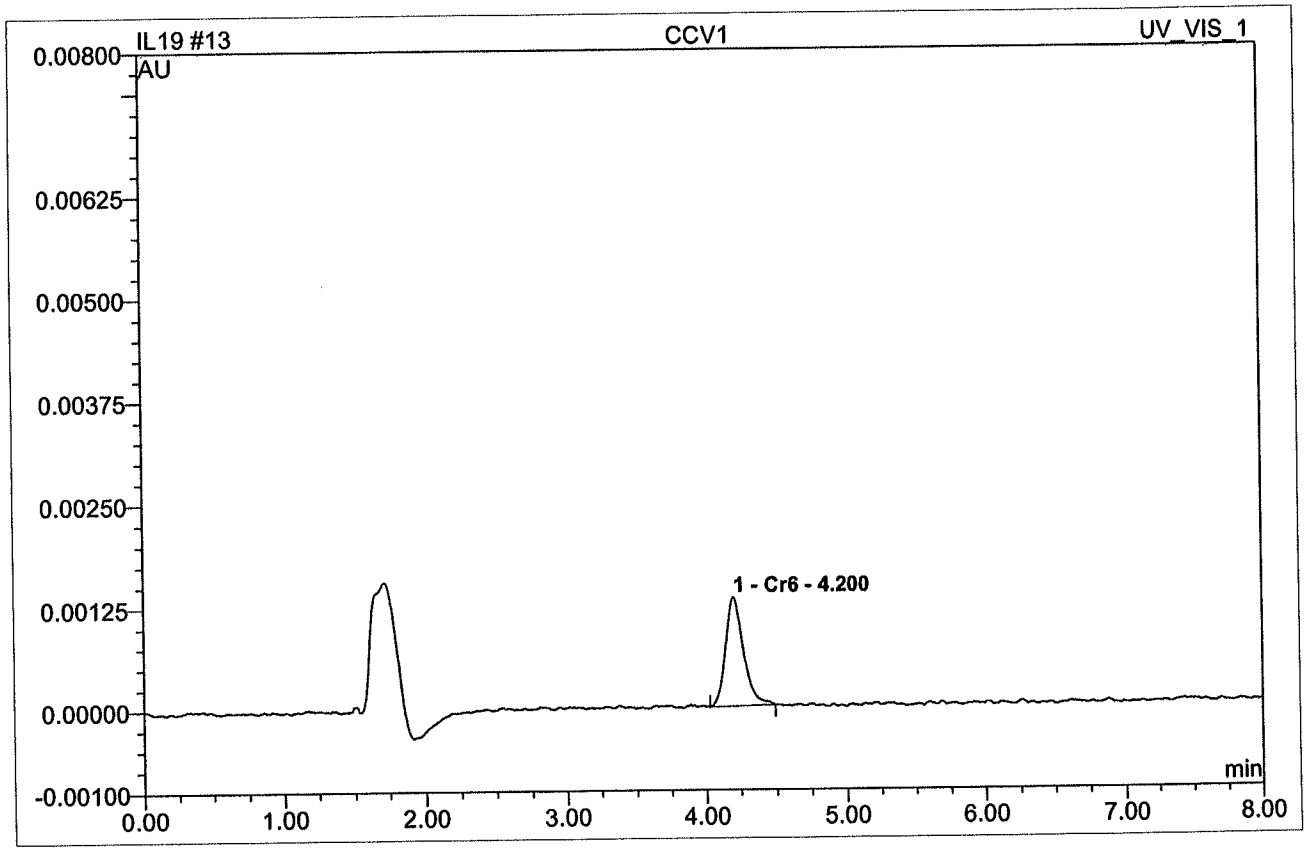
IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1
IL19013	CCV1	C	102%	12/19/2220:05	1
IL19014	CCB1	C	ND	12/19/2220:15	1
IL19015	HCL009WB	C	ND	12/19/2220:25	1
IL19016	HCL009WL	C	2.001	12/19/2220:36	1
IL19017	HCL009WC	C	2.002	12/19/2220:46	1
IL19018	L207-04	C	ND	12/19/2220:57	1
IL19019	L207-04M	C	0.987	12/19/2221:10	1
IL19020	L207-04S	C	0.994	12/19/2221:20	1
IL19021	L206-01	C	ND	12/19/2221:30	1
IL19022	L206-02	C	ND	12/19/2221:41	1
IL19023	L206-03	C	8.504	12/19/2221:51	1
IL19024	L207-01	C	6.447	12/19/2222:02	1
IL19025	CCV3	C	100%	12/19/2222:12	1
IL19026	CCB3	C	ND	12/19/2222:22	1
IL19027	L207-02	*	11.118E	12/19/2222:33	1
IL19028	L207-03	C	6.458	12/19/2222:43	1
IL19029	L207-05	C	ND	12/19/2222:54	1
IL19030	L207-06	C	ND	12/19/2223:04	1
IL19031	L207-02I	C	11.123	12/19/2223:14	2
IL19032	L867-01	C	ND	12/19/2223:25	1
IL19033	HCL011WB	C	ND	12/19/2223:35	1
IL19034	HCL011WL	C	2.000	12/19/2223:46	1
IL19035	HCL011WC	C	2.001	12/19/2223:56	1
IL19036	L226-01	C	ND	12/20/2200:06	1
IL19037	CCV5	C	100%	12/20/2200:17	1
IL19038	CCB5	C	ND	12/20/2200:27	1
IL19039	L226-02	C	ND	12/20/2200:38	1
IL19040	L226-03	C	ND	12/20/2200:48	1
IL19041	L226-04	C	ND	12/20/2200:58	1
IL19042	L226-05	C	ND	12/20/2201:09	1
IL19043	L226-06	C	ND	12/20/2201:19	1
IL19044	L226-06M	C	1.016	12/20/2201:30	1
IL19045	L226-06S	C	1.013	12/20/2201:40	1
IL19046	L226-07	C	ND	12/20/2201:50	1
IL19047	L226-07M	C	ND	12/20/2202:01	1
IL19048	L226-07S	C	ND	12/20/2202:11	1
IL19049	CCV7	C	101%	12/20/2202:22	1
IL19050	CCB7	C	ND	12/20/2202:32	1
IL19051	L226-08	*	31.628E	12/20/2202:42	1
IL19052	L226-08I	C	31.382	12/20/2202:53	5
IL19053	L226-09	*	31.498E	12/20/2203:03	1
IL19054	L226-09I	C	31.523	12/20/2203:14	5
IL19055	L226-10	*	31.591E	12/20/2203:24	1
IL19056	L226-10I	C	31.632	12/20/2203:34	5
IL19057	L226-11	*	13.769E	12/20/2203:45	1
IL19058	L226-11I	C	13.700	12/20/2203:55	5
IL19059	L226-12	*	13.995E	12/20/2204:06	1
IL19060	L226-12I	C	13.893	12/20/2204:16	5
IL19061	CCV9	C	100%	12/20/2204:27	1
IL19062	CCB9	C	ND	12/20/2204:37	1
IL19063	L226-13	*	19.337E	12/20/2204:47	1

IL19064	L226-13I	C	19.345	12/20/2204:58	5
IL19065	L226-14	C	7.287	12/20/2205:08	1
IL19066	L226-14I	C	7.291	12/20/2205:19	5
IL19067	L226-15	*	13.998E	12/20/2205:29	1
IL19068	L226-15I	C	13.988	12/20/2205:39	5
IL19069	L226-16	C	ND	12/20/2205:50	1
IL19070	L237-06	C	ND	12/20/2206:00	1
IL19071	L237-08	C	0.078	12/20/2206:11	1
IL19072	L237-10	C	ND	12/20/2206:21	1
IL19073	CCV11	C	100%	12/20/2206:31	1
IL19074	CCB11	C	ND	12/20/2206:42	1
IL19075	L237-12	C	ND	12/20/2206:52	1
IL19076	CCV13	C	100%	12/20/2207:03	1
IL19077	CCB13	C	ND	12/20/2207:13	1
IL19078	L226-07I	C	ND	12/20/2210:47	5
IL19079	L226-07M	C	4.997	12/20/2210:58	5
IL19080	L226-07S	C	4.995	12/20/2211:08	5
IL19081	CCV15	C	100%	12/20/2211:19	1
IL19082	CCB15	C	ND	12/20/2211:29	1

IL19 013 CCV1

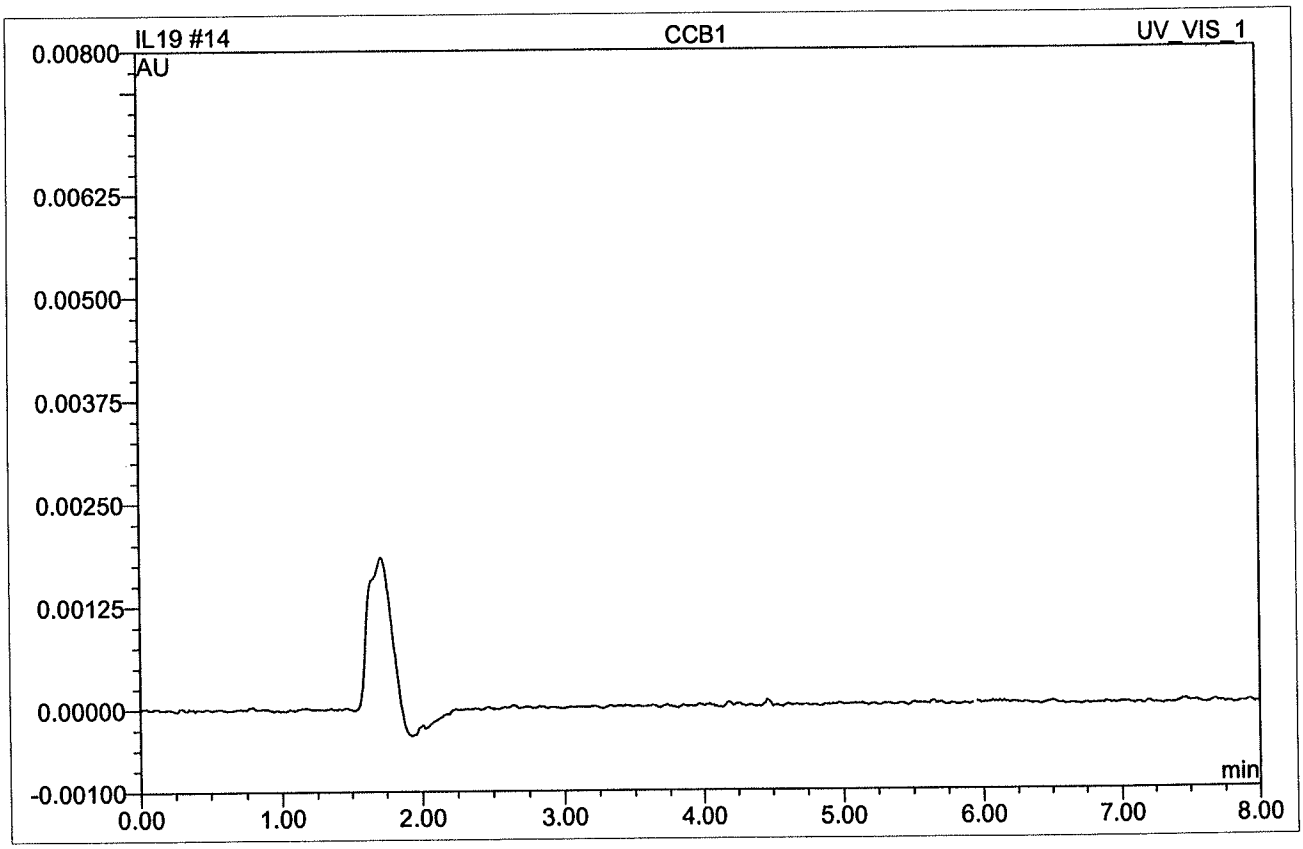
Sample Name:	**CCV1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 20:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013330	0.0002000	100.00	2.032	BMB
Total:			0.001	0.000	100.00	2.032	

IL19 014 CCB1

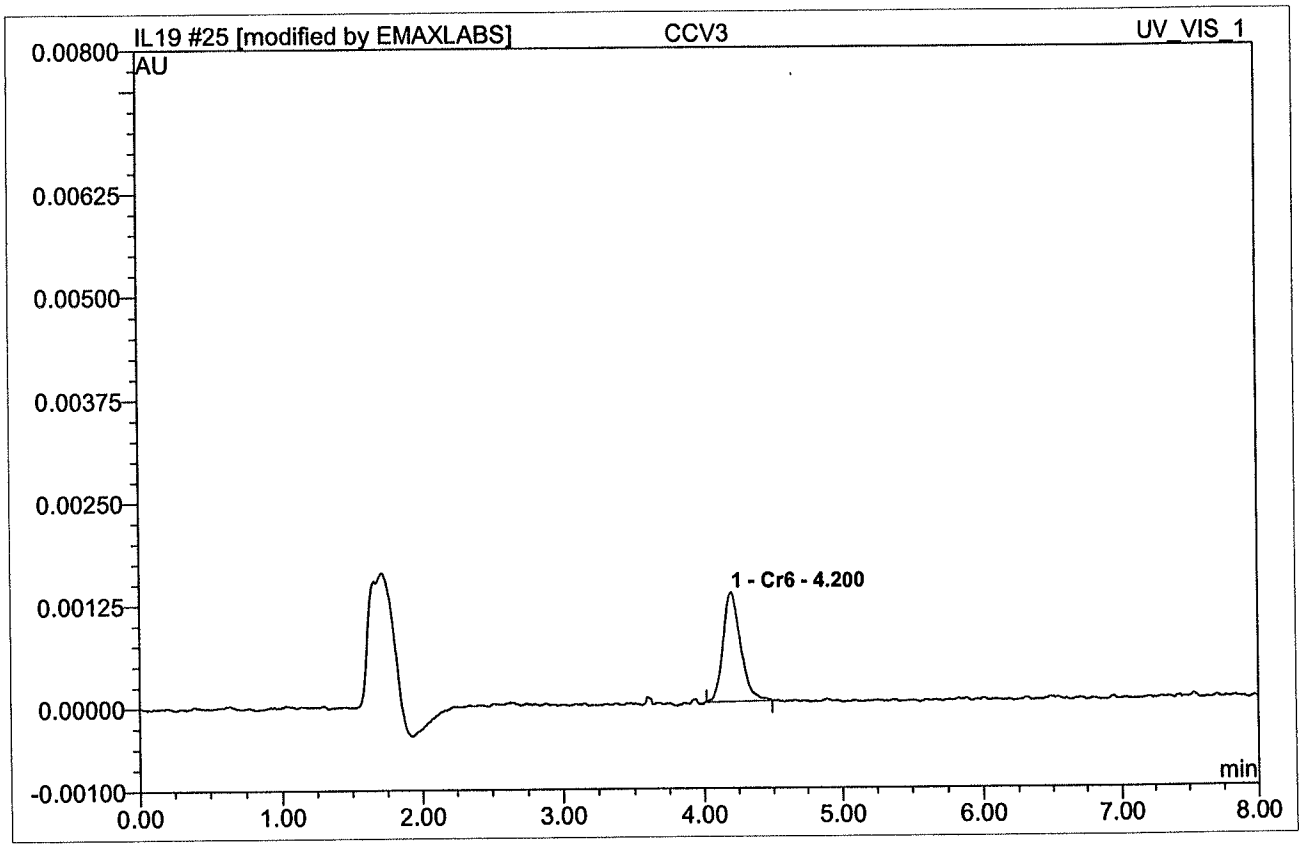
Sample Name:	**CCB1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 20:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 025 CCV3

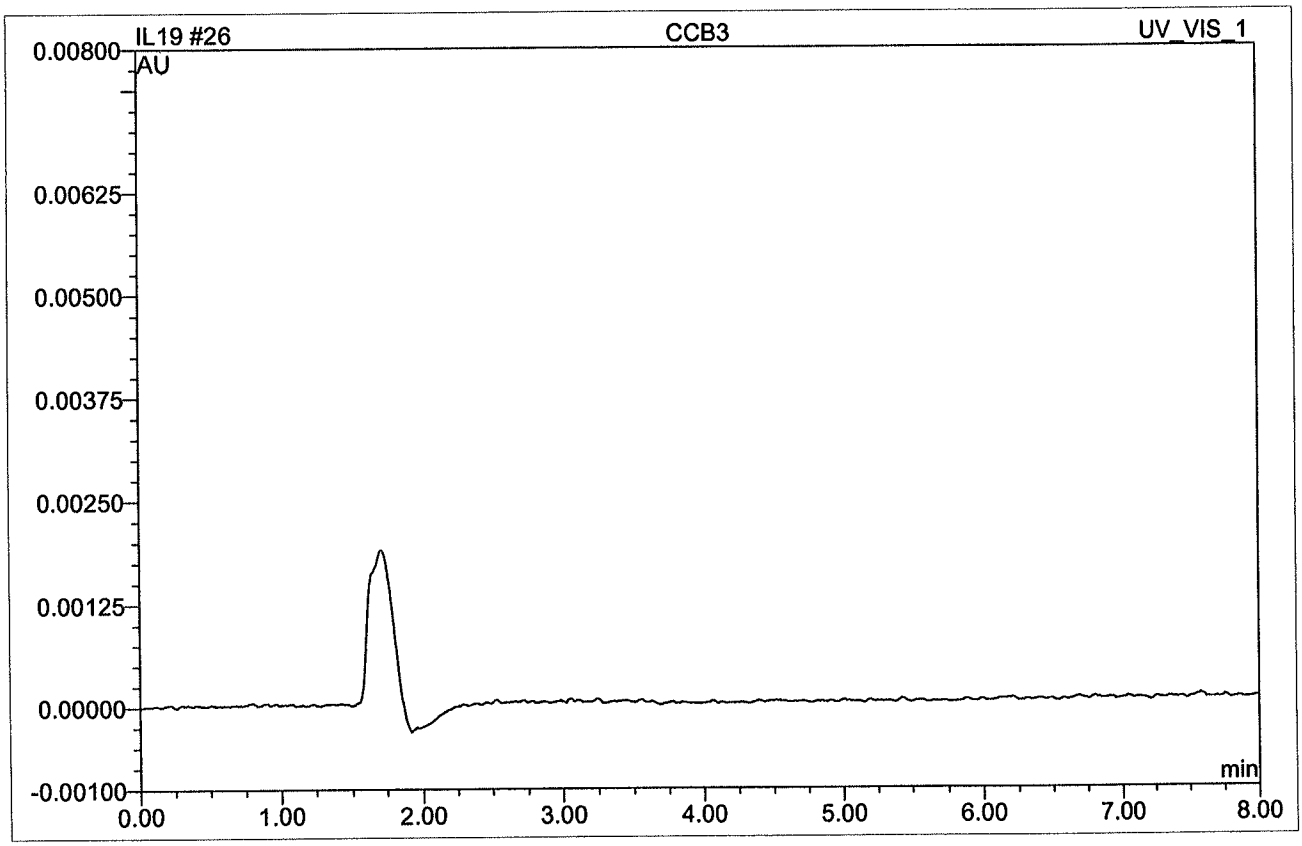
Sample Name:	**CCV3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 22:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013300	0.0001971	100.00	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL19 026 CCB3

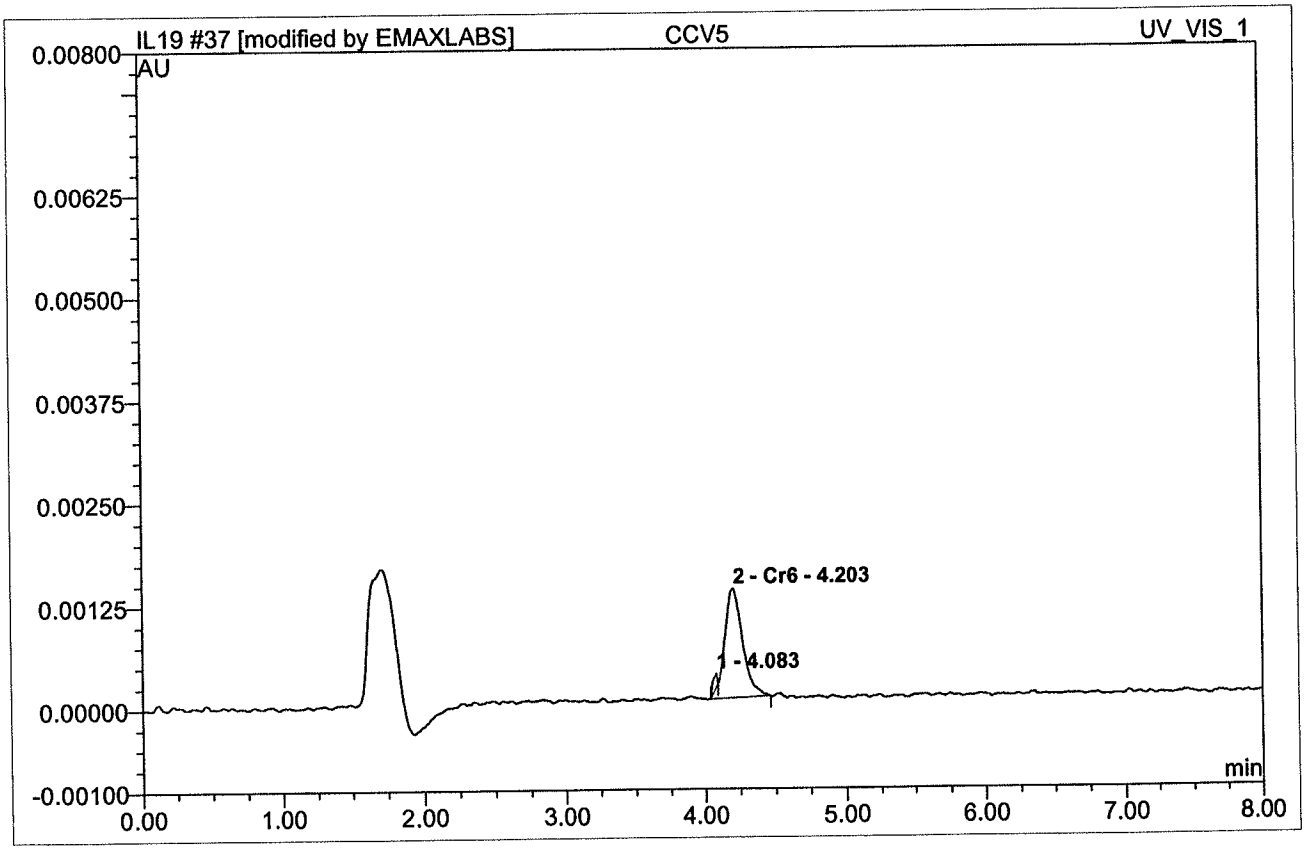
Sample Name:	**CCB3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 22:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 037 CCV5

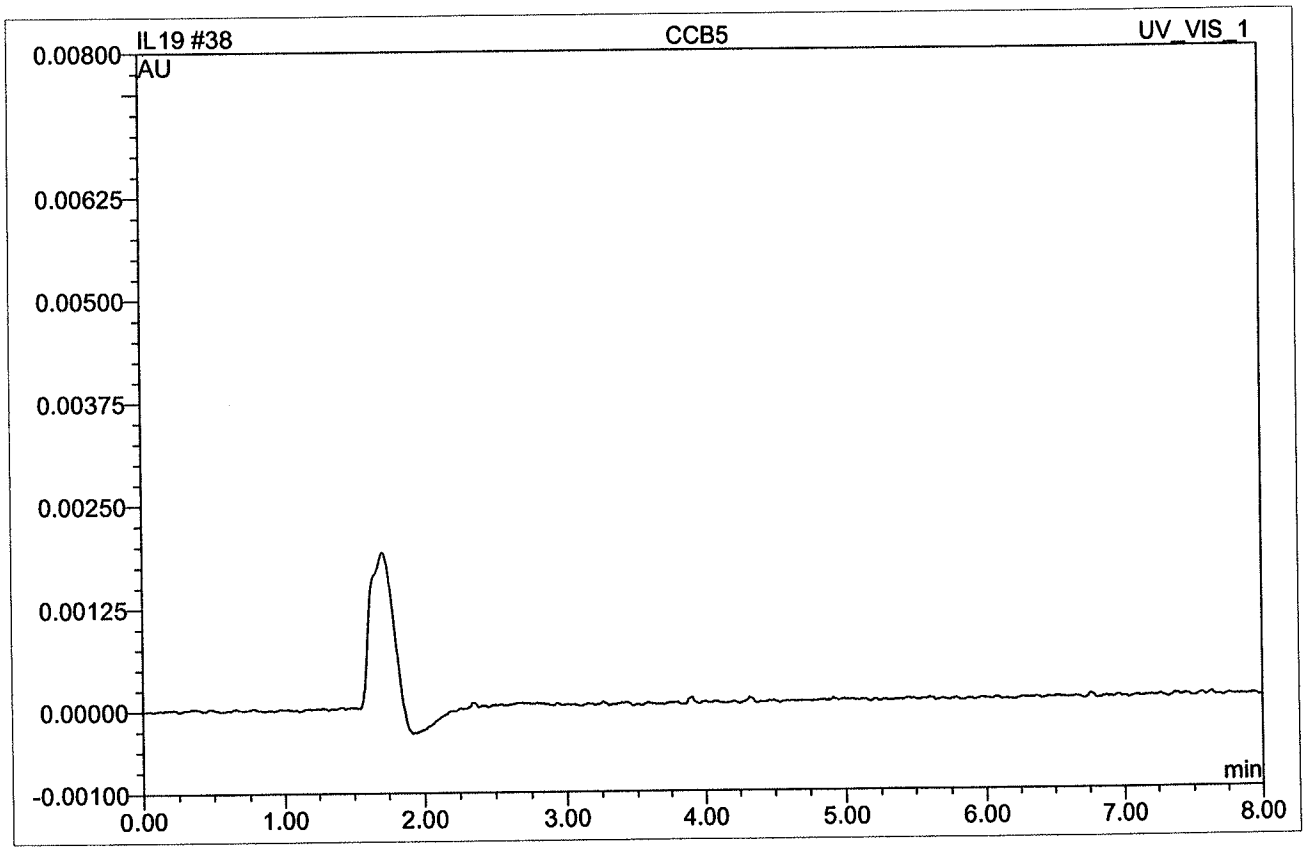
Sample Name:	**CCV5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.08	n.a.	0.0001580	0.0000067	3.27	n.a.	Ru*
2	4.20	Cr6	0.0013290	0.0001971	96.73	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL19 038 CCB5

Sample Name:	**CCB5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

ANALYTICAL LOG(S)

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution: **Final Volume:** 1,000 mL

1,5 Diphenylcarbohydrazide : 0.5 g SW6A-01-01-08

MeOH : 100 mL SW1A-011-18-08

H_2SO_4 : 28 mL ↓ -07-04

Eluent: **Final Volume:** 2,000 mL

$(NH_4)_2SO_4$: 66 g SW6A-02-01-06

NH_4OH : 13 mL ↓ -09

☐ **pH Adjusted Water ID #:**
(range 9.3-9.5)

☑ **Buffer*** (10 mL → 100 mL) SP2-05-21-03

Reagent Water ID #: RW1-22-003

ICAL Linear Range (ppb): S_0 - 0.00
S_1 -0.20
S_2 -0.50
S_3 -1.00
S_4 -2.00
S_5 -5.00
S_6 -7.50
S_7 -10.0
ICV -3.00

Low CCV: 0.20mL of SW6B-005-01-08 (100ppb) to final volume 100 mL using buffer* (SP2-05-21-03, 10mL→100mL) → 0.20ppb

HCL009W: L206, L207, L867

HCL011W: L226, L237

Column: Dionex Ionpac AS7 (4x250mm) serial: 19010232 48

Guard Column: Dionex Ionpac NG1 (4x35mm) serial: 19061 1218

Wavelength: 530 nm

Flow Rate: 1.00mL/min

Injection Loop: 0.250 mL

Book #: A59-057

Instrument No.: 59

Pipette ID: SW9A-04-017
A42762405
SW9A-04-052

Balance ID: 10203192

Analytical Sequence: IL19

Method File: IC59L19

Analytical Batch: HCL009W/011W

SOP #	Rev. #
☑ EMAX-218.6	8
☑ EMAX-7199	8
☐ EMAX-	

STANDARDS ID	
ICAL	SW6B-005-01-11
ICV	↓ -12
CCV	↓ -13

LCS/MS STANDARDS

	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-005-01-04	100ppb	0.100mL	5mL
MS	↓	↓	0.050mL	↓

ELECTRONIC DATA ARCHIVAL

Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-02-01 Snap-Seal Container

0.45 µm filter lot #: 211029103 4 oz: 3112011

0.2 µm filter lot #: 1.5 oz: 05122002

Analyzed By: AS

Date: 12/19/22

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:01 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IL19	001	IB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:18:35 PM	1.0000	BUFFER
2	IL19	002	S-0	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:28:59 PM	1.0000	
3	IL19	003	S-1	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:59:10 PM	1.0000	0.2 PPB
4	IL19	004	S-2	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:09:34 PM	1.0000	0.5 PPB
5	IL19	005	S-3	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:19:58 PM	1.0000	1.0 PPB
6	IL19	006	S-4	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:30:22 PM	1.0000	2.0 PPB
7	IL19	007	S-5	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:40:46 PM	1.0000	5.0 PPB
8	IL19	008	S-6	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:51:10 PM	1.0000	7.5 PPB
9	IL19	009	S-7	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:01:34 PM	1.0000	10 PPB
10	IL19	010	ICV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:21:16 PM	1.0000	3.0 PPB
11	IL19	011	ICB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:31:40 PM	1.0000	
12	IL19	012	LOW CCV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:42:05 PM	1.0000	0.2 PPB
13	IL19	013	CCV1	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:05:02 PM	1.0000	
14	IL19	014	CCB1	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:15:26 PM	1.0000	
15	IL19	015	HCL009WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:25:51 PM	1.0000	
16	IL19	016	HCL009WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:36:15 PM	1.0000	
17	IL19	017	HCL009WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:46:39 PM	1.0000	
18	IL19	018	L207-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:57:03 PM	1.0000	
19	IL19	019	L207-04M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:10:05 PM	1.0000	
20	IL19	020	L207-04S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:20:29 PM	1.0000	
21	IL19	021	L206-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:30:53 PM	1.0000	
22	IL19	022	L206-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:41:17 PM	1.0000	
23	IL19	023	L206-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:51:41 PM	1.0000	
24	IL19	024	L207-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:02:06 PM	1.0000	
25	IL19	025	CCV3	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:12:30 PM	1.0000	
26	IL19	026	CCB3	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:22:54 PM	1.0000	
27	IL19	027	L207-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:33:18 PM	1.0000	OVER RANGE

Sequence: IL19
Operator: EMAXLABS

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IL19	028	L207-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:43:42 PM	1.0000	
29	IL19	029	L207-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:54:06 PM	1.0000	
30	IL19	030	L207-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:04:31 PM	1.0000	
31	IL19	031	L207-02I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:14:55 PM	2.0000	2.5mLto5mL
32	IL19	032	L867-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:25:19 PM	1.0000	
33	IL19	033	HCL011WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:35:43 PM	1.0000	
34	IL19	034	HCL011WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:46:07 PM	1.0000	
35	IL19	035	HCL011WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:56:31 PM	1.0000	
36	IL19	036	L226-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:06:55 AM	1.0000	
37	IL19	037	CCV5	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:17:20 AM	1.0000	
38	IL19	038	CCB5	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:27:44 AM	1.0000	
39	IL19	039	L226-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:38:08 AM	1.0000	
40	IL19	040	L226-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:48:32 AM	1.0000	
41	IL19	041	L226-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:58:56 AM	1.0000	
42	IL19	042	L226-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:09:21 AM	1.0000	
43	IL19	043	L226-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:19:45 AM	1.0000	
44	IL19	044	L226-06M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:30:09 AM	1.0000	
45	IL19	045	L226-06S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:40:33 AM	1.0000	
46	IL19	046	L226-07	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:50:57 AM	1.0000	
47	IL19	047	L226-07M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:01:21 AM	1.0000	RT SHIFT
48	IL19	048	L226-07S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:11:45 AM	1.0000	RT SHIFT
49	IL19	049	CCV7	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:22:09 AM	1.0000	
50	IL19	050	CCB7	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:32:34 AM	1.0000	
51	IL19	051	L226-08	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:42:58 AM	1.0000	OVER RANGE
52	IL19	052	L226-08I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:53:22 AM	5.0000	1mLto5mL
53	IL19	053	L226-09	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:03:46 AM	1.0000	OVER RANGE
54	IL19	054	L226-09I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:14:10 AM	5.0000	1mLto5mL

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
55	IL19	055	L226-10	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:24:34 AM	1.0000	OVER RANGE
56	IL19	056	L226-10I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:34:58 AM	5.0000	1mLto5mL
57	IL19	057	L226-11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:45:22 AM	1.0000	OVER RANGE
58	IL19	058	L226-11I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:55:46 AM	5.0000	1mLto5mL
59	IL19	059	L226-12	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:06:11 AM	1.0000	OVER RANGE
60	IL19	060	L226-12I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:16:35 AM	5.0000	1mLto5mL
61	IL19	061	CCV9	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:27:00 AM	1.0000	
62	IL19	062	CCB9	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:37:24 AM	1.0000	
63	IL19	063	L226-13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:47:48 AM	1.0000	OVER RANGE
64	IL19	064	L226-13I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:58:12 AM	5.0000	1mLto5mL
65	IL19	065	L226-14	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:08:36 AM	1.0000	
66	IL19	066	L226-14I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:19:01 AM	5.0000	1mLto5mL;CONF
67	IL19	067	L226-15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:29:25 AM	1.0000	OVER RANGE
68	IL19	068	L226-15I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:39:49 AM	5.0000	1mLto5mL
69	IL19	069	L226-16	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:50:13 AM	1.0000	
70	IL19	070	L237-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:00:37 AM	1.0000	
71	IL19	071	L237-08	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:11:01 AM	1.0000	
72	IL19	072	L237-10	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:21:25 AM	1.0000	
73	IL19	073	CCV11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:31:49 AM	1.0000	
74	IL19	074	CCB11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:42:14 AM	1.0000	
75	IL19	075	L237-12	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:52:38 AM	1.0000	
76	IL19	076	CCV13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 7:03:02 AM	1.0000	
77	IL19	077	CCB13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 7:13:26 AM	1.0000	
78	IL19	078	L226-07I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 10:47:58 AM	5.0000	1mLto5mL
79	IL19	079	L226-07M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 10:58:22 AM	5.0000	1mLto5mL
80	IL19	080	L226-07S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:08:46 AM	5.0000	1mLto5mL
81	IL19	081	CCV15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:19:11 AM	1.0000	

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
82	IL19	082	CCB15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:29:35 AM	1.0000	

SAMPLE PREPARATION LOG(S)

EMAX LABORATORIES, INC.

pH ADJUSTMENT/SAMPLE PRESERVATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-218.6 Rev. 8 ☐ EMAX-7199 Rev. 8 Book #: PHC-029

Matrix: W Start Date: 12/14/22 Time: 18:15 End Date: 12/14/22 Time: 19:00

Sample Prep ID	Lab Sample ID (LLSCID)	Initial pH	Final pH	Notes
01	L206-01	9.46	9.46	no adjustment needed; Cr
02	-02	9.46	9.46	
03	-03	9.44	9.44	
04	L207-01	9.47	9.47	
05	-02	9.45	9.45	
06	-03	9.44	9.44	
07	-04 (019)	9.43	9.43	
08	-04 (020)	9.43	9.43	
09	-04 (021)	9.42	9.42	
10	-05	9.43	9.43	
11	-06	9.49	9.49	
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				AS 12/14/22

Standards	ID	pH
Buffer 7	SWIA-~~01~~-03- 11-05 AS 12/14/22	7.00
Buffer 10	↓ -03-08	10.01
Check pH Buffer (8)		
Check pH Buffer 7.98	SWIA-03-06-03	7.98
pH meter	F7	

Reagent	Standard ID #
NaOH	
$(NH_4)_2SO_4/NH_4OH$	
HNO_3	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = Turbid	Vg = Vegetation
Yw = Yellow			

☑ Samples were received with preservation

Comments:

Prepared By: AS

Standard Added By: -

Checked By: AS

RETENTION TIME WINDOW

RETENTION TIME WINDOW

METHOD 218.6/7199

Lab Name:	EMAX	**METHOD:**	EMAX-218.6/7199
Instrument ID:	DX500IC59	**IC COLUMN:**	AS7/AG7 / AS7/NG1
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
CHROMIUM VI	**4.20**	4.11	4.29	**0.087**

IC59L19

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 02-06-2023
EMAX Batch No.: 22L207

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report (LEVEL II)
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 12/14/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MTS-1-Q422	L207-01	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED METALS BY ICP-MS DISSOLVED MERCURY TOTAL ALKALINITY ANIONS BY IC TOTAL DISSOLVED SOLIDS TOTAL ORGANIC CARBON AMMONIA-N BY SM4500-NH3 F
MTS-2-Q422	L207-02	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED METALS BY ICP-MS DISSOLVED MERCURY TOTAL ALKALINITY ANIONS BY IC TOTAL DISSOLVED SOLIDS TOTAL ORGANIC CARBON AMMONIA-N BY SM4500-NH3 F
MW-901-Q422	L207-03	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED METALS BY ICP-MS DISSOLVED MERCURY TOTAL ALKALINITY ANIONS BY IC TOTAL DISSOLVED SOLIDS TOTAL ORGANIC CARBON AMMONIA-N BY SM4500-NH3 F
MW-99-060-Q422	L207-04	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED MERCURY TOTAL ALKALINITY ANIONS BY IC TOTAL DISSOLVED SOLIDS TOTAL ORGANIC CARBON DISSOLVED METALS BY ICP-MS
MW-99-140-Q422	L207-05	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED MERCURY TOTAL ALKALINITY ANIONS BY IC TOTAL DISSOLVED SOLIDS TOTAL ORGANIC CARBON DISSOLVED METALS BY ICP-MS

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Sample ID	Control #	Col Date	Matrix	Analysis
EB-752-Q422	L207-06	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-99-060-Q422MS	L207-04M	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED MERCURY ANIONS BY IC TOTAL ORGANIC CARBON DISSOLVED METALS BY ICP-MS
MW-99-060-Q422MSD	L207-04S	12/13/22	WATER	CHROMIUM HEXAVALENT BY IC CATIONS BY ICP-MS DISSOLVED MERCURY ANIONS BY IC DISSOLVED METALS BY ICP-MS
MW-99-060-Q422DUP	L207-04D	12/13/22	WATER	TOTAL ALKALINITY TOTAL DISSOLVED SOLIDS TOTAL ORGANIC CARBON

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Page 1 of 1

122207

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com
Submitted By: Rissie Tap	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:
Title: Field Tech		
Signature: Date: 12/13/22	Sampled By: Rissie Tap	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
Project Name: PG&E Topock - AZ Hydro6	Signature: Date: 12/13/22	
Project Number: 30121866.4Q22GW		

Matrix			
Ground water	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE				
Geotracker		RWQCB	✓	1. Chilled		
Labspec		CalTrans		2. Headspace		
Others	✓	LEVEL III		3. Container Intact		
Specify: RWQCB		LEVEL IV		4. Seal Present		
		Regulatory		5. IR number		
Global ID:		Specify State:		6. Method of Cooling:		
				Sample Temp:		

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 125 mL poly	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 250 mL poly	Dissolved metals (SW6020A) molybdenum, selenium; HNO3 250 mL poly	Dissolved Title 22 metals (SW6020B) FF; HNO3 250 mL poly	Dissolved metals (SW6020A) Arsenic, Calcium, chromium, iron, magnesium, manganese, potassium, 250 mL poly	Alkalinity, Total (SM 2320B) 500 mL poly	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) 500 mL poly	TDS (SM 2540C) 500 mL poly	TOC (SM9060); HCl 125 L poly	Ammonia as nitrogen (SM4500 NH3D); H2SO4 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	1	MTS-1-Q422	12/13/2022	7:42		X	X	X	X	X	X	X	X	X	X	E	6	P	BN	
2	2	MTS-2-Q422	12/13/2022	8:28		X	X	X	X	X	X	X	X	X	X	E	6	P	BN	
3	3	MW-901-Q422	12/13/2022	7:52		X	X	X	X	X	X	X	X	X	X	E	6	P	BN	
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Reliquished by (Signature and Printed Name): Rissie Tap Date/Time: 12/13/22 1430

Reliquished by (Signature and Printed Name): FEDEX Date/Time: 12/13/22

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Received: Jhovin Zamora Date/Time: 12/14/22 1030

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B (NH4)2SO4/NH4OH			

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs. =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

Temp 1.0

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Page 1 of 1

22L207

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	
Submitted By: Rissie Top		Phone: 916-786-3302 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/13/22	Sampled By: Rissie Top		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - AZ Hydro6	Signature: Date: 12/13/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE				
Geotracker		RWQCB	✓	1. Chilled		
Labspec		CalTrans		2. Headspace		
Others	✓	LEVEL III		3. Container Intact		
Specify: RWQCB		LEVEL IV		4. Seal Present		
		Regulatory		5. IR number		
Global ID:		Specify State:		6. Method of Cooling:		
				Sample Temp:		

Matrix: Ground water | x | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved Title 22 metals (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals (7470/SW6020A) Chromium total dissolved; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	TOC (SM9060); HCl (125 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	4	MW-99-060-Q422	12/13/2022	10:38		X	X	X	X	X	X	X	X	X	X	E	15	P	BN	MSMSD (15)
2	5	MW-99-140-Q422	12/13/2022	11:23		X	X	X	X	X	X	X	X	X	X	E	5	P	BN	
3	6	EB-752-Q422	12/13/2022	12:30		X										E	1	P	BN	
4																E	5	P	BN	
5																E	5	P	BN	
6																				
7																				
8																				
9																				
10																				

Courier:

Tracking No.:

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Rissie Top	12/13/22 1830	FEDEX	12/13/22
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
		Received by: Jhown Zamora	12/14/22 1030
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
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8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

Temp 1-0

SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

Type of Delivery	Airbill / Tracking Number	ECN 22L207
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7707 6457 5935	Recipient JHowin Zamora
☐ EMAX Courier ☐ Client Delivery		Date 12/14/22 Time 1030

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☑ Bags
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 1.0 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* _____	*B - S/N* 210760237	*C - S/N* _____	*D - S/N* 210760272	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1	3,9,15	D12	Label reads 1 liter poly	R8
1-S	4,5,10,11,14,17,25-30,35,37	~~D2~~	~~Only mentions~~ SW6020, 6010B per label	R1 R8
1,4,5	4,27,37	D12	Label reads 500ml poly	R8
4,	32,33	D2	Only mentions EPA 300.0	R8

12/14/22 AB 12/14/22

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: No filtration info for Container #39 - CrVI; all other samples indicate FF on cap.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO

☐ **Continue to next page.**

LEGEND:

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☒ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed client
R9	
R10	
R11	
R12	

REVIEWS:

Sample Labeling JHowin Zamora Date 12/14/22 12/14/22

SRF _____ Date 12/14/22

PM AB Date 12/14/22

ORIGIN ID:IXDA (913) 998-6908
JANET CRUZ

8725 ROSEHILL ROAD
SUITE 350
LENEXA, KS 66215
UNITED STATES US

SHIP DATE: 13DEC22
ACTWGT: 15.00 LB
CAD: 256221133/INET4530
DIMS: 16x16x24 IN

BILL SENDER

TO **RECEIVING**
EMAX LABS
3051 FUJITA ST

TORRANCE CA 90505
(310) 618-8889 REF: 30121866.4Q22GW
INV:
PO: DEPT:

581J09A97FE2D

FedEx Express

WED - 14 DEC 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7707 6457 5935**

NW HHRA

90505
CA-US **LAX**

Sealed

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL II

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

CATIONS / METALS / MERCURY

SDG#: 22L207

CATIONS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD SW6020A
CATIONS BY ICP-MS

A total of five(5) water samples were received on 12/14/22 to be analyzed for Cations by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML024WL/IML024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed and the following were noted: L207-04M/L207-04S - Percent recoveries for Calcium(20X) and Sodium(154X) were not within MS/MSD QC limits. Percent recovery for Magnesium(7X) was not within MSD QC limit. The enclosed value(#X) is the ratio of parent sample result and spike amount. Presence of matrix interference was suspected. The rest of the analytes were in control. Analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

LAB CHRONICLE
CATIONS BY ICP-MS

SDG NO. : 22L207
Instrument ID : H6

Client : ARCADIS
Project : PG&E TOPOCK-GMP

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML024WB	1	NA	01/31/2320:31	12/20/2212:11	H6A23116	H6A23114	IML024W	Method Blank
LCS1W	IML024WL	1	NA	01/31/2320:34	12/20/2212:11	H6A23117	H6A23114	IML024W	Lab Control Sample (LCS)
LCD1W	IML024WC	1	NA	01/31/2320:37	12/20/2212:11	H6A23118	H6A23114	IML024W	LCS Duplicate
MTS-1-Q422	L207-01K	20	NA	01/31/2320:39	12/20/2212:11	H6A23119	H6A23114	IML024W	Diluted Sample
MTS-2-Q422	L207-02K	20	NA	01/31/2320:42	12/20/2212:11	H6A23120	H6A23114	IML024W	Diluted Sample
MW-901-Q422	L207-03K	20	NA	01/31/2320:44	12/20/2212:11	H6A23121	H6A23114	IML024W	Diluted Sample
MW-99-060-Q422	L207-04A	20	NA	01/31/2320:47	12/20/2212:11	H6A23122	H6A23114	IML024W	Analytical Spike Sample
MW-99-060-Q422	L207-04K	20	NA	01/31/2320:50	12/20/2212:11	H6A23123	H6A23114	IML024W	Diluted Sample
MW-99-060-Q422	L207-04J	100	NA	01/31/2320:52	12/20/2212:11	H6A23124	H6A23114	IML024W	Diluted Sample
MW-99-060-Q422MS	L207-04M	20	NA	01/31/2320:55	12/20/2212:11	H6A23125	H6A23114	IML024W	Matrix Spike Sample (MS)
MW-99-060-Q422MSD	L207-04S	20	NA	01/31/2321:03	12/20/2212:11	H6A23128	H6A23126	IML024W	MS Duplicate (MSD)
MW-99-140-Q422	L207-05K	20	NA	01/31/2321:05	12/20/2212:11	H6A23129	H6A23126	IML024W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-1-Q422
Lab Samp ID: L207-01K
Lab File ID: H6A23119
Ext Btch ID: IML024W
Calib. Ref.: H6A23114

Date Collected: 12/13/22 07:42
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 01/31/23 20:39
Dilution Factor: 20
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	75000	2000	1200
Magnesium	4500	2000	400
Potassium	7460	2000	500
Sodium	333000	10000	1000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-2-Q422
Lab Samp ID: L207-02K
Lab File ID: H6A23120
Ext Btch ID: IML024W
Calib. Ref.: H6A23114

Date Collected: 12/13/22 08:28
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 01/31/23 20:42
Dilution Factor: 20
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	104000	2000	1200
Magnesium	3570	2000	400
Potassium	8560	2000	500
Sodium	414000	10000	1000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/13/22 07:52
Project : PG&E TOPOCK-GMP	Date Received: 12/14/22
SDG NO. : 22L207	Date Extracted: 12/20/22 12:11
Sample ID: MW-901-Q422	Date Analyzed: 01/31/23 20:44
Lab Samp ID: L207-03K	Dilution Factor: 20
Lab File ID: H6A23121	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6A23114	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	77200	2000	1200
Magnesium	4800	2000	400
Potassium	8380	2000	500
Sodium	347000	10000	1000

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-99-060-Q422
Lab Samp ID: L207-04K
Lab File ID: H6A23123
Ext Btch ID: IML024W
Calib. Ref.: H6A23114

Date Collected: 12/13/22 10:38
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 01/31/23 20:50
Dilution Factor: 20
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	58700	2000	1200
Magnesium	21900	2000	400
Potassium	12100	2000	500
Sodium	463000	10000	1000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/13/22 11:23
Project : PG&E TOPOCK-GMP	Date Received: 12/14/22
SDG NO. : 22L207	Date Extracted: 12/20/22 12:11
Sample ID: MW-99-140-Q422	Date Analyzed: 01/31/23 21:05
Lab Samp ID: L207-05K	Dilution Factor: 20
Lab File ID: H6A23129	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6A23126	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	71300	2000	1200
Magnesium	10900	2000	400
Potassium	10500	2000	500
Sodium	367000	10000	1000

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: NA
Project : PG&E TOPOCK-GMP	Date Received: NA
SDG NO. : 22L207	Date Extracted: 12/20/22 12:11
Sample ID: MBLK1W	Date Analyzed: 01/31/23 20:31
Lab Samp ID: IML024WB	Dilution Factor: 1
Lab File ID: H6A23116	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6A23114	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	ND	100	60.0
Magnesium	ND	100	20.0
Potassium	ND	100	25.0
Sodium	ND	500	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML024WB	IML024WL	IML024WC
LAB FILE ID	: H6A23116	H6A23117	H6A23118
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 01/31/23 20:31	01/31/23 20:34	01/31/23 20:37
PREP BATCH	: IML024W	IML024W	IML024W
CALIBRATION REF	: H6A23114	H6A23114	H6A23114

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Calcium	ND	3000	3120	104	3000	3160	105	1	85-115	20
Magnesium	ND	3000	3060	102	3000	3140	105	3	85-115	20
Potassium	ND	3000	3120	104	3000	3150	105	1	85-115	20
Sodium	ND	3000	3180	106	3000	3180	106	0	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR:	20	20	20
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04K	L207-04M	L207-04S
LAB FILE ID	: H6A23123	H6A23125	H6A23128
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 01/31/23 20:50	01/31/23 20:55	01/31/23 21:03
PREP BATCH	: IML024W	IML024W	IML024W
CALIBRATION REF:	H6A23114	H6A23114	H6A23126

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Calcium	58700	3000	63500	160*	3000	62900	140*	1	75-125	20
Magnesium	21900	3000	25600	123	3000	25700	127*	0	75-125	20
Potassium	12100	3000	15600	117	3000	15700	120	1	75-125	20
Sodium	463000	3000	484000	700*	3000	478000	500*	1	75-125	20

PSResult - Parent Sample Result
* Out of QC limit

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR:	20	20
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422
LAB SAMPLE ID	: L207-04K	L207-04A
LAB FILE ID	: H6A23123	H6A23122
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 01/31/23 20:50	01/31/23 20:47
PREP BATCH	: IML024W	IML024W
CALIBRATION REF:	H6A23114	H6A23114

ACCESSION:

PARAMETERS	Sample Result (ug/L)	Spike Amt (ug/L)	AS Result (ug/L)	AS Rec (%)	QC Limit (%)
Calcium	58700	60000	123000	107	75-125
Magnesium	21900	60000	86200	107	75-125
Potassium	12100	60000	76700	108	75-125
Sodium	463000	60000	522000	98	75-125

AS - Analytical Spike

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR:	20	100
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422
LAB SAMPLE ID	: L207-04K	L207-04J
LAB FILE ID	: H6A23123	H6A23124
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 01/31/23 20:50	01/31/23 20:52
PREP BATCH	: IML024W	IML024W
CALIBRATION REF:	H6A23114	H6A23114

ACCESSION:

PARAMETERS	Sample Result (ug/L)	SD Result (ug/L)	%Difference (%)	Max %D (%)
Calcium	58700	60000	2	10
Magnesium	21900	21800	0	10
Potassium	12100	12800	6	10
Sodium	463000	467000	1	10

SD - Serial Dilution

DISSOLVED METALS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

A total of five(5) water samples were received on 12/14/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A (DISSOLVED) and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML024WL/IML024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed and the following were noted: L207-04M/L207-04S - Percent recovery and RPD for Zinc were not within MS/MSD QC limits. Percent recoveries for Calcium(19X), Manganese(5X) and Sodium(156X) was not within MSD QC limit. The enclosed value(#X) is the ratio of parent sample result and spike amount. Presence of matrix interference was suspected. The rest of the analytes were in control. Analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

Samples were reported from dilution due to suspected matrix interference exhibited by high Sodium concentrations.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

SDG NO. : 22L207
Instrument ID : H6

Client : ARCADIS
Project : PG&E TOPOCK-GMP

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML024WB	1	NA	02/01/2320:59	12/20/2212:11	H6B01093	H6B01091	IML024W	Method Blank
LCS1W	IML024WL	1	NA	02/01/2321:02	12/20/2212:11	H6B01094	H6B01091	IML024W	Lab Control Sample (LCS)
LCD1W	IML024WC	1	NA	02/01/2321:05	12/20/2212:11	H6B01095	H6B01091	IML024W	LCS Duplicate
MTS-1-Q422	L207-01G	5	NA	02/01/2321:07	12/20/2212:11	H6B01096	H6B01091	IML024W	Diluted Sample
MTS-2-Q422	L207-02G	5	NA	02/01/2321:10	12/20/2212:11	H6B01097	H6B01091	IML024W	Diluted Sample
MW-901-Q422	L207-03G	5	NA	02/01/2321:12	12/20/2212:11	H6B01098	H6B01091	IML024W	Diluted Sample
MW-99-060-Q422	L207-04A	5	NA	02/01/2321:15	12/20/2212:11	H6B01099	H6B01091	IML024W	Analytical Spike Sample
MW-99-060-Q422	L207-04G	5	NA	02/01/2321:18	12/20/2212:11	H6B01100	H6B01091	IML024W	Diluted Sample
MW-99-060-Q422	L207-04J	25	NA	02/01/2321:20	12/20/2212:11	H6B01101	H6B01091	IML024W	Diluted Sample
MW-99-060-Q422MS	L207-04M	5	NA	02/01/2321:23	12/20/2212:11	H6B01102	H6B01091	IML024W	Matrix Spike Sample (MS)
MW-99-060-Q422MSD	L207-04S	5	NA	02/01/2321:31	12/20/2212:11	H6B01105	H6B01103	IML024W	MS Duplicate (MSD)
MW-99-140-Q422	L207-05G	5	NA	02/01/2321:33	12/20/2212:11	H6B01106	H6B01103	IML024W	Diluted Sample
MTS-1-Q422	L207-01T	50	NA	02/01/2321:36	12/20/2212:11	H6B01107	H6B01103	IML024W	Diluted Sample
MTS-2-Q422	L207-02T	50	NA	02/01/2321:39	12/20/2212:11	H6B01108	H6B01103	IML024W	Diluted Sample
MW-901-Q422	L207-03T	50	NA	02/01/2321:41	12/20/2212:11	H6B01109	H6B01103	IML024W	Diluted Sample
MW-99-060-Q422	L207-04A	50	NA	02/01/2321:44	12/20/2212:11	H6B01110	H6B01103	IML024W	Analytical Spike Sample
MW-99-060-Q422	L207-04T	50	NA	02/01/2321:46	12/20/2212:11	H6B01111	H6B01103	IML024W	Diluted Sample
MW-99-060-Q422	L207-04J	250	NA	02/01/2321:49	12/20/2212:11	H6B01112	H6B01103	IML024W	Diluted Sample
MW-99-060-Q422MS	L207-04M	50	NA	02/01/2321:52	12/20/2212:11	H6B01113	H6B01103	IML024W	Matrix Spike Sample (MS)
MW-99-060-Q422MSD	L207-04S	50	NA	02/01/2321:54	12/20/2212:11	H6B01114	H6B01103	IML024W	MS Duplicate (MSD)
MW-99-140-Q422	L207-05T	50	NA	02/01/2322:02	12/20/2212:11	H6B01117	H6B01115	IML024W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-1-Q422
Lab Samp ID: L207-01G
Lab File ID: H6B01096
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 07:42
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:07
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	13.7	5.00	1.25
Barium	80.3	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	67400	500	300
Chromium	8.28	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	4080	500	100
Manganese	ND	50.0	2.50
Molybdenum	14.4	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	6820	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	11.6	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MTS-1-Q422
Lab Samp ID: L207-01T
Lab File ID: H6B01107
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Analyzed: 02/01/23 21:36
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	316000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-1-Q422
Lab Samp ID: L207-01G
Lab File ID: H6B01096
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 07:42
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:07
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	13.7	5.00	1.25
Barium	80.3	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	67400	500	300
Chromium	8.28	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	4080	500	100
Manganese	ND	50.0	2.50
Molybdenum	14.4	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	6820	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	288000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	11.6	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-1-Q422
Lab Samp ID: L207-01T
Lab File ID: H6B01107
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Collected: 12/13/22 07:42
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:36
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	81.9	50.0	25.0
Beryllium	ND	50.0	10.0
Cadmium	ND	50.0	15.0
Calcium	72100	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Lead	ND	50.0	10.0
Magnesium	ND	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	8530	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	316000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-2-Q422
Lab Samp ID: L207-02G
Lab File ID: H6B01097
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 08:28
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:10
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	17.5	5.00	1.25
Barium	88.4	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	95000	500	300
Chromium	12.6	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	3180	500	100
Manganese	ND	50.0	2.50
Molybdenum	18.4	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	7830	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	13.1	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MTS-2-Q422
Lab Samp ID: L207-02T
Lab File ID: H6B01108
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Analyzed: 02/01/23 21:39
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	404000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-2-Q422
Lab Samp ID: L207-02G
Lab File ID: H6B01097
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 08:28
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:10
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	17.5	5.00	1.25
Barium	88.4	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	95000	500	300
Chromium	12.6	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	3180	500	100
Manganese	ND	50.0	2.50
Molybdenum	18.4	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	7830	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	371000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	13.1	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MTS-2-Q422
Lab Samp ID: L207-02T
Lab File ID: H6B01108
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Collected: 12/13/22 08:28
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:39
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	96.0	50.0	25.0
Beryllium	ND	50.0	10.0
Cadmium	ND	50.0	15.0
Calcium	100000	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Lead	ND	50.0	10.0
Magnesium	ND	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	9710	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	404000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-901-Q422
Lab Samp ID: L207-03G
Lab File ID: H6B01098
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 07:52
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:12
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	14.1	5.00	1.25
Barium	81.3	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	68600	500	300
Chromium	8.22	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	4140	500	100
Manganese	ND	50.0	2.50
Molybdenum	14.5	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	6910	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	11.7	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MW-901-Q422
Lab Samp ID: L207-03T
Lab File ID: H6B01109
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Analyzed: 02/01/23 21:41
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	319000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-901-Q422
Lab Samp ID: L207-03G
Lab File ID: H6B01098
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 07:52
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:12
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	14.1	5.00	1.25
Barium	81.3	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	68600	500	300
Chromium	8.22	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	4140	500	100
Manganese	ND	50.0	2.50
Molybdenum	14.5	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	6910	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	294000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	11.7	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-901-Q422
Lab Samp ID: L207-03T
Lab File ID: H6B01109
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Collected: 12/13/22 07:52
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:41
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	82.7	50.0	25.0
Beryllium	ND	50.0	10.0
Cadmium	ND	50.0	15.0
Calcium	73500	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Lead	ND	50.0	10.0
Magnesium	ND	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	10400	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	319000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-99-060-Q422
Lab Samp ID: L207-04G
Lab File ID: H6B01100
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 10:38
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:18
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	7.69	5.00	1.25
Barium	34.3	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	56000	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	20000	500	100
Manganese	147	50.0	2.50
Molybdenum	38.5	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	11400	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	ND	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MW-99-060-Q422
Lab Samp ID: L207-04T
Lab File ID: H6B01111
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Analyzed: 02/01/23 21:46
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	467000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing
Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-99-060-Q422
Lab Samp ID: L207-04G
Lab File ID: H6B01100
Ext Btch ID: IML024W
Calib. Ref.: H6B01091

Date Collected: 12/13/22 10:38
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:18
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	7.69	5.00	1.25
Barium	34.3	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	56000	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	20000	500	100
Manganese	147	50.0	2.50
Molybdenum	38.5	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	11400	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	437000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	ND	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-99-060-Q422
Lab Samp ID: L207-04T
Lab File ID: H6B01111
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Collected: 12/13/22 10:38
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:46
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	ND	50.0	25.0
Beryllium	ND	50.0	10.0
Cadmium	ND	50.0	15.0
Calcium	59500	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Lead	ND	50.0	10.0
Magnesium	21300	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	15300	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	467000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-99-140-Q422
Lab Samp ID: L207-05G
Lab File ID: H6B01106
Ext Btch ID: IML024W
Calib. Ref.: H6B01103

Date Collected: 12/13/22 11:23
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 21:33
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	5.97	5.00	1.25
Barium	131	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	54900	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	8650	500	100
Manganese	ND	50.0	2.50
Molybdenum	19.8	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	8360	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	7.23	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MW-99-140-Q422
Lab Samp ID: L207-05T
Lab File ID: H6B01117
Ext Btch ID: IML024W
Calib. Ref.: H6B01115

Date Analyzed: 02/01/23 22:02
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	362000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/13/22 11:23
Project : PG&E TOPOCK-GMP	Date Received: 12/14/22
SDG NO. : 22L207	Date Extracted: 12/20/22 12:11
Sample ID: MW-99-140-Q422	Date Analyzed: 02/01/23 21:33
Lab Samp ID: L207-05G	Dilution Factor: 5
Lab File ID: H6B01106	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6B01103	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	5.00	2.50
Arsenic	5.97	5.00	1.25
Barium	131	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	54900	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Lead	ND	5.00	1.00
Magnesium	8650	500	100
Manganese	ND	50.0	2.50
Molybdenum	19.8	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	8360	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	336000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	7.23	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L207
Sample ID: MW-99-140-Q422
Lab Samp ID: L207-05T
Lab File ID: H6B01117
Ext Btch ID: IML024W
Calib. Ref.: H6B01115

Date Collected: 12/13/22 11:23
Date Received: 12/14/22
Date Extracted: 12/20/22 12:11
Date Analyzed: 02/01/23 22:02
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	142	50.0	25.0
Beryllium	ND	50.0	10.0
Cadmium	ND	50.0	15.0
Calcium	58400	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Lead	ND	50.0	10.0
Magnesium	9120	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	10400	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	362000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: NA
Project : PG&E TOPOCK-GMP	Date Received: NA
SDG NO. : 22L207	Date Extracted: 12/20/22 12:11
Sample ID: MBLK1W	Date Analyzed: 02/01/23 20:59
Lab Samp ID: IML024WB	Dilution Factor: 1
Lab File ID: H6B01093	Matrix: WATER
Ext Btch ID: IML024W	% Moisture: NA
Calib. Ref.: H6B01091	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Antimony	ND	1.00	0.500
Arsenic	ND	1.00	0.250
Barium	ND	1.00	0.500
Beryllium	ND	1.00	0.200
Cadmium	ND	1.00	0.300
Calcium	ND	100	60.0
Chromium	ND	1.00	0.300
Cobalt	ND	1.00	0.200
Copper	ND	2.00	1.00
Lead	ND	1.00	0.200
Magnesium	ND	100	20.0
Manganese	ND	10.0	0.500
Molybdenum	ND	2.00	0.500
Nickel	ND	1.00	0.500
Potassium	ND	100	25.0
Selenium	ND	1.00	0.300
Silver	ND	1.00	0.200
Sodium	ND	500	50.0
Thallium	ND	1.00	0.200
Vanadium	ND	1.00	0.500
Zinc	ND	20.0	10.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML024WB	IML024WL	IML024WC
LAB FILE ID	: H6B01093	H6B01094	H6B01095
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 20:59	02/01/23 21:02	02/01/23 21:05
PREP BATCH	: IML024W	IML024W	IML024W
CALIBRATION REF	: H6B01091	H6B01091	H6B01091

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Antimony	ND	30	29.8	99	30	30.1	100	1	85-115	20
Arsenic	ND	30	29.4	98	30	28.9	96	2	85-115	20
Barium	ND	30	29.5	98	30	30.2	101	2	85-115	20
Beryllium	ND	30	31.0	103	30	31.4	105	1	85-115	20
Cadmium	ND	30	29.5	98	30	29.8	99	1	85-115	20
Calcium	ND	3000	2920	97	3000	3060	102	5	85-115	20
Chromium	ND	30	32.1	107	30	31.4	105	2	85-115	20
Cobalt	ND	30	31.1	104	30	31.4	105	1	85-115	20
Copper	ND	30	32.3	108	30	31.8	106	2	85-115	20
Lead	ND	30	29.4	98	30	29.6	99	1	85-115	20
Magnesium	ND	3000	2900	97	3000	2970	99	2	85-115	20
Manganese	ND	30	31.7	106	30	32.9	110	4	85-115	20
Molybdenum	ND	30	28.6	95	30	29.4	98	3	85-115	20
Nickel	ND	30	31.6	105	30	31.0	103	2	85-115	20
Potassium	ND	3000	3250	108	3000	3160	105	3	85-115	20
Selenium	ND	30	29.2	97	30	30.5	102	4	85-115	20
Silver	ND	30	30.0	100	30	30.3	101	1	85-115	20
Sodium	ND	3000	2990	100	3000	3130	104	5	85-115	20
Thallium	ND	30	30.3	101	30	30.3	101	0	85-115	20
Vanadium	ND	30	32.3	108	30	31.4	105	3	85-115	20
Zinc	ND	60	63.6	106	60	62.6	104	2	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR:	5	5	5
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04G	L207-04M	L207-04S
LAB FILE ID	: H6B01100	H6B01102	H6B01105
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 21:18	02/01/23 21:23	02/01/23 21:31
PREP BATCH	: IML024W	IML024W	IML024W
CALIBRATION REF:	H6B01091	H6B01091	H6B01103

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Antimony	ND	30	35.0	117	30	35.4	118	1	75-125	20
Arsenic	7.69	30	38.1	101	30	38.8	104	2	75-125	20
Barium	34.3	30	66.0	106	30	71.6	124	8	75-125	20
Beryllium	ND	30	32.2	107	30	33.4	111	4	75-125	20
Cadmium	ND	30	31.4	105	30	32.0	107	2	75-125	20
Calcium	56000	3000	59500	117	3000	61300	177*	3	75-125	20
Chromium	ND	30	32.5	108	30	33.8	113	4	75-125	20
Cobalt	ND	30	32.4	108	30	32.9	110	2	75-125	20
Copper	ND	30	31.3	104	30	32.1	107	3	75-125	20
Lead	ND	30	29.6	99	30	30.8	103	4	75-125	20
Magnesium	20000	3000	23500	117	3000	23700	123	1	75-125	20
Manganese	147	30	182	117	30	186	130*	2	75-125	20
Molybdenum	38.5	30	70.6	107	30	72.3	113	2	75-125	20
Nickel	ND	30	32.0	107	30	33.3	111	4	75-125	20
Potassium	11400	3000	14800	113	3000	15000	120	1	75-125	20
Selenium	ND	30	32.1	107	30	33.5	112	4	75-125	20
Silver	ND	30	31.0	103	30	31.3	104	1	75-125	20
Thallium	ND	30	30.5	102	30	31.3	104	3	75-125	20
Vanadium	ND	30	33.2	111	30	33.8	113	2	75-125	20
Zinc	ND	60	ND	0.00*	60	127	212*	200*	75-125	20

PSResult - Parent Sample Result
* Out of QC limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR:	50	50	50
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04T	L207-04M	L207-04S
LAB FILE ID	: H6B01111	H6B01113	H6B01114
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 21:46	02/01/23 21:52	02/01/23 21:54
PREP BATCH	: IML024W	IML024W	IML024W
CALIBRATION REF:	H6B01103	H6B01103	H6B01103

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Sodium	467000	3000	462000	-167*	3000	457000	-333*	1	75-125	20

PSResult - Parent Sample Result
* Out of QC limit

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 5	5
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422
LAB SAMPLE ID	: L207-04G	L207-04A
LAB FILE ID	: H6B01100	H6B01099
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 21:18	02/01/23 21:15
PREP BATCH	: IML024W	IML024W
CALIBRATION REF	: H6B01091	H6B01091

ACCESSION:

PARAMETERS	Sample Result (ug/L)	Spike Amt (ug/L)	AS Result (ug/L)	AS Rec (%)	QC Limit (%)
Antimony	ND	150	142	95	75-125
Arsenic	7.69	150	145	92	75-125
Barium	34.3	150	178	96	75-125
Beryllium	ND	150	153	102	75-125
Cadmium	ND	150	143	95	75-125
Calcium	56000	15000	70400	96	75-125
Chromium	ND	150	147	98	75-125
Cobalt	ND	150	146	97	75-125
Copper	ND	150	146	97	75-125
Lead	ND	150	138	92	75-125
Magnesium	20000	15000	34100	94	75-125
Manganese	147	150	297	100	75-125
Molybdenum	38.5	150	181	95	75-125
Nickel	ND	150	144	96	75-125
Potassium	11400	15000	26100	98	75-125
Selenium	ND	150	140	93	75-125
Silver	ND	150	141	94	75-125
Thallium	ND	150	140	93	75-125
Vanadium	ND	150	149	99	75-125
Zinc	ND	300	297	99	75-125

AS - Analytical Spike

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 50	50
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422
LAB SAMPLE ID	: L207-04T	L207-04A
LAB FILE ID	: H6B01111	H6B01110
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 21:46	02/01/23 21:44
PREP BATCH	: IML024W	IML024W
CALIBRATION REF	: H6B01103	H6B01103

ACCESSION:

PARAMETERS	Sample Result (ug/L)	Spike Amt (ug/L)	AS Result (ug/L)	AS Rec (%)	QC Limit (%)
Sodium	467000	150000	625000	105	75-125

AS - Analytical Spike

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 5	25
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422
LAB SAMPLE ID	: L207-04G	L207-04J
LAB FILE ID	: H6B01100	H6B01101
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 21:18	02/01/23 21:20
PREP BATCH	: IML024W	IML024W
CALIBRATION REF	: H6B01091	H6B01091

ACCESSION:

PARAMETERS	Sample Result (ug/L)	SD Result (ug/L)	%Difference (%)	Max %D (%)
Antimony	ND	ND	0	10
Arsenic	7.69	ND	NA	10
Barium	34.3	41.7	22*	10
Beryllium	ND	ND	0	10
Cadmium	ND	ND	0	10
Calcium	56000	56600	1	10
Chromium	ND	ND	0	10
Cobalt	ND	ND	0	10
Copper	ND	ND	0	10
Lead	ND	ND	0	10
Magnesium	20000	20300	2	10
Manganese	147	ND	NA	10
Molybdenum	38.5	ND	NA	10
Nickel	ND	ND	0	10
Potassium	11400	12200	7	10
Selenium	ND	ND	0	10
Silver	ND	ND	0	10
Thallium	ND	ND	0	10
Vanadium	ND	ND	0	10
Zinc	ND	ND	0	10

SD - Serial Dilution
* Out of QC limit

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 50	250
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422
LAB SAMPLE ID	: L207-04T	L207-04J
LAB FILE ID	: H6B01111	H6B01112
DATE PREPARED	: 12/20/22 12:11	12/20/22 12:11
DATE ANALYZED	: 02/01/23 21:46	02/01/23 21:49
PREP BATCH	: IML024W	IML024W
CALIBRATION REF	: H6B01103	H6B01103

ACCESSION:

PARAMETERS	Sample Result (ug/L)	SD Result (ug/L)	%Difference (%)	Max %D (%)
Sodium	467000	468000	0	10

SD - Serial Dilution

DISSLOVED MERCURY

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD SW7470A (DISSOLVED)
DISSOLVED MERCURY BY COLD VAPOR

A total of five(5) water samples were received on 12/14/22 to be analyzed for Dissolved Mercury by Cold Vapor in accordance with Method SW7470A (DISSOLVED) and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. HGL025WB and HGL032WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. HGL025WL/HGL025WC and HGL032WL/HGL032WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed and the following was noted: L207-04M/L207-04S - Percent recovery for Mercury was not within MS/MSD QC limits. Presence of matrix interference was suspected. Analytical spike was analyzed and results were within expected values. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

Sample L207-04 was reported at 5X DF due to matrix QC deficiencies at non-dilution run. Matrix interference was suspected.

LAB CHRONICLE
DISSOLVED MERCURY BY COLD VAPOR

SDG NO. : 22L207
Instrument ID : 47

Client : ARCADIS
Project : PG&E TOPOCK-GMP

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	HGL025WB	1	NA	12/22/2216:12	12/22/2212:10	M47L014042	M47L014	22HGL025W	Method Blank
LCS1W	HGL025WL	1	NA	12/22/2216:15	12/22/2212:10	M47L014043	M47L014	22HGL025W	Lab Control Sample (LCS)
LCD1W	HGL025WC	1	NA	12/22/2216:16	12/22/2212:10	M47L014044	M47L014	22HGL025W	LCS Duplicate
MTS-1-Q422	L207-01	1	NA	12/22/2216:33	12/22/2212:10	M47L014053	M47L014	22HGL025W	Field Sample
MTS-2-Q422	L207-02	1	NA	12/22/2216:34	12/22/2212:10	M47L014054	M47L014	22HGL025W	Field Sample
MW-901-Q422	L207-03	1	NA	12/22/2216:37	12/22/2212:10	M47L014055	M47L014	22HGL025W	Field Sample
MW-99-140-Q422	L207-05	1	NA	12/22/2216:40	12/22/2212:10	M47L014057	M47L014	22HGL025W	Field Sample
MBLK2W	HGL032WB	1	NA	12/29/2215:31	12/29/2212:08	M47L018012	M47L018	23HGL032W	Method Blank
LCS2W	HGL032WL	1	NA	12/29/2215:32	12/29/2212:08	M47L018013	M47L018	23HGL032W	Lab Control Sample (LCS)
LCD2W	HGL032WC	1	NA	12/29/2215:34	12/29/2212:08	M47L018014	M47L018	23HGL032W	LCS Duplicate
MW-99-060-Q422-AS	L207-04A	5	NA	12/29/2217:37	12/22/2212:10	M47L018077	M47L018	23HGL032W	Analytical Spike Sample
MW-99-060-Q422	L207-04I	5	NA	12/29/2217:39	12/22/2212:10	M47L018078	M47L018	22HGL025W	Diluted Sample
MW-99-060-Q422MS	L207-04M	5	NA	12/29/2217:44	12/29/2212:08	M47L018080	M47L018	23HGL032W	Matrix Spike Sample (MS)
MW-99-060-Q422MSD	L207-04S	5	NA	12/29/2217:46	12/29/2212:08	M47L018081	M47L018	23HGL032W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

METHOD SW7470A (DISSOLVED)
DISSOLVED MERCURY BY COLD VAPOR

Matrix : WATER
InstrumentID : 47

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DILT'N FACTOR	MOIST (%)	RL (ug/L)	MDL (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGL025WB	ND	1	NA	0.500	0.200	12/22/2216:12	12/22/2212:10	M47L014042	M47L014	22HGL025W	NA	NA
LCS1W	HGL025WL	2.63	1	NA	0.500	0.200	12/22/2216:15	12/22/2212:10	M47L014043	M47L014	22HGL025W	NA	NA
LCD1W	HGL025WC	2.46	1	NA	0.500	0.200	12/22/2216:16	12/22/2212:10	M47L014044	M47L014	22HGL025W	NA	NA
MTS-1-Q422	L207-01	ND	1	NA	0.500	0.200	12/22/2216:33	12/22/2212:10	M47L014053	M47L014	22HGL025W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02	ND	1	NA	0.500	0.200	12/22/2216:34	12/22/2212:10	M47L014054	M47L014	22HGL025W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03	ND	1	NA	0.500	0.200	12/22/2216:37	12/22/2212:10	M47L014055	M47L014	22HGL025W	12/13/2207:52	12/14/22
MW-99-140-Q422	L207-05	ND	1	NA	0.500	0.200	12/22/2216:40	12/22/2212:10	M47L014057	M47L014	22HGL025W	12/13/2211:23	12/14/22
MBLK2W	HGL032WB	ND	1	NA	0.500	0.200	12/29/2215:31	12/29/2212:08	M47L018012	M47L018	23HGL032W	NA	NA
LCS2W	HGL032WL	2.42	1	NA	0.500	0.200	12/29/2215:32	12/29/2212:08	M47L018013	M47L018	23HGL032W	NA	NA
LCD2W	HGL032WC	2.39	1	NA	0.500	0.200	12/29/2215:34	12/29/2212:08	M47L018014	M47L018	23HGL032W	NA	NA
MW-99-060-Q422-AS	L207-04A	14.9	5	NA	2.50	1.00	12/29/2217:37	12/22/2212:10	M47L018077	M47L018	23HGL032W	12/13/2210:38	12/14/22
MW-99-060-Q422	L207-04I	ND	5	NA	2.50	1.00	12/29/2217:39	12/22/2212:10	M47L018078	M47L018	22HGL025W	12/13/2210:38	12/14/22
MW-99-060-Q422MS	L207-04M	ND	5	NA	2.50	1.00	12/29/2217:44	12/29/2212:08	M47L018080	M47L018	23HGL032W	12/13/2210:38	12/14/22
MW-99-060-Q422MSD	L207-04S	ND	5	NA	2.50	1.00	12/29/2217:46	12/29/2212:08	M47L018081	M47L018	23HGL032W	12/13/2210:38	12/14/22

Note: Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : METHOD SW7470A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HGL025WB	HGL025WL	HGL025WC
LAB FILE ID	: M47L014042	M47L014043	M47L014044
DATE PREPARED	: 12/22/2212:10	12/22/2212:10	12/22/2212:10
DATE ANALYZED	: 12/22/2216:12	12/22/2216:15	12/22/2216:16
PREP BATCH	: 22HGL025W	22HGL025W	22HGL025W
CALIBRATION REF	: M47L014	M47L014	M47L014

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Mercury	ND	2.50	2.63	105	2.50	2.46	98	7	75-125	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : METHOD SW7470A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID	: HGL032WB	HGL032WL	HGL032WC
LAB FILE ID	: M47L018012	M47L018013	M47L018014
DATE PREPARED	: 12/29/2212:08	12/29/2212:08	12/29/2212:08
DATE ANALYZED	: 12/29/2215:31	12/29/2215:32	12/29/2215:34
PREP BATCH	: 23HGL032W	23HGL032W	23HGL032W
CALIBRATION REF:	M47L018	M47L018	M47L018

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Mercury	ND	2.50	2.42	97	2.50	2.39	96	1	75-125	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : METHOD SW7470A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 5	5	5
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04I	L207-04M	L207-04S
LAB FILE ID	: M47L018078	M47L018080	M47L018081
DATE PREPARED	: 12/22/2212:10	12/29/2212:08	12/29/2212:08
DATE ANALYZED	: 12/29/2217:39	12/29/2217:44	12/29/2217:46
PREP BATCH	: 22HGL025W	23HGL032W	23HGL032W
CALIBRATION REF	: M47L018	M47L018	M47L018

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Mercury	ND	2.50	ND	0.0*	2.50	ND	*	0	75-125	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate
* Out of QC criteria

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SW7470A (DISSOLVED)

MATRIX	: WATER	
DILUTION FACTOR	: 5	5
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422-AS
LAB SAMPLE ID	: L207-04I	L207-04A
LAB FILE ID	: M47L018078	M47L018077
DATE PREPARED	: 12/22/2212:10	12/22/2212:10
DATE ANALYZED	: 12/29/2217:39	12/29/2217:37
PREP BATCH	: 22HGL025W	23HGL032W
CALIBRATION REF	: M47L018	M47L018

ACCESSION:

PARAMETER	PSResult (ug/L)	SPIKE AMT (ug/L)	ASResult (ug/L)	ASRec (%)	QC LIMIT (%)
Mercury	ND	15.0	14.9	99	80-120

PS: Parent Sample AS: Analytical Spike

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

WET CHEMICAL ANALYSES

SDG#: 22L207

HEXAVALENT CHROMIUM

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD E218.6
HEXAVALENT CHROMIUM

A total of six(6) water samples were received on 12/14/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Hexavalent Chromium was not detected in HCL009WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HCL009WL/HCL009WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Hexavalent Chromium was within MS QC limits in L207-04M/L207-04S. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

Matrix : WATER
InstrumentID : 59

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCL009WB	ND	1	NA	0.2	0.05	12/19/2220:25	NA	IL19015	IL19013	HCL009W	NA	NA
LCS1W	HCL009WL	2.00	1	NA	0.2	0.05	12/19/2220:36	NA	IL19016	IL19013	HCL009W	NA	NA
LCD1W	HCL009WC	2.00	1	NA	0.2	0.05	12/19/2220:46	NA	IL19017	IL19013	HCL009W	NA	NA
MW-99-060-Q422	L207-04	ND	1	NA	0.2	0.05	12/19/2220:57	NA	IL19018	IL19013	HCL009W	12/13/2210:38	12/14/22
MW-99-060-Q422MS	L207-04M	0.987	1	NA	0.2	0.05	12/19/2221:10	NA	IL19019	IL19013	HCL009W	12/13/2210:38	12/14/22
MW-99-060-Q422MSD	L207-04S	0.994	1	NA	0.2	0.05	12/19/2221:20	NA	IL19020	IL19013	HCL009W	12/13/2210:38	12/14/22
MTS-1-Q422	L207-01	6.45	1	NA	0.2	0.05	12/19/2222:02	NA	IL19024	IL19013	HCL009W	12/13/2207:42	12/14/22
MW-901-Q422	L207-03	6.46	1	NA	0.2	0.05	12/19/2222:43	NA	IL19028	IL19025	HCL009W	12/13/2207:52	12/14/22
MW-99-140-Q422	L207-05	ND	1	NA	0.2	0.05	12/19/2222:54	NA	IL19029	IL19025	HCL009W	12/13/2211:23	12/14/22
EB-752-Q422	L207-06	ND	1	NA	0.2	0.05	12/19/2223:04	NA	IL19030	IL19025	HCL009W	12/13/2212:30	12/14/22
MTS-2-Q422	L207-02I	11.1	2	NA	0.4	0.1	12/19/2223:14	NA	IL19031	IL19025	HCL009W	12/13/2208:28	12/14/22

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCL009WB	HCL009WL	HCL009WC
LAB FILE ID	: IL19015	IL19016	IL19017
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/19/2220:25	12/19/2220:36	12/19/2220:46
PREP BATCH	: HCL009W	HCL009W	HCL009W
CALIBRATION REF	: IL19013	IL19013	IL19013

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	2.00	100	2.00	2.00	100	0	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04	L207-04M	L207-04S
LAB FILE ID	: IL19018	IL19019	IL19020
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/19/2220:57	12/19/2221:10	12/19/2221:20
PREP BATCH	: HCL009W	HCL009W	HCL009W
CALIBRATION REF	: IL19013	IL19013	IL19013

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	0.987	98.7	1.00	0.994	99.4	1	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

ANIONS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD E300.0
CHLORIDE

A total of five(5) water samples were received on 12/14/22 to be analyzed for Chloride in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. ICL016WB and ICL018WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. ICL016WL/ICL016WC and ICL018WL/ICL018WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed and the following was noted: L207-04JM/L207-04JS - Percent recovery for Chloride was not within MS/MSD QC limits. Presence of matrix interference was suspected. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD E300.0
FLUORIDE

A total of five(5) water samples were received on 12/14/22 to be analyzed for Fluoride in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Fluoride was not detected in ICL016WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL016WL/ICL016WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Fluoride was within MS QC limits in L207-04M/L207-04S. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD E300.0
NITRATE AS N

A total of five(5) water samples were received on 12/14/22 to be analyzed for Nitrate as N in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Nitrate was not detected in ICL016WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL016WL/ICL016WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Nitrate was within MS QC limits in L207-04M/L207-04S. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD E300.0
SULFATE

A total of five(5) water samples were received on 12/14/22 to be analyzed for Sulfate in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Sulfate was not detected in ICL016WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL016WL/ICL016WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Sulfate was within MS QC limits in L207-04IM/L207-04IS. Sample duplicate was analyzed and RPD was not within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E300.0
CHLORIDE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL016WB	ND	1	NA	0.2	0.1	12/14/2210:29	NA	AL16-03	AL16-01	ICL016W	NA	NA
LCS1W	ICL016WL	2.00	1	NA	0.2	0.1	12/14/2210:50	NA	AL16-04	AL16-01	ICL016W	NA	NA
LCD1W	ICL016WC	2.01	1	NA	0.2	0.1	12/14/2211:10	NA	AL16-05	AL16-01	ICL016W	NA	NA
MTS-1-Q422	L207-01K	514	100	NA	20	10	12/14/2218:55	NA	AL16-28	AL16-25	ICL016W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02K	711	100	NA	20	10	12/14/2219:56	NA	AL16-31	AL16-25	ICL016W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03K	529	100	NA	20	10	12/14/2220:57	NA	AL16-34	AL16-25	ICL016W	12/13/2207:52	12/14/22
MW-99-140-Q422	L207-05K	490	100	NA	20	10	12/14/2222:38	NA	AL16-39	AL16-37	ICL016W	12/13/2211:23	12/14/22
MBLK2W	ICL018WB	ND	1	NA	0.2	0.1	12/15/2209:58	NA	AL18-03	AL18-01	ICL018W	NA	NA
LCS2W	ICL018WL	1.92	1	NA	0.2	0.1	12/15/2210:18	NA	AL18-04	AL18-01	ICL018W	NA	NA
LCD2W	ICL018WC	1.93	1	NA	0.2	0.1	12/15/2210:38	NA	AL18-05	AL18-01	ICL018W	NA	NA
MW-99-060-Q422	L207-04J	497	100	NA	20	10	12/15/2223:28	NA	AL18-43	AL18-37	ICL018W	12/13/2210:38	12/14/22
MW-99-060-Q422DUP	L207-04JD	525	100	NA	20	10	12/15/2223:48	NA	AL18-44	AL18-37	ICL018W	12/13/2210:38	12/14/22
MW-99-060-Q422MS	L207-04JM	754	100	NA	20	10	12/16/2200:08	NA	AL18-45	AL18-37	ICL018W	12/13/2210:38	12/14/22
MW-99-060-Q422MSD	L207-04JS	767	100	NA	20	10	12/16/2200:28	NA	AL18-46	AL18-37	ICL018W	12/13/2210:38	12/14/22

METHOD E300.0
FLUORIDE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL016WB	ND	1	NA	0.1	0.05	12/14/2210:29	NA	AL16-03	AL16-01	ICL016W	NA	NA
LCS1W	ICL016WL	1.03	1	NA	0.1	0.05	12/14/2210:50	NA	AL16-04	AL16-01	ICL016W	NA	NA
LCD1W	ICL016WC	1.04	1	NA	0.1	0.05	12/14/2211:10	NA	AL16-05	AL16-01	ICL016W	NA	NA
MW-99-060-Q422	L207-04	3.16	1	NA	0.1	0.05	12/14/2213:11	NA	AL16-11	AL16-01	ICL016W	12/13/2210:38	12/14/22
MTS-1-Q422	L207-01	4.83	1	NA	0.1	0.05	12/14/2213:32	NA	AL16-12	AL16-01	ICL016W	12/13/2207:42	12/14/22
MW-901-Q422	L207-03	4.82	1	NA	0.1	0.05	12/14/2214:53	NA	AL16-16	AL16-13	ICL016W	12/13/2207:52	12/14/22
MW-99-140-Q422	L207-05	4.10	1	NA	0.1	0.05	12/14/2215:13	NA	AL16-17	AL16-13	ICL016W	12/13/2211:23	12/14/22
MW-99-060-Q422DUP	L207-04D	3.16	1	NA	0.1	0.05	12/14/2216:34	NA	AL16-21	AL16-13	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422MS	L207-04M	4.21	1	NA	0.1	0.05	12/14/2216:54	NA	AL16-22	AL16-13	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422MSD	L207-04S	4.21	1	NA	0.1	0.05	12/14/2217:14	NA	AL16-23	AL16-13	ICL016W	12/13/2210:38	12/14/22
MTS-2-Q422	L207-02I	5.13	2	NA	0.2	0.1	12/14/2219:16	NA	AL16-29	AL16-25	ICL016W	12/13/2208:28	12/14/22

METHOD E300.0
NITRATE AS N

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL016WB	ND	1	NA	0.1	0.05	12/14/2210:29	NA	AL16-03	AL16-01	ICL016W	NA	NA
LCS1W	ICL016WL	1.06	1	NA	0.1	0.05	12/14/2210:50	NA	AL16-04	AL16-01	ICL016W	NA	NA
LCD1W	ICL016WC	1.06	1	NA	0.1	0.05	12/14/2211:10	NA	AL16-05	AL16-01	ICL016W	NA	NA
MW-99-060-Q422	L207-04	ND	1	NA	0.1	0.05	12/14/2213:11	NA	AL16-11	AL16-01	ICL016W	12/13/2210:38	12/14/22
MTS-2-Q422	L207-02	1.94	1	NA	0.1	0.05	12/14/2214:32	NA	AL16-15	AL16-13	ICL016W	12/13/2208:28	12/14/22
MW-99-060-Q422DUP	L207-04D	0.551	1	NA	0.1	0.05	12/14/2216:34	NA	AL16-21	AL16-13	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422MS	L207-04M	1.10	1	NA	0.1	0.05	12/14/2216:54	NA	AL16-22	AL16-13	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422MSD	L207-04S	1.10	1	NA	0.1	0.05	12/14/2217:14	NA	AL16-23	AL16-13	ICL016W	12/13/2210:38	12/14/22
MTS-1-Q422	L207-01I	2.06	2	NA	0.2	0.1	12/14/2217:35	NA	AL16-24	AL16-13	ICL016W	12/13/2207:42	12/14/22
MW-901-Q422	L207-03I	1.89	2	NA	0.2	0.1	12/14/2220:16	NA	AL16-32	AL16-25	ICL016W	12/13/2207:52	12/14/22
MW-99-140-Q422	L207-05I	2.71	2	NA	0.2	0.1	12/14/2221:17	NA	AL16-35	AL16-25	ICL016W	12/13/2211:23	12/14/22

METHOD E300.0
SULFATE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL016WB	ND	1	NA	0.5	0.25	12/14/2210:29	NA	AL16-03	AL16-01	ICL016W	NA	NA
LCS1W	ICL016WL	4.96	1	NA	0.5	0.25	12/14/2210:50	NA	AL16-04	AL16-01	ICL016W	NA	NA
LCD1W	ICL016WC	4.97	1	NA	0.5	0.25	12/14/2211:10	NA	AL16-05	AL16-01	ICL016W	NA	NA
MTS-1-Q422	L207-01J	115	10	NA	5	2.5	12/14/2218:35	NA	AL16-27	AL16-25	ICL016W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02J	153	10	NA	5	2.5	12/14/2219:36	NA	AL16-30	AL16-25	ICL016W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03J	138	10	NA	5	2.5	12/14/2220:37	NA	AL16-33	AL16-25	ICL016W	12/13/2207:52	12/14/22
MW-99-140-Q422	L207-05J	200	10	NA	5	2.5	12/14/2221:37	NA	AL16-36	AL16-25	ICL016W	12/13/2211:23	12/14/22
MW-99-060-Q422	L207-04I	257	40	NA	20	10	12/14/2222:58	NA	AL16-40	AL16-37	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422DUP	L207-04ID	209	40	NA	20	10	12/14/2223:19	NA	AL16-41	AL16-37	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422MS	L207-04IM	440	40	NA	20	10	12/14/2223:39	NA	AL16-42	AL16-37	ICL016W	12/13/2210:38	12/14/22
MW-99-060-Q422MSD	L207-04IS	448	40	NA	20	10	12/14/2223:59	NA	AL16-43	AL16-37	ICL016W	12/13/2210:38	12/14/22

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

% MOISTURE: NA

MATRIX	: WATER		
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: ICL016WB	ICL016WL	ICL016WC
LAB FILE ID	: AL16-03	AL16-04	AL16-05
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/14/2210:29	12/14/2210:50	12/14/2211:10
PREP BATCH	: ICL016W	ICL016W	ICL016W
CALIBRATION REF:	AL16-01	AL16-01	AL16-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride	ND	2	2.00	100	2	2.01	100	0	90-110	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

% MOISTURE: NA

MATRIX	: WATER		
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID	: ICL018WB	ICL018WL	ICL018WC
LAB FILE ID	: AL18-03	AL18-04	AL18-05
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/15/2209:58	12/15/2210:18	12/15/2210:38
PREP BATCH	: ICL018W	ICL018W	ICL018W
CALIBRATION REF:	AL18-01	AL18-01	AL18-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride	ND	2	1.92	96	2	1.93	96	1	90-110	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	% MOISTURE: NA	
DILUTION FACTOR:	100	100	100
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04J	L207-04JM	L207-04JS
LAB FILE ID	: AL18-43	AL18-45	AL18-46
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/15/2223:28	12/16/2200:08	12/16/2200:28
PREP BATCH	: ICL018W	ICL018W	ICL018W
CALIBRATION REF:	AL18-37	AL18-37	AL18-37

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	SPIKE AMT (mg/L)	MS RESULT (mg/L)	MS REC (%)	SPIKE AMT (mg/L)	MSD RESULT (mg/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride	497	200	754	128*	200	767	135*	2	80-120	20

* Out of MS QC limit.

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	
DILUTION FACTOR	: 100	100
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422DUP
LAB SAMPLE ID	: L207-04J	L207-04JD
LAB FILE ID	: AL18-43	AL18-44
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/15/2223:28	12/15/2223:48
PREP BATCH	: ICL018W	ICL018W
CALIBRATION REF	: AL18-37	AL18-37

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
Chloride	497	525	6	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

% MOISTURE: NA

MATRIX	WATER		
DILUTION FACTOR	1	1	1
SAMPLE ID	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	ICL016WB	ICL016WL	ICL016WC
LAB FILE ID	AL16-03	AL16-04	AL16-05
DATE PREPARED	NA	NA	NA
DATE ANALYZED	12/14/2210:29	12/14/2210:50	12/14/2211:10
PREP BATCH	ICL016W	ICL016W	ICL016W
CALIBRATION REF	AL16-01	AL16-01	AL16-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Fluoride	ND	1	1.03	103	1	1.04	104	1	90-110	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

% MOISTURE: NA

MATRIX	: WATER	1	1
DILUTION FACTOR:	1	MW-99-060-Q422MS	MW-99-060-Q422MSD
SAMPLE ID	: MW-99-060-Q422	L207-04M	L207-04S
LAB SAMPLE ID	: L207-04	AL16-22	AL16-23
LAB FILE ID	: AL16-11	NA	NA
DATE PREPARED	: NA	12/14/2216:54	12/14/2217:14
DATE ANALYZED	: 12/14/2213:11	ICL016W	ICL016W
PREP BATCH	: ICL016W	AL16-13	AL16-13
CALIBRATION REF:	AL16-01		

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	SPIKE AMT (mg/L)	MS RESULT (mg/L)	MS REC (%)	SPIKE AMT (mg/L)	MSD RESULT (mg/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Fluoride	3.16	1	4.21	105	1	4.21	105	0	80-120	20

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422DUP
LAB SAMPLE ID	: L207-04	L207-04D
LAB FILE ID	: AL16-11	AL16-21
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/14/2213:11	12/14/2216:34
PREP BATCH	: ICL016W	ICL016W
CALIBRATION REF	: AL16-13	AL16-13

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
Fluoride	3.16	3.16	0	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

% MOISTURE: NA

MATRIX	: WATER		
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: ICL016WB	ICL016WL	ICL016WC
LAB FILE ID	: AL16-03	AL16-04	AL16-05
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/14/2210:29	12/14/2210:50	12/14/2211:10
PREP BATCH	: ICL016W	ICL016W	ICL016W
CALIBRATION REF	: AL16-01	AL16-01	AL16-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE	ND	1	1.06	106	1	1.06	106	0	90-110	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	% MOISTURE: NA	
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04	L207-04M	L207-04S
LAB FILE ID	: AL16-11	AL16-22	AL16-23
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/14/2213:11	12/14/2216:54	12/14/2217:14
PREP BATCH	: ICL016W	ICL016W	ICL016W
CALIBRATION REF:	AL16-01	AL16-13	AL16-13

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	SPIKE AMT (mg/L)	MS RESULT (mg/L)	MS REC (%)	SPIKE AMT (mg/L)	MSD RESULT (mg/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE	ND	1	1.10	110	1	1.10	110	0	80-120	20

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422DUP
LAB SAMPLE ID	: L207-04	L207-04D
LAB FILE ID	: AL16-11	AL16-21
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/14/2213:11	12/14/2216:34
PREP BATCH	: ICL016W	ICL016W
CALIBRATION REF	: AL16-13	AL16-13

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
NITRATE	ND	0.551	NA	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

% MOISTURE: NA

MATRIX	: WATER		
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: ICL016WB	ICL016WL	ICL016WC
LAB FILE ID	: AL16-03	AL16-04	AL16-05
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/14/2210:29	12/14/2210:50	12/14/2211:10
PREP BATCH	: ICL016W	ICL016W	ICL016W
CALIBRATION REF	: AL16-01	AL16-01	AL16-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Sulfate	ND	5	4.96	99	5	4.97	99	0	90-110	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	% MOISTURE: NA	
DILUTION FACTOR:	40	40	40
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422MS	MW-99-060-Q422MSD
LAB SAMPLE ID	: L207-04I	L207-04IM	L207-04IS
LAB FILE ID	: AL16-40	AL16-42	AL16-43
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/14/2222:58	12/14/2223:39	12/14/2223:59
PREP BATCH	: ICL016W	ICL016W	ICL016W
CALIBRATION REF:	AL16-37	AL16-37	AL16-37

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	SPIKE AMT (mg/L)	MS RESULT (mg/L)	MS REC (%)	SPIKE AMT (mg/L)	MSD RESULT (mg/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Sulfate	257	200	440	92	200	448	96	2	80-120	20

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : E300.0

MATRIX	: WATER	
DILUTION FACTOR	: 40	40
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422DUP
LAB SAMPLE ID	: L207-04I	L207-04ID
LAB FILE ID	: AL16-40	AL16-41
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/14/2222:58	12/14/2223:19
PREP BATCH	: ICL016W	ICL016W
CALIBRATION REF	: AL16-37	AL16-37

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
Sulfate	257	209	21*	20

* Out of RPD limit.

ALKALINITY

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD SM2320B
TOTAL ALKALINITY

A total of five(5) water samples were received on 12/14/22 to be analyzed for Total Alkalinity in accordance with Method SM2320B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Alkalinity was not detected in ALL008WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ALL008WL/ALL008WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Sample duplicate was analyzed and RPD was within expected value.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

METHOD SM2320B
TOTAL ALKALINITY

Matrix : WATER
InstrumentID : E5

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	PREP. FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ALL008WB	ND	1	NA	5	5	12/15/2214:32	NA	22E5L0426	22E5L04	ALL008W	NA	NA
LCS1W	ALL008WL	86.5	1	NA	5	5	12/15/2214:39	NA	22E5L0427	22E5L04	ALL008W	NA	NA
LCD1W	ALL008WC	87.5	1	NA	5	5	12/15/2214:45	NA	22E5L0428	22E5L04	ALL008W	NA	NA
MTS-1-Q422	L207-01	94.5	1	NA	5	5	12/15/2214:54	NA	22E5L0429	22E5L04	ALL008W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02	74.1	1	NA	5	5	12/15/2215:01	NA	22E5L0430	22E5L04	ALL008W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03	85.6	1	NA	5	5	12/15/2215:09	NA	22E5L0431	22E5L04	ALL008W	12/13/2207:52	12/14/22
MW-99-060-Q422	L207-04	320	1	NA	5	5	12/15/2215:17	NA	22E5L0432	22E5L04	ALL008W	12/13/2210:38	12/14/22
MW-99-060-Q422DUP	L207-04D	320	1	NA	5	5	12/15/2215:25	NA	22E5L0433	22E5L04	ALL008W	12/13/2210:38	12/14/22
MW-99-140-Q422	L207-05	133	1	NA	5	5	12/15/2215:32	NA	22E5L0434	22E5L04	ALL008W	12/13/2211:23	12/14/22

Note that Alkalinity concentration is reported as:
Alkalinity to pH 4.5 for results greater than or equal to 20 mg/L
Alkalinity to pH 4.2 for results less than 20 mg/L

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : METHOD SM2320B

% MOISTURE: NA

MATRIX	: WATER		
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: ALL008WB	ALL008WL	ALL008WC
LAB FILE ID	: 22E5L0426	22E5L0427	22E5L0428
DATE EXTRACTED	: NA	NA	NA
DATE ANALYZED	: 12/15/2214:32	12/15/2214:39	12/15/2214:45
PREP BATCH	: ALL008W	ALL008W	ALL008W
CALIBRATION REF	: 22E5L04	22E5L04	22E5L04

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
ALKALINITY	ND	86.4	86.5	100	86.4	87.5	101	1	85-115	20

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : METHOD SM2320B

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422DUP
LAB SAMPLE ID	: L207-04	L207-04D
LAB FILE ID	: 22E5L0432	22E5L0433
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/15/2215:17	12/15/2215:25
PREP BATCH	: ALL008W	ALL008W
CALIBRATION REF	: 22E5L04	22E5L04

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
ALKALINITY	320	320	0	20

TDS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD SM2540C
TOTAL DISSOLVED SOLIDS

A total of five(5) water samples were received on 12/14/22 to be analyzed for Total Dissolved Solids in accordance with Method SM2540C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Balance calibration verifications were carried out on a frequency specified by the method. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Total Dissolved Solids was not detected in TDL007WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for Total Dissolved Solids was within LCS QC limits in TDL007WL. Refer to LCS summary form for details.

Matrix QC Sample
Sample duplicate was analyzed and RPD was within expected value.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

METHOD SM2540C
TOTAL DISSOLVED SOLIDS

Matrix : WATER
InstrumentID : 402426

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	TDL007WB	ND	1	NA	10	10	12/16/2215:25	NA	22TDL00701	22TDL007	TDL007W	NA	NA
LCS1W	TDL007WL	940	1	NA	10	10	12/16/2215:25	NA	22TDL00702	22TDL007	TDL007W	NA	NA
MTS-1-Q422	L207-01	799	1	NA	10	10	12/16/2215:25	NA	22TDL00703	22TDL007	TDL007W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02	1160	1	NA	10	10	12/16/2215:25	NA	22TDL00704	22TDL007	TDL007W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03	985	1	NA	10	10	12/16/2215:25	NA	22TDL00705	22TDL007	TDL007W	12/13/2207:52	12/14/22
MW-99-060-Q422	L207-04	1270	1	NA	10	10	12/16/2215:25	NA	22TDL00706	22TDL007	TDL007W	12/13/2210:38	12/14/22
MW-99-060-Q422DUP	L207-04D	1240	1	NA	10	10	12/16/2215:25	NA	22TDL00707	22TDL007	TDL007W	12/13/2210:38	12/14/22
MW-99-140-Q422	L207-05	999	1	NA	10	10	12/16/2215:25	NA	22TDL00708	22TDL007	TDL007W	12/13/2211:23	12/14/22

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SM2540C

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: TDL007WB	TDL007WL
LAB FILE ID	: 22TDL00701	22TDL00702
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/16/2215:25	12/16/2215:25
PREP BATCH	: TDL007W	TDL007W
CALIBRATION REF	: 22TDL007	22TDL007

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	QC LIMIT (%)
Total dissolved solids	ND	1000	940	94	75-125

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SM2540C

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-99-060-Q422	MW-99-060-Q422DUP
LAB SAMPLE ID	: L207-04	L207-04D
LAB FILE ID	: 22TDL00706	22TDL00707
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/16/2215:25	12/16/2215:25
PREP BATCH	: TDL007W	TDL007W
CALIBRATION REF	: 22TDL007	22TDL007

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
Total dissolved solids	1270	1240	2	10

AMMONIA AS N

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD SM4500-NH3F
AMMONIA AS N

A total of three(3) water samples were received on 12/14/22 to be analyzed for Ammonia as N in accordance with Method SM4500-NH3F and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Ammonia-N was not detected in NHA002WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. NHA002WL/NHA002WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

METHOD SM4500-NH3F
AMMONIA AS N

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

Matrix : WATER
InstrumentID : H9

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	NHA002WB	ND	1	NA	0.1	0.06	01/10/2317:34	01/09/2316:23	23NHA00211	23NHA002	NHA002W	NA	NA
LCS1W	NHA002WL	0.580	1	NA	0.1	0.06	01/10/2317:35	01/09/2316:23	23NHA00212	23NHA002	NHA002W	NA	NA
LCD1W	NHA002WC	0.545	1	NA	0.1	0.06	01/10/2317:35	01/09/2316:23	23NHA00213	23NHA002	NHA002W	NA	NA
MTS-1-Q422	L207-01	ND	1	NA	0.1	0.06	01/10/2317:36	01/09/2316:23	23NHA00222	23NHA002	NHA002W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02	ND	1	NA	0.1	0.06	01/10/2317:37	01/09/2316:23	23NHA00223	23NHA002	NHA002W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03	ND	1	NA	0.1	0.06	01/10/2317:37	01/09/2316:23	23NHA00224	23NHA002	NHA002W	12/13/2207:52	12/14/22

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : SM4500-NH3F

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: NHA002WB	NHA002WL	NHA002WC
LAB FILE ID	: 23NHA00211	23NHA00212	23NHA00213
DATE PREPARED	: 01/09/2316:23	01/09/2316:23	01/09/2316:23
DATE ANALYZED	: 01/10/2317:34	01/10/2317:35	01/10/2317:35
PREP BATCH	: NHA002W	NHA002W	NHA002W
CALIBRATION REF:	23NHA002	23NHA002	23NHA002

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Ammonia-N	ND	0.500	0.580	116	0.500	0.545	109	6	80-120	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

TOC

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L207

METHOD 9060A
TOC

A total of five(5) water samples were received on 12/14/22 to be analyzed for TOC in accordance with Method 9060A and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. TOC was not detected in TCA002WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. TCA002WL/TCA002WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. TOC was within MS QC limits in L207-01M/L207-01S. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Sample 22L207-05 was reported at a 3X dilution factor due to suspected matrix interference exhibited by the sediment in the sample.

METHOD 9060A
TOC

Matrix : WATER
InstrumentID : 62

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L207

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DIL'N FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	TCA002WB	ND	1	NA	1.00	0.500	01/05/2307:45	NA	TCA001-40	TCA001-38	TCA002W	NA	NA
LCS1W	TCA002WL	25.4	1	NA	1.00	0.500	01/05/2308:01	NA	TCA001-41	TCA001-38	TCA002W	NA	NA
LCD1W	TCA002WC	25.0	1	NA	1.00	0.500	01/05/2308:16	NA	TCA001-42	TCA001-38	TCA002W	NA	NA
MTS-1-Q422	L207-01	ND	1	NA	1.00	0.500	01/05/2310:01	NA	TCA001-49	TCA001-38	TCA002W	12/13/2207:42	12/14/22
MTS-1-Q422DUP	L207-01D	ND	1	NA	1.00	0.500	01/05/2310:48	NA	TCA001-52	TCA001-50	TCA002W	12/13/2207:42	12/14/22
MTS-1-Q422MS	L207-01M	24.3	1	NA	1.00	0.500	01/05/2311:03	NA	TCA001-53	TCA001-50	TCA002W	12/13/2207:42	12/14/22
MTS-1-Q422MSD	L207-01S	25.1	1	NA	1.00	0.500	01/05/2311:19	NA	TCA001-54	TCA001-50	TCA002W	12/13/2207:42	12/14/22
MTS-2-Q422	L207-02	ND	1	NA	1.00	0.500	01/05/2311:34	NA	TCA001-55	TCA001-50	TCA002W	12/13/2208:28	12/14/22
MW-901-Q422	L207-03	ND	1	NA	1.00	0.500	01/05/2311:49	NA	TCA001-56	TCA001-50	TCA002W	12/13/2207:52	12/14/22
MW-99-060-Q422	L207-04	2.62	1	NA	1.00	0.500	01/05/2312:04	NA	TCA001-57	TCA001-50	TCA002W	12/13/2210:38	12/14/22
MW-99-140-Q422	L207-05I	ND	3	NA	3.00	1.50	01/05/2312:18	NA	TCA001-58	TCA001-50	TCA002W	12/13/2211:23	12/14/22

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : 9060A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: TCA002WB	TCA002WL	TCA002WC
LAB FILE ID	: TCA001-40	TCA001-41	TCA001-42
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 01/05/2307:45	01/05/2308:01	01/05/2308:16
PREP BATCH	: TCA002W	TCA002W	TCA002W
CALIBRATION REF	: TCA001-38	TCA001-38	TCA001-38

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
TOC	ND	25.0	25.4	102	25.0	25.0	100	2	85-115	10

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : 9060A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MTS-1-Q422	MTS-1-Q422MS	MTS-1-Q422MSD
LAB SAMPLE ID	: L207-01	L207-01M	L207-01S
LAB FILE ID	: TCA001-49	TCA001-53	TCA001-54
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 01/05/2310:01	01/05/2311:03	01/05/2311:19
PREP BATCH	: TCA002W	TCA002W	TCA002W
CALIBRATION REF	: TCA001-38	TCA001-50	TCA001-50

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
TOC	ND	25.0	24.3	97	25.0	25.1	100	3	75-125	10

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L207
METHOD : 9060A

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MTS-1-Q422	MTS-1-Q422DUP
LAB SAMPLE ID	: L207-01	L207-01D
LAB FILE ID	: TCA001-49	TCA001-52
DATE PREPARED	: NA	NA
DATE ANALYZED	: 01/05/2310:01	01/05/2310:48
PREP BATCH	: TCA002W	TCA002W
CALIBRATION REF	: TCA001-50	TCA001-50

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
TOC	ND	ND	0	20

EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 02-09-2023
EMAX Batch No.: 22L226

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report (LEVEL IV)
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 12/15/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-56D-Q422	L226-01	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-56M-Q422	L226-02	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-56S-Q422	L226-03	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-929-Q422	L226-04	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
EB-754-Q422	L226-05	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC
PGE-09N-Q422	L226-06	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
PGE-09S-Q422	L226-07	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
SITE B-165-Q422	L226-08	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
SITE B-220-Q422	L226-09	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
SITE B-285-Q422	L226-10	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Sample ID	Control #	Col Date	Matrix	Analysis
HNWR-01A-174-Q422	L226-11	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
HNWR-01A-98-Q422	L226-12	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
MW-94-030-Q422	L226-13	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
MW-94-100-Q422	L226-14	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
MW-94-175-Q422	L226-15	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC TOTAL DISSOLVED SOLIDS TOTAL ALKALINITY DISSOLVED METALS BY ICP-MS ANIONS BY IC CATIONS BY ICP-MS TOTAL ORGANIC CARBON DISSOLVED MERCURY
EB-753-Q422	L226-16	12/14/22	WATER	CHROMIUM HEXAVALENT BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

EMAX LABORATORIES, INC.

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

CHAIN OF CUSTODY RECORD

22L226

| | | |

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD 22L226

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	
Submitted By: Riggie Top	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:	
Title: Field Tech			
Signature: Date: 12/14/22	Sampled By: Riggie Top		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - AZ Hydro6	Signature: Date:		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled		
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact		
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number		
Global ID:		Regulatory		6. Method of Cooling:		
		Specify State:		Sample Temp:		

Matrix: Ground water x | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 125 mL poly	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH 250 mL poly	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 250 mL poly	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 250 mL poly	Dissolved Title 22 metals (SW6020B) FF; HNO3 250 mL poly	Dissolved metals (7470/SW6020A) Chromium total dissolved; HNO3 250 mL poly	Alkalinity, Total (SM 2320B) 500 mL poly	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) 500 mL poly	TDS (SM 2540C) 500 mL poly	TOC (SM9060); HCl 125 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
	6	PGE-09N-Q422	12/14/2022	11:11		X			X	X	X	X	X	X	X	E	5	P	BN	
	7	PGE-09S-Q422	12/14/2022	11:58		X			X	X	X	X	X	X	X	E	5	P	BN	
	8	Site B-165-Q422	12/14/2022	10:20		X			X	X	X	X	X	X	X	E	5	P	BN	
	9	Site B-220-Q422	12/14/2022	10:58		X			X	X	X	X	X	X	X	E	5	P	BN	
	10	Site B-285-Q422	12/14/2022	11:36		X			X	X	X	X	X	X	X	E	5	P	BN	
	11	HNWR-01A-174-Q422	12/14/2022	9:18		X			X	X	X	X	X	X	X	E	5	P	BN	
	12	HNWR-01A-98-Q422	12/14/2022	~~9:18~~ 8:42	8:42	X			X	X	X	X	X	X	X	E	5	P	BN	
	13	MW-94-030-Q422	12/14/2022	8:06		X			X	X	X	X	X	X	X	E	5	P	BN	
	14	MW-94-100-Q422	12/14/2022	8:36		X			X	X	X	X	X	X	X	E	5	P	BN	
	15	MW-94-175-Q422	12/14/2022	9:06		X			X	X	X	X	X	X	X	E	5	P	BN	
	16	EB-753-Q422	12/14/2022	12:00		X			X	X	X	X	X	X	X	E	1	P	BN	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Top	12/14/22	FEDEX	12/14/22
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
		Maria Rivera	12/15/22 10:00
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

Type of Delivery	Airbill / Tracking Number	ECN 22L226
☒ Fedex ☐ UPS ☐ GSO ☐ Others	7707 7884 9476	Recipient Maria Rivera
☐ EMAX Courier ☐ Client Delivery		Date 12/15/22 Time 10:00

COC INSPECTION

☒ Client Name	☒ Client PM/FC	☒ Sampler Name	☒ Sampling Date/Time	☒ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☒ Preservative (if any)	☒ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: no date on corrections

PACKAGING INSPECTION

Container	☒ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☒ bag
Temperatures (Cool, ≤6 °C but not frozen)	☒ Cooler 1 2.7 °C	☐ Cooler 2 ____ °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	*A - S/N* ____	*B - S/N* 210760237	*C - S/N* ____	*D - S/N* 210760272	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
5, 16	13, 64	D20		R8
1-4	1-12	D22	CrVI: label reads 250 mL poly,	↓
↓	↓	↓	* Metals: label reads 500 mL poly,	
			Nitrate: label reads 1 L poly	
10	34-38	D10		
6-15	16, 21, 26, 31, 36, 41, 46,	D22	recieved 250 mL poly for Dissolved	
	51, 56, 61		metals, label reads 500 mL	

CW 12/16/22 MB 12/4/22

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: * For 911 containers, recieved the correct container size indicated on COC.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☒ NO ~~Unpreserved~~ Total Metals → Labels indicate 6010/6020 FOR THIS

LEGEND:

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
(D10)	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
(D20)	No filtration info for dissolved analysis
D21	No sample for moisture determination
(D22)	Container size mismatch, label V. recieved
D23	
D24	

☐ Continue to next page.

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	
R10	
R11	
R12	

REVIEWS:

Sample Labeling: Maria Rivera | Jocelyne Solis-Ramos

Date: 12/15/22 | 12/15/22

SRF _____ Date 12/16/22

PM MB Date 12/4/22

ORIGIN ID:IXDA (913) 998-6908
JANET CRUZ

8725 ROSEHILL ROAD
SUITE 350
LENEXA, KS 66215
UNITED STATES US

SHIP DATE: 14DEC22
ACTWGT: 15.00 LB
CAD: 256221133/INET4530
DIMS: 34x22x22 IN

BILL SENDER

TO **RECEIVING**
EMAX
3051 FUJITA ST

TORRANCE CA 90505
(310) 618-8889 REF: 30121866 4Q22GW
INV:
PO: DEPT:

581J3/9A97/FE2D

FedEx Express

J224222101801uv

THU - 15 DEC 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7707 7884 9976**

XW HHRA

90505
CA-US **LAX**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional charges, delay, non-delivery, and/or the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including incidental or consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL IV

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METALS / MERCURY

SDG#: 22L226

CATIONS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD SW6020A
CATIONS BY ICP-MS

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Cations by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML027WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML027WL/IML027WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22L226
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML027WB	1	NA	01/26/2318:54	12/22/2213:02	H6A19157	H6A19155	IML027W	Method Blank
LCS1W	IML027WL	1	NA	01/26/2318:57	12/22/2213:02	H6A19158	H6A19155	IML027W	Lab Control Sample (LCS)
LCD1W	IML027WC	1	NA	01/26/2318:59	12/22/2213:02	H6A19159	H6A19155	IML027W	LCS Duplicate
PGE-09N-Q422	L226-06I	10	NA	01/26/2319:02	12/22/2213:02	H6A19160	H6A19155	IML027W	Diluted Sample
PGE-09S-Q422	L226-07I	10	NA	01/26/2319:04	12/22/2213:02	H6A19161	H6A19155	IML027W	Diluted Sample
SITE B-165-Q422	L226-08I	10	NA	01/26/2319:07	12/22/2213:02	H6A19162	H6A19155	IML027W	Diluted Sample
SITE B-220-Q422	L226-09I	10	NA	01/26/2319:10	12/22/2213:02	H6A19163	H6A19155	IML027W	Diluted Sample
SITE B-285-Q422	L226-10I	10	NA	01/26/2319:12	12/22/2213:02	H6A19164	H6A19155	IML027W	Diluted Sample
HNWR-01A-174-Q422	L226-11I	10	NA	01/26/2319:15	12/22/2213:02	H6A19165	H6A19155	IML027W	Diluted Sample
MW-94-030-Q422	L226-13I	10	NA	01/26/2319:25	12/22/2213:02	H6A19169	H6A19166	IML027W	Diluted Sample
MW-94-100-Q422	L226-14I	10	NA	01/26/2319:28	12/22/2213:02	H6A19170	H6A19166	IML027W	Diluted Sample
MW-94-175-Q422	L226-15I	10	NA	01/26/2319:31	12/22/2213:02	H6A19171	H6A19166	IML027W	Diluted Sample
HNWR-01A-98-Q422	L226-12N	1	NA	01/27/2316:55	12/22/2213:02	H6A20091	H6A20089	IML027W	Field Sample
PGE-09N-Q422	L226-06T	100	NA	01/27/2316:57	12/22/2213:02	H6A20092	H6A20089	IML027W	Diluted Sample
PGE-09S-Q422	L226-07T	100	NA	01/27/2317:00	12/22/2213:02	H6A20093	H6A20089	IML027W	Diluted Sample
HNWR-01A-98-Q422	L226-12T	100	NA	01/30/2317:59	12/22/2213:02	H6A22112	H6A22101	IML027W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: PGE-09N-Q422
Lab Samp ID: L226-06I
Lab File ID: H6A19160
Ext Btch ID: IML027W
Calib. Ref.: H6A19155

Date Collected: 12/14/22 11:11
Date Received: 12/15/22
Date Extracted: 12/22/22 13:02
Date Analyzed: 01/26/23 19:02
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	108000	1000	600
Magnesium	62000	1000	200
Potassium	9130	1000	250

Sample ID: PGE-09N-Q422
Lab Samp ID: L226-06T
Lab File ID: H6A20092
Ext Btch ID: IML027W
Calib. Ref.: H6A20089

Date Analyzed: 01/27/23 16:57
Dilution Factor: 100
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	1650000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:11
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 13:02
Sample ID: PGE-09N-Q422	Date Analyzed: 01/26/23 19:02
Lab Samp ID: L226-06I	Dilution Factor: 10
Lab File ID: H6A19160	Matrix: WATER
Ext Btch ID: IML027W	% Moisture: NA
Calib. Ref.: H6A19155	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	108000	1000	600
Magnesium	62000	1000	200
Potassium	9130	1000	250
Sodium	1630000E	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: PGE-09N-Q422
Lab Samp ID: L226-06T
Lab File ID: H6A20092
Ext Btch ID: IML027W
Calib. Ref.: H6A20089

Date Collected: 12/14/22 11:11
Date Received: 12/15/22
Date Extracted: 12/22/22 13:02
Date Analyzed: 01/27/23 16:57
Dilution Factor: 100
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	110000	10000	6000
Magnesium	62600	10000	2000
Potassium	11700	10000	2500
Sodium	1650000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: PGE-09S-Q422
Lab Samp ID: L226-07I
Lab File ID: H6A19161
Ext Btch ID: IML027W
Calib. Ref.: H6A19155

Date Collected: 12/14/22 11:58
Date Received: 12/15/22
Date Extracted: 12/22/22 13:02
Date Analyzed: 01/26/23 19:04
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	26500	1000	600
Magnesium	93400	1000	200
Potassium	15600	1000	250

Sample ID: PGE-09S-Q422
Lab Samp ID: L226-07T
Lab File ID: H6A20093
Ext Btch ID: IML027W
Calib. Ref.: H6A20089

Date Analyzed: 01/27/23 17:00
Dilution Factor: 100
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	2290000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:58
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 13:02
Sample ID: PGE-09S-Q422	Date Analyzed: 01/26/23 19:04
Lab Samp ID: L226-07I	Dilution Factor: 10
Lab File ID: H6A19161	Matrix: WATER
Ext Btch ID: IML027W	% Moisture: NA
Calib. Ref.: H6A19155	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	26500	1000	600
Magnesium	93400	1000	200
Potassium	15600	1000	250
Sodium	2240000E	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/14/22 11:58
Project	: PG&E TOPOCK-GMP	Date Received:	12/15/22
SDG NO.	: 22L226	Date Extracted:	12/22/22 13:02
Sample ID:	PGE-09S-Q422	Date Analyzed:	01/27/23 17:00
Lab Samp ID:	L226-07T	Dilution Factor:	100
Lab File ID:	H6A20093	Matrix:	WATER
Ext Btch ID:	IML027W	% Moisture:	NA
Calib. Ref.:	H6A20089	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	27300	10000	6000
Magnesium	96800	10000	2000
Potassium	16200	10000	2500
Sodium	2290000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: SITE B-165-Q422
Lab Samp ID: L226-08I
Lab File ID: H6A19162
Ext Btch ID: IML027W
Calib. Ref.: H6A19155

Date Collected: 12/14/22 10:20
Date Received: 12/15/22
Date Extracted: 12/22/22 13:02
Date Analyzed: 01/26/23 19:07
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	34700	1000	600
Magnesium	7280	1000	200
Potassium	5680	1000	250
Sodium	231000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 10:58
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 13:02
Sample ID: SITE B-220-Q422	Date Analyzed: 01/26/23 19:10
Lab Samp ID: L226-09I	Dilution Factor: 10
Lab File ID: H6A19163	Matrix: WATER
Ext Btch ID: IML027W	% Moisture: NA
Calib. Ref.: H6A19155	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	35200	1000	600
Magnesium	7030	1000	200
Potassium	5760	1000	250
Sodium	234000	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:36
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 13:02
Sample ID: SITE B-285-Q422	Date Analyzed: 01/26/23 19:12
Lab Samp ID: L226-10I	Dilution Factor: 10
Lab File ID: H6A19164	Matrix: WATER
Ext Btch ID: IML027W	% Moisture: NA
Calib. Ref.: H6A19155	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	35100	1000	600
Magnesium	6970	1000	200
Potassium	5890	1000	250
Sodium	229000	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/14/22 09:18
Project	: PG&E TOPOCK-GMP	Date Received:	12/15/22
SDG NO.	: 22L226	Date Extracted:	12/22/22 13:02
Sample ID:	HNWR-01A-174-Q422	Date Analyzed:	01/26/23 19:15
Lab Samp ID:	L226-11I	Dilution Factor:	10
Lab File ID:	H6A19165	Matrix:	WATER
Ext Btch ID:	IML027W	% Moisture:	NA
Calib. Ref.:	H6A19155	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	28200	1000	600
Magnesium	2030	1000	200
Potassium	6860	1000	250
Sodium	408000	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: HNWR-01A-98-Q422
Lab Samp ID: L226-12N
Lab File ID: H6A20091
Ext Btch ID: IML027W
Calib. Ref.: H6A20089

Date Collected: 12/14/22 08:42
Date Received: 12/15/22
Date Extracted: 12/22/22 13:02
Date Analyzed: 01/27/23 16:55
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	27400	100	60.0
Magnesium	2060	100	20.0
Potassium	6370	100	25.0

Sample ID: HNWR-01A-98-Q422
Lab Samp ID: L226-12T
Lab File ID: H6A22112
Ext Btch ID: IML027W
Calib. Ref.: H6A22101

Date Analyzed: 01/30/23 17:59
Dilution Factor: 100
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	406000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: HNWR-01A-98-Q422
Lab Samp ID: L226-12N
Lab File ID: H6A20091
Ext Btch ID: IML027W
Calib. Ref.: H6A20089

Date Collected: 12/14/22 08:42
Date Received: 12/15/22
Date Extracted: 12/22/22 13:02
Date Analyzed: 01/27/23 16:55
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	27400	100	60.0
Magnesium	2060	100	20.0
Potassium	6370	100	25.0
Sodium	386000E	500	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/14/22 08:42
Project	: PG&E TOPOCK-GMP	Date Received:	12/15/22
SDG NO.	: 22L226	Date Extracted:	12/22/22 13:02
Sample ID:	HNWR-01A-98-Q422	Date Analyzed:	01/30/23 17:59
Lab Samp ID:	L226-12T	Dilution Factor:	100
Lab File ID:	H6A22112	Matrix:	WATER
Ext Btch ID:	IML027W	% Moisture:	NA
Calib. Ref.:	H6A22101	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	28200	10000	6000
Magnesium	ND	10000	2000
Potassium	ND	10000	2500
Sodium	406000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 08:06
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 13:02
Sample ID: MW-94-030-Q422	Date Analyzed: 01/26/23 19:25
Lab Samp ID: L226-13I	Dilution Factor: 10
Lab File ID: H6A19169	Matrix: WATER
Ext Btch ID: IML027W	% Moisture: NA
Calib. Ref.: H6A19166	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	57000	1000	600
Magnesium	13200	1000	200
Potassium	6740	1000	250
Sodium	225000	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/14/22 08:36
Project	: PG&E TOPOCK-GMP	Date Received:	12/15/22
SDG NO.	: 22L226	Date Extracted:	12/22/22 13:02
Sample ID:	MW-94-100-Q422	Date Analyzed:	01/26/23 19:28
Lab Samp ID:	L226-14I	Dilution Factor:	10
Lab File ID:	H6A19170	Matrix:	WATER
Ext Btch ID:	IML027W	% Moisture:	NA
Calib. Ref.:	H6A19166	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	53000	1000	600
Magnesium	7360	1000	200
Potassium	7590	1000	250
Sodium	295000	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/14/22 09:06
Project	: PG&E TOPOCK-GMP	Date Received:	12/15/22
SDG NO.	: 22L226	Date Extracted:	12/22/22 13:02
Sample ID:	MW-94-175-Q422	Date Analyzed:	01/26/23 19:31
Lab Samp ID:	L226-15I	Dilution Factor:	10
Lab File ID:	H6A19171	Matrix:	WATER
Ext Btch ID:	IML027W	% Moisture:	NA
Calib. Ref.:	H6A19166	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	23900	1000	600
Magnesium	1550	1000	200
Potassium	5870	1000	250
Sodium	183000	5000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
CATIONS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 22L226	Date Extracted:	12/22/22 13:02
Sample ID:	MBLK1W	Date Analyzed:	01/26/23 18:54
Lab Samp ID:	IML027WB	Dilution Factor:	1
Lab File ID:	H6A19157	Matrix:	WATER
Ext Btch ID:	IML027W	% Moisture:	NA
Calib. Ref.:	H6A19155	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Calcium	ND	100	60.0
Magnesium	ND	100	20.0
Potassium	ND	100	25.0
Sodium	ND	500	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML027WB	IML027WL	IML027WC
LAB FILE ID	: H6A19157	H6A19158	H6A19159
DATE PREPARED	: 12/22/22 13:02	12/22/22 13:02	12/22/22 13:02
DATE ANALYZED	: 01/26/23 18:54	01/26/23 18:57	01/26/23 18:59
PREP BATCH	: IML027W	IML027W	IML027W
CALIBRATION REF	: H6A19155	H6A19155	H6A19155

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Calcium	ND	3000	3120	104	3000	3150	105	1	85-115	20
Magnesium	ND	3000	3240	108	3000	3160	105	2	85-115	20
Potassium	ND	3000	3200	107	3000	3210	107	0	85-115	20
Sodium	ND	3000	3250	108	3000	3240	108	0	85-115	20

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	3000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	300	25	20	0
B	100	300	50	20	0
Cd	500	300	250	20	0
Ca	50000	3000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	300	25000	100000	100000
Pb	500	300	250	20	0
Mg	50000	3000	25000	100000	100000
Mn	3000	300	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
K	50000	3000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	2000	0
Ag	50	30	25	20	0
Na	50000	3000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0
Li	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/26/23 11:31

End Date: 1/26/323 19:41

Comments: TH/27/23

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

see analytical sequence

Micropipette ID: CU2761702
CU270533
BU2781098

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	iH6A19
Analytical Sequence:	H6A19
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☐ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B27-8701	MRL1 (U)	SM6B-26-9802
S1	8702	MRL2 (CA)	9601
S2	8801	MRL3 (CA)	9602
S3	8802	MRL4	N/A
S4	8901	MRL5	
S5	8902	MRL6	
S6	N/A	Internal Standard	SM6B-26-6701
S7		Post-Spike 1	SM6A-23-0203
ICV	SM6B-26-7101	Post-Spike 2	0204
CCV	9001	Post-Spike 3	N/A
ICSA	SM6B-27-0202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.	9701		

Analyzed By: TH

Date: 1/26/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A19
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A19009				H6A19013			H6A19014		
DateAnalyed :		01/26/2311:48				01/26/2312:06			01/26/2312:09		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		28.26	30	1.2	94	0.33028	0	>0	17.751	20	89
Beryllium		30.63	30	2.0	102	0.0020402	0	<0.1	18.540	20	93
Boron		30.09	30	0.4	100	1.1632	0	<5.0	15.762	20	79*
Sodium	T	31010	30000	0.8	103	108590	100000	109	87222	100000	87
Magnesium	T	30820	30000	1.9	103	105990	100000	106	87051	100000	87
Aluminum		31490	30000	2.7	105	106760	100000	107	88282	100000	88
Silicon		3095	3000	0.5	103	8.8013	0	<20	190.33	200	95
Phosphorus		301.2	300	1.0	100	106950	100000	107	95712	100000	96
Potassium	T	30980	30000	1.0	103	107990	100000	108	90058	100000	90
Calcium	T	30550	30000	0.7	102	107960	100000	108	88539	100000	89
Titanium		305.5	300	1.5	102	2189.4	2000	109	1857.8	2000	93
Vanadium		306.9	300	0.8	102	0.042893	0	<0.5	18.161	20	91
Chromium		310.2	300	0.8	103	2.3241	0	>0.2	20.395	20	102
Manganese		2030	2000	1.7	102	0.29239	0	>0.2	18.119	20	91
Iron		30890	30000	0.5	103	107920	100000	108	90376	100000	90
Cobalt		312.2	300	1.7	104	0.16128	0	<0.2	18.478	20	92
Nickel		309.6	300	0.7	103	0.50912	0	>0.2	18.732	20	94
Copper		325.3	300	1.2	108	0.075373	0	<0.5	18.728	20	94
Zinc		312.7	300	1.3	104	6.5508	0	<10	22.275	20	111
Arsenic		302.3	300	1.2	101	0.090688	0	<0.2	17.680	20	88
Selenium		299.3	300	0.2	100	0.11095	0	<0.3	18.835	20	94
Strontium		304.9	300	1.3	102	0.90536	0	<1.0	17.982	20	90
Zirconium		30.96	30	1.9	103	0.17577	0	<2.0	9.4484	20	47*
Molybdenum		300.4	300	1.7	100	2160.1	2000	108	1803.1	2000	90
Silver		30.87	30	0.1	103	0.080172	0	<0.2	17.788	20	89
Cadmium		300.9	300	0.9	100	0.10136	0	<0.2	18.076	20	90
Tin		306.3	300	1.0	102	0.15702	0	<0.2	18.729	20	94
Antimony		57.22	60	0.4	95	0.065556	0	<0.5	18.076	20	90
Barium		302.6	300	1.8	101	0.70394	0	>0.5	18.596	20	93
Tungsten		30.75	30	0.2	103	0.17546	0	<1.0	17.642	20	88
Mercury		2.931	3	2.2	98	0.0048050	0	<0.1	1.7422	2	87
Thallium		307.9	300	1.7	103	0.0097838	0	<0.2	17.346	20	87
Lead		311.8	300	1.2	104	0.053662	0	<0.1	17.729	20	89
Uranium		309.6	300	0.8	103	0.016031	0	<0.1	17.432	20	87

Unit:	ug/L
T:	Target analyte
EV:	Expected Value
Comment:	* Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A19
Instrument ID: H6

CCV SampleID			CCV15			CCV16			CCV17		
CCV DataFileID			H6A19155			H6A19166			H6A19172		
CCV DateTime			01/26/23 18:49			01/26/23 19:17			01/26/23 19:33		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.7	99	1.9	24.2	97	1.5	25.3	101	1.6
Beryllium		25	24.2	97	1.5	25.1	100	3.2	24.5	98	3.9
Boron		50	46.9	94	3.5	48.7	97	4.2	47.0	94	1.1
Sodium	T	25000	25300	101	0.3	25100	100	1.1	25400	102	0.8
Magnesium	T	25000	25100	100	1.5	25100	100	1.8	26000	104	5.4
Aluminum		25000	25000	100	2.0	25000	100	2.2	26000	104	6.4
Silicon		2500	2510	100	0.6	2560	102	1.2	2520	101	1.0
Phosphorus		250	269	108	1.4	302	121*	2.0	278	111*	5.9
Potassium	T	25000	25200	101	0.3	25500	102	1.7	25200	101	0.3
Calcium	T	25000	24700	99	0.6	24800	99	1.7	24700	99	0.9
Titanium		250	249	99	0.7	248	99	1.5	255	102	5.1
Vanadium		250	247	99	0.8	249	100	0.8	247	99	1.3
Chromium		250	247	99	0.5	248	99	0.8	248	99	1.6
Manganese		1500	1490	99	0.8	1490	99	1.7	1540	102	6.0
Iron		25000	24900	99	0.5	24800	99	1.2	24900	100	0.2
Cobalt		250	245	98	1.3	250	100	1.7	251	101	6.4
Nickel		250	249	100	0.2	249	100	1.9	250	100	1.5
Copper		250	247	99	0.6	249	100	1.9	250	100	1.9
Zinc		250	250	100	1.1	255	102	2.1	254	101	4.5
Arsenic		250	248	99	0.4	266	106	0.8	246	99	0.3
Selenium		250	248	99	0.3	269	108	1.4	250	100	1.0
Strontium		250	254	101	1.4	247	99	4.0	260	104	4.6
Zirconium		25	25.2	101	1.0	24.5	98	3.0	25.5	102	4.7
Molybdenum		250	238	95	1.6	237	95	4.4	245	98	5.0
Silver		25	24.2	97	1.1	24.3	97	3.7	24.9	100	5.1
Cadmium		250	241	96	0.3	246	99	4.7	248	99	4.9
Tin		250	240	96	0.7	244	98	4.3	249	100	4.8
Antimony		50	48.9	98	1.5	49.7	99	4.0	49.7	99	4.9
Barium		500	496	99	0.5	497	99	4.6	510	102	4.4
Tungsten		25	24.5	98	0.4	24.6	98	5.9	25.2	101	4.2
Mercury		2.5	2.47	99	0.4	2.52	101	6.2	2.54	101	3.1
Thallium		250	249	100	2.0	247	99	7.0	258	103	4.8
Lead		250	251	100	1.0	248	99	6.3	259	103	4.9
Uranium		250	248	99	1.1	241	96	5.1	257	103	5.2

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A
Sequence : IH6A19
Instrument ID: H6

CB SampleID		: ICB		CCB15		CCB16		CCB17	
CB DataFileID		: H6A19010		H6A19156		H6A19167		H6A19173	
CB DateTime		: 01/26/2311:51		01/26/2318:51		01/26/2319:20		01/26/2319:36	
PARAMETER	LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium	0	0.2	>0	0.04	>0	0.1	>0	0.1	>0
Beryllium	0.1	0.02	<0.1	0.02	<0.1	0.01	<0.1	0.02	<0.1
Boron	5.0	2	<5.0	0.2	<5.0	0.5	<5.0	0.4	<5.0
Sodium T	50	0.6	<50	20	<50	6	<50	10	<50
Magnesium T	20	1	<20	0.3	<20	0.3	<20	0.03	<20
Aluminum	20	1	<20	0.1	<20	0.3	<20	0.2	<20
Silicon	20	3	<20	0.8	<20	0.7	<20	2	<20
Phosphorus	25	6	<25	20	<25	30	>25	30	>25
Potassium T	25	6	<25	9	<25	10	<25	9	<25
Calcium T	60	0.9	<60	2	<60	1	<60	1	<60
Titanium	0.5	0.03	<0.5	0.03	<0.5	0.05	<0.5	0.04	<0.5
Vanadium	0.5	0.02	<0.5	0.04	<0.5	0.04	<0.5	0.04	<0.5
Chromium	0.2	0.03	<0.2	0.06	<0.2	0.05	<0.2	0.06	<0.2
Manganese	0.2	0.2	>0.2	0.005	<0.2	0.04	<0.2	0.03	<0.2
Iron	10	2	<10	0.7	<10	1	<10	0.9	<10
Cobalt	0.2	0.02	<0.2	0.009	<0.2	0.0009	<0.2	0.003	<0.2
Nickel	0.2	0.010	<0.2	0.01	<0.2	0.009	<0.2	0.02	<0.2
Copper	0.5	0.05	<0.5	0.3	<0.5	0.3	<0.5	0.3	<0.5
Zinc	10	0.08	<10	0.03	<10	0.03	<10	0.01	<10
Arsenic	0.2	0.02	<0.2	0.002	<0.2	0.006	<0.2	0.006	<0.2
Selenium	0.3	0.07	<0.3	0.03	<0.3	0.04	<0.3	0.03	<0.3
Strontium	1.0	0.01	<1.0	0.006	<1.0	0.0007	<1.0	0.005	<1.0
Zirconium	2.0	0.003	<2.0	0.005	<2.0	0.005	<2.0	0.0003	<2.0
Molybdenum	0.5	0.06	<0.5	0.03	<0.5	0.02	<0.5	0.02	<0.5
Silver	0.2	0.004	<0.2	0.003	<0.2	0.003	<0.2	0.003	<0.2
Cadmium	0.2	0.08	<0.2	0.02	<0.2	0.02	<0.2	0.02	<0.2
Tin	0.2	0.1	<0.2	0.02	<0.2	0.01	<0.2	0.003	<0.2
Antimony	0.5	0.01	<0.5	0.01	<0.5	0.01	<0.5	0.01	<0.5
Barium	0.5	0.03	<0.5	0.03	<0.5	0.02	<0.5	0.03	<0.5
Tungsten	1.0	0.02	<1.0	0.002	<1.0	0.0002	<1.0	0.003	<1.0
Mercury	0.1	0.05	<0.1	0.02	<0.1	0.01	<0.1	0.01	<0.1
Thallium	0.2	0.1	<0.2	0.03	<0.2	0.03	<0.2	0.03	<0.2
Lead	0.1	0.04	<0.1	0.01	<0.1	0.01	<0.1	0.01	<0.1
Uranium	0.1	0.03	<0.1	0.009	<0.1	0.01	<0.1	0.01	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		CalBlk	BLANK		1101	H6A19001.d		1
2		CalBlk	BLANK		1101	H6A19002.d		1
3		CalBlk	S0		1102	H6A19003.d		1
4		CalStd	S1		1103	H6A19004.d		2
5		CalStd	S2		1104	H6A19005.d		3
6		CalStd	S3		1105	H6A19006.d		4
7		CalStd	S4		1106	H6A19007.d		5
8		CalStd	S5		1107	H6A19008.d		6
9		ICV	ICV		1204	H6A19009.d	1	
10		ICB	ICB		1102	H6A19010.d	1	
11		LLCCV	MRLA2601	1/100/10 ppb TAg	1306	H6A19011.d	1	
12		LLCCV2	MRLA2602	0.4/40/4 ppb Be Co Mo Tl ✓	1307	H6A19012.d	1	
13		ICS-A	ICSA		1304	H6A19013.d	1	
14		ICSB	ICSAB		1305	H6A19014.d	1	
15		Sample	MRL26403	500 ppb CAT	1207	H6A19015.d	1	
16		CCV	CCV1		1206	H6A19016.d	1	
17		CCB	CCB1		1102	H6A19017.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		Blank	IMK031WB		2101	H6A19018.d	1	
2		LCSW	IMK031WL		2102	H6A19019.d	1	
3		LCSW	IMK031WC		2103	H6A19020.d	1	
4		Sample	K197-02		2104	H6A19021.d	1	
5		Sample	K198-01		2105	H6A19022.d	1	
6		Sample	K223-01		2106	H6A19023.d	1	
7		Sample	K224-01		2107	H6A19024.d	1	
8		Sample	K225-01		2108	H6A19025.d	1	
9		Sample	K225-12		2109	H6A19026.d	1	
10		CCV	CCV2		1206	H6A19027.d	1	
11		CCB	CCB2		1102	H6A19028.d	1	
12		Sample	K109-01A		2110	H6A19029.d	1	
13		Sample	K109-01		2111	H6A19030.d	1	
14		Sample	K109-01J		2112	H6A19031.d	5	
15		Sample	K109-01M		2201	H6A19032.d	1	
16		Sample	K109-01S		2202	H6A19033.d	1	
17		Sample	K109-02		2203	H6A19034.d	1	
18		Sample	K109-03		2204	H6A19035.d	1	
19		CCV	CCV3		1206	H6A19036.d	1	
20		CCB	CCB3		1102	H6A19037.d	1	
21		Blank	IMK014SB		2205	H6A19038.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
22		LCSS	IMK014SL		2206	H6A19039.d	1	
23		LCSS	IMK014SC		2207	H6A19040.d	1	
24		Sample	K037-01A		2208	H6A19041.d	1	
25		Sample	K037-01		2209	H6A19042.d	1	
26		Sample	K037-01J		2210	H6A19043.d	5	
27		Sample	K037-01M		2211	H6A19044.d	1	
28		Sample	K037-01S		2212	H6A19045.d	1	
29		Sample	K037-02		2301	H6A19046.d	1	
30		Sample	K037-03		2302	H6A19047.d	1	
31		CCV	CCV4		1206	H6A19048.d	1	
32		CCB	CCB4		1102	H6A19049.d	1	
33		Sample	K037-04		2303	H6A19050.d	1	
34		Sample	K037-05		2304	H6A19051.d	1	
35		Sample	K037-06		2305	H6A19052.d	1	
36		Sample	K037-07		2306	H6A19053.d	1	
37		Sample	K037-08		2307	H6A19054.d	1	
38		Sample	K037-09		2308	H6A19055.d	1	
39		Sample	K037-10A		2309	H6A19056.d	1	
40		Sample	K037-10		2310	H6A19057.d	1	
41		Sample	K037-10J		2311	H6A19058.d	5	
42		Sample	K037-10M		2312	H6A19059.d	1	
43		CCV	CCV5		1206	H6A19060.d	1	
44		CCB	CCB5		1102	H6A19061.d	1	
45		Sample	K037-10S		2401	H6A19062.d	1	
46		Sample	K037-11		2402	H6A19063.d	1	
47		Sample	K037-12		2403	H6A19064.d	1	
48		Sample	K037-13		2404	H6A19065.d	1	
49		Sample	K037-14		2405	H6A19066.d	1	
50		Sample	K037-15		2406	H6A19067.d	1	
51		Sample	K037-16		2407	H6A19068.d	1	
52		Sample	K037-17		2408	H6A19069.d	1	
53		Sample	K037-18		2409	H6A19070.d	1	
54		Sample	K037-19		2410	H6A19071.d	1	
55		CCV	CCV6		1206	H6A19072.d	1	
56		CCB	CCB6		1102	H6A19073.d	1	
57		Sample	K037-20		2411	H6A19074.d	1	
58		CCV	CCV7		1206	H6A19075.d	1	
59		CCB	CCB7		1102	H6A19076.d	1	
60		Blank	IMK023SB		2412	H6A19077.d	1	
61		LCSS	IMK023SL		2501	H6A19078.d	1	
62		LCSS	IMK023SC		2502	H6A19079.d	1	
63		Sample	K109-04A		2503	H6A19080.d	1	
64		Sample	K109-04		2504	H6A19081.d	1	
65		Sample	K109-04J		2505	H6A19082.d	5	
66		Sample	K109-04M		2506	H6A19083.d	1	
67		Sample	K109-04S		2507	H6A19084.d	1	
68		Sample	K109-06		2508	H6A19085.d	1	
69		Sample	K109-08		2509	H6A19086.d	1	
70		CCV	CCV8		1206	H6A19087.d	1	
71		CCB	CCB8		1102	H6A19088.d	1	
72		Sample	K109-10		2510	H6A19089.d	1	
73		Sample	K110-04		2511	H6A19090.d	1	
74		Sample	K110-05		2512	H6A19091.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
75		Sample	K110-06		3101	H6A19092.d	1	
76		Sample	K110-07		3102	H6A19093.d	1	
77		CCV	CCV9		1206	H6A19094.d	1	
78		CCB	CCB9		1102	H6A19095.d	1	
79		Blank	IMK018SB		3103	H6A19096.d	1	
80		LCSS	IMK018SL		3104	H6A19097.d	1	
81		LCSS	IMK018SC		3105	H6A19098.d	1	
82		Sample	K059-03		3106	H6A19099.d	1	
83		Sample	K059-04		3107	H6A19100.d	1	
84		Sample	K060-02A		3108	H6A19101.d	1	
85		Sample	K060-02		3109	H6A19102.d	1	
86		Sample	K060-02J		3110	H6A19103.d	5	
87		Sample	K060-02M		3111	H6A19104.d	1	
88		Sample	K060-02S		3112	H6A19105.d	1	
89		CCV	CCV10		1206	H6A19106.d	1	
90		CCB	CCB10		1102	H6A19107.d	1	
91		Sample	K060-03		3201	H6A19108.d	1	
92		Sample	K060-08A	Ba↑	3202	H6A19109.d	1	
93		Sample	K060-08	↓	3203	H6A19110.d	1	
94		Sample	K060-08J		3204	H6A19111.d	5	
95		Sample	K060-08M		3205	H6A19112.d	1	
96		Sample	K060-08S		3206	H6A19113.d	1	
97		Sample	K060-09		3207	H6A19114.d	1	
98		CCV	CCV11		1206	H6A19115.d	1	
99		CCB	CCB11		1102	H6A19116.d	1	
100		Sample	K059-01A		3208	H6A19117.d	1	
101		Sample	K059-01N		3209	H6A19118.d	1	
102		Sample	K059-01J		3210	H6A19119.d	5	
103		Sample	K059-01M		3211	H6A19120.d	1	
104		Sample	K059-01S		3212	H6A19121.d	1	
105		Sample	K060-01N		3301	H6A19122.d	1	
106		Sample	K060-10N		3302	H6A19123.d	1	
107		CCV	CCV12		1206	H6A19124.d	1	
108		CCB	CCB12		1102	H6A19125.d	1	
109		Blank	IMK025WB		3303	H6A19126.d	1	
110		LCSW	IMK025WL		3304	H6A19127.d	1	
111		LCSW	IMK025WC		3305	H6A19128.d	1	
112		Sample	K159-01G	TOT Na↑	3306	H6A19129.d	5	
113		Sample	K159-02G	TOT ↓	3307	H6A19130.d	5	
114		Sample	K159-03N	TOT	3308	H6A19131.d	1	
115		Sample	K159-04N	TOT	3309	H6A19132.d	1	
116		Sample	K159-05G	TOT Na↑	3310	H6A19133.d	5	
117		Sample	K159-06K	TOT	3311	H6A19134.d	20	
118		Sample	K159-07G	TOT Na↑	3312	H6A19135.d	5	
119		CCV	CCV13		1206	H6A19136.d	1	
120		CCB	CCB13		1102	H6A19137.d	1	
121		Sample	K159-08A	TOT Na↑	3401	H6A19138.d	5	
122		Sample	K159-08G	TOT	3402	H6A19139.d	5	
123		Sample	K159-08J	TOT	3403	H6A19140.d	25	
124		Sample	K159-08M	TOT	3404	H6A19141.d	5	
125		Sample	K159-08S	TOT	3405	H6A19142.d	5	
126		Sample	K159-09G	TOT ↑Ca	3406	H6A19143.d	5	
127		Sample	K159-10G	TOT ↑Ca	3407	H6A19144.d	5	

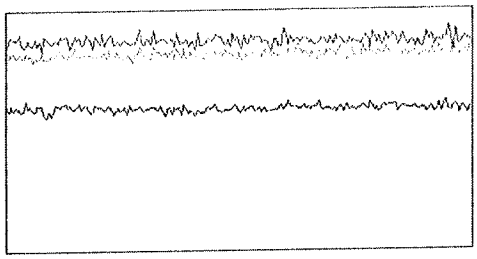
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
128		Sample	K159-11G	TOT NaT TCa	3408	H6A19145.d	5	
129		Sample	K159-12N	TOT	3409	H6A19146.d	1	
130		CCV	CCV14		1206	H6A19147.d	1	
131		CCB	CCB14		1102	H6A19148.d	1	
132		Sample	K060-08A		3410	H6A19149.d	5	
133		Sample	K060-08G		3411	H6A19150.d	5	
134		Sample	K060-08J		3412	H6A19151.d	25	
135		Sample	K060-08M		3501	H6A19152.d	5	
136		Sample	K060-08S		3502	H6A19153.d	5	
137		Sample	K159-06G	TOT NaT	4104	H6A19154.d	5	
138		CCV	CCV15		1206	H6A19155.d	1	
139		CCB	CCB15		1102	H6A19156.d	1	
140		Blank	IML027WB		3503	H6A19157.d	1	
141		LCSW	IML027WL		3504	H6A19158.d	1	
142		LCSW	IML027WC		3505	H6A19159.d	1	
143		Sample	L226-06I	NaT do 100x	3506	H6A19160.d	10	
144		Sample	L226-07I	NaT ↓	3507	H6A19161.d	10	
145		Sample	L226-08I		3508	H6A19162.d	10	
146		Sample	L226-09I		3509	H6A19163.d	10	
147		Sample	L226-10I		3510	H6A19164.d	10	
148		Sample	L226-11I		3511	H6A19165.d	10	
149		CCV	CCV16		1206	H6A19166.d	1	
150		CCB	CCB16		1102	H6A19167.d	1	
151		Sample	L226-12I	do 1x	3512	H6A19168.d	10	
152		Sample	L226-13I		4101	H6A19169.d	10	
153		Sample	L226-14I		4102	H6A19170.d	10	
154		Sample	L226-15I		4103	H6A19171.d	10	
155		CCV	CCV17		1206	H6A19172.d	1	
156		CCB	CCB17		1102	H6A19173.d	1	
157		ICS-A	ICSA2		1304	H6A19174.d	1	
158		ICSB	ICSAB2		1305	H6A19175.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-26 09:40:38
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



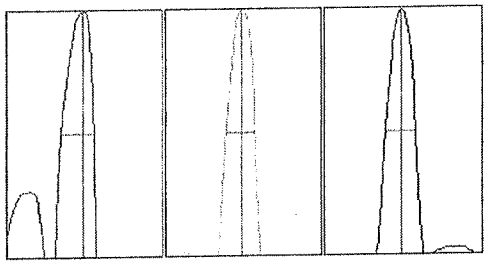
Mass	Range	Count	RSD%	Background
7	5000	4384	2.078	0.400
89	20000	16409	1.778	0.800
205	20000	11868	2.104	3.200

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.009 %
Doubly Charged	70 / 140 1.826 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	4437.64	7.00	0.62	0.76
89	16540.86	89.00	0.57	0.75
205	11940.60	205.00	0.57	0.78

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.6 V	Deflect	13.0 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.4 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.4 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	122	Axis Gain	0.9996
Mass Offset	125	Axis Offset	-0.06

EM

Discriminator	3.1 mV	Analog HV	2758 V	Pulse HV	1480 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.98	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.18E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.8	°C
Nebulizer Gas(DP)	5.53E+0	kPa
MU./Dil. Gas(DP)	3.86E-3	kPa
Aux Gas(DP)	1.14E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.60E+2	kPa
MU./Dil. Gas(BP)	-1.93E-2	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.32E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.39E+2	Pa
Analyzer Press	8.14E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.0	%
TMP Current	2.67	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	203.9	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.1	V
+U Voltage	5.2	V

Name	Value	Unit
-U Voltage	-12.1	V
V Voltage	31.6	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.6	V
-120V	-129.8	V
-720V	-738.7	V
Prefilter Bias	-5.09	V
Pickup Heater I	0.08	A
QP PS +48V	47.6	V
QP PS +48V I	0.00	A
Analog HV	-2762	V
Pulse HV	1494	V
EM Gate	98.8	V
Pulse Gate	3.0	V
EM Entrance	0.2	V
EM HV Gain	-1428.5	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.6	V
RF PS +48V	47.8	V
Forward Power	1550	W
Reflected Power	4	W
Plasma Freq.	26.71	MHz
Drain I 1	11.31	A
Drain I 2	10.86	A
Drain I 3	10.71	A
Drain I 4	10.07	A
Temp Sensor	2.8	V
Driver I	5.46	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.71E+2	kPa
He Gas Press	1.54E+0	kPa
ORS AMFC Temp	29.7	°C
Atmospheric Press	1.02E+2	kPa
Extract 1	-0.1	V
Extract 2	-195.2	V
Omega Bias	-110.1	V
Omega Lens	7.6	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.0	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.2	°C
Internal Temp	33.9	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.42	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

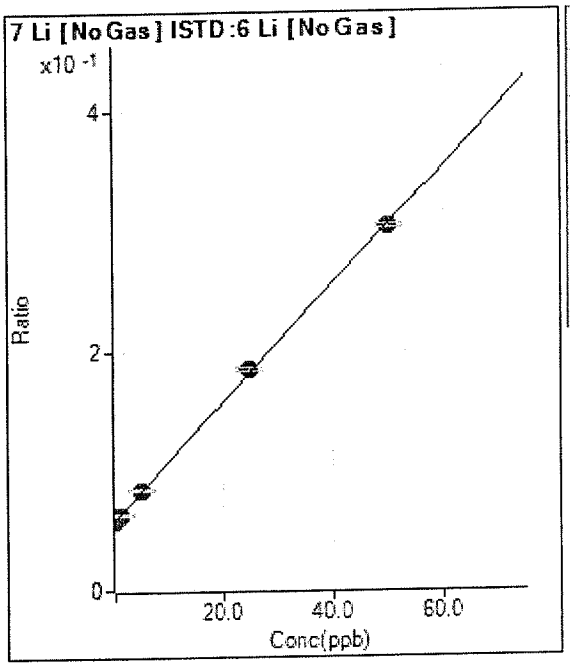
Performance Report History

Sensitivity

Calibration for H6A19009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b\
Analysis File: IH6A19.batch.bin
DA Date-Time: 2023-01-26 11:50:22
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

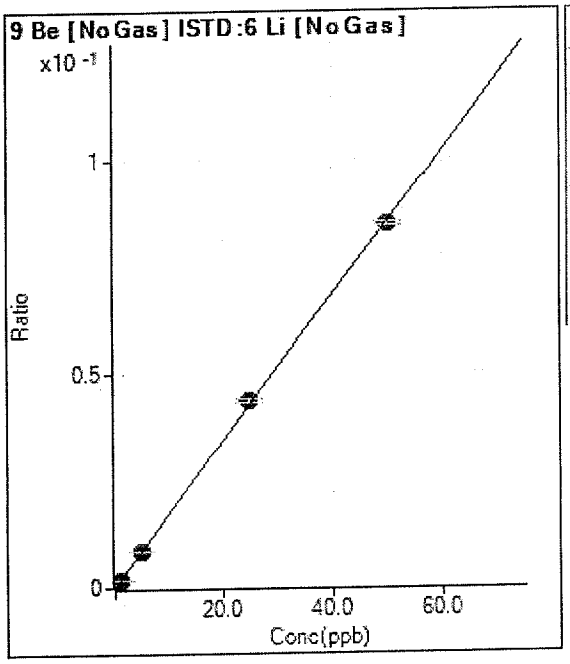
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A19003.d	S0	2023-01-26 11:31:27
2	H6A19004.d	S1	2023-01-26 11:34:18
3	H6A19005.d	S2	2023-01-26 11:37:08
4	H6A19006.d	S3	2023-01-26 11:39:59
5	H6A19007.d	S4	2023-01-26 11:43:03
6	H6A19008.d	S5	2023-01-26 11:45:53



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	73771.21	0.0586	P	2.1
2	☐	0.500	0.692	69088.10	0.0620	P	2.2
3	☐	1.000	0.969	79218.39	0.0634	P	0.6
4	☐	5.000	5.115	104710.16	0.0839	P	1.5
5	☐	25.000	25.743	225174.39	0.1856	P	1.7
6	☐	50.000	49.615	372159.86	0.3034	P	0.9

y = 0.0049 * x + 0.0586
R = 0.9998
DL = 0.7434
BEC = 11.88

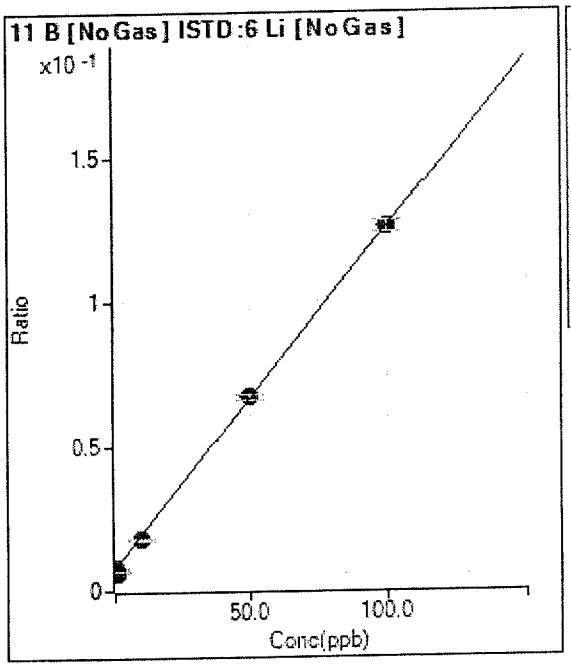
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	32.0
2	☐	0.500	0.505	1030.04	0.0009	P	10.3
3	☐	1.000	1.003	2221.29	0.0018	P	7.8
4	☐	5.000	5.020	10791.92	0.0086	P	2.0
5	☐	25.000	25.557	53056.37	0.0437	P	1.6
6	☐	50.000	49.719	104309.88	0.0850	P	1.2

y = 0.0017 * x + 6.3601E-005
R = 0.9999
DL = 0.0357
BEC = 0.03721

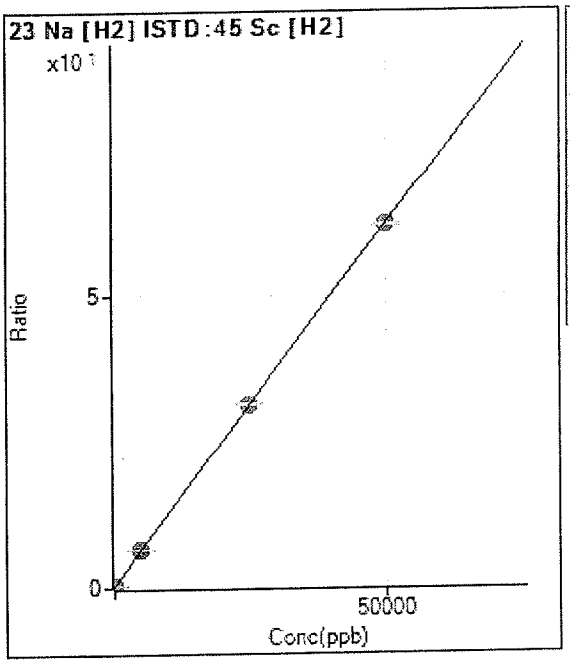
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9662.21	0.0077	P	2.0
2	☐	0.500	-1.238	6917.27	0.0062	P	5.5
3	☐	1.000	-0.739	8503.69	0.0068	P	2.8
4	☐	10.000	8.459	22040.60	0.0177	P	1.2
5	☐	50.000	50.373	81348.96	0.0671	P	2.8
6	☐	100.000	99.994	153996.50	0.1256	P	3.3

y = 0.0012 * x + 0.0077
R = 0.9998
DL = 0.3999
BEC = 6.512

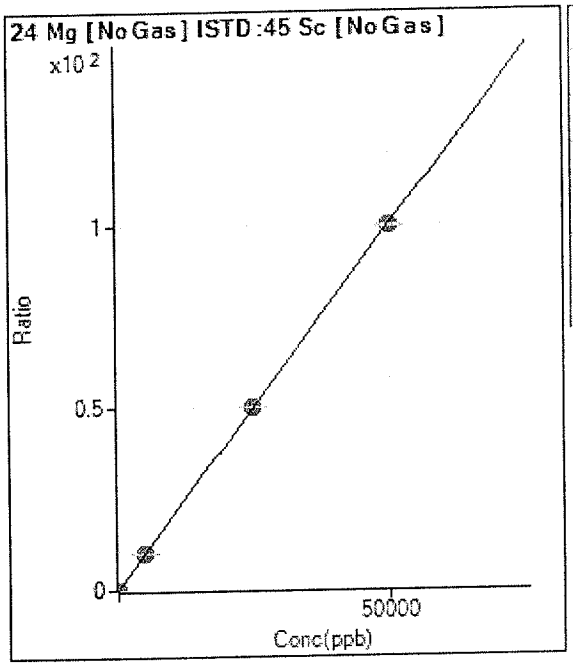
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	921920.37	0.2589	A	1.4
2	☐	50.000	54.910	1162474.62	0.3270	A	2.1
3	☐	100.000	100.447	1363313.58	0.3835	A	1.0
4	☐	5000.000	5120.818	23541806.00	6.6123	A	0.4
5	☐	25000.000	25155.618	112642565.33	31.4696	A	0.8
6	☐	50000.000	49910.104	219357370.67	62.1825	A	0.6

y = 0.0012 * x + 0.2589
R = 1.0000
DL = 9.005
BEC = 208.7

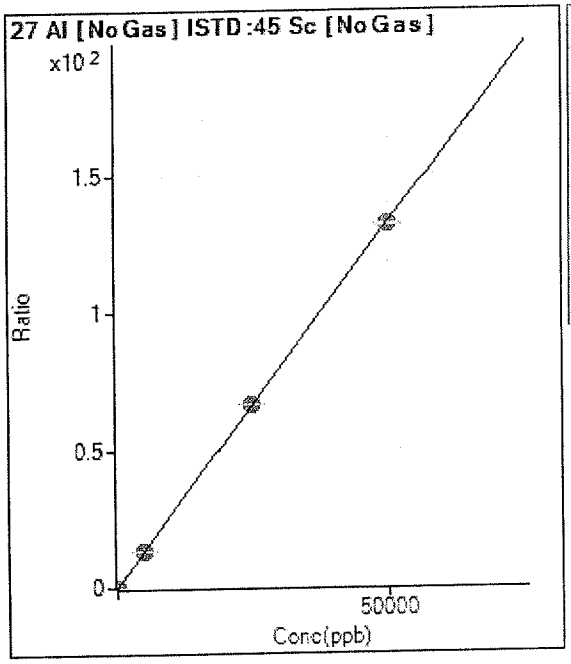
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33141.49	0.0072	P	34.1
2	☐	50.000	49.750	450006.51	0.1066	P	0.6
3	☐	100.000	99.880	937149.46	0.2067	A	1.9
4	☐	5000.000	5125.065	46725465.33	10.2436	A	0.8
5	☐	25000.000	25214.363	231541365.33	50.3684	A	0.2
6	☐	50000.000	49880.312	456560490.67	99.6342	A	0.9

y = 0.0020 * x + 0.0072
R = 1.0000
DL = 3.681
BEC = 3.599

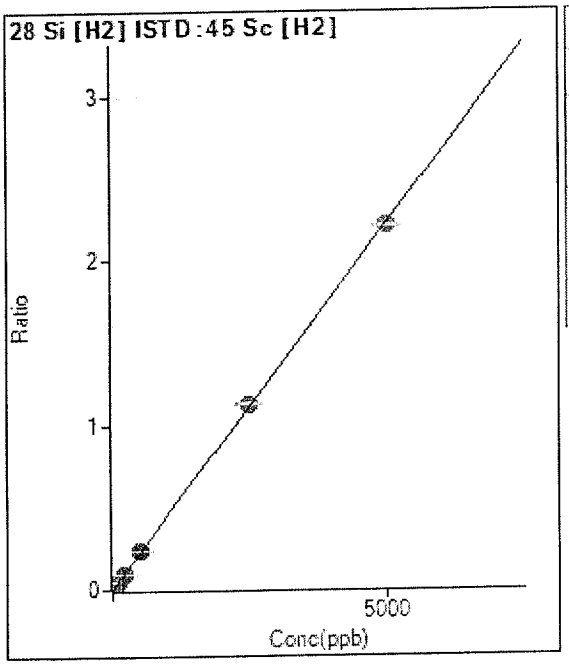
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21233.08	0.0046	P	48.5
2	☐	50.000	50.282	582967.58	0.1380	P	1.1
3	☐	100.000	99.039	1212332.61	0.2673	A	1.5
4	☐	5000.000	5073.848	81420717.42	13.4649	A	0.8
5	☐	25000.000	25220.216	307586748.75	66.9109	A	0.1
6	☐	50000.000	49882.509	606433417.63	132.3372	A	0.4

y = 0.0027 * x + 0.0046
R = 1.0000
DL = 2.526
BEC = 1.735

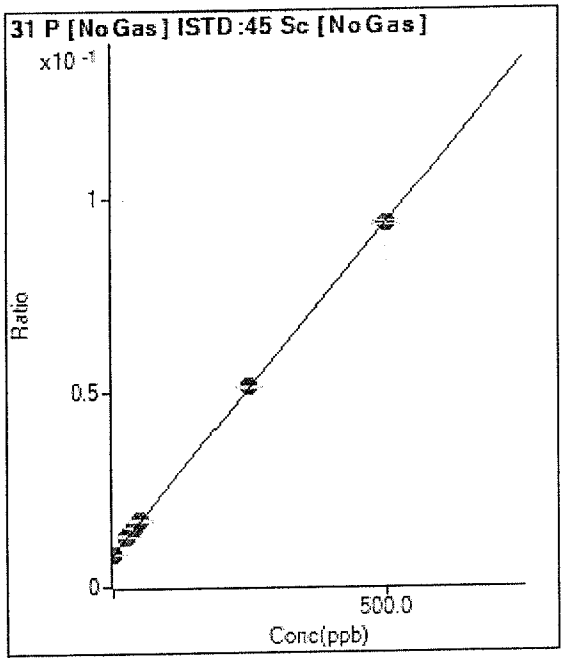
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5303.68	0.0015	P	0.4
2	☐	100.000	100.730	164138.17	0.0462	P	0.8
3	☐	200.000	203.524	326174.56	0.0918	P	0.6
4	☐	500.000	521.494	828798.62	0.2328	P	0.8
5	☐	2500.000	2539.037	4036337.75	1.1277	A	1.2
6	☐	5000.000	4978.176	7794445.83	2.2095	A	0.8

y = 4.4354E-004 * x + 0.0015
R = 1.0000
DL = 0.04151
BEC = 3.358

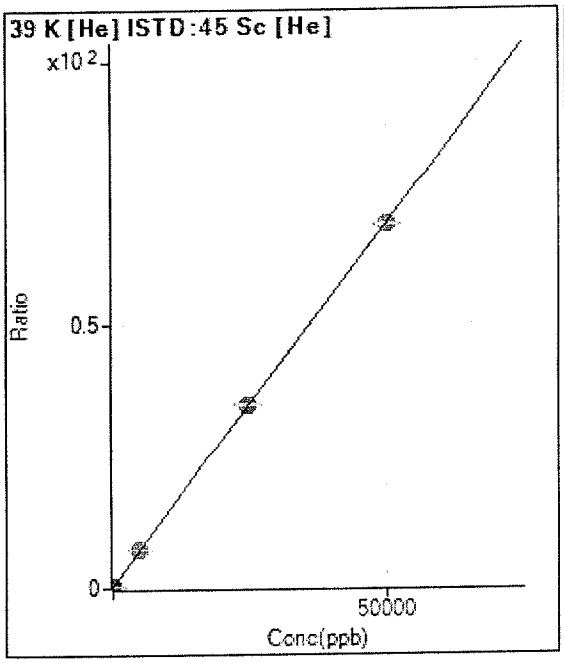
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38768.67	0.0084	P	0.9
2	☐	25.000	27.401	55296.42	0.0131	P	2.9
3	☐	40.000	40.548	69568.23	0.0153	P	1.3
4	☐	50.000	50.874	78036.38	0.0171	P	0.4
5	☐	250.000	252.293	236738.78	0.0515	P	0.8
6	☐	500.000	498.602	428695.58	0.0936	P	0.9

y = 1.7074E-004 * x + 0.0084
R = 1.0000
DL = 1.261
BEC = 49.32

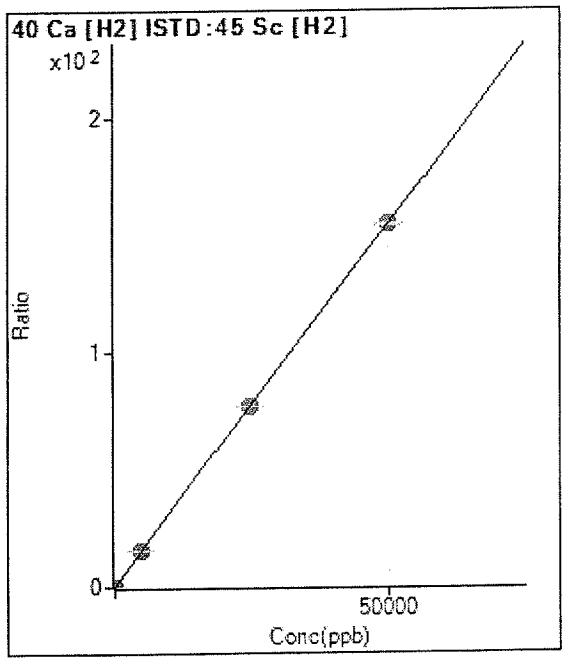
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117700.33	0.1850	P	3.1
2	☐	50.000	52.953	165940.93	0.2580	P	3.5
3	☐	100.000	107.449	206756.86	0.3332	P	3.6
4	☐	5000.000	5081.473	4550241.50	7.1930	A	0.5
5	☐	25000.000	25184.455	21877033.33	34.9176	A	1.7
6	☐	50000.000	49899.607	42295709.33	69.0030	A	0.8

y = 0.0014 * x + 0.1850
R = 1.0000
DL = 12.48
BEC = 134.1

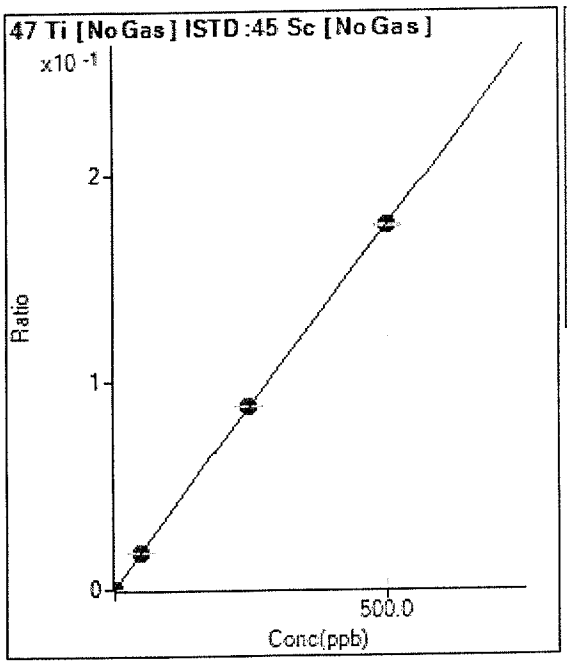
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	220079.49	0.0618	P	2.1
2	☐	50.000	41.727	678908.77	0.1910	P	1.3
3	☐	100.000	91.967	1231545.21	0.3464	A	0.5
4	☐	5000.000	5032.096	55666286.67	15.6354	A	0.7
5	☐	25000.000	24945.609	276572736.00	77.2647	A	0.5
6	☐	50000.000	50024.010	546357034.67	154.8785	A	0.5

y = 0.0031 * x + 0.0618
R = 1.0000
DL = 1.276
BEC = 19.97

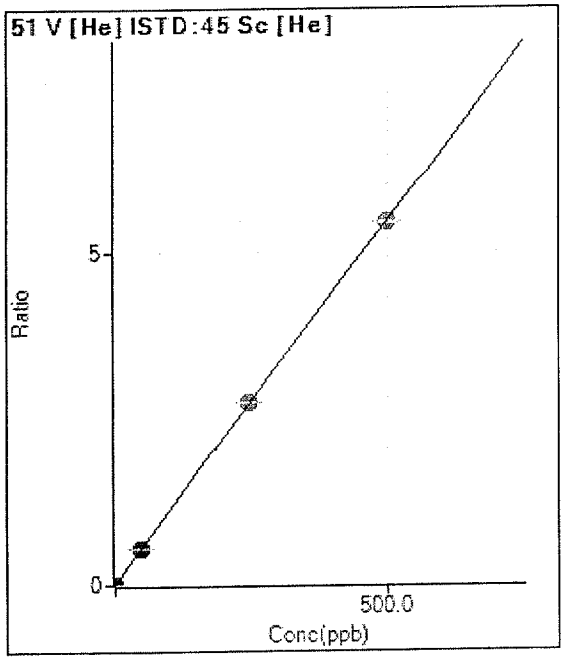
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	212.67	0.0000	P	7.3
2	☐	0.500	0.507	948.04	0.0002	P	4.4
3	☐	1.000	0.997	1798.12	0.0004	P	2.5
4	☐	50.000	50.976	81871.42	0.0179	P	0.4
5	☐	250.000	251.372	406054.07	0.0883	P	1.0
6	☐	500.000	499.216	803632.00	0.1754	P	0.2

y = 3.5119E-004 * x + 4.6177E-005
R = 1.0000
DL = 0.02873
BEC = 0.1315

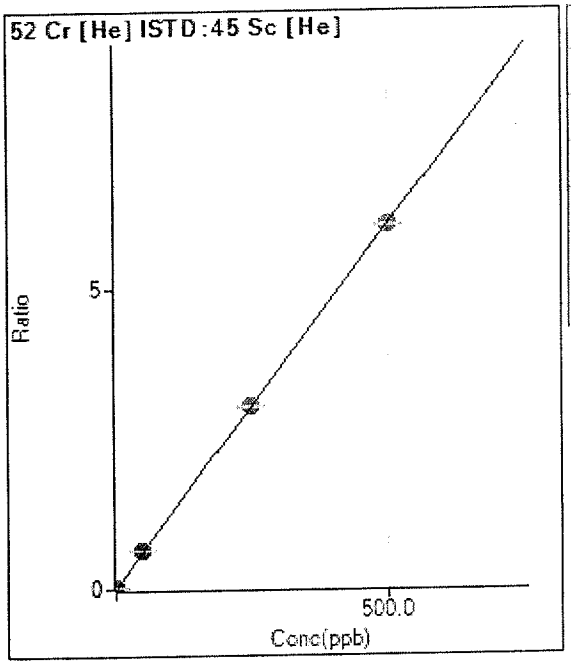
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1884.13	0.0030	P	1.6
2	☐	0.500	0.426	4896.21	0.0076	P	1.3
3	☐	1.000	1.020	8744.12	0.0141	P	2.2
4	☐	50.000	50.837	352762.21	0.5577	P	0.9
5	☐	250.000	251.503	1721221.04	2.7472	A	0.6
6	☐	500.000	499.165	3340334.08	5.4495	A	0.7

y = 0.0109 * x + 0.0030
R = 1.0000
DL = 0.01299
BEC = 0.2715

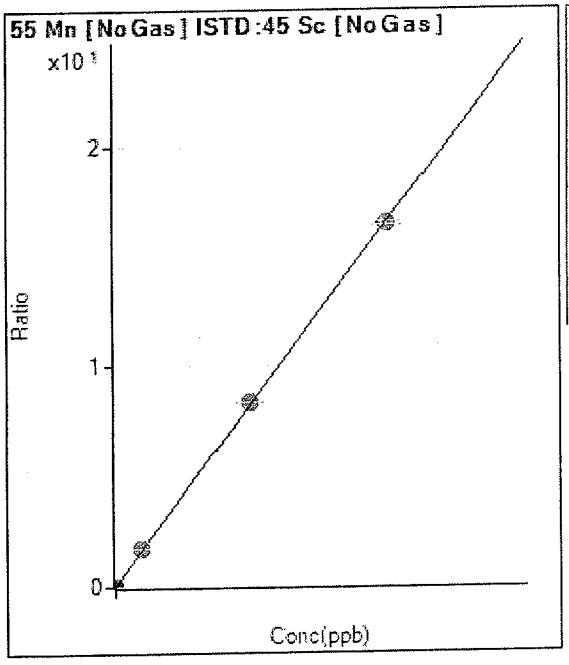
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2108.83	0.0033	P	1.2
2	☐	0.500	0.495	5973.97	0.0093	P	1.0
3	☐	1.000	1.060	9992.98	0.0161	P	0.2
4	☐	50.000	51.930	398282.16	0.6296	P	1.5
5	☐	250.000	250.458	1894674.71	3.0241	A	0.4
6	☐	500.000	499.578	3695360.08	6.0287	A	0.8

y = 0.0121 * x + 0.0033
R = 1.0000
DL = 0.009521
BEC = 0.2749

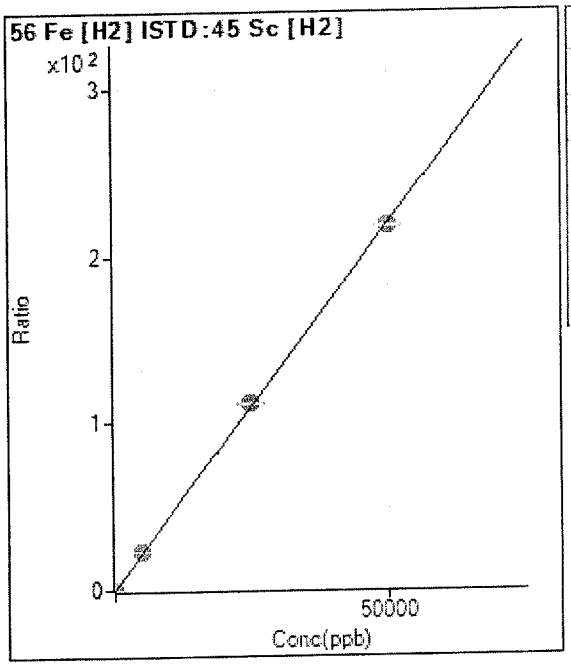
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10754.94	0.0023	P	10.7
2	☐	0.500	0.436	19991.94	0.0047	P	1.3
3	☐	1.000	0.975	34921.16	0.0077	P	1.0
4	☐	300.000	309.385	7777514.67	1.7050	A	0.3
5	☐	1500.000	1519.509	38454772.00	8.3649	A	0.7
6	☐	3000.000	2989.307	75399802.67	16.4540	A	1.0

y = 0.0055 * x + 0.0023
R = 1.0000
DL = 0.1359
BEC = 0.4243

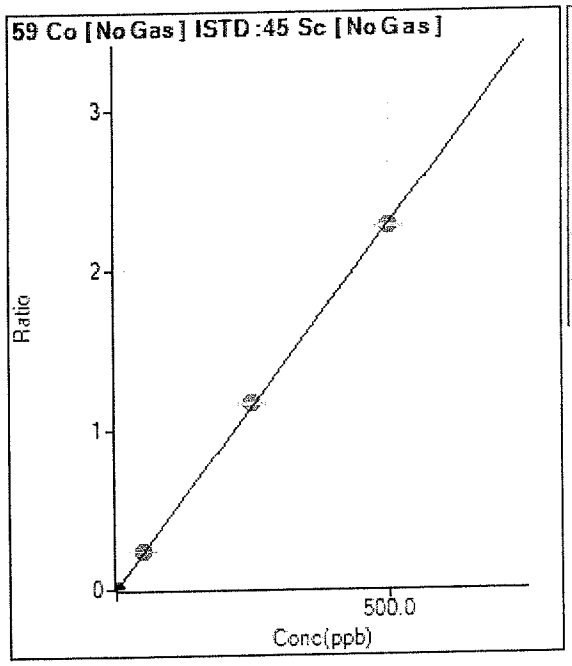
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29303.34	0.0082	P	2.8
2	☐	50.000	52.145	841674.40	0.2368	P	0.7
3	☐	100.000	103.212	1637194.58	0.4606	A	0.5
4	☐	5000.000	5147.629	80346160.00	22.5673	A	0.2
5	☐	25000.000	25468.647	399543157.33	111.6227	A	0.8
6	☐	50000.000	49750.905	769170944.00	218.0379	A	0.3

y = 0.0044 * x + 0.0082
R = 0.9999
DL = 0.1553
BEC = 1.878

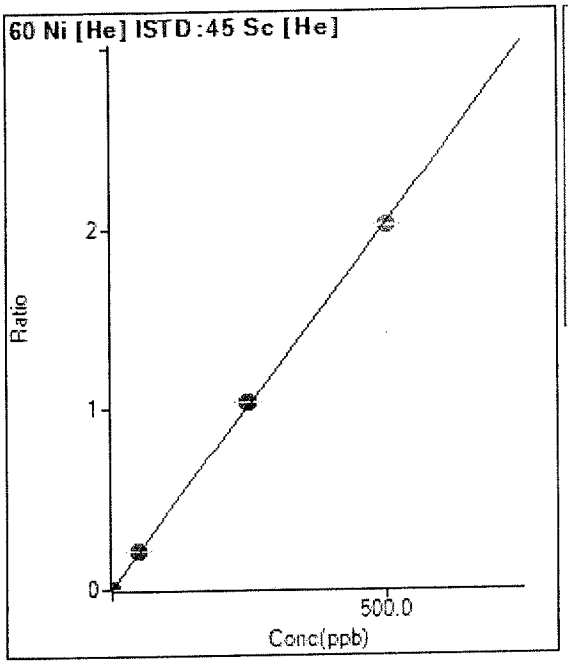
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.69	0.0002	P	49.8
2	☐	0.500	0.522	10745.57	0.0025	P	0.5
3	☐	1.000	1.071	22922.57	0.0051	P	2.4
4	☐	50.000	52.794	1101393.92	0.2415	A	0.6
5	☐	250.000	254.453	5347021.33	1.1631	A	0.6
6	☐	500.000	497.494	10420091.33	2.2739	A	0.8

y = 0.0046 * x + 1.6054E-004
R = 0.9999
DL = 0.05249
BEC = 0.03512

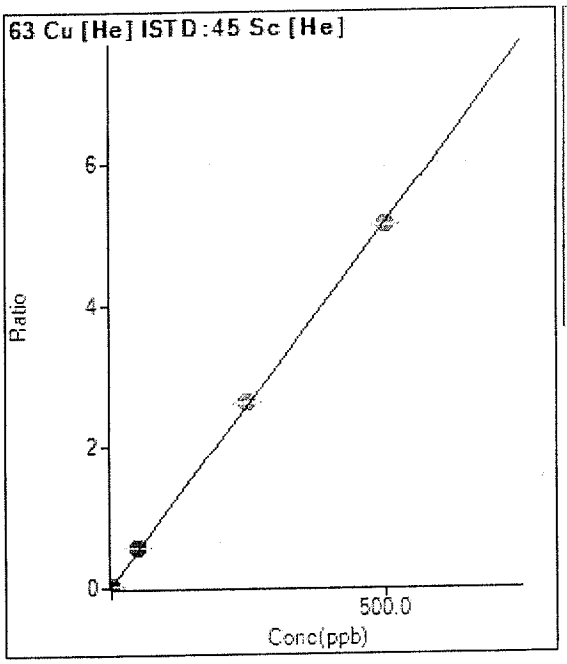
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	208.00	0.0003	P	9.2
2	☐	0.500	0.491	1490.08	0.0023	P	5.9
3	☐	1.000	1.049	2844.30	0.0046	P	2.0
4	☐	50.000	53.140	136549.68	0.2159	P	1.8
5	☐	250.000	255.755	650172.88	1.0377	P	0.3
6	☐	500.000	496.808	1235439.37	2.0155	A	0.3

y = 0.0041 * x + 3.2714E-004
R = 0.9999
DL = 0.02214
BEC = 0.08065

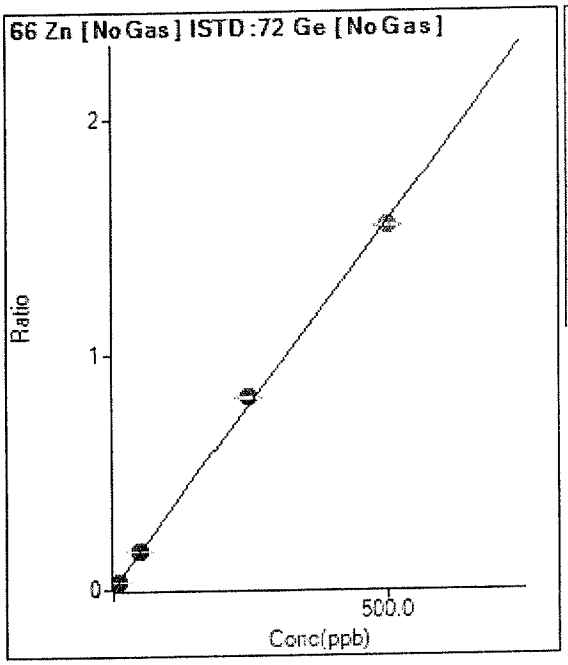
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3073.02	0.0048	P	3.9
2	☐	0.500	0.461	6164.73	0.0096	P	2.2
3	☐	1.000	1.114	10121.76	0.0163	P	2.8
4	☐	50.000	53.929	354593.05	0.5606	P	1.0
5	☐	250.000	254.571	1646626.63	2.6281	A	0.6
6	☐	500.000	497.322	3144323.33	5.1296	A	0.2

y = 0.0103 * x + 0.0048
R = 0.9999
DL = 0.05478
BEC = 0.4689

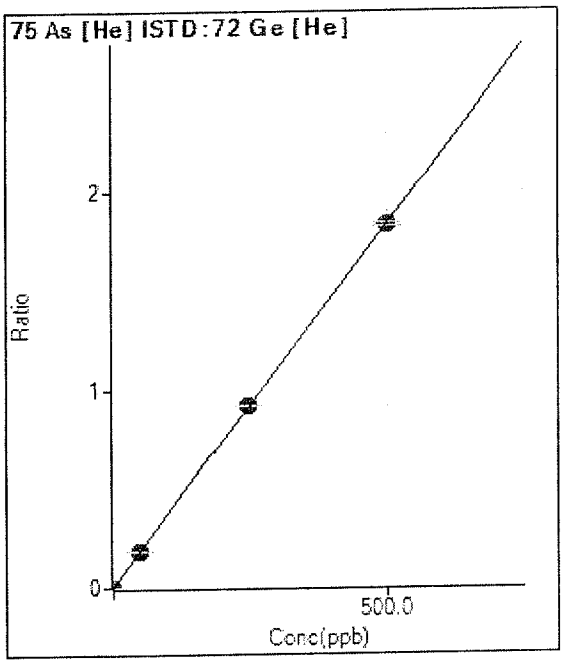
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3050.34	0.0030	P	3.7
2	☐	1.000	0.793	5258.36	0.0055	P	1.5
3	☐	10.000	9.518	33141.68	0.0327	P	1.3
4	☐	50.000	51.857	169272.90	0.1647	P	1.0
5	☐	250.000	260.557	825443.04	0.8155	P	0.4
6	☐	500.000	494.546	1582830.17	1.5451	A	0.8

y = 0.0031 * x + 0.0030
R = 0.9997
DL = 0.1069
BEC = 0.9659

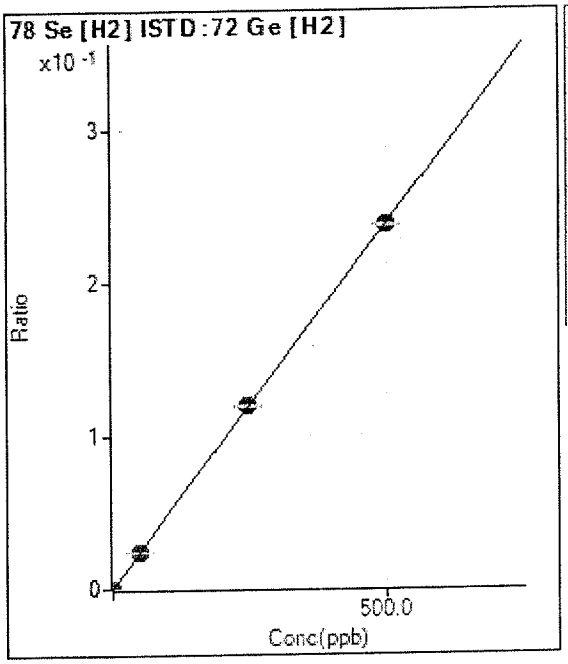
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	165.00	0.0005	P	0.1
2	☐	0.500	0.450	747.35	0.0021	P	4.1
3	☐	1.000	0.986	1398.07	0.0041	P	2.0
4	☐	50.000	49.860	64236.16	0.1835	P	0.5
5	☐	250.000	251.440	315902.73	0.9234	P	0.3
6	☐	500.000	499.294	615366.54	1.8331	P	1.0

y = 0.0037 * x + 4.8866E-004
R = 1.0000
DL = 0.0005288
BEC = 0.1331

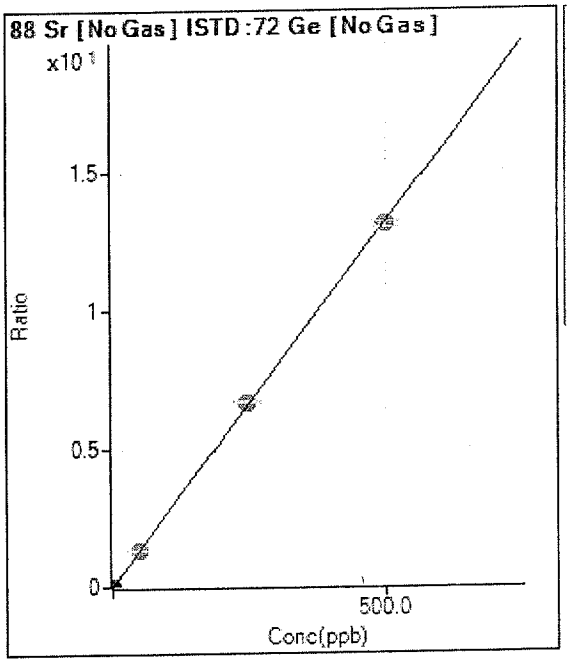
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28.33	0.0000	P	10.7
2	☐	0.500	0.509	254.67	0.0003	P	2.7
3	☐	1.000	0.985	463.68	0.0005	P	2.3
4	☐	50.000	50.426	22179.88	0.0240	P	0.9
5	☐	250.000	250.882	110336.69	0.1195	P	1.1
6	☐	500.000	499.516	213349.92	0.2379	P	0.4

y = 4.7622E-004 * x + 3.1466E-005
R = 1.0000
DL = 0.02124
BEC = 0.06607

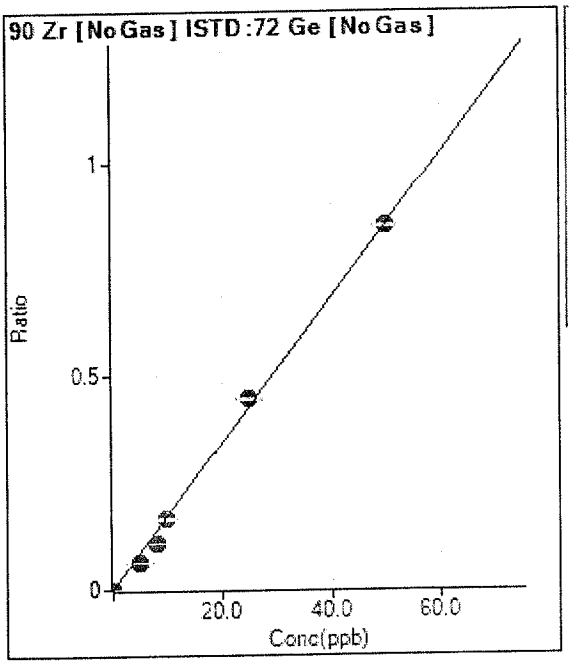
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1593.44	0.0016	P	30.3
2	☐	0.500	0.478	13572.45	0.0142	P	1.7
3	☐	1.000	0.993	28079.40	0.0277	P	1.2
4	☐	50.000	50.471	1366478.42	1.3297	A	0.8
5	☐	250.000	254.477	6779498.62	6.6979	A	0.4
6	☐	500.000	497.714	13417971.97	13.0984	A	1.3

y = 0.0263 * x + 0.0016
R = 0.9999
DL = 0.05434
BEC = 0.05984

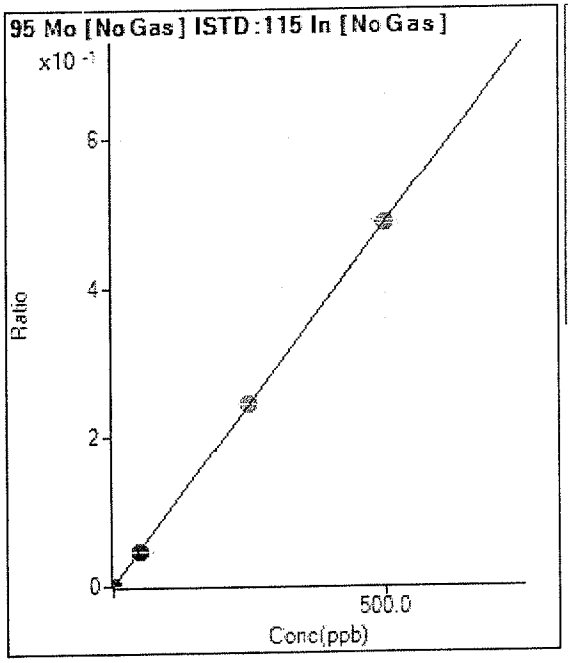
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	213.34	0.0002	P	39.1
2	☐	5.000	3.625	59629.88	0.0622	P	3.0
3	☐	8.000	6.410	111314.57	0.1098	P	1.5
4	☐	10.000	9.715	170907.61	0.1663	P	1.7
5	☐	25.000	26.095	451782.01	0.4464	P	0.7
6	☐	50.000	49.901	874222.02	0.8534	P	0.4

y = 0.0171 * x + 2.1051E-004
R = 0.9989
DL = 0.01445
BEC = 0.01231

Weight: <None>
Min Conc: 0

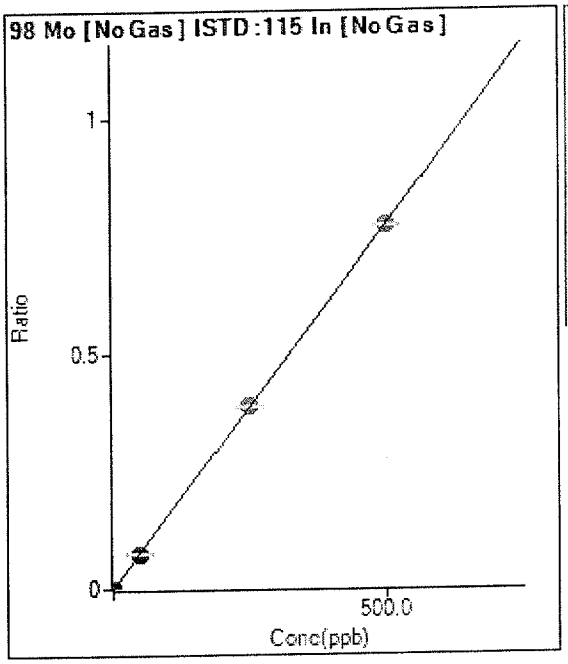


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	77.78	0.0000	P	58.1
2	☐	0.500	0.471	2392.44	0.0005	P	2.3
3	☐	1.000	0.937	5099.87	0.0009	P	5.3
4	☐	50.000	48.702	260093.09	0.0474	P	1.0
5	☐	250.000	251.554	1306517.55	0.2449	A	0.6
6	☐	500.000	499.353	2564423.51	0.4862	A	1.1

y = 9.7367E-004 * x + 1.3941E-005
R = 1.0000
DL = 0.02496
BEC = 0.01432

Weight: <None>
Min Conc: 0

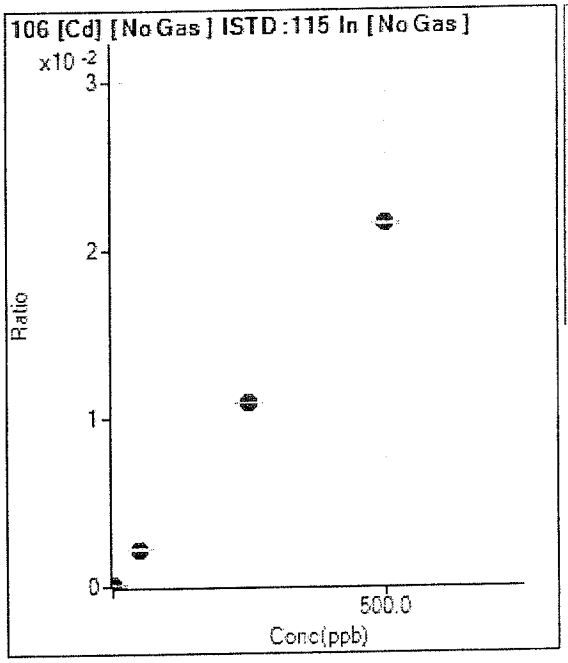
Calibration for H6A19009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	200.00	0.0000	P	21.8
2	☐	0.500	0.466	3827.22	0.0008	P	3.5
3	☐	1.000	0.928	8092.47	0.0015	P	1.9
4	☐	50.000	48.904	414613.74	0.0756	P	1.6
5	☐	250.000	251.107	2070205.20	0.3881	A	0.7
6	☐	500.000	499.556	4072029.98	0.7721	A	0.7

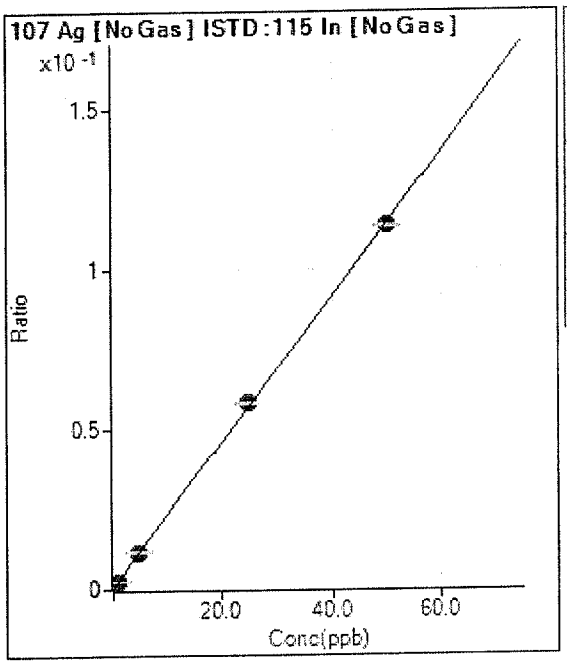
y = 0.0015 * x + 3.5839E-005
R = 1.0000
DL = 0.01514
BEC = 0.02319

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		8.00	0.0000	P	21.6
2	☐	0.500		319.67	0.0001	P	1.9
3	☐	1.000		574.68	0.0001	P	3.0
4	☐	50.000		12107.86	0.0022	P	1.8
5	☐	250.000		58271.68	0.0109	P	0.1
6	☐	500.000		113436.55	0.0215	P	0.7

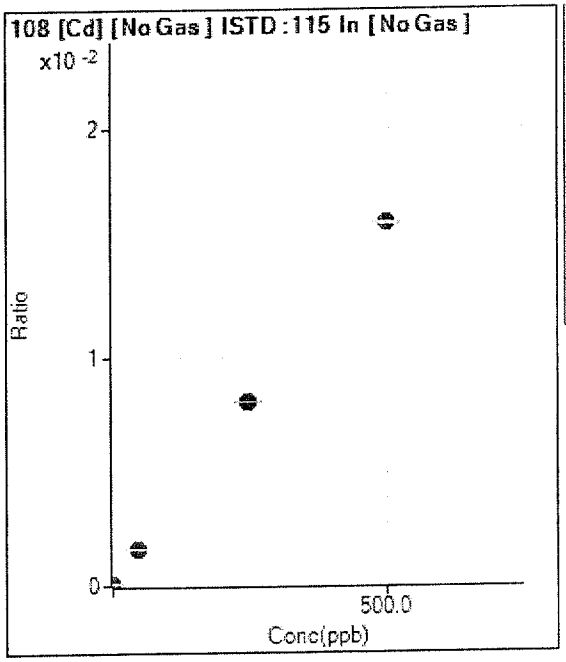
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	105.56	0.0000	P	20.2
2	☐	0.500	0.589	6927.37	0.0014	P	2.5
3	☐	1.000	1.085	13783.85	0.0025	P	1.9
4	☐	5.000	5.127	64457.47	0.0118	P	1.4
5	☐	25.000	25.485	311235.25	0.0583	P	1.6
6	☐	50.000	49.742	600557.89	0.1139	P	0.4

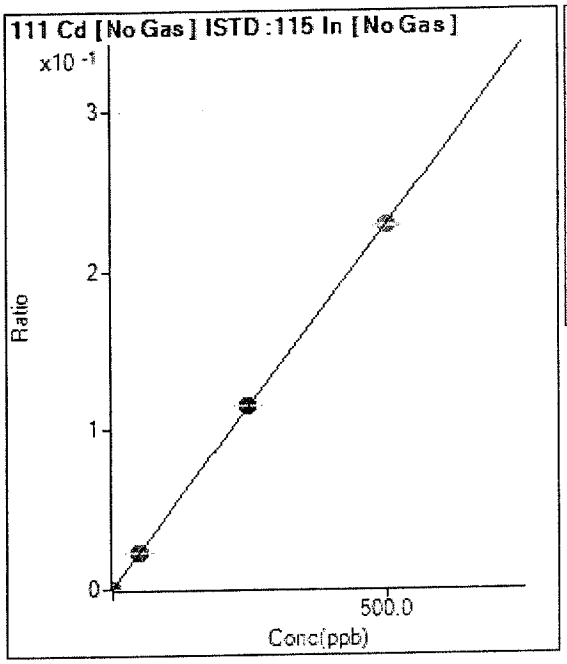
y = 0.0023 * x + 1.8921E-005
R = 0.9999
DL = 0.005005
BEC = 0.008267

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		7.67	0.0000	P	41.7
2	☐	0.500		192.33	0.0000	P	3.6
3	☐	1.000		333.33	0.0001	P	5.7
4	☐	50.000		8778.91	0.0016	P	1.4
5	☐	250.000		42992.98	0.0081	P	0.7
6	☐	500.000		83482.79	0.0158	P	0.5

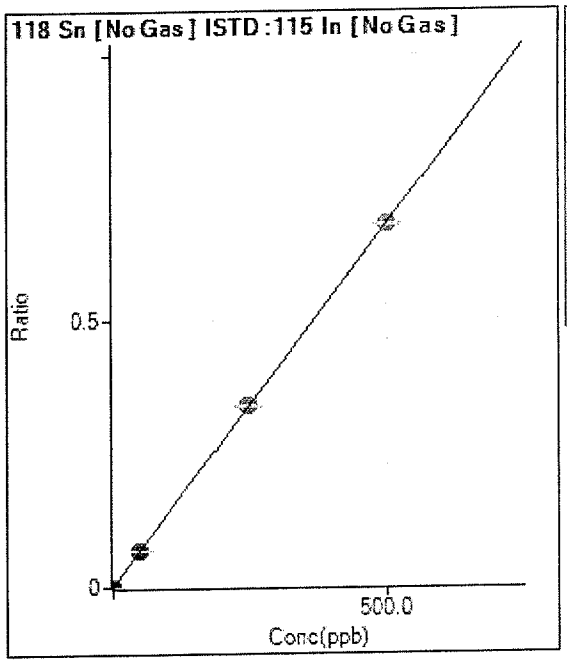
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47.55	0.0000	P	22.6
2	☐	0.500	0.508	1219.91	0.0002	P	3.7
3	☐	1.000	1.040	2668.97	0.0005	P	2.3
4	☐	50.000	49.490	124302.85	0.0227	P	0.6
5	☐	250.000	251.835	615086.12	0.1153	P	0.3
6	☐	500.000	499.133	1205345.75	0.2285	A	0.7

y = 4.5787E-004 * x + 8.5240E-006
R = 1.0000
DL = 0.0126
BEC = 0.01862

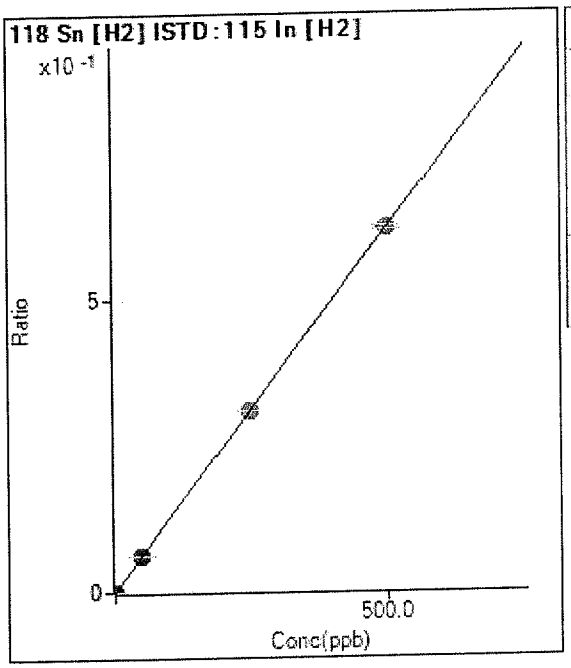
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	834.47	0.0001	P	4.4
2	☐	0.500	0.433	3747.21	0.0007	P	2.6
3	☐	1.000	0.957	7993.54	0.0015	P	1.6
4	☐	50.000	49.375	369350.47	0.0674	P	0.6
5	☐	250.000	250.735	1821156.39	0.3414	A	0.5
6	☐	500.000	499.695	3587839.30	0.6803	A	0.4

y = 0.0014 * x + 1.4960E-004
R = 1.0000
DL = 0.01446
BEC = 0.1099

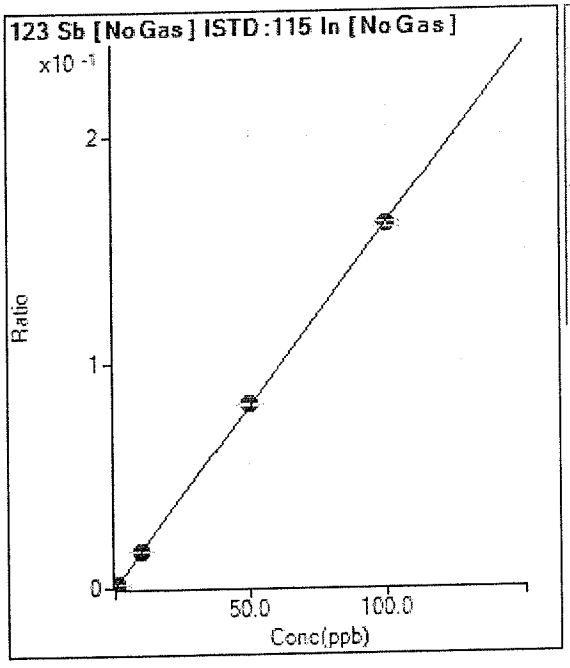
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	827.81	0.0001	P	6.4
2	☐	0.500	0.442	4338.50	0.0007	P	0.4
3	☐	1.000	0.988	8645.07	0.0014	P	1.3
4	☐	50.000	50.121	393762.68	0.0624	P	1.2
5	☐	250.000	249.193	1912342.49	0.3096	A	0.6
6	☐	500.000	500.392	3765669.43	0.6216	A	0.9

y = 0.0012 * x + 1.2927E-004
R = 1.0000
DL = 0.0199
BEC = 0.1041

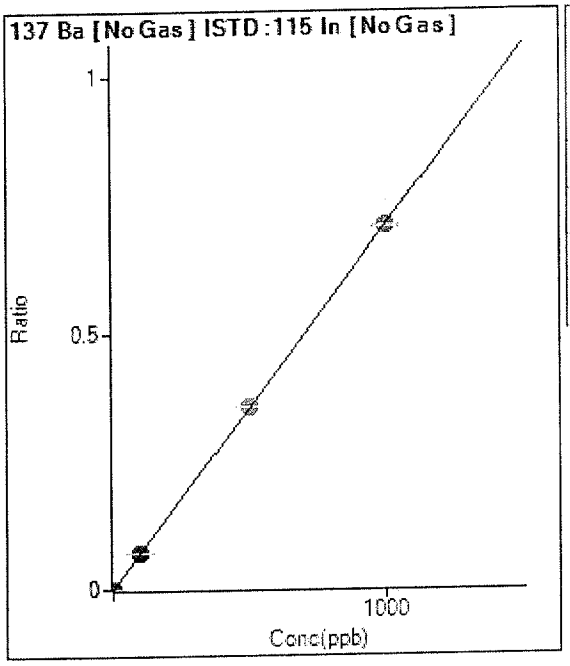
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	106.67	0.0000	P	18.7
2	☐	0.500	0.484	4045.07	0.0008	P	1.2
3	☐	1.000	0.946	8496.09	0.0015	P	2.2
4	☐	10.000	9.827	86872.24	0.0158	P	1.0
5	☐	50.000	50.553	434288.40	0.0814	P	0.6
6	☐	100.000	99.742	847100.19	0.1606	P	1.6

y = 0.0016 * x + 1.9115E-005
R = 1.0000
DL = 0.006658
BEC = 0.01187

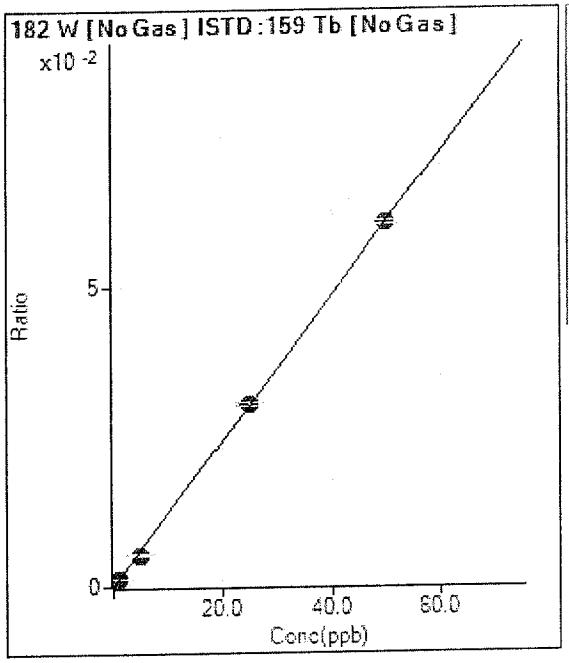
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	186.67	0.0000	P	18.5
2	☐	0.500	0.466	1845.69	0.0004	P	4.1
3	☐	1.000	1.019	4165.12	0.0008	P	2.0
4	☐	100.000	98.408	383107.12	0.0699	P	0.9
5	☐	500.000	501.853	1899793.33	0.3562	A	0.4
6	☐	1000.000	999.233	3739861.24	0.7091	A	0.9

y = 7.0965E-004 * x + 3.3464E-005
R = 1.0000
DL = 0.02615
BEC = 0.04716

Weight: <None>
Min Conc: 0

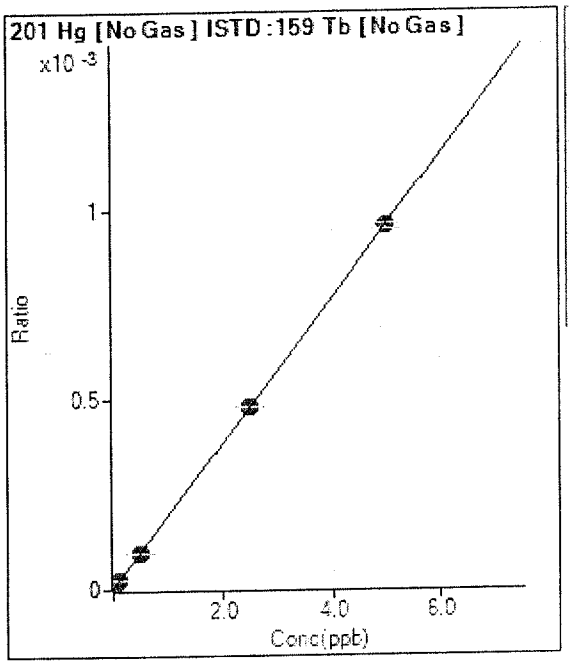


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0000	P	60.0
2	☐	0.500	0.286	2456.91	0.0004	P	7.8
3	☐	1.000	0.996	9003.23	0.0012	P	3.1
4	☐	5.000	4.352	39906.25	0.0053	P	1.9
5	☐	25.000	25.202	229310.52	0.0304	P	1.5
6	☐	50.000	49.966	459610.05	0.0603	P	0.9

y = 0.0012 * x + 1.0037E-005
R = 0.9999
DL = 0.01497
BEC = 0.008317

Weight: <None>
Min Conc: 0

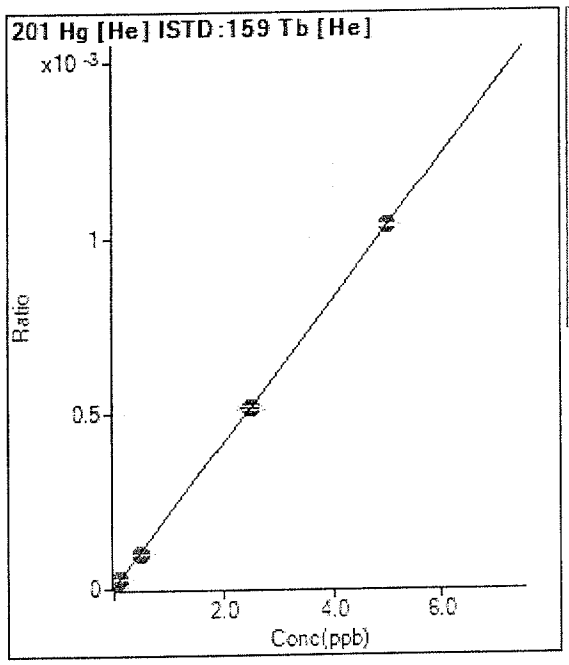
Calibration for H6A19009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22.83	0.0000	P	6.8
2	☐	0.050	0.060	100.17	0.0000	P	2.2
3	☐	0.100	0.115	185.33	0.0000	P	2.4
4	☐	0.500	0.489	729.69	0.0001	P	2.9
5	☐	2.500	2.508	3631.86	0.0005	P	0.7
6	☐	5.000	4.997	7291.95	0.0010	P	1.7

y = 1.9088E-004 * x + 2.9914E-006
R = 1.0000
DL = 0.003184
BEC = 0.01567

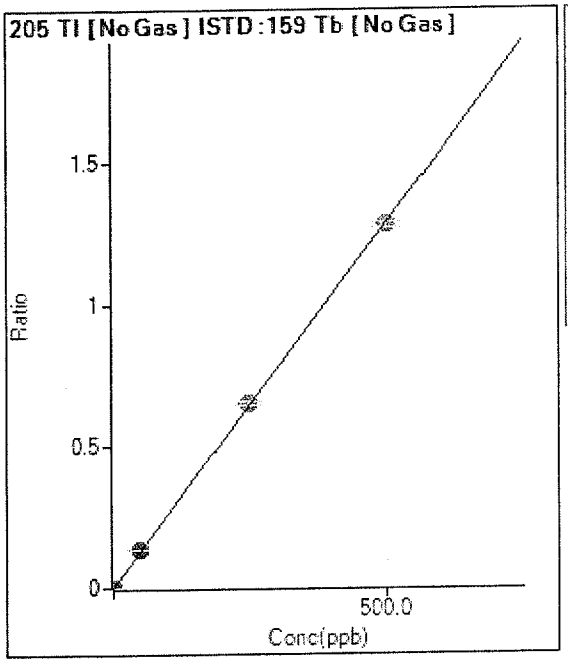
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19.83	0.0000	P	25.7
2	☐	0.050	0.054	82.83	0.0000	P	5.5
3	☐	0.100	0.107	143.50	0.0000	P	5.2
4	☐	0.500	0.470	577.34	0.0001	P	1.5
5	☐	2.500	2.487	2950.68	0.0005	P	1.8
6	☐	5.000	5.009	5851.03	0.0010	P	0.2

y = 2.0577E-004 * x + 3.4647E-006
R = 1.0000
DL = 0.01297
BEC = 0.01684

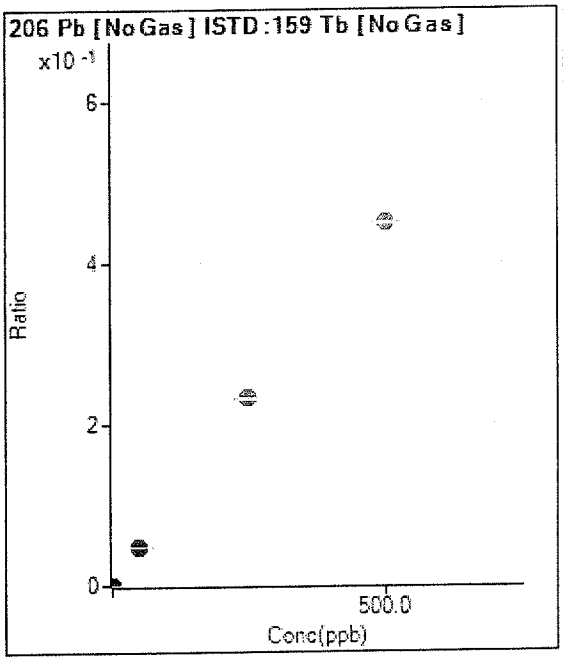
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	724.47	0.0001	P	46.2
2	☐	0.500	0.509	9689.32	0.0014	P	0.8
3	☐	1.000	1.009	19970.40	0.0027	P	0.3
4	☐	50.000	51.982	1014074.96	0.1337	P	1.2
5	☐	250.000	253.256	4909018.83	0.6512	A	1.9
6	☐	500.000	498.174	9762284.61	1.2809	A	1.9

y = 0.0026 * x + 9.5000E-005
R = 1.0000
DL = 0.05123
BEC = 0.03695

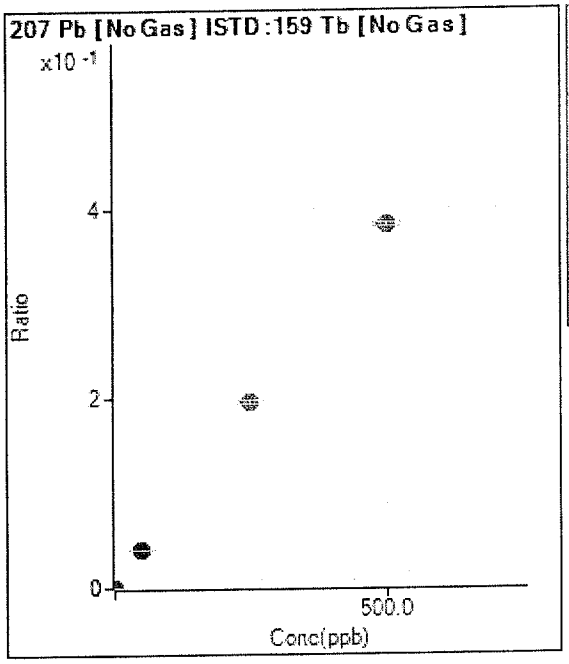
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		406.67	0.0001	P	22.8
2	☐	0.500		3483.84	0.0005	P	3.9
3	☐	1.000		7518.97	0.0010	P	6.8
4	☐	50.000		358488.84	0.0473	P	0.5
5	☐	250.000		1754368.62	0.2327	A	1.2
6	☐	500.000		3420438.07	0.4488	A	0.7

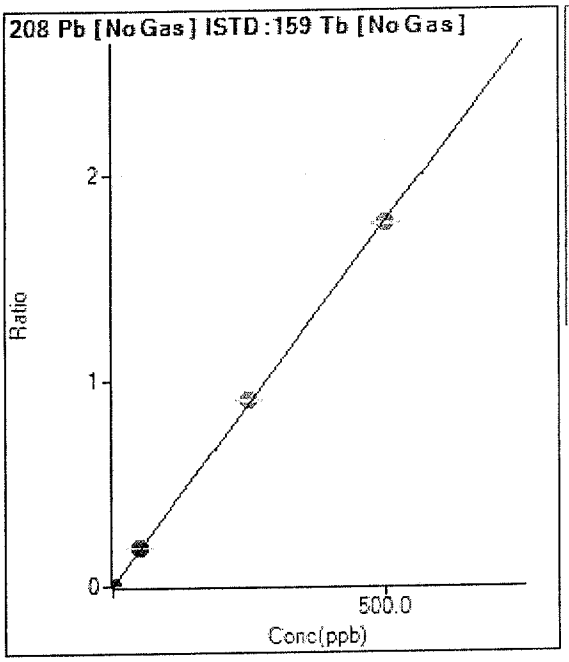
Excluded

Calibration for H6A19009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		313.34	0.0000	P	35.3
2	☐	0.500		2900.35	0.0004	P	2.3
3	☐	1.000		6108.18	0.0008	P	1.5
4	☐	50.000		308828.12	0.0407	P	1.0
5	☐	250.000		1485488.89	0.1970	A	2.1
6	☐	500.000		2919501.41	0.3830	A	1.0

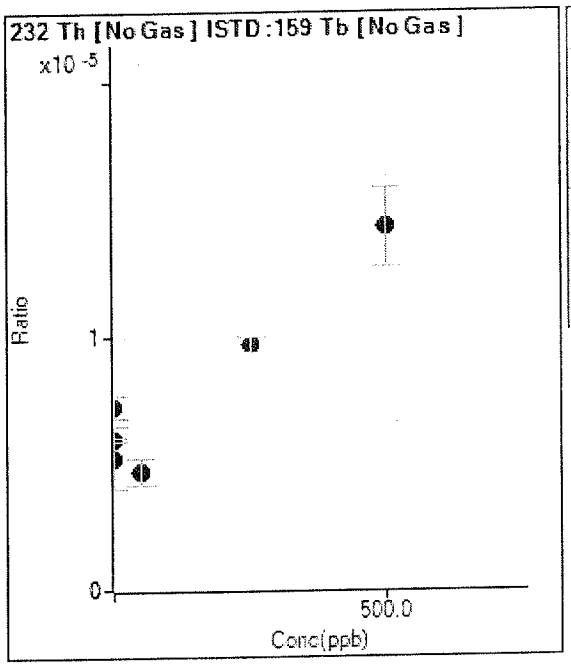
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1593.37	0.0002	P	20.6
2	☐	0.500	0.500	13657.43	0.0020	P	2.2
3	☐	1.000	1.042	28919.87	0.0039	P	2.6
4	☐	50.000	52.668	1414126.01	0.1865	P	0.9
5	☐	250.000	254.867	6798068.69	0.9017	A	1.5
6	☐	500.000	497.300	13408535.46	1.7592	A	0.7

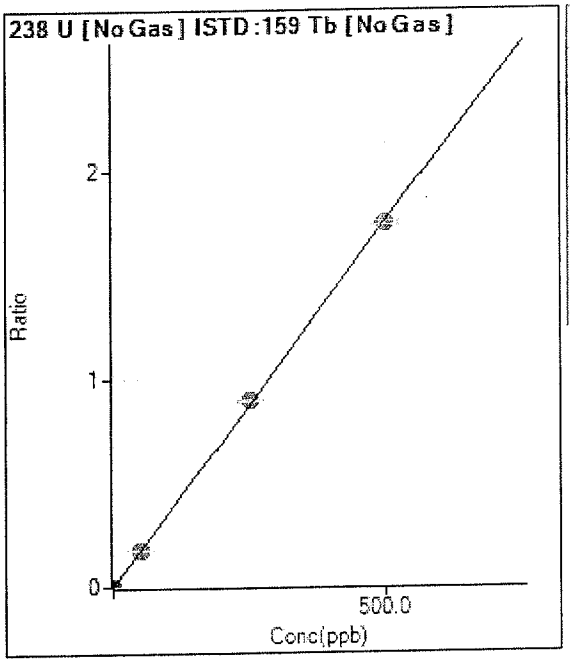
y = 0.0035 * x + 2.0884E-004
R = 0.9999
DL = 0.03642
BEC = 0.05904

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		55.55	0.0000	P	12.2
2	☐	0.500		41.11	0.0000	P	2.7
3	☐	1.000		38.89	0.0000	P	48.2
4	☐	50.000		35.56	0.0000	P	22.6
5	☐	250.000		73.33	0.0000	P	6.3
6	☐	500.000		108.89	0.0000	P	21.7

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	234.45	0.0000	P	50.5
2	☐	0.500	0.494	12159.38	0.0018	P	2.1
3	☐	1.000	1.015	26653.39	0.0036	P	0.5
4	☐	50.000	50.129	1333188.52	0.1758	A	1.1
5	☐	250.000	254.836	6737286.54	0.8937	A	0.8
6	☐	500.000	497.569	13298561.70	1.7449	A	1.1

y = 0.0035 * x + 3.0746E-005
R = 0.9999
DL = 0.0133
BEC = 0.008768

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq. Date-Time	2023-01-26 10:10:47
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

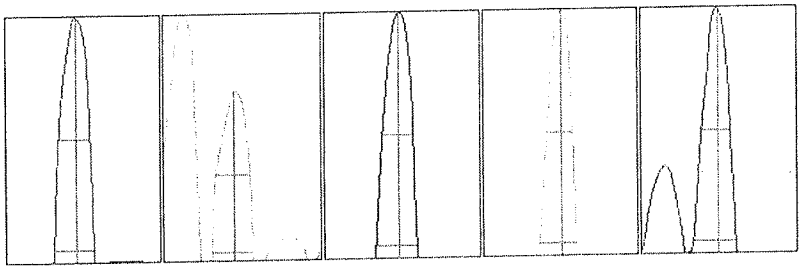
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	18883	188825.73			0.380	5.000
24	10.00	91001	910011.11			0.644	5.000
59	10.00	208033	2080326.74			1.311	5.000
115	10.00	247838	2478381.39			1.007	5.000
208	10.00	144734	1447338.56			0.878	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	18959	18822	18961	18819	18853
24	90249	91583	91475	90534	91165
59	205293	208578	207161	206696	212436
115	245031	249895	247116	246208	250940
208	142901	144372	144548	145696	146152

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	33916.60	8.90	8.90 - 9.10	
24	161278.30	23.90	23.90 - 24.10	
59	372845.15	58.95	58.90 - 59.10	
115	499260.77	115.05	114.90 - 115.10	
208	270401.48	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.779	0.900	
24	0.63	0.787	0.900	
59	0.58	0.781	0.900	
115	0.51	0.724	0.900	
208	0.56	0.813	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.1 V	Deflect	14.4 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-110 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.4 mm	Torch V	-0.4 mm		

EM

Discriminator	3.1 mV	Analog HV	2758 V	Pulse HV	1480 V

Calibration Blank Report

Sample Name	S0
File Name	H6A19003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:31:27
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	73771.21	0.8
Be	9	6	No Gas	80.00	31.5
B	11	6	No Gas	9662.21	1.5
Na	23	45	H2	921920.37	0.2
Mg	24	45	No Gas	33141.49	34.8
Al	27	45	No Gas	21233.08	49.2
Si	28	45	H2	5303.68	0.9
P	31	45	No Gas	38768.67	0.4
K	39	45	He	117700.33	3.9
Ca	40	45	H2	220079.49	1.0
Ti	47	45	No Gas	212.67	8.0
V	51	45	He	1884.13	1.6
Cr	52	45	He	2108.83	0.3
Mn	55	45	No Gas	10754.94	11.3
Fe	56	45	H2	29303.34	1.5
Co	59	45	No Gas	740.69	50.5
Ni	60	45	He	208.00	8.4
Cu	63	45	He	3073.02	3.2
Zn	66	72	No Gas	3050.34	3.2
As	75	72	He	165.00	1.0
Se	78	72	H2	28.33	10.8
Sr	88	72	No Gas	1593.44	29.8
Zr	90	72	No Gas	213.34	39.3
Mo	95	115	No Gas	77.78	58.2
Mo	98	115	No Gas	200.00	22.0
[Cd]	106	115	No Gas	8.00	21.7
Ag	107	115	No Gas	105.56	20.3
[Cd]	108	115	No Gas	7.67	41.9
Cd	111	115	No Gas	47.55	22.7
Sn	118	115	No Gas	834.47	4.5
Sn	118	115	H2	827.81	7.2
Sb	123	115	No Gas	106.67	19.0
Ba	137	115	No Gas	186.67	18.6
W	182	159	No Gas	76.67	60.2
Hg	201	159	No Gas	22.83	7.0

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	19.83	25.8
Tl	205	159	No Gas	724.47	45.9
Pb	206	159	No Gas	406.67	22.8
Pb	207	159	No Gas	313.34	35.0
Pb	208	159	No Gas	1593.37	20.3
Th	232	159	No Gas	55.55	12.5
U	238	159	No Gas	234.45	50.3

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1258579.15	2.0
Sc	45	No Gas	4603948.17	0.8
Sc	45	H2	3561110.25	1.3
Sc	45	He	636135.04	0.9
Ge	72	No Gas	1012928.52	0.5
Ge	72	H2	900410.75	0.2
Ge	72	He	337654.98	1.0
In	115	No Gas	5577796.43	0.4
Tb	159	No Gas	7631930.25	0.3
Tb	159	He	5723538.00	0.1

Calibration Standard Report

Sample Name	S1
File Name	H6A19004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:34:18
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	69088.10	4.6
Be	9	6	No Gas	1030.04	7.7
B	11	6	No Gas	6917.27	3.7
Na	23	45	H2	1162474.62	0.7
Mg	24	45	No Gas	450006.51	2.4
Al	27	45	No Gas	582967.58	4.1
Si	28	45	H2	164138.17	2.0
P	31	45	No Gas	55296.42	0.2
K	39	45	He	165940.93	2.9
Ca	40	45	H2	678908.77	2.4
Ti	47	45	No Gas	948.04	6.1
V	51	45	He	4896.21	1.7
Cr	52	45	He	5973.97	0.8
Mn	55	45	No Gas	19991.94	1.9
Fe	56	45	H2	841674.40	1.4
Co	59	45	No Gas	10745.57	2.6
Ni	60	45	He	1490.08	4.9
Cu	63	45	He	6164.73	2.5
Zn	66	72	No Gas	5258.33	1.7
As	75	72	He	747.35	3.4
Se	78	72	H2	254.67	3.3
Sr	88	72	No Gas	13572.45	2.0
Zr	90	72	No Gas	59629.88	4.0
Mo	95	115	No Gas	2392.44	3.8
Ag	107	115	No Gas	6927.37	1.6
Cd	111	115	No Gas	1219.91	1.6
Sn	118	115	No Gas	3747.21	3.6
Sb	123	115	No Gas	4045.07	2.6
Ba	137	115	No Gas	1845.69	6.3
W	182	159	No Gas	2456.91	9.8
Hg	201	159	He	82.83	6.1
Tl	205	159	No Gas	9689.32	2.3
Pb	208	159	No Gas	13657.43	2.5
U	238	159	No Gas	12159.38	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1113817.02	5.0	1258579.15	88.5	70	120	
Sc	45	No Gas	4223657.17	3.0	4603948.17	91.74	70	120	
Sc	45	H2	3555125.75	1.3	3561110.25	99.83	70	120	
Sc	45	He	643241.81	1.1	636135.04	101.12	70	120	
Ge	72	No Gas	958599.06	1.0	1012928.52	94.64	70	120	
Ge	72	H2	929970.25	0.7	900410.75	103.28	70	120	
Ge	72	He	349228.05	0.7	337654.98	103.43	70	120	
In	115	No Gas	5065965.68	2.1	5577796.43	90.82	70	120	
Tb	159	No Gas	6901184.59	2.0	7631930.25	90.43	70	120	
Tb	159	He	5717451.50	1.3	5723538	99.89	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6A19005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A19.b
Acq Time	2023-01-26 11:37:08
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	79218.39	0.8
Be	9	6	No Gas	2221.29	8.0
B	11	6	No Gas	8503.69	2.9
Na	23	45	H2	1363313.58	0.4
Mg	24	45	No Gas	937149.46	2.5
Al	27	45	No Gas	1212332.61	2.7
Si	28	45	H2	326174.56	0.6
P	31	45	No Gas	69568.23	0.9
K	39	45	He	206756.86	2.1
Ca	40	45	H2	1231545.21	1.6
Ti	47	45	No Gas	1798.12	4.1
V	51	45	He	8744.12	0.9
Cr	52	45	He	9992.98	1.3
Mn	55	45	No Gas	34921.16	1.2
Fe	56	45	H2	1637194.58	1.5
Co	59	45	No Gas	22922.57	2.0
Ni	60	45	He	2844.30	0.9
Cu	63	45	He	10121.76	1.4
Zn	66	72	No Gas	33141.68	1.2
As	75	72	He	1398.07	2.3
Se	78	72	H2	463.68	1.1
Sr	88	72	No Gas	28079.40	1.0
Zr	90	72	No Gas	111314.57	1.9
Mo	95	115	No Gas	5099.87	5.3
Ag	107	115	No Gas	13783.85	2.1
Cd	111	115	No Gas	2668.97	2.0
Sn	118	115	No Gas	7993.54	1.8
Sb	123	115	No Gas	8496.09	2.5
Ba	137	115	No Gas	4165.12	2.2
W	182	159	No Gas	9003.23	4.1
Hg	201	159	He	143.50	3.7
Tl	205	159	No Gas	19970.40	1.4
Pb	208	159	No Gas	28919.87	3.1
U	238	159	No Gas	26653.39	1.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1249277.20	0.2	1258579.15	99.26	70	120	
Sc	45	No Gas	4534377.50	1.7	4603948.17	98.49	70	120	
Sc	45	H2	3554785.92	1.2	3561110.25	99.82	70	120	
Sc	45	He	620791.59	1.5	636135.04	97.59	70	120	
Ge	72	No Gas	1013796.92	1.1	1012928.52	100.09	70	120	
Ge	72	H2	926301.98	1.8	900410.75	102.88	70	120	
Ge	72	He	340329.48	0.5	337654.98	100.79	70	120	
In	115	No Gas	5505778.27	0.5	5577796.43	98.71	70	120	
Tb	159	No Gas	7427086.93	1.2	7631930.25	97.32	70	120	
Tb	159	He	5642265.83	2.0	5723538	98.58	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6A19006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:39:59
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	104710.16	0.8
Be	9	6	No Gas	10791.92	1.5
B	11	6	No Gas	22040.60	1.0
Na	23	45	H2	23541806.00	0.5
Mg	24	45	No Gas	46725465.33	0.5
Al	27	45	No Gas	61420717.42	0.9
Si	28	45	H2	828798.62	0.5
P	31	45	No Gas	78036.38	0.5
K	39	45	He	4550241.50	0.7
Ca	40	45	H2	55666286.67	0.7
Ti	47	45	No Gas	81871.42	0.4
V	51	45	He	352762.21	0.3
Cr	52	45	He	398282.16	0.7
Mn	55	45	No Gas	7777514.67	0.2
Fe	56	45	H2	80346160.00	0.3
Co	59	45	No Gas	1101393.92	0.8
Ni	60	45	He	136549.68	1.1
Cu	63	45	He	354593.05	0.2
Zn	66	72	No Gas	169272.90	0.4
As	75	72	He	64236.16	0.8
Se	78	72	H2	22179.88	1.2
Sr	88	72	No Gas	1366478.42	0.2
Zr	90	72	No Gas	170907.61	1.1
Mo	95	115	No Gas	260093.09	0.6
Ag	107	115	No Gas	64457.47	1.4
Cd	111	115	No Gas	124302.85	0.9
Sn	118	115	No Gas	369350.47	1.3
Sb	123	115	No Gas	86872.24	0.3
Ba	137	115	No Gas	383107.12	0.2
W	182	159	No Gas	39906.25	3.0
Hg	201	159	He	577.34	2.1
Tl	205	159	No Gas	1014074.96	0.6
Pb	208	159	No Gas	1414126.01	0.6
U	238	159	No Gas	1333188.52	1.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1248643.96	0.9	1258579.15	99.21	70	120	
Sc	45	No Gas	4561527.50	0.4	4603948.17	99.08	70	120	
Sc	45	H2	3560291.92	0.4	3561110.25	99.98	70	120	
Sc	45	He	632601.23	0.8	636135.04	99.44	70	120	
Ge	72	No Gas	1027715.91	0.6	1012928.52	101.46	70	120	
Ge	72	H2	922408.75	0.5	900410.75	102.44	70	120	
Ge	72	He	350064.77	0.4	337654.98	103.68	70	120	
In	115	No Gas	5483532.40	0.7	5577796.43	98.31	70	120	
Tb	159	No Gas	7582862.20	1.1	7631930.25	99.36	70	120	
Tb	159	He	5762619.50	0.8	5723538	100.68	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6A19007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A19.b
Acq Time	2023-01-26 11:43:03
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	225174.39	1.3
Be	9	6	No Gas	53056.37	0.4
B	11	6	No Gas	81348.96	1.9
Na	23	45	H2	112642565.33	0.4
Mg	24	45	No Gas	231541365.33	1.0
Al	27	45	No Gas	307586748.75	1.0
Si	28	45	H2	4036337.75	0.9
P	31	45	No Gas	236738.78	1.5
K	39	45	He	21877033.33	1.1
Ca	40	45	H2	276572736.00	1.0
Ti	47	45	No Gas	406054.07	1.9
V	51	45	He	1721221.04	0.7
Cr	52	45	He	1894674.71	0.3
Mn	55	45	No Gas	38454772.00	1.6
Fe	56	45	H2	399543157.33	0.4
Co	59	45	No Gas	5347021.33	1.6
Ni	60	45	He	650172.88	0.4
Cu	63	45	He	1646626.63	0.8
Zn	66	72	No Gas	825443.04	1.3
As	75	72	He	315902.73	0.6
Se	78	72	H2	110336.69	1.1
Sr	88	72	No Gas	6779498.62	1.0
Zr	90	72	No Gas	451782.01	0.2
Mo	95	115	No Gas	1306517.55	1.0
Ag	107	115	No Gas	311235.25	1.8
Cd	111	115	No Gas	615086.12	0.6
Sn	118	115	No Gas	1821156.39	1.0
Sb	123	115	No Gas	434288.40	0.9
Ba	137	115	No Gas	1899793.33	0.8
W	182	159	No Gas	229310.52	0.3
Hg	201	159	He	2950.68	1.8
Tl	205	159	No Gas	4909018.83	1.1
Pb	208	159	No Gas	6798068.69	2.1
U	238	159	No Gas	6737286.54	1.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1213186.54	2.0	1258579.15	96.39	70	120	
Sc	45	No Gas	4596943.00	0.9	4603948.17	99.85	70	120	
Sc	45	H2	3579569.83	0.9	3561110.25	100.52	70	120	
Sc	45	He	626535.42	0.2	636135.04	98.49	70	120	
Ge	72	No Gas	1012182.85	0.9	1012928.52	99.93	70	120	
Ge	72	H2	923268.52	0.2	900410.75	102.54	70	120	
Ge	72	He	342117.76	0.5	337654.98	101.32	70	120	
In	115	No Gas	5333872.25	0.4	5577796.43	95.63	70	120	
Tb	159	No Gas	7539361.92	1.7	7631930.25	98.79	70	120	
Tb	159	He	5728072.17	0.6	5723538	100.08	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A19008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:45:53
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	372159.86	1.0
Be	9	6	No Gas	104309.88	1.6
B	11	6	No Gas	153996.50	2.1
Na	23	45	H2	219357370.67	0.2
Mg	24	45	No Gas	456560490.67	0.0
Al	27	45	No Gas	606433417.63	0.5
Si	28	45	H2	7794445.83	0.8
P	31	45	No Gas	428695.58	0.0
K	39	45	He	42295709.33	0.3
Ca	40	45	H2	546357034.67	0.1
Tl	47	45	No Gas	803632.00	0.8
V	51	45	He	3340334.08	0.4
Cr	52	45	He	3695360.08	0.7
Mn	55	45	No Gas	75399802.67	0.9
Fe	56	45	H2	769170944.00	0.5
Co	59	45	No Gas	10420091.33	0.4
Ni	60	45	He	1235439.37	0.5
Cu	63	45	He	3144323.33	0.5
Zn	66	72	No Gas	1582830.17	0.6
As	75	72	He	615366.54	0.5
Se	78	72	H2	213349.92	0.6
Sr	88	72	No Gas	13417971.97	1.1
Zr	90	72	No Gas	874222.02	0.5
Mo	95	115	No Gas	2564423.51	1.7
Ag	107	115	No Gas	600557.89	0.3
Cd	111	115	No Gas	1205345.75	0.7
Sn	118	115	No Gas	3587839.30	0.6
Sb	123	115	No Gas	847100.19	1.2
Ba	137	115	No Gas	3739861.24	0.3
W	182	159	No Gas	459610.05	0.7
Hg	201	159	He	5851.03	0.3
Tl	205	159	No Gas	9762284.61	1.5
Pb	208	159	No Gas	13408535.46	1.1
U	238	159	No Gas	13298561.70	0.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1226644.92	1.2	1258579.15	97.46	70	120	
Sc	45	No Gas	4582601.83	0.9	4603948.17	99.54	70	120	
Sc	45	H2	3527692.67	0.4	3561110.25	99.06	70	120	
Sc	45	He	612975.85	0.6	636135.04	96.36	70	120	
Ge	72	No Gas	1024416.19	0.2	1012928.52	101.13	70	120	
Ge	72	H2	896770.27	0.7	900410.75	99.6	70	120	
Ge	72	He	335712.77	0.8	337654.98	99.42	70	120	
In	115	No Gas	5274012.14	0.6	5577796.43	94.55	70	120	
Tb	159	No Gas	7621800.26	0.6	7631930.25	99.87	70	120	
Tb	159	He	5657332.83	0.5	5723538	98.84	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6A19009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:48:38
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	28.263	ppb	1.2	243013.31	30	94.21	90	110	
Be	9	6	No Gas	30.629	ppb	2.0	64316.88	30	102.1	90	110	
B	11	6	No Gas	30.090	ppb	0.4	52945.31	30	100.3	90	110	
Na	23	45	H2	31012.118	ppb	0.8	138244853.33	30000	103.37	90	110	
Mg	24	45	No Gas	30816.625	ppb	1.9	276978240.00	30000	102.72	90	110	
Al	27	45	No Gas	31493.228	ppb	2.7	375990527.73	30000	104.98	90	110	
Si	28	45	H2	3095.498	ppb	0.5	4905474.33	3000	103.18	90	110	
P	31	45	No Gas	301.194	ppb	1.0	269263.12	300	100.4	90	110	
K	39	45	He	30978.244	ppb	1.0	26508536.00	30000	103.26	90	110	
Ca	40	45	H2	30549.277	ppb	0.7	337652949.33	30000	101.83	90	110	
Ti	47	45	No Gas	305.553	ppb	1.5	483077.68	300	101.85	90	110	
V	51	45	He	306.914	ppb	0.8	2070757.83	300	102.3	90	110	
Cr	52	45	He	310.164	ppb	0.8	2313155.42	300	103.39	90	110	
Mn	55	45	No Gas	2030.343	ppb	1.7	50290838.67	2000	101.52	90	110	
Fe	56	45	H2	30892.994	ppb	0.5	483239114.67	30000	102.98	90	110	
Co	59	45	No Gas	312.187	ppb	1.7	6420588.83	300	104.06	90	110	
Ni	60	45	He	309.571	ppb	0.7	775967.57	300	103.19	90	110	
Cu	63	45	He	325.283	ppb	1.2	2073831.58	300	108.43	90	110	
Zn	66	72	No Gas	312.677	ppb	1.3	984742.50	300	104.23	90	110	
As	75	72	He	302.332	ppb	1.2	375839.61	300	100.78	90	110	
Se	78	72	H2	299.310	ppb	0.2	129832.25	300	99.77	90	110	
Sr	88	72	No Gas	304.923	ppb	1.3	8080472.74	300	101.64	90	110	
Zr	90	72	No Gas	30.958	ppb	1.9	533173.19	30	103.19	90	110	
Mo	95	115	No Gas	300.369	ppb	1.7	1553961.15	300	100.12	90	110	
Ag	107	115	No Gas	30.870	ppb	0.1	375460.36	30	102.9	90	110	
Cd	111	115	No Gas	300.941	ppb	0.9	732102.91	300	100.31	90	110	
Sn	118	115	No Gas	306.328	ppb	1.0	2215943.18	300	102.11	90	110	
Sb	123	115	No Gas	57.219	ppb	0.4	489546.60	60	95.36	90	110	
Ba	137	115	No Gas	302.651	ppb	1.8	1141324.23	300	100.88	90	110	
W	182	159	No Gas	30.752	ppb	0.2	280951.16	30	102.51	90	110	
Hg	201	159	No Gas	2.932	ppb	2.2	4258.73	3	97.73	90	110	
Hg	201	159	He	2.898	ppb	2.6	3433.47	3	96.6	90	110	
Tl	205	159	No Gas	307.931	ppb	1.7	5994275.32	300	102.64	90	110	
Pb	208	159	No Gas	311.768	ppb	1.2	8348844.97	300	103.92	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	309.561	ppb	0.8	8216515.79	300	103.19	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1226780.81	2.3	1258579.15	97.47	70	120	
Sc	45	No Gas	4499028.83	2.0	4603948.17	97.72	70	120	
Sc	45	H2	3569069.25	1.0	3561110.25	100.22	70	120	
Sc	45	He	617806.83	0.2	636135.04	97.12	70	120	
Ge	72	No Gas	1006760.19	1.4	1012928.52	99.39	70	120	
Ge	72	H2	910660.17	0.9	900410.75	101.14	70	120	
Ge	72	He	338545.55	0.6	337654.98	100.26	70	120	
In	115	No Gas	5312264.28	1.5	5577796.43	95.24	70	120	
Tb	159	No Gas	7569236.92	2.1	7631930.25	99.18	70	120	
Tb	159	He	5725971.17	1.1	5723538	100.04	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A19010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:51:16
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.227	ppb	95.1	65752.93	0.4	
Be	9	6	No Gas	0.022	ppb	42.1	112.22	0.08	
B	11	6	No Gas	1.747	ppb	16.9	10719.65	4	
Na	23	45	H2	<0.000	ppb	N/A	920506.48	40	
Mg	24	45	No Gas	1.336	ppb	63.5	40422.12	10	
Al	27	45	No Gas	1.395	ppb	51.0	34029.72	15	
Si	28	45	H2	2.798	ppb	5.4	9735.40	8	
P	31	45	No Gas	5.787	ppb	20.2	38641.62	10	
K	39	45	He	6.227	ppb	128.9	121167.97	20	
Ca	40	45	H2	0.905	ppb	16.0	230368.49	25	
Ti	47	45	No Gas	0.032	ppb	105.8	234.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1730.78	0.5	
Cr	52	45	He	0.031	ppb	36.0	2308.20	0.2	
Mn	55	45	No Gas	0.220	ppb	28.9	14543.11	0.2	>LOD
Fe	56	45	H2	1.595	ppb	4.8	54265.46	10	
Co	59	45	No Gas	0.017	ppb	63.7	975.37	0.15	
Ni	60	45	He	0.010	ppb	110.4	230.00	0.2	
Cu	63	45	He	0.054	ppb	13.7	3376.42	0.4	
Zn	66	72	No Gas	0.084	ppb	83.4	2979.00	2	
As	75	72	He	0.023	ppb	125.8	192.33	0.2	
Se	78	72	H2	0.071	ppb	28.4	58.67	0.2	
Sr	88	72	No Gas	0.014	ppb	64.2	1756.79	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	143.33	2	
Mo	95	115	No Gas	0.059	ppb	13.1	356.67	0.2	
Ag	107	115	No Gas	0.004	ppb	80.7	137.78	0.08	
Cd	111	115	No Gas	0.085	ppb	16.6	236.65	0.2	
Sn	118	115	No Gas	0.120	ppb	6.1	1562.32	0.2	
Sb	123	115	No Gas	0.011	ppb	40.2	184.45	0.4	
Ba	137	115	No Gas	0.032	ppb	51.6	281.11	0.2	
W	182	159	No Gas	0.016	ppb	11.0	193.33	0.3	
Hg	201	159	No Gas	0.055	ppb	14.6	90.17	0.1	
Hg	201	159	He	0.031	ppb	32.0	56.67	0.1	
Tl	205	159	No Gas	0.114	ppb	25.5	2601.39	0.1	>LOD
Pb	208	159	No Gas	0.042	ppb	29.2	2403.42	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.026	ppb	15.3	824.48	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1100683.52	1.6	1258579.15	87.45	70	120	
Sc	45	No Gas	4108039.25	2.2	4603948.17	89.23	70	120	
Sc	45	H2	3565371.75	0.4	3561110.25	100.12	70	120	
Sc	45	He	626134.06	0.9	636135.04	98.43	70	120	
Ge	72	No Gas	910683.98	2.8	1012928.52	89.91	70	120	
Ge	72	H2	897670.71	0.6	900410.75	99.7	70	120	
Ge	72	He	335229.96	1.0	337654.98	99.28	70	120	
In	115	No Gas	4999507.44	2.0	5577796.43	89.63	70	120	
Tb	159	No Gas	6728165.15	2.0	7631930.25	88.16	70	120	
Tb	159	He	5801862.83	0.7	5723538	101.37	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA2601
File Name	H6A19011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 11:58:53
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.987	ppb	22.8	81776.38	1	98.7	80	120	
Be	9	6	No Gas	0.950	ppb	2.5	2173.50	1	95	80	120	
B	11	6	No Gas	6.341	ppb	4.9	19517.99	10	63.41	80	120	> +/- 20%
Na	23	45	H2	91.842	ppb	4.8	1350903.37	100	91.84	80	120	
Mg	24	45	No Gas	98.458	ppb	1.4	945455.50	100	98.46	80	120	
Al	27	45	No Gas	97.984	ppb	1.7	1226959.59	100	97.98	80	120	
Si	28	45	H2	107.048	ppb	2.1	177407.02	100	107.05	80	120	
P	31	45	No Gas	49.195	ppb	1.7	78007.04	50	98.39	80	120	
K	39	45	He	107.748	ppb	5.1	211403.08	100	107.75	80	120	
Ca	40	45	H2	103.808	ppb	1.8	1387910.71	100	103.81	80	120	
Ti	47	45	No Gas	0.961	ppb	4.0	1780.12	1	96.1	80	120	
V	51	45	He	0.976	ppb	2.6	8627.39	1	97.6	80	120	
Cr	52	45	He	1.050	ppb	2.2	10125.74	1	105	80	120	
Mn	55	45	No Gas	1.007	ppb	1.2	36540.77	1	100.7	80	120	
Fe	56	45	H2	102.300	ppb	1.0	1654207.63	100	102.3	80	120	
Co	59	45	No Gas	1.045	ppb	1.5	22894.56	1	104.5	80	120	
Ni	60	45	He	1.080	ppb	3.4	2983.66	1	108	80	120	
Cu	63	45	He	1.041	ppb	1.1	9856.90	1	104.1	80	120	
Zn	66	72	No Gas	11.696	ppb	1.1	40307.79	10	116.96	80	120	
As	75	72	He	0.966	ppb	2.0	1410.08	1	96.6	80	120	
Se	78	72	H2	0.964	ppb	4.5	460.01	1	96.4	80	120	
Sr	88	72	No Gas	2.394	ppb	0.9	65928.60	2	119.7	80	120	
Zr	90	72	No Gas	4.081	ppb	0.4	71443.85	5	81.62	80	120	
Mo	95	115	No Gas	0.930	ppb	0.7	5161.01	1	93	80	120	
Ag	107	115	No Gas	1.380	ppb	3.5	17824.24	1	138	80	120	> +/- 20%
Cd	111	115	No Gas	0.977	ppb	2.0	2558.81	1	97.7	80	120	
Sn	118	115	No Gas	0.984	ppb	2.3	8353.77	1	98.4	80	120	
Sb	123	115	No Gas	0.944	ppb	1.3	8642.86	1	94.4	80	120	
Ba	137	115	No Gas	0.966	ppb	1.0	4033.96	1	96.6	80	120	
W	182	159	No Gas	1.876	ppb	1.8	17301.87	2	93.8	80	120	
Hg	201	159	No Gas	0.106	ppb	4.0	177.17	0.1	106	80	120	
Hg	201	159	He	0.107	ppb	0.2	147.83	0.1	107	80	120	
Tl	205	159	No Gas	1.001	ppb	1.8	20310.97	1	100.1	80	120	
Pb	208	159	No Gas	1.025	ppb	0.5	29193.48	1	102.5	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	1.001	ppb	0.6	26965.17	1	100.1	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1287613.30	1.4	1258579.15	102.31	70	120	
Sc	45	No Gas	4637509.67	1.7	4603948.17	100.73	70	120	
Sc	45	H2	3623565.75	1.6	3561110.25	101.75	70	120	
Sc	45	He	633658.56	0.9	636135.04	99.61	70	120	
Ge	72	No Gas	1020845.23	1.3	1012928.52	100.78	70	120	
Ge	72	H2	938166.23	0.9	900410.75	104.19	70	120	
Ge	72	He	349662.98	0.6	337654.98	103.56	70	120	
In	115	No Gas	5612893.34	2.6	5577796.43	100.63	70	120	
Tb	159	No Gas	7611075.81	2.6	7631930.25	99.73	70	120	
Tb	159	He	5800861.00	0.3	5723538	101.35	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA2602
File Name	H6A19012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 12:01:28
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.498	ppb	34.7	78051.96	0.4	124.5	80	120	> +/- 20%
Be	9	6	No Gas	0.371	ppb	5.2	891.14	0.4	92.75	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	8519.26	0.4	-214.25	80	120	> +/- 20%
Na	23	45	H2	39.283	ppb	4.2	1087461.83	40	98.21	80	120	
Mg	24	45	No Gas	45.536	ppb	2.6	448190.67	40	113.84	80	120	
Al	27	45	No Gas	45.656	ppb	3.5	574196.10	40	114.14	80	120	
K	39	45	He	50.753	ppb	12.0	158623.96	40	126.88	80	120	> +/- 20%
Ca	40	45	H2	50.890	ppb	0.5	775210.71	40	127.22	80	120	> +/- 20%
Ti	47	45	No Gas	0.530	ppb	4.6	1060.04	0.4	132.5	80	120	> +/- 20%
V	51	45	He	0.500	ppb	2.5	5235.00	0.4	125	80	120	> +/- 20%
Cr	52	45	He	0.747	ppb	2.6	7667.48	0.4	186.75	80	120	> +/- 20%
Mn	55	45	No Gas	0.884	ppb	3.2	32879.52	0.4	221	80	120	> +/- 20%
Fe	56	45	H2	47.730	ppb	0.5	768469.65	40	119.32	80	120	
Co	59	45	No Gas	0.436	ppb	0.6	9839.56	0.4	109	80	120	
Ni	60	45	He	0.502	ppb	4.4	1469.41	0.4	125.5	80	120	> +/- 20%
Cu	63	45	He	0.708	ppb	5.0	7545.43	0.4	177	80	120	> +/- 20%
Zn	66	72	No Gas	6.060	ppb	1.8	21539.76	4	151.5	80	120	> +/- 20%
As	75	72	He	0.443	ppb	4.2	699.35	0.4	110.75	80	120	
Se	78	72	H2	0.456	ppb	12.2	219.67	0.4	114	80	120	
Sr	88	72	No Gas	0.444	ppb	6.0	13028.59	0.4	111	80	120	
Mo	95	115	No Gas	0.374	ppb	8.5	2074.61	0.4	93.5	80	120	
Ag	107	115	No Gas	0.442	ppb	2.3	5656.77	0.4	110.5	80	120	
Cd	111	115	No Gas	0.434	ppb	6.2	1137.90	0.4	108.5	80	120	
Sn	118	115	No Gas	0.564	ppb	2.1	5035.42	0.4	141	80	120	> +/- 20%
Sb	123	115	No Gas	0.401	ppb	4.7	3649.40	0.4	100.25	80	120	
Ba	137	115	No Gas	0.472	ppb	7.6	2021.27	0.4	118	80	120	
Tl	205	159	No Gas	0.418	ppb	2.0	8859.82	0.4	104.5	80	120	
Pb	208	159	No Gas	0.447	ppb	4.3	13560.69	0.4	111.75	80	120	
U	238	159	No Gas	0.414	ppb	0.6	11248.50	0.4	103.5	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1277851.86	1.4	1258579.15	101.53	70	120	
Sc	45	No Gas	4566169.50	1.0	4603948.17	99.18	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3534776.00	0.7	3561110.25	99.26	70	120	
Sc	45	He	622158.86	0.8	636135.04	97.8	70	120	
Ge	72	No Gas	983054.56	0.7	1012928.52	97.05	70	120	
Ge	72	H2	883116.38	0.9	900410.75	98.08	70	120	
Ge	72	He	330979.46	1.1	337654.98	98.02	70	120	
In	115	No Gas	5490085.33	0.7	5577796.43	98.43	70	120	
Tb	159	No Gas	7578803.31	1.4	7631930.25	99.3	70	120	
Tb	159	He	5729771.33	0.5	5723538	100.11	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6A19013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A19.b
Acq Time	2023-01-26 12:06:42
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.330	ppb	31.9	73967.98	2	-50	50	
Be	9	6	No Gas	0.002	ppb	204.1	82.22	0.4	-50	50	
B	11	6	No Gas	<0.000	ppb	N/A	7736.58	10	-50	50	
Na	23	45	H2	108594.724	ppb	0.9	469113770.67	100000	80	120	
Mg	24	45	No Gas	105985.697	ppb	0.3	945240938.67	100000	80	120	
Al	27	45	No Gas	106764.244	ppb	1.2	1264583074.49	100000	80	120	
Si	28	45	H2	8.801	ppb	2.5	18740.61	50	-50	50	
P	31	45	No Gas	106948.187	ppb	1.8	81572762.67	100000	80	120	
K	39	45	He	107987.303	ppb	1.0	88059536.00	100000	80	120	
Ca	40	45	H2	107962.006	ppb	1.0	1161334613.33	100000	80	120	
Ti	47	45	No Gas	2189.432	ppb	0.4	3433486.83	2000	80	120	
V	51	45	He	0.043	ppb	12.9	2025.48	1	-50	50	
Cr	52	45	He	2.324	ppb	0.9	18512.49	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.292	ppb	3.3	17606.66	1	-50	50	
Fe	56	45	H2	107918.777	ppb	0.5	1643611008.00	100000	80	120	
Co	59	45	No Gas	0.161	ppb	2.8	4007.26	0.75	-50	50	
Ni	60	45	He	0.509	ppb	4.2	1412.74	1	-50	50	> +/- 20%
Cu	63	45	He	0.075	ppb	20.2	3311.74	2	-50	50	
Zn	66	72	No Gas	6.551	ppb	1.6	23271.93	20	-50	50	
As	75	72	He	0.091	ppb	12.2	267.33	1	-50	50	
Se	78	72	H2	0.111	ppb	17.4	74.67	1	-50	50	
Sr	88	72	No Gas	0.905	ppb	1.1	25223.76	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.176	ppb	11.3	3197.06	10	-50	50	
Mo	95	115	No Gas	2160.082	ppb	0.7	10751852.91	2000	80	120	
Ag	107	115	No Gas	0.080	ppb	6.3	1035.60	0.4	-50	50	
Cd	111	115	No Gas	0.101	ppb	10.5	280.80	1	-50	50	
Sn	118	115	No Gas	0.157	ppb	7.1	1856.80	1	-50	50	
Sb	123	115	No Gas	0.066	ppb	7.7	636.68	1	-50	50	
Ba	137	115	No Gas	0.704	ppb	5.5	2722.51	1	-50	50	> +/- 20%
W	182	159	No Gas	0.175	ppb	6.1	1646.78	1	-50	50	
Hg	201	159	No Gas	0.005	ppb	28.3	29.00	0.5	-50	50	
Hg	201	159	He	0.001	ppb	215.8	20.33	0.5	-50	50	
Tl	205	159	No Gas	0.010	ppb	25.4	892.26	0.5	-50	50	
Pb	208	159	No Gas	0.054	ppb	7.6	2956.81	0.5	-50	50	

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.016	ppb	13.0	644.46	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1227407.02	2.1	1258579.15	97.52	70	120	
Sc	45	No Gas	4464949.67	2.6	4603948.17	96.98	70	120	
Sc	45	H2	3475311.25	1.0	3561110.25	97.59	70	120	
Sc	45	He	590594.31	1.0	636135.04	92.84	70	120	
Ge	72	No Gas	993068.83	2.4	1012928.52	98.04	70	120	
Ge	72	H2	885726.10	0.6	900410.75	98.37	70	120	
Ge	72	He	325379.81	0.4	337654.98	96.36	70	120	
In	115	No Gas	5112778.00	3.1	5577796.43	91.66	70	120	
Tb	159	No Gas	7418765.82	3.0	7631930.25	97.21	70	120	
Tb	159	He	5618678.17	0.7	5723538	98.17	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6A19014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 12:09:19
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	17.751	ppb	1.6	159015.24	20	80	120	
Be	9	6	No Gas	18.540	ppb	1.4	34520.12	20	80	120	
B	11	6	No Gas	15.762	ppb	1.7	28554.57	20	80	120	> +/- 20%
Na	23	45	H2	87222.409	ppb	1.7	351889845.33	100000	80	120	
Mg	24	45	No Gas	87050.979	ppb	2.7	715706986.67	100000	80	120	
Al	27	45	No Gas	88282.234	ppb	1.1	963847345.64	100000	80	120	
Si	28	45	H2	190.333	ppb	1.7	278689.88	200	80	120	
P	31	45	No Gas	95711.474	ppb	2.4	67285016.00	100000	80	120	
K	39	45	He	90057.772	ppb	0.4	73459386.67	100000	80	120	
Ca	40	45	H2	88538.832	ppb	1.1	889116544.00	100000	80	120	
Ti	47	45	No Gas	1857.779	ppb	2.1	2685461.25	2000	80	120	
V	51	45	He	18.161	ppb	0.3	118776.15	20	80	120	
Cr	52	45	He	20.395	ppb	0.6	147223.62	20	80	120	
Mn	55	45	No Gas	18.119	ppb	1.5	420011.34	20	80	120	
Fe	56	45	H2	90375.500	ppb	1.2	1284872405.33	100000	80	120	
Co	59	45	No Gas	18.478	ppb	1.4	348207.14	20	80	120	
Ni	60	45	He	18.732	ppb	0.7	45065.64	20	80	120	
Cu	63	45	He	18.728	ppb	1.3	116821.25	20	80	120	
Zn	66	72	No Gas	22.275	ppb	1.3	67693.21	20	80	120	
As	75	72	He	17.680	ppb	0.6	21416.61	20	80	120	
Se	78	72	H2	18.835	ppb	1.6	7677.52	20	80	120	
Sr	88	72	No Gas	17.982	ppb	1.9	443477.72	20	80	120	
Zr	90	72	No Gas	9.448	ppb	0.6	151056.81	20	80	120	> +/- 20%
Mo	95	115	No Gas	1803.130	ppb	2.4	8405183.28	2000	80	120	
Ag	107	115	No Gas	17.788	ppb	1.8	194996.62	20	80	120	
Cd	111	115	No Gas	18.076	ppb	1.3	39662.40	20	80	120	
Sn	118	115	No Gas	18.729	ppb	2.0	122752.71	20	80	120	
Sb	123	115	No Gas	18.076	ppb	0.9	139423.31	20	80	120	
Ba	137	115	No Gas	18.596	ppb	2.8	63339.69	20	80	120	
W	182	159	No Gas	17.642	ppb	1.0	145843.21	20	80	120	
Hg	201	159	No Gas	1.742	ppb	1.6	2298.38	2	80	120	
Hg	201	159	He	1.769	ppb	0.6	2047.67	2	80	120	
Tl	205	159	No Gas	17.346	ppb	1.6	306167.71	20	80	120	
Pb	208	159	No Gas	17.729	ppb	0.3	430961.35	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	17.432	ppb	1.8	419011.75	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1087518.72	3.3	1258579.15	86.41	70	120	
Sc	45	No Gas	4114762.17	2.0	4603948.17	89.37	70	120	
Sc	45	H2	3244286.75	1.0	3561110.25	91.1	70	120	
Sc	45	He	590569.37	0.4	636135.04	92.84	70	120	
Ge	72	No Gas	933887.48	2.5	1012928.52	92.2	70	120	
Ge	72	H2	852955.06	0.2	900410.75	94.73	70	120	
Ge	72	He	327563.78	0.2	337654.98	97.01	70	120	
In	115	No Gas	4786759.93	1.0	5577796.43	85.82	70	120	
Tb	159	No Gas	6849016.95	2.7	7631930.25	89.74	70	120	
Tb	159	He	5572932.33	0.7	5723538	97.37	70	120	

Sample Report

Sample Name	MRL26403
File Name	H6A19015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 12:11:57
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	0.119	0.119	ppb	288.0	76404.22	50	
Be	9	6	No Gas	0.009	0.009	ppb	31.6	102.22	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	6439.25	100	
Na	23	45	H2	545.078	545.078	ppb	1.0	3312816.50	50000	
Mg	24	45	No Gas	536.910	536.910	ppb	2.3	4942417.33	50000	
Al	27	45	No Gas	533.039	533.039	ppb	3.0	6494822.82	50000	
Si	28	45	H2	3.251	3.251	ppb	7.1	10382.54	5000	
P	31	45	No Gas	6.974	6.974	ppb	55.4	43965.57	500	
K	39	45	He	545.977	545.977	ppb	1.8	585568.81	50000	
Ca	40	45	H2	535.643	535.643	ppb	0.6	6091524.17	50000	
Ti	47	45	No Gas	0.390	0.390	ppb	72.6	833.41	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1758.11	500	
Cr	52	45	He	0.032	0.032	ppb	15.0	2309.53	500	
Mn	55	45	No Gas	0.107	0.107	ppb	8.1	13389.88	3000	
Fe	56	45	H2	554.413	554.413	ppb	0.9	8636590.00	50000	
Co	59	45	No Gas	0.008	0.008	ppb	47.4	901.37	500	
Ni	60	45	He	0.083	0.083	ppb	13.8	414.01	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2754.28	500	
Zn	66	72	No Gas	3.079	3.079	ppb	3.5	12668.58	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	158.33	500	
Se	78	72	H2	0.039	0.039	ppb	36.4	45.00	500	
Sr	88	72	No Gas	0.035	0.035	ppb	6.2	2504.68	500	
Zr	90	72	No Gas	0.009	0.009	ppb	56.9	360.01	50	
Mo	95	115	No Gas	0.339	0.339	ppb	17.4	1897.91	500	
Ag	107	115	No Gas	0.067	0.067	ppb	4.7	948.93	50	
Cd	111	115	No Gas	0.013	0.013	ppb	35.3	80.04	500	
Sn	118	115	No Gas	0.042	0.042	ppb	19.5	1146.72	500	
Sb	123	115	No Gas	0.013	0.013	ppb	25.4	224.45	100	
Ba	137	115	No Gas	0.106	0.106	ppb	3.3	602.23	1000	
W	182	159	No Gas	0.011	0.011	ppb	50.2	176.67	50	
Hg	201	159	No Gas	0.011	0.011	ppb	7.8	39.17	5	
Hg	201	159	He	0.005	0.005	ppb	69.7	25.67	5	
Tl	205	159	No Gas	0.027	0.027	ppb	7.5	1258.95	500	
Pb	208	159	No Gas	0.029	0.029	ppb	14.5	2378.98	500	
U	238	159	No Gas	0.006	0.006	ppb	9.1	406.67	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1290176.13	2.0	1258579.15	102.51	70	120	
Sc	45	No Gas	4577098.50	1.5	4603948.17	99.42	70	120	
Sc	45	H2	3542502.33	0.8	3561110.25	99.48	70	120	
Sc	45	He	624306.88	0.3	636135.04	98.14	70	120	
Ge	72	No Gas	1004319.77	0.9	1012928.52	99.15	70	120	
Ge	72	H2	901169.31	0.4	900410.75	100.08	70	120	
Ge	72	He	333110.82	1.0	337654.98	98.65	70	120	
In	115	No Gas	5541852.27	3.2	5577796.43	99.36	70	120	
Tb	159	No Gas	7640118.31	2.3	7631930.25	100.11	70	120	
Tb	159	He	5757589.17	0.9	5723538	100.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6A19016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 12:14:32
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.543	ppb	2.1	223737.08	25	98.17	90	110	
Be	9	6	No Gas	24.846	ppb	2.1	52948.42	25	99.38	90	110	
B	11	6	No Gas	46.146	ppb	5.2	77334.02	50	92.29	90	110	
Na	23	45	H2	25550.384	ppb	0.6	113670456.00	25000	102.2	90	110	
Mg	24	45	No Gas	25110.007	ppb	2.0	230628336.00	25000	100.44	90	110	
Al	27	45	No Gas	24827.021	ppb	2.2	302852502.15	25000	99.31	90	110	
Si	28	45	H2	2513.880	ppb	0.9	3971133.33	2500	100.56	90	110	
P	31	45	No Gas	246.378	ppb	1.7	232124.25	250	98.55	90	110	
K	39	45	He	26740.762	ppb	6.3	21691795.33	25000	106.96	90	110	
Ca	40	45	H2	24831.801	ppb	0.1	273560576.00	25000	99.33	90	110	
Ti	47	45	No Gas	248.694	ppb	2.2	401791.40	250	99.48	90	110	
V	51	45	He	267.317	ppb	6.3	1708824.00	250	106.93	90	110	
Cr	52	45	He	269.464	ppb	5.5	1904610.29	250	107.79	90	110	
Mn	55	45	No Gas	1509.180	ppb	1.6	38196601.33	1500	100.61	90	110	
Fe	56	45	H2	25372.316	ppb	0.4	395512906.67	25000	101.49	90	110	
Co	59	45	No Gas	251.207	ppb	2.1	5279474.83	250	100.48	90	110	
Ni	60	45	He	274.218	ppb	6.0	651243.61	250	109.69	90	110	
Cu	63	45	He	272.581	ppb	5.6	1647220.33	250	109.03	90	110	
Zn	66	72	No Gas	249.887	ppb	2.6	800142.69	250	99.95	90	110	
As	75	72	He	263.370	ppb	3.6	312936.36	250	105.35	90	110	
Se	78	72	H2	252.710	ppb	0.5	110612.21	250	101.08	90	110	
Sr	88	72	No Gas	250.670	ppb	2.4	6748842.23	250	100.27	90	110	
Zr	90	72	No Gas	24.799	ppb	0.6	433909.67	25	99.2	90	110	
Mo	95	115	No Gas	247.874	ppb	1.6	1286878.63	250	99.15	90	110	
Ag	107	115	No Gas	25.303	ppb	1.8	308881.79	25	101.21	90	110	
Cd	111	115	No Gas	248.792	ppb	0.8	607318.01	250	99.52	90	110	
Sn	118	115	No Gas	247.708	ppb	0.6	1798102.98	250	99.08	90	110	
Sb	123	115	No Gas	49.877	ppb	0.6	428215.12	50	99.75	90	110	
Ba	137	115	No Gas	500.184	ppb	1.6	1892518.61	500	100.04	90	110	
W	182	159	No Gas	25.195	ppb	0.8	230727.17	25	100.78	90	110	
Hg	201	159	No Gas	2.517	ppb	2.1	3666.87	2.5	100.68	90	110	
Hg	201	159	He	2.692	ppb	6.4	3025.86	2.5	107.68	90	110	
Tl	205	159	No Gas	251.986	ppb	1.2	4915812.03	250	100.79	90	110	
Pb	208	159	No Gas	255.302	ppb	1.6	6851786.65	250	102.12	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	254.058	ppb	1.3	6759356.67	250	101.62	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1244792.63	2.1	1258579.15	98.9	70	120	
Sc	45	No Gas	4597089.50	1.3	4603948.17	99.85	70	120	
Sc	45	H2	3556785.42	0.5	3561110.25	99.88	70	120	
Sc	45	He	586660.33	5.7	636135.04	92.22	70	120	
Ge	72	No Gas	1022847.17	0.4	1012928.52	100.98	70	120	
Ge	72	H2	918888.00	0.4	900410.75	102.05	70	120	
Ge	72	He	323873.04	4.0	337654.98	95.92	70	120	
In	115	No Gas	5330881.39	2.5	5577796.43	95.57	70	120	
Tb	159	No Gas	7585811.37	1.9	7631930.25	99.4	70	120	
Tb	159	He	5440714.50	5.3	5723538	95.06	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6A19017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A19.b
Acq Time	2023-01-26 12:17:08
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	74982.17	0.4	
Be	9	6	No Gas	0.008	ppb	86.5	98.89	0.08	
B	11	6	No Gas	0.373	ppb	19.8	10501.70	4	
Na	23	45	H2	0.987	ppb	575.5	911032.65	40	
Mg	24	45	No Gas	3.500	ppb	54.8	64549.56	10	
Al	27	45	No Gas	3.324	ppb	54.3	61017.98	15	
Si	28	45	H2	1.476	ppb	9.5	7513.36	8	
P	31	45	No Gas	<0.000	ppb	N/A	37490.50	10	
K	39	45	He	8.803	ppb	58.5	120854.69	20	
Ca	40	45	H2	1.647	ppb	3.0	234404.54	25	
Ti	47	45	No Gas	0.031	ppb	34.8	260.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1683.44	0.5	
Cr	52	45	He	0.007	ppb	68.4	2084.16	0.2	
Mn	55	45	No Gas	0.239	ppb	42.8	16646.25	0.2	>LOD
Fe	56	45	H2	2.296	ppb	4.1	64086.53	10	
Co	59	45	No Gas	0.025	ppb	61.5	1254.06	0.15	
Ni	60	45	He	0.004	ppb	13.5	209.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2484.23	0.4	
Zn	66	72	No Gas	0.075	ppb	39.9	3187.04	2	
As	75	72	He	<0.000	ppb	N/A	156.67	0.2	
Se	78	72	H2	0.033	ppb	29.6	41.67	0.2	
Sr	88	72	No Gas	0.031	ppb	57.9	2343.55	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	176.67	2	
Mo	95	115	No Gas	0.075	ppb	41.5	478.90	0.2	
Ag	107	115	No Gas	0.006	ppb	40.2	173.33	0.08	
Cd	111	115	No Gas	0.065	ppb	38.7	210.45	0.2	
Sn	118	115	No Gas	0.104	ppb	26.3	1600.10	0.2	
Sb	123	115	No Gas	0.013	ppb	4.5	221.11	0.4	
Ba	137	115	No Gas	0.071	ppb	49.5	460.01	0.2	
W	182	159	No Gas	0.005	ppb	53.2	116.67	0.3	
Hg	201	159	No Gas	0.030	ppb	34.6	65.00	0.1	
Hg	201	159	He	0.013	ppb	0.6	35.00	0.1	
Tl	205	159	No Gas	0.126	ppb	34.6	3149.31	0.1	>LOD
Pb	208	159	No Gas	0.045	ppb	35.9	2764.57	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.037	ppb	36.1	1206.73	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1293552.20	1.1	1258579.15	102.78	70	120	
Sc	45	No Gas	4569302.17	2.1	4603948.17	99.25	70	120	
Sc	45	H2	3503271.75	2.0	3561110.25	98.38	70	120	
Sc	45	He	613096.75	0.9	636135.04	96.38	70	120	
Ge	72	No Gas	982376.67	2.4	1012928.52	96.98	70	120	
Ge	72	H2	883693.25	2.5	900410.75	98.14	70	120	
Ge	72	He	330420.40	1.3	337654.98	97.86	70	120	
In	115	No Gas	5514117.38	2.6	5577796.43	98.86	70	120	
Tb	159	No Gas	7526346.92	0.9	7631930.25	98.62	70	120	
Tb	159	He	5719934.83	1.5	5723538	99.94	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV15
File Name	H6A19155.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 18:49:11
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.671	ppb	1.9	245663.32	25	98.68	90	110	
Be	9	6	No Gas	24.241	ppb	1.5	56517.71	25	96.96	90	110	
B	11	6	No Gas	46.914	ppb	3.5	85816.87	50	93.83	90	110	
Na	23	45	H2	25261.078	ppb	0.3	112305125.33	25000	101.04	90	110	
Mg	24	45	No Gas	25096.168	ppb	1.5	240020480.00	25000	100.38	90	110	
Al	27	45	No Gas	25009.911	ppb	2.0	317674341.93	25000	100.04	90	110	
Si	28	45	H2	2506.429	ppb	0.6	3956062.33	2500	100.26	90	110	
P	31	45	No Gas	269.374	ppb	1.4	260514.57	250	107.75	90	110	
K	39	45	He	25160.968	ppb	0.3	21662838.67	25000	100.64	90	110	
Ca	40	45	H2	24726.985	ppb	0.6	272178997.33	25000	98.91	90	110	
Ti	47	45	No Gas	248.525	ppb	0.7	418094.84	250	99.41	90	110	
V	51	45	He	247.120	ppb	0.8	1676248.13	250	98.85	90	110	
Cr	52	45	He	246.983	ppb	0.5	1851851.54	250	98.79	90	110	
Mn	55	45	No Gas	1489.600	ppb	0.8	39260580.00	1500	99.31	90	110	
Fe	56	45	H2	24867.953	ppb	0.5	387332672.00	25000	99.47	90	110	
Co	59	45	No Gas	245.257	ppb	1.3	5367698.67	250	98.1	90	110	
Ni	60	45	He	248.916	ppb	0.2	627177.40	250	99.57	90	110	
Cu	63	45	He	246.906	ppb	0.6	1582963.00	250	98.76	90	110	
Zn	66	72	No Gas	250.309	ppb	1.1	803345.75	250	100.12	90	110	
As	75	72	He	247.748	ppb	0.4	305547.14	250	99.1	90	110	
Se	78	72	H2	248.065	ppb	0.3	107343.66	250	99.23	90	110	
Sr	88	72	No Gas	253.539	ppb	1.4	6842145.56	250	101.42	90	110	
Zr	90	72	No Gas	25.224	ppb	1.0	442355.59	25	100.9	90	110	
Mo	95	115	No Gas	237.580	ppb	1.6	1300160.68	250	95.03	90	110	
Ag	107	115	No Gas	24.236	ppb	1.1	311818.23	25	96.94	90	110	
Cd	111	115	No Gas	240.779	ppb	0.3	619654.42	250	96.31	90	110	
Sn	118	115	No Gas	240.149	ppb	0.7	1837656.94	250	96.06	90	110	
Sb	123	115	No Gas	48.894	ppb	1.5	442520.76	50	97.79	90	110	
Ba	137	115	No Gas	496.295	ppb	0.5	1979407.07	500	99.26	90	110	
W	182	159	No Gas	24.546	ppb	0.4	233633.11	25	98.18	90	110	
Hg	201	159	No Gas	2.473	ppb	0.4	3746.06	2.5	98.92	90	110	
Hg	201	159	He	2.438	ppb	1.2	2935.51	2.5	97.52	90	110	
Tl	205	159	No Gas	248.762	ppb	2.0	5044776.88	250	99.5	90	110	
Pb	208	159	No Gas	250.917	ppb	1.0	6999887.46	250	100.37	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	247.767	ppb	1.1	6851750.15	250	99.11	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1362025.57	1.4	1258579.15	108.22	70	120	
Sc	45	No Gas	4787603.33	1.7	4603948.17	103.99	70	120	
Sc	45	H2	3553913.50	0.8	3561110.25	99.8	70	120	
Sc	45	He	620976.40	0.2	636135.04	97.62	70	120	
Ge	72	No Gas	1025185.54	1.4	1012928.52	101.21	70	120	
Ge	72	H2	908405.29	0.8	900410.75	100.89	70	120	
Ge	72	He	335837.28	0.9	337654.98	99.46	70	120	
In	115	No Gas	5620067.12	2.5	5577796.43	100.76	70	120	
Tb	159	No Gas	7885050.24	1.5	7631930.25	103.32	70	120	
Tb	159	He	5811074.00	1.1	5723538	101.53	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB15
File Name	H6A19156.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 18:51:49
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	83758.89	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	52.22	0.08	
B	11	6	No Gas	0.202	ppb	160.9	11339.02	4	
Na	23	45	H2	<0.000	ppb	N/A	826285.02	40	
Mg	24	45	No Gas	0.269	ppb	56.5	37411.54	10	
Al	27	45	No Gas	0.119	ppb	62.7	23810.47	15	
Si	28	45	H2	0.781	ppb	28.7	6479.53	8	
P	31	45	No Gas	20.490	ppb	7.4	57726.95	10	>LOD
K	39	45	He	9.398	ppb	68.9	123335.78	20	
Ca	40	45	H2	1.579	ppb	12.6	235454.52	25	
Ti	47	45	No Gas	0.027	ppb	64.0	270.00	0.5	
V	51	45	He	<0.000	ppb	N/A	1596.09	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1579.43	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	11170.56	0.2	
Fe	56	45	H2	0.734	ppb	4.7	40407.58	10	
Co	59	45	No Gas	<0.000	ppb	N/A	571.34	0.15	
Ni	60	45	He	<0.000	ppb	N/A	168.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1396.74	0.4	
Zn	66	72	No Gas	0.034	ppb	45.3	3121.03	2	
As	75	72	He	<0.000	ppb	N/A	156.00	0.2	
Se	78	72	H2	0.032	ppb	66.1	41.00	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1420.08	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	123.33	2	
Mo	95	115	No Gas	0.028	ppb	31.8	234.45	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	71.11	0.08	
Cd	111	115	No Gas	0.017	ppb	15.3	92.82	0.2	
Sn	118	115	No Gas	0.017	ppb	71.8	991.15	0.2	
Sb	123	115	No Gas	0.011	ppb	5.9	216.67	0.4	
Ba	137	115	No Gas	0.026	ppb	52.5	298.89	0.2	
W	182	159	No Gas	0.002	ppb	221.2	100.00	0.3	
Hg	201	159	No Gas	0.015	ppb	18.8	47.00	0.1	
Hg	201	159	He	0.004	ppb	67.9	25.50	0.1	
Tl	205	159	No Gas	0.033	ppb	37.0	1422.31	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1357.81	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.009	ppb	6.8	497.79	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1433188.20	2.2	1258579.15	113.87	70	120	
Sc	45	No Gas	4844327.00	1.9	4603948.17	105.22	70	120	
Sc	45	H2	3530081.33	0.2	3561110.25	99.13	70	120	
Sc	45	He	622971.31	0.7	636135.04	97.93	70	120	
Ge	72	No Gas	1000689.33	1.8	1012928.52	98.79	70	120	
Ge	72	H2	877004.31	0.6	900410.75	97.4	70	120	
Ge	72	He	324894.87	0.2	337654.98	96.22	70	120	
In	115	No Gas	5763381.69	1.3	5577796.43	103.33	70	120	
Tb	159	No Gas	7918814.41	0.9	7631930.25	103.76	70	120	
Tb	159	He	5840521.00	0.3	5723538	102.04	70	120	

Blank Report

Sample Name	IML027WB
File Name	H6A19157.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 18:54:26
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.172	ppb	48.2	75396.67	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	53.33	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	6029.07	4	
Na	23	45	H2	3.102	ppb	327.2	864100.29	40	
Mg	24	45	No Gas	2.281	ppb	12.2	51709.13	10	
Al	27	45	No Gas	1.568	ppb	11.5	38573.86	15	
Si	28	45	H2	3.119	ppb	7.5	9450.54	8	
P	31	45	No Gas	29.729	ppb	4.3	59468.34	10	>1/2LOQ
K	39	45	He	26.307	ppb	40.1	132173.96	20	>1/2LOQ
Ca	40	45	H2	8.707	ppb	4.3	292117.28	25	
Ti	47	45	No Gas	0.196	ppb	71.1	502.69	0.5	
V	51	45	He	<0.000	ppb	N/A	1725.44	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1893.47	0.2	
Mn	55	45	No Gas	0.063	ppb	37.2	11799.76	0.2	
Fe	56	45	H2	1.663	ppb	7.3	51053.05	10	
Co	59	45	No Gas	<0.000	ppb	N/A	411.34	0.15	
Ni	60	45	He	0.008	ppb	170.3	214.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1740.11	0.4	
Zn	66	72	No Gas	0.387	ppb	7.0	4080.61	2	
As	75	72	He	0.007	ppb	147.2	164.67	0.2	
Se	78	72	H2	0.010	ppb	159.1	31.00	0.2	
Sr	88	72	No Gas	0.005	ppb	58.9	1655.66	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	156.67	2	
Mo	95	115	No Gas	0.004	ppb	137.6	94.44	0.2	
Ag	107	115	No Gas	0.007	ppb	28.9	184.45	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	36.54	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	611.13	0.2	
Sb	123	115	No Gas	0.019	ppb	53.2	264.45	0.4	
Ba	137	115	No Gas	0.073	ppb	16.8	456.68	0.2	
W	182	159	No Gas	0.005	ppb	56.3	113.33	0.3	
Hg	201	159	No Gas	0.006	ppb	38.0	29.33	0.1	
Hg	201	159	He	0.001	ppb	108.1	19.67	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	635.57	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1028.90	0.1	

TH 1/27/23

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	128.89	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1267533.15	1.5	1258579.15	100.71	70	120	
Sc	45	No Gas	4407538.33	3.2	4603948.17	95.73	70	120	
Sc	45	H2	3292221.75	3.6	3561110.25	92.45	70	120	
Sc	45	He	597372.10	0.9	636135.04	93.91	70	120	
Ge	72	No Gas	967276.94	1.9	1012928.52	95.49	70	120	
Ge	72	H2	853101.48	2.4	900410.75	94.75	70	120	
Ge	72	He	319308.14	0.6	337654.98	94.57	70	120	
In	115	No Gas	5359674.73	2.1	5577796.43	96.09	70	120	
Tb	159	No Gas	7174636.38	2.6	7631930.25	94.01	70	120	
Tb	159	He	5359060.67	0.7	5723538	93.63	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML027WL
File Name	H6A19158.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 18:57:03
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	30.939	ppb	2.3	289196.30	30	103.13	85	115	
Be	9	6	No Gas	30.207	ppb	0.6	70697.51	30	100.69	83	121	
B	11	6	No Gas	23.993	ppb	0.7	49191.64	30	79.98	85	115	FAIL
Na	23	45	H2	3249.457	ppb	0.3	15236447.33	3000	108.32	85	117	
Mg	24	45	No Gas	3237.590	ppb	1.1	30199955.33	3000	107.92	83	118	
Al	27	45	No Gas	3242.245	ppb	2.2	40165321.90	3000	108.07	84	117	
Si	28	45	H2	2.934	ppb	2.5	9910.20	3000	0.1	85	115	FAIL
P	31	45	No Gas	24.482	ppb	9.0	58729.77	300	8.16	85	115	FAIL
K	39	45	He	3200.926	ppb	0.4	2915688.25	3000	106.7	87	115	
Ca	40	45	H2	3122.550	ppb	0.0	34537714.67	3000	104.08	87	118	
Ti	47	45	No Gas	31.829	ppb	1.3	52337.00	30	106.1	85	115	
V	51	45	He	31.478	ppb	0.8	219607.66	30	104.93	86	115	
Cr	52	45	He	32.243	ppb	0.5	248621.94	30	107.48	85	116	
Mn	55	45	No Gas	31.965	ppb	1.7	831160.94	30	106.55	87	115	
Fe	56	45	H2	3218.172	ppb	0.5	50112701.33	3000	107.27	87	118	
Co	59	45	No Gas	32.791	ppb	1.3	699727.33	30	109.3	86	115	
Ni	60	45	He	31.840	ppb	0.8	82078.71	30	106.13	85	117	
Cu	63	45	He	32.850	ppb	0.8	217650.26	30	109.5	85	118	
Zn	66	72	No Gas	65.324	ppb	1.3	211793.03	60	108.87	83	119	
As	75	72	He	31.353	ppb	0.3	39342.47	30	104.51	84	116	
Se	78	72	H2	31.973	ppb	1.5	13861.12	30	106.58	80	120	
Sr	88	72	No Gas	32.103	ppb	0.9	867527.05	30	107.01	85	115	
Zr	90	72	No Gas	0.014	ppb	22.8	466.68	30	0.05	85	115	FAIL
Mo	95	115	No Gas	29.105	ppb	1.2	161881.07	30	97.02	85	115	
Ag	107	115	No Gas	31.054	ppb	1.4	405936.94	30	103.51	85	117	
Cd	111	115	No Gas	30.293	ppb	1.9	79216.69	30	100.98	87	115	
Sn	118	115	No Gas	30.849	ppb	1.5	240562.90	30	102.83	85	115	
Sb	123	115	No Gas	30.179	ppb	1.7	277510.96	30	100.6	85	117	
Ba	137	115	No Gas	30.009	ppb	1.5	121773.90	30	100.03	86	114	
W	182	159	No Gas	0.004	ppb	63.8	110.00	30	0.01	85	115	FAIL
Hg	201	159	No Gas	<0.000	ppb	N/A	22.83	2.5	0	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	16.00	2.5	-0.16	82	119	FAIL
Tl	205	159	No Gas	31.718	ppb	1.0	630638.29	30	105.73	82	116	
Pb	208	159	No Gas	31.862	ppb	0.8	871830.05	30	106.21	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	30.542	ppb	1.2	827678.61	30	101.81	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1367992.03	6.0	1258579.15	108.69	70	120	
Sc	45	No Gas	4664307.50	4.2	4603948.17	101.31	70	120	
Sc	45	H2	3551210.67	0.5	3561110.25	99.72	70	120	
Sc	45	He	633917.69	0.4	636135.04	99.65	70	120	
Ge	72	No Gas	1024812.79	3.7	1012928.52	101.17	70	120	
Ge	72	H2	908454.85	0.6	900410.75	100.89	70	120	
Ge	72	He	340435.56	0.5	337654.98	100.82	70	120	
In	115	No Gas	5711955.90	5.7	5577796.43	102.41	70	120	
Tb	159	No Gas	7722597.19	4.9	7631930.25	101.19	70	120	
Tb	159	He	5850242.00	0.7	5723538	102.21	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML027WC
File Name	H6A19159.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 18:59:40
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	30.462	ppb	1.5	275578.73	30	101.54	85	115	
Be	9	6	No Gas	30.477	ppb	1.1	68747.84	30	101.59	83	121	
B	11	6	No Gas	25.222	ppb	3.2	49327.75	30	84.07	85	115	FAIL
Na	23	45	H2	3242.563	ppb	1.5	15085500.33	3000	108.09	85	117	
Mg	24	45	No Gas	3162.303	ppb	1.7	28911098.67	3000	105.41	83	118	
Al	27	45	No Gas	3137.705	ppb	2.1	38052431.93	3000	104.59	84	117	
Si	28	45	H2	6.823	ppb	2.0	15909.09	3000	0.23	85	115	FAIL
P	31	45	No Gas	26.801	ppb	18.9	59242.61	300	8.93	85	115	FAIL
K	39	45	He	3210.995	ppb	7.2	2922093.17	3000	107.03	87	115	
Ca	40	45	H2	3145.482	ppb	0.8	34512466.67	3000	104.85	87	118	
Ti	47	45	No Gas	31.209	ppb	0.9	50301.51	30	104.03	85	115	
V	51	45	He	31.068	ppb	7.6	216524.76	30	103.56	86	115	
Cr	52	45	He	32.140	ppb	8.0	247509.97	30	107.13	85	116	
Mn	55	45	No Gas	30.730	ppb	0.3	783875.29	30	102.43	87	115	
Fe	56	45	H2	3213.528	ppb	0.9	49641986.67	3000	107.12	87	118	
Co	59	45	No Gas	31.782	ppb	0.2	664784.40	30	105.94	86	115	
Ni	60	45	He	31.589	ppb	7.3	81353.90	30	105.3	85	117	
Cu	63	45	He	32.896	ppb	8.5	217628.44	30	109.65	85	118	
Zn	66	72	No Gas	65.345	ppb	1.4	205639.52	60	108.91	83	119	
As	75	72	He	31.310	ppb	4.4	39022.89	30	104.37	84	116	
Se	78	72	H2	32.233	ppb	1.2	13923.84	30	107.44	80	120	
Sr	88	72	No Gas	31.693	ppb	2.4	831845.85	30	105.64	85	115	
Zr	90	72	No Gas	0.013	ppb	27.5	440.01	30	0.04	85	115	FAIL
Mo	95	115	No Gas	29.123	ppb	0.3	155538.63	30	97.08	85	115	
Ag	107	115	No Gas	31.080	ppb	1.6	390202.46	30	103.6	85	117	
Cd	111	115	No Gas	30.623	ppb	1.2	76887.45	30	102.08	87	115	
Sn	118	115	No Gas	30.948	ppb	0.6	231753.59	30	103.16	85	115	
Sb	123	115	No Gas	30.394	ppb	1.0	268316.03	30	101.31	85	117	
Ba	137	115	No Gas	30.513	ppb	0.5	118870.56	30	101.71	86	114	
W	182	159	No Gas	0.001	ppb	184.9	86.67	30	0	85	115	FAIL
Hg	201	159	No Gas	0.000	ppb	287.0	22.83	2.5	0	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	14.67	2.5	-0.2	82	119	FAIL
Tl	205	159	No Gas	31.426	ppb	0.9	599743.24	30	104.75	82	116	
Pb	208	159	No Gas	32.043	ppb	0.2	841674.68	30	106.81	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	30.283	ppb	1.7	787927.05	30	100.94	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1318537.10	6.4	1258579.15	104.76	70	120	
Sc	45	No Gas	4571403.17	6.6	4603948.17	99.29	70	120	
Sc	45	H2	3522807.08	1.0	3561110.25	98.92	70	120	
Sc	45	He	635482.06	7.1	636135.04	99.9	70	120	
Ge	72	No Gas	994909.29	4.2	1012928.52	98.22	70	120	
Ge	72	H2	905275.15	0.8	900410.75	100.54	70	120	
Ge	72	He	338566.93	4.4	337654.98	100.27	70	120	
In	115	No Gas	5482018.95	5.6	5577796.43	98.28	70	120	
Tb	159	No Gas	7411979.71	6.7	7631930.25	97.12	70	120	
Tb	159	He	5819828.83	6.5	5723538	101.68	70	120	

Sample Report

Sample Name	L226-06I
File Name	H6A19160.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:02:16
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	374.085	37.408	ppb	1.5	322524.74	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	72.22	50	
B	11	6	No Gas	2056.956	205.696	ppb	1.4	331898.82	100	>LDR
Na	23	45	H2	1629569.107	162956.911	ppb	0.1	713469930.67	50000	>LDR
Mg	24	45	No Gas	62033.487	6203.349	ppb	2.3	57616552.00	50000	
Al	27	45	No Gas	10.724	1.072	ppb	8.5	34606.47	50000	
Si	28	45	H2	13043.703	1304.370	ppb	0.6	2044280.25	5000	
P	31	45	No Gas	405.312	40.531	ppb	3.1	71298.66	500	
K	39	45	He	9129.648	912.965	ppb	1.1	895339.44	50000	
Ca	40	45	H2	107937.861	10793.786	ppb	0.5	117945648.00	50000	
Ti	47	45	No Gas	1.553	0.155	ppb	21.0	468.01	500	
V	51	45	He	0.480	0.048	ppb	12.6	2160.84	500	
Cr	52	45	He	0.034	0.003	ppb	111.0	2080.82	500	
Mn	55	45	No Gas	529.118	52.912	ppb	1.9	1364242.25	3000	
Fe	56	45	H2	25205.847	2520.585	ppb	1.1	38957502.67	50000	
Co	59	45	No Gas	0.155	0.015	ppb	13.1	1074.71	500	
Ni	60	45	He	0.747	0.075	ppb	17.7	390.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1564.09	500	
Zn	66	72	No Gas	133.160	13.316	ppb	2.3	44829.86	500	
As	75	72	He	29.979	2.998	ppb	0.5	3860.55	500	
Se	78	72	H2	0.425	0.042	ppb	46.0	46.67	500	
Sr	88	72	No Gas	3054.848	305.485	ppb	2.6	8093829.96	500	
Zr	90	72	No Gas	0.303	0.030	ppb	11.4	733.36	50	
Mo	95	115	No Gas	46.919	4.692	ppb	6.1	24276.53	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	81.11	50	
Cd	111	115	No Gas	0.021	0.002	ppb	101.3	50.41	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	756.69	500	
Sb	123	115	No Gas	0.297	0.030	ppb	21.9	353.34	100	
Ba	137	115	No Gas	78.279	7.828	ppb	6.8	29599.22	1000	
W	182	159	No Gas	0.392	0.039	ppb	45.4	426.68	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	19.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	15.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	461.12	500	
Pb	208	159	No Gas	1.083	0.108	ppb	8.3	4467.00	500	
U	238	159	No Gas	2.946	0.295	ppb	10.8	8004.84	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1326393.13	2.8	1258579.15	105.39	70	120	
Sc	45	No Gas	4648463.83	2.4	4603948.17	100.97	70	120	
Sc	45	H2	3524329.42	0.8	3561110.25	98.97	70	120	
Sc	45	He	619993.65	0.6	636135.04	97.46	70	120	
Ge	72	No Gas	1006997.36	2.7	1012928.52	99.41	70	120	
Ge	72	H2	902449.27	0.3	900410.75	100.23	70	120	
Ge	72	He	335922.50	0.6	337654.98	99.49	70	120	
In	115	No Gas	5311163.93	6.2	5577796.43	95.22	70	120	
Tb	159	No Gas	7563282.48	7.5	7631930.25	99.1	70	120	
Tb	159	He	5737735.50	0.6	5723538	100.25	70	120	

Sample Report

Sample Name	L226-07I
File Name	H6A19161.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:04:54
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	427.345	42.735	ppb	0.5	360105.12	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	63.33	50	
B	11	6	No Gas	1920.348	192.035	ppb	2.3	312908.48	100	>LDR
Na	23	45	H2	2239903.547	223990.355	ppb	0.5	983916672.00	50000	>LDR
Mg	24	45	No Gas	93397.007	9339.701	ppb	1.1	88682336.00	50000	
Al	27	45	No Gas	8.583	0.858	ppb	7.5	32698.52	50000	
Si	28	45	H2	1479.887	147.989	ppb	0.4	237444.85	5000	
P	31	45	No Gas	244.777	24.478	ppb	1.9	59873.98	500	
K	39	45	He	15617.793	1561.779	ppb	0.7	1387264.33	50000	
Ca	40	45	H2	26485.259	2648.526	ppb	0.6	29212362.67	50000	
Ti	47	45	No Gas	0.666	0.067	ppb	18.1	330.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1594.76	500	
Cr	52	45	He	0.232	0.023	ppb	74.5	2130.83	500	
Mn	55	45	No Gas	69.039	6.904	ppb	1.2	191652.88	3000	
Fe	56	45	H2	6619.785	661.979	ppb	0.1	10290747.67	50000	
Co	59	45	No Gas	0.002	0.000	ppb	518.6	768.02	500	
Ni	60	45	He	0.570	0.057	ppb	29.4	330.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1495.41	500	
Zn	66	72	No Gas	39.729	3.973	ppb	3.0	15771.17	500	
As	75	72	He	3.008	0.301	ppb	2.6	517.68	500	
Se	78	72	H2	0.230	0.023	ppb	61.8	38.00	500	
Sr	88	72	No Gas	2007.902	200.790	ppb	0.9	5411869.51	500	
Zr	90	72	No Gas	0.020	0.002	ppb	78.8	250.00	50	
Mo	95	115	No Gas	20.950	2.095	ppb	0.6	11152.45	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	68.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	42.19	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	762.25	500	
Sb	123	115	No Gas	0.428	0.043	ppb	6.2	477.79	100	
Ba	137	115	No Gas	7.163	0.716	ppb	4.5	2941.45	1000	
W	182	159	No Gas	0.200	0.020	ppb	13.6	263.33	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.00	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	400.01	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1087.80	500	
U	238	159	No Gas	0.723	0.072	ppb	2.7	2189.09	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1336422.91	1.3	1258579.15	106.19	70	120	
Sc	45	No Gas	4751874.17	1.2	4603948.17	103.21	70	120	
Sc	45	H2	3537187.42	0.2	3561110.25	99.33	70	120	
Sc	45	He	593191.23	2.5	636135.04	93.25	70	120	
Ge	72	No Gas	1023895.67	1.3	1012928.52	101.08	70	120	
Ge	72	H2	895280.10	0.6	900410.75	99.43	70	120	
Ge	72	He	325096.80	1.0	337654.98	96.28	70	120	
In	115	No Gas	5430012.17	2.1	5577796.43	97.35	70	120	
Tb	159	No Gas	7697349.69	1.2	7631930.25	100.86	70	120	
Tb	159	He	5397773.00	2.5	5723538	94.31	70	120	

Sample Report

Sample Name	L226-08I
File Name	H6A19162.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:07:31
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	113.567	11.357	ppb	5.7	144887.94	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	61.11	50	
B	11	6	No Gas	373.763	37.376	ppb	8.8	65138.38	100	
Na	23	45	H2	230680.290	23068.029	ppb	1.1	102578504.00	50000	
Mg	24	45	No Gas	7283.770	728.377	ppb	6.7	6295728.17	50000	
Al	27	45	No Gas	6.522	0.652	ppb	32.6	27243.48	50000	
Si	28	45	H2	11571.469	1157.147	ppb	0.7	1828353.75	5000	
P	31	45	No Gas	315.156	31.516	ppb	29.8	59192.45	500	
K	39	45	He	5680.959	568.096	ppb	3.0	609730.65	50000	
Ca	40	45	H2	34680.690	3468.069	ppb	1.2	38342750.67	50000	
Ti	47	45	No Gas	1.183	0.118	ppb	26.2	376.01	500	
V	51	45	He	18.366	1.837	ppb	3.2	14481.64	500	
Cr	52	45	He	81.459	8.146	ppb	1.1	63947.37	500	
Mn	55	45	No Gas	13.992	1.399	ppb	9.7	43181.48	3000	
Fe	56	45	H2	306.348	30.635	ppb	0.3	506123.92	50000	
Co	59	45	No Gas	1.314	0.131	ppb	7.4	3278.40	500	
Ni	60	45	He	31.744	3.174	ppb	1.5	8313.20	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2703.60	500	
Zn	66	72	No Gas	6.248	0.625	ppb	6.7	4868.88	500	
As	75	72	He	19.003	1.900	ppb	0.9	2556.58	500	
Se	78	72	H2	1.055	0.106	ppb	9.2	74.67	500	
Sr	88	72	No Gas	532.705	53.271	ppb	5.9	1375632.65	500	
Zr	90	72	No Gas	0.009	0.001	ppb	405.1	220.00	50	
Mo	95	115	No Gas	14.136	1.414	ppb	8.3	7188.62	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	58.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	34.39	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	564.46	500	
Sb	123	115	No Gas	0.154	0.015	ppb	26.7	226.67	100	
Ba	137	115	No Gas	125.583	12.558	ppb	7.4	46247.86	1000	
W	182	159	No Gas	5.399	0.540	ppb	4.9	4684.22	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.00	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	16.33	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	352.23	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	854.45	500	
U	238	159	No Gas	4.956	0.496	ppb	6.3	12517.54	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1265594.94	10.9	1258579.15	100.56	70	120	
Sc	45	No Gas	4326638.83	11.4	4603948.17	93.98	70	120	
Sc	45	H2	3552182.92	1.0	3561110.25	99.75	70	120	
Sc	45	He	629684.23	1.0	636135.04	98.99	70	120	
Ge	72	No Gas	983206.79	9.2	1012928.52	97.07	70	120	
Ge	72	H2	913978.23	0.9	900410.75	101.51	70	120	
Ge	72	He	342532.57	0.3	337654.98	101.44	70	120	
In	115	No Gas	5199886.87	12.0	5577796.43	93.22	70	120	
Tb	159	No Gas	7107189.02	13.0	7631930.25	93.12	70	120	
Tb	159	He	5850095.00	0.5	5723538	102.21	70	120	

Sample Report

Sample Name	L226-09I
File Name	H6A19163.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:10:07
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	108.884	10.888	ppb	1.9	140612.21	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	42.22	50	
B	11	6	No Gas	353.590	35.359	ppb	3.6	61793.18	100	
Na	23	45	H2	234102.553	23410.255	ppb	0.5	103225589.33	50000	
Mg	24	45	No Gas	7028.879	702.888	ppb	1.3	6169644.33	50000	
Al	27	45	No Gas	4.749	0.475	ppb	4.7	25637.07	50000	
Si	28	45	H2	11715.038	1171.504	ppb	0.4	1835603.92	5000	
P	31	45	No Gas	312.869	31.287	ppb	6.8	60157.23	500	
K	39	45	He	5756.292	575.629	ppb	1.1	613646.52	50000	
Ca	40	45	H2	35201.202	3520.120	ppb	0.1	38593149.33	50000	
Ti	47	45	No Gas	1.112	0.111	ppb	28.2	372.67	500	
V	51	45	He	19.433	1.943	ppb	0.9	15149.03	500	
Cr	52	45	He	92.270	9.227	ppb	1.0	71843.61	500	
Mn	55	45	No Gas	13.380	1.338	ppb	2.1	42404.94	3000	
Fe	56	45	H2	382.792	38.279	ppb	0.4	619919.52	50000	
Co	59	45	No Gas	1.242	0.124	ppb	1.9	3185.04	500	
Ni	60	45	He	33.398	3.340	ppb	1.0	8697.44	500	
Cu	63	45	He	0.204	0.020	ppb	33.7	3160.37	500	
Zn	66	72	No Gas	5.623	0.562	ppb	5.5	4689.48	500	
As	75	72	He	19.537	1.954	ppb	4.3	2617.26	500	
Se	78	72	H2	0.924	0.092	ppb	29.5	69.00	500	
Sr	88	72	No Gas	516.395	51.640	ppb	1.0	1338125.54	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	170.00	50	
Mo	95	115	No Gas	13.407	1.341	ppb	2.1	6909.58	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	66.67	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	27.55	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	446.68	500	
Sb	123	115	No Gas	0.135	0.014	ppb	7.1	214.45	100	
Ba	137	115	No Gas	122.501	12.250	ppb	2.9	45709.21	1000	
W	182	159	No Gas	5.049	0.505	ppb	4.8	4390.77	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	16.50	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	12.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	342.23	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	891.12	500	
U	238	159	No Gas	4.848	0.485	ppb	3.8	12275.07	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1251535.89	0.6	1258579.15	99.44	70	120	
Sc	45	No Gas	4373290.50	3.1	4603948.17	94.99	70	120	
Sc	45	H2	3522550.08	0.2	3561110.25	98.92	70	120	
Sc	45	He	626898.60	0.3	636135.04	98.55	70	120	
Ge	72	No Gas	983708.88	3.0	1012928.52	97.12	70	120	
Ge	72	H2	914009.18	1.0	900410.75	101.51	70	120	
Ge	72	He	341762.23	0.7	337654.98	101.22	70	120	
In	115	No Gas	5239279.73	2.8	5577796.43	93.93	70	120	
Tb	159	No Gas	7099338.88	4.2	7631930.25	93.02	70	120	
Tb	159	He	5836173.50	0.6	5723538	101.97	70	120	

Sample Report

Sample Name	L226-10l
File Name	H6A19164.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:12:44
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	105.759	10.576	ppb	1.9	137911.31	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	46.67	50	
B	11	6	No Gas	342.051	34.205	ppb	1.4	59756.77	100	
Na	23	45	H2	228846.212	22884.621	ppb	0.7	94150048.00	50000	
Mg	24	45	No Gas	6969.253	696.925	ppb	1.4	6063039.83	50000	
Al	27	45	No Gas	5.475	0.548	ppb	14.3	26231.47	50000	
Si	28	45	H2	11929.105	1192.911	ppb	1.3	1743429.17	5000	
P	31	45	No Gas	325.198	32.520	ppb	3.2	60543.59	500	
K	39	45	He	5888.327	588.833	ppb	5.9	611756.04	50000	
Ca	40	45	H2	35143.995	3514.400	ppb	1.3	35942340.00	50000	
Ti	47	45	No Gas	0.976	0.098	ppb	16.7	348.67	500	
V	51	45	He	19.257	1.926	ppb	1.1	14723.24	500	
Cr	52	45	He	83.287	8.329	ppb	0.7	63738.53	500	
Mn	55	45	No Gas	12.105	1.210	ppb	0.5	38982.13	3000	
Fe	56	45	H2	318.541	31.854	ppb	0.6	485770.85	50000	
Co	59	45	No Gas	1.071	0.107	ppb	2.7	2816.29	500	
Ni	60	45	He	31.240	3.124	ppb	4.1	7977.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2830.96	500	
Zn	66	72	No Gas	6.467	0.647	ppb	5.6	4984.92	500	
As	75	72	He	20.304	2.030	ppb	5.1	2694.27	500	
Se	78	72	H2	1.153	0.115	ppb	19.9	74.33	500	
Sr	88	72	No Gas	512.494	51.249	ppb	0.7	1338496.44	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	160.00	50	
Mo	95	115	No Gas	12.869	1.287	ppb	1.9	6563.85	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	64.45	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	27.73	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	450.01	500	
Sb	123	115	No Gas	0.116	0.012	ppb	12.8	195.56	100	
Ba	137	115	No Gas	120.840	12.084	ppb	1.1	44616.46	1000	
W	182	159	No Gas	4.762	0.476	ppb	2.5	4137.36	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	16.17	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.00	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	326.67	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	881.12	500	
U	238	159	No Gas	4.619	0.462	ppb	2.3	11682.25	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1244672.52	1.4	1258579.15	98.9	70	120	
Sc	45	No Gas	4333061.33	1.1	4603948.17	94.12	70	120	
Sc	45	H2	3286055.42	0.9	3561110.25	92.28	70	120	
Sc	45	He	614274.54	3.7	636135.04	96.56	70	120	
Ge	72	No Gas	991443.19	2.0	1012928.52	97.88	70	120	
Ge	72	H2	861551.23	1.3	900410.75	95.68	70	120	
Ge	72	He	339579.27	2.8	337654.98	100.57	70	120	
In	115	No Gas	5181726.90	2.6	5577796.43	92.9	70	120	
Tb	159	No Gas	7077969.30	2.2	7631930.25	92.74	70	120	
Tb	159	He	5676280.50	3.7	5723538	99.17	70	120	

Sample Report

Sample Name	L226-11I
File Name	H6A19165.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:15:21
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	219.308	21.931	ppb	2.4	229745.30	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	48.89	50	
B	11	6	No Gas	507.879	50.788	ppb	0.3	93022.24	100	
Na	23	45	H2	407760.320	40776.032	ppb	1.4	179813541.33	50000	
Mg	24	45	No Gas	2028.358	202.836	ppb	1.4	1969341.42	50000	
Al	27	45	No Gas	9.208	0.921	ppb	9.5	33644.06	50000	
Si	28	45	H2	12233.816	1223.382	ppb	1.6	1924037.58	5000	
P	31	45	No Gas	236.231	23.623	ppb	4.1	59478.29	500	
K	39	45	He	6860.406	686.041	ppb	0.6	699266.29	50000	
Ca	40	45	H2	28203.669	2820.367	ppb	0.6	31086114.00	50000	
Ti	47	45	No Gas	0.888	0.089	ppb	21.2	369.34	500	
V	51	45	He	21.322	2.132	ppb	0.8	16213.58	500	
Cr	52	45	He	68.828	6.883	ppb	0.1	53367.58	500	
Mn	55	45	No Gas	32.711	3.271	ppb	1.7	97120.79	3000	
Fe	56	45	H2	803.323	80.332	ppb	0.5	1274093.58	50000	
Co	59	45	No Gas	4.080	0.408	ppb	1.7	9671.43	500	
Ni	60	45	He	55.097	5.510	ppb	1.8	14017.87	500	
Cu	63	45	He	5.094	0.509	ppb	4.4	6232.10	500	
Zn	66	72	No Gas	7.317	0.732	ppb	8.0	5527.13	500	
As	75	72	He	17.779	1.778	ppb	0.9	2394.21	500	
Se	78	72	H2	0.389	0.039	ppb	45.0	45.67	500	
Sr	88	72	No Gas	655.909	65.591	ppb	1.3	1804000.97	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	130.00	50	
Mo	95	115	No Gas	13.677	1.368	ppb	4.2	7594.39	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	67.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	26.18	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	616.68	500	
Sb	123	115	No Gas	0.129	0.013	ppb	24.6	225.56	100	
Ba	137	115	No Gas	114.016	11.402	ppb	1.2	45883.10	1000	
W	182	159	No Gas	4.380	0.438	ppb	0.8	4210.71	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	17.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	12.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	368.89	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	975.57	500	
U	238	159	No Gas	2.664	0.266	ppb	1.0	7544.55	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1376906.41	2.2	1258579.15	109.4	70	120	
Sc	45	No Gas	4776732.33	2.7	4603948.17	103.75	70	120	
Sc	45	H2	3536478.58	1.0	3561110.25	99.31	70	120	
Sc	45	He	618197.23	0.2	636135.04	97.18	70	120	
Ge	72	No Gas	1044389.58	2.0	1012928.52	103.11	70	120	
Ge	72	H2	913974.29	0.1	900410.75	101.51	70	120	
Ge	72	He	341355.24	1.0	337654.98	101.1	70	120	
In	115	No Gas	5648844.63	3.4	5577796.43	101.27	70	120	
Tb	159	No Gas	7817669.69	2.5	7631930.25	102.43	70	120	
Tb	159	He	5810784.33	0.9	5723538	101.52	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV16
File Name	H6A19166.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:17:57
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.209	ppb	1.5	222287.31	25	96.84	90	110	
Be	9	6	No Gas	25.079	ppb	3.2	53593.11	25	100.32	90	110	
B	11	6	No Gas	48.660	ppb	4.2	81221.02	50	97.32	90	110	
Na	23	45	H2	25119.734	ppb	1.1	104964552.00	25000	100.48	90	110	
Mg	24	45	No Gas	25119.881	ppb	1.8	218787200.00	25000	100.48	90	110	
Al	27	45	No Gas	24987.667	ppb	2.2	289008622.36	25000	99.95	90	110	
Si	28	45	H2	2560.915	ppb	1.2	3798936.33	2500	102.44	90	110	
P	31	45	No Gas	302.209	ppb	2.0	261681.04	250	120.88	90	110	> +/- 10%
K	39	45	He	25530.456	ppb	1.7	20422178.67	25000	102.12	90	110	
Ca	40	45	H2	24766.847	ppb	1.7	256223765.33	25000	99.07	90	110	
Ti	47	45	No Gas	247.973	ppb	1.5	379922.66	250	99.19	90	110	
V	51	45	He	249.035	ppb	0.8	1569624.75	250	99.61	90	110	
Cr	52	45	He	247.814	ppb	0.8	1726517.00	250	99.13	90	110	
Mn	55	45	No Gas	1489.928	ppb	1.7	35762374.67	1500	99.33	90	110	
Fe	56	45	H2	24758.533	ppb	1.2	362452245.33	25000	99.03	90	110	
Co	59	45	No Gas	249.724	ppb	1.7	4976416.67	250	99.89	90	110	
Ni	60	45	He	249.003	ppb	1.9	582951.92	250	99.6	90	110	
Cu	63	45	He	249.464	ppb	1.9	1486011.88	250	99.79	90	110	
Zn	66	72	No Gas	254.798	ppb	2.1	771380.44	250	101.92	90	110	
As	75	72	He	265.707	ppb	0.8	314871.97	250	106.28	90	110	
Se	78	72	H2	269.117	ppb	1.4	109538.73	250	107.65	90	110	
Sr	88	72	No Gas	247.422	ppb	4.0	6297627.81	250	98.97	90	110	
Zr	90	72	No Gas	24.483	ppb	3.0	404995.71	25	97.93	90	110	
Mo	95	115	No Gas	237.322	ppb	4.4	1193701.20	250	94.93	90	110	
Ag	107	115	No Gas	24.335	ppb	3.7	287968.72	25	97.34	90	110	
Cd	111	115	No Gas	246.400	ppb	4.7	582830.46	250	98.56	90	110	
Sn	118	115	No Gas	243.836	ppb	4.3	1715181.18	250	97.53	90	110	
Sb	123	115	No Gas	49.711	ppb	4.0	413652.70	50	99.42	90	110	
Ba	137	115	No Gas	496.814	ppb	4.6	1821695.76	500	99.36	90	110	
W	182	159	No Gas	24.586	ppb	5.9	213751.64	25	98.34	90	110	
Hg	201	159	No Gas	2.517	ppb	6.2	3481.82	2.5	100.68	90	110	
Hg	201	159	He	2.507	ppb	1.0	2754.30	2.5	100.28	90	110	
Tl	205	159	No Gas	247.312	ppb	7.0	4580344.26	250	98.92	90	110	
Pb	208	159	No Gas	247.874	ppb	6.3	6316355.22	250	99.15	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	240.938	ppb	5.1	6087469.48	250	96.38	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1248489.62	2.0	1258579.15	99.2	70	120	
Sc	45	No Gas	4360087.17	1.9	4603948.17	94.7	70	120	
Sc	45	H2	3340323.67	0.7	3561110.25	93.8	70	120	
Sc	45	He	577043.77	1.1	636135.04	90.71	70	120	
Ge	72	No Gas	967390.83	1.8	1012928.52	95.5	70	120	
Ge	72	H2	854571.02	1.0	900410.75	94.91	70	120	
Ge	72	He	322706.35	0.8	337654.98	95.57	70	120	
In	115	No Gas	5171093.56	4.3	5577796.43	92.71	70	120	
Tb	159	No Gas	7216819.99	5.3	7631930.25	94.56	70	120	
Tb	159	He	5303209.00	1.7	5723538	92.66	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB16
File Name	H6A19167.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A19.b
Acq Time	2023-01-26 19:20:34
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.111	ppb	196.4	75236.90	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	52.22	0.08	
B	11	6	No Gas	0.513	ppb	40.6	10526.17	4	
Na	23	45	H2	6.308	ppb	41.4	862695.67	40	
Mg	24	45	No Gas	0.287	ppb	129.6	34044.28	10	
Al	27	45	No Gas	0.340	ppb	70.6	24141.15	15	
Si	28	45	H2	0.710	ppb	32.9	5834.57	8	
P	31	45	No Gas	28.866	ppb	8.3	58629.32	10	>LOD
K	39	45	He	10.732	ppb	62.8	125112.62	20	
Ca	40	45	H2	1.465	ppb	5.7	214583.16	25	
Ti	47	45	No Gas	0.046	ppb	7.2	274.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1584.76	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1683.44	0.2	
Mn	55	45	No Gas	0.044	ppb	75.0	11320.03	0.2	
Fe	56	45	H2	1.072	ppb	3.9	41815.13	10	
Co	59	45	No Gas	<0.000	ppb	N/A	686.02	0.15	
Ni	60	45	He	<0.000	ppb	N/A	182.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1395.41	0.4	
Zn	66	72	No Gas	0.034	ppb	99.3	2932.99	2	
As	75	72	He	0.006	ppb	239.2	167.33	0.2	
Se	78	72	H2	0.042	ppb	34.4	42.33	0.2	
Sr	88	72	No Gas	0.001	ppb	798.9	1496.75	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.023	ppb	44.6	192.23	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	68.89	0.08	
Cd	111	115	No Gas	0.017	ppb	27.9	84.73	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	708.91	0.2	
Sb	123	115	No Gas	0.015	ppb	10.2	225.56	0.4	
Ba	137	115	No Gas	0.023	ppb	25.5	261.12	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	70.00	0.3	
Hg	201	159	No Gas	0.012	ppb	27.1	38.00	0.1	
Hg	201	159	He	0.002	ppb	89.4	22.67	0.1	
Tl	205	159	No Gas	0.035	ppb	46.6	1315.63	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1134.47	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.013	ppb	20.5	535.57	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1271239.96	2.0	1258579.15	101.01	70	120	
Sc	45	No Gas	4394284.33	2.8	4603948.17	95.45	70	120	
Sc	45	H2	3234394.00	1.0	3561110.25	90.83	70	120	
Sc	45	He	626846.54	7.8	636135.04	98.54	70	120	
Ge	72	No Gas	940837.15	1.8	1012928.52	92.88	70	120	
Ge	72	H2	827091.91	1.2	900410.75	91.86	70	120	
Ge	72	He	327751.91	8.7	337654.98	97.07	70	120	
In	115	No Gas	5238834.42	3.3	5577796.43	93.92	70	120	
Tb	159	No Gas	7173273.05	2.1	7631930.25	93.99	70	120	
Tb	159	He	5830305.67	8.7	5723538	101.87	70	120	

Sample Report

Sample Name	L226-13I
File Name	H6A19169.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:25:48
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	111.430	11.143	ppb	4.3	142272.13	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	48.89	50	
B	11	6	No Gas	581.225	58.122	ppb	6.3	95387.20	100	
Na	23	45	H2	225072.679	22507.268	ppb	1.9	95490013.33	50000	
Mg	24	45	No Gas	13224.060	1322.406	ppb	5.3	11370155.33	50000	
Al	27	45	No Gas	104.968	10.497	ppb	5.8	139311.30	50000	
Si	28	45	H2	17020.398	1702.040	ppb	1.7	2561585.67	5000	
P	31	45	No Gas	342.352	34.235	ppb	5.3	61290.26	500	
K	39	45	He	6741.519	674.152	ppb	1.9	690922.87	50000	
Ca	40	45	H2	56999.642	5699.964	ppb	0.4	59970417.33	50000	
Ti	47	45	No Gas	4.543	0.454	ppb	5.5	884.70	500	
V	51	45	He	15.659	1.566	ppb	1.4	12426.30	500	
Cr	52	45	He	23.061	2.306	ppb	3.0	19295.57	500	
Mn	55	45	No Gas	95.387	9.539	ppb	5.3	235442.27	3000	
Fe	56	45	H2	181.614	18.161	ppb	0.8	297520.32	50000	
Co	59	45	No Gas	0.073	0.007	ppb	63.9	831.36	500	
Ni	60	45	He	1.328	0.133	ppb	9.3	536.68	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1933.47	500	
Zn	66	72	No Gas	7.965	0.797	ppb	1.6	5409.74	500	
As	75	72	He	4.876	0.488	ppb	2.4	773.02	500	
Se	78	72	H2	4.605	0.461	ppb	7.3	222.00	500	
Sr	88	72	No Gas	761.534	76.153	ppb	5.5	1971691.73	500	
Zr	90	72	No Gas	0.183	0.018	ppb	10.5	516.68	50	
Mo	95	115	No Gas	12.599	1.260	ppb	6.8	6510.48	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	46.67	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	43.72	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	496.68	500	
Sb	123	115	No Gas	0.472	0.047	ppb	21.9	496.68	100	
Ba	137	115	No Gas	74.076	7.408	ppb	7.9	27749.60	1000	
W	182	159	No Gas	2.337	0.234	ppb	6.3	2090.18	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.17	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	14.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	430.01	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1412.26	500	
U	238	159	No Gas	5.116	0.512	ppb	10.5	13039.17	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1252706.11	2.3	1258579.15	99.53	70	120	
Sc	45	No Gas	4298037.17	3.5	4603948.17	93.36	70	120	
Sc	45	H2	3387502.83	3.8	3561110.25	95.12	70	120	
Sc	45	He	619822.69	0.3	636135.04	97.44	70	120	
Ge	72	No Gas	984541.94	3.9	1012928.52	97.2	70	120	
Ge	72	H2	886392.27	3.0	900410.75	98.44	70	120	
Ge	72	He	339323.44	0.6	337654.98	100.49	70	120	
In	115	No Gas	5262597.96	6.5	5577796.43	94.35	70	120	
Tb	159	No Gas	7174962.77	6.3	7631930.25	94.01	70	120	
Tb	159	He	5711382.00	2.5	5723538	99.79	70	120	

Sample Report

Sample Name	L226-14I
File Name	H6A19170.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:28:25
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	143.718	14.372	ppb	4.0	161644.58	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	60.00	50	
B	11	6	No Gas	558.591	55.859	ppb	4.6	91756.23	100	
Na	23	45	H2	294890.481	29489.048	ppb	2.6	128527949.33	50000	
Mg	24	45	No Gas	7361.568	736.157	ppb	3.7	6457747.00	50000	
Al	27	45	No Gas	996.993	99.699	ppb	3.4	1176176.86	50000	
Si	28	45	H2	15159.243	1515.924	ppb	1.7	2350786.42	5000	
P	31	45	No Gas	468.231	46.823	ppb	4.5	71760.80	500	
K	39	45	He	7590.007	759.001	ppb	0.6	764564.04	50000	
Ca	40	45	H2	52964.523	5296.452	ppb	0.8	57403130.67	50000	
Ti	47	45	No Gas	26.257	2.626	ppb	2.9	4233.32	500	
V	51	45	He	20.326	2.033	ppb	0.3	15604.87	500	
Cr	52	45	He	26.973	2.697	ppb	0.7	22250.03	500	
Mn	55	45	No Gas	191.483	19.148	ppb	4.9	470760.37	3000	
Fe	56	45	H2	1870.475	187.048	ppb	0.5	2888612.17	50000	
Co	59	45	No Gas	2.350	0.235	ppb	5.6	5395.07	500	
Ni	60	45	He	26.073	2.607	ppb	2.3	6767.01	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2772.95	500	
Zn	66	72	No Gas	14.769	1.477	ppb	2.4	7518.09	500	
As	75	72	He	10.739	1.074	ppb	2.8	1502.75	500	
Se	78	72	H2	0.785	0.078	ppb	11.1	62.00	500	
Sr	88	72	No Gas	964.932	96.493	ppb	2.4	2507510.32	500	
Zr	90	72	No Gas	1.542	0.154	ppb	5.9	2810.30	50	
Mo	95	115	No Gas	18.366	1.837	ppb	5.3	9426.67	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	76.67	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	33.63	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	513.34	500	
Sb	123	115	No Gas	0.249	0.025	ppb	12.7	310.00	100	
Ba	137	115	No Gas	102.274	10.227	ppb	4.9	38147.06	1000	
W	182	159	No Gas	2.587	0.259	ppb	3.9	2333.56	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	16.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	12.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	428.90	500	
Pb	208	159	No Gas	1.461	0.146	ppb	7.6	5253.78	500	
U	238	159	No Gas	6.536	0.654	ppb	2.9	16823.77	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1248136.54	1.4	1258579.15	99.17	70	120	
Sc	45	No Gas	4373050.00	2.5	4603948.17	94.98	70	120	
Sc	45	H2	3488987.58	1.4	3561110.25	97.97	70	120	
Sc	45	He	620708.79	0.5	636135.04	97.58	70	120	
Ge	72	No Gas	986943.00	0.6	1012928.52	97.43	70	120	
Ge	72	H2	901493.79	2.4	900410.75	100.12	70	120	
Ge	72	He	339215.60	0.7	337654.98	100.46	70	120	
In	115	No Gas	5235081.86	2.4	5577796.43	93.86	70	120	
Tb	159	No Gas	7245489.71	2.4	7631930.25	94.94	70	120	
Tb	159	He	5824423.00	0.6	5723538	101.76	70	120	

Sample Report

Sample Name	L226-15I
File Name	H6A19171.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:31:03
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	144.432	14.443	ppb	1.0	160479.12	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	41.11	50	
B	11	6	No Gas	436.567	43.657	ppb	2.4	73084.10	100	
Na	23	45	H2	183309.112	18330.911	ppb	0.3	75685034.67	50000	
Mg	24	45	No Gas	1554.745	155.475	ppb	0.9	1382956.08	50000	
Al	27	45	No Gas	54.496	5.450	ppb	2.0	82953.47	50000	
Si	28	45	H2	12863.510	1286.351	ppb	0.8	1882138.08	5000	
P	31	45	No Gas	317.984	31.798	ppb	4.8	60276.38	500	
K	39	45	He	5865.342	586.534	ppb	1.3	579026.00	50000	
Ca	40	45	H2	23921.923	2392.192	ppb	1.4	24562392.67	50000	
Ti	47	45	No Gas	2.412	0.241	ppb	7.4	569.34	500	
V	51	45	He	17.954	1.795	ppb	2.4	13138.29	500	
Cr	52	45	He	16.963	1.696	ppb	2.0	13849.67	500	
Mn	55	45	No Gas	12.958	1.296	ppb	0.9	41208.02	3000	
Fe	56	45	H2	113.303	11.330	ppb	2.0	190446.06	50000	
Co	59	45	No Gas	0.049	0.005	ppb	57.1	794.69	500	
Ni	60	45	He	6.165	0.617	ppb	5.7	1647.43	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1734.11	500	
Zn	66	72	No Gas	8.191	0.819	ppb	0.9	5501.79	500	
As	75	72	He	12.339	1.234	ppb	2.9	1631.76	500	
Se	78	72	H2	0.780	0.078	ppb	16.7	59.33	500	
Sr	88	72	No Gas	517.892	51.789	ppb	1.2	1348574.29	500	
Zr	90	72	No Gas	0.052	0.005	ppb	37.1	296.67	50	
Mo	95	115	No Gas	10.468	1.047	ppb	2.2	5471.12	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	42.22	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	24.33	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	498.90	500	
Sb	123	115	No Gas	0.162	0.016	ppb	31.7	238.89	100	
Ba	137	115	No Gas	96.329	9.633	ppb	0.7	36386.40	1000	
W	182	159	No Gas	4.835	0.484	ppb	4.8	4197.38	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	18.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	381.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1114.47	500	
U	238	159	No Gas	4.556	0.456	ppb	3.9	11522.10	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1235470.36	1.8	1258579.15	98.16	70	120	
Sc	45	No Gas	4353264.33	2.5	4603948.17	94.56	70	120	
Sc	45	H2	3290379.25	0.9	3561110.25	92.4	70	120	
Sc	45	He	582589.48	0.4	636135.04	91.58	70	120	
Ge	72	No Gas	988449.83	2.1	1012928.52	97.58	70	120	
Ge	72	H2	864423.71	0.7	900410.75	96	70	120	
Ge	72	He	325210.57	0.1	337654.98	96.31	70	120	
In	115	No Gas	5296594.72	1.2	5577796.43	94.96	70	120	
Tb	159	No Gas	7074406.11	1.2	7631930.25	92.69	70	120	
Tb	159	He	5332799.17	0.5	5723538	93.17	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV17
File Name	H6A19172.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A19.b
Acq Time	2023-01-26 19:33:38
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.297	ppb	1.6	245929.28	25	101.19	90	110	
Be	9	6	No Gas	24.537	ppb	3.9	56261.02	25	98.15	90	110	
B	11	6	No Gas	46.997	ppb	1.1	84587.28	50	93.99	90	110	
Na	23	45	H2	25380.402	ppb	0.8	111545624.00	25000	101.52	90	110	
Mg	24	45	No Gas	25966.263	ppb	5.4	240556346.67	25000	103.87	90	110	
Al	27	45	No Gas	25983.980	ppb	6.4	319572868.57	25000	103.94	90	110	
Si	28	45	H2	2516.563	ppb	1.0	3926899.83	2500	100.66	90	110	
P	31	45	No Gas	277.921	ppb	5.9	259172.53	250	111.17	90	110	> +/- 10%
K	39	45	He	25159.929	ppb	0.3	21343459.33	25000	100.64	90	110	
Ca	40	45	H2	24712.402	ppb	0.9	268926805.33	25000	98.85	90	110	
Ti	47	45	No Gas	254.553	ppb	5.1	414863.05	250	101.82	90	110	
V	51	45	He	247.292	ppb	1.3	1652649.54	250	98.92	90	110	
Cr	52	45	He	247.828	ppb	1.6	1830715.88	250	99.13	90	110	
Mn	55	45	No Gas	1535.185	ppb	6.0	39183885.33	1500	102.35	90	110	
Fe	56	45	H2	24946.937	ppb	0.2	384165248.00	25000	99.79	90	110	
Co	59	45	No Gas	251.500	ppb	6.4	5329226.33	250	100.6	90	110	
Ni	60	45	He	249.916	ppb	1.5	620394.15	250	99.97	90	110	
Cu	63	45	He	250.431	ppb	1.9	1581765.62	250	100.17	90	110	
Zn	66	72	No Gas	253.623	ppb	4.5	795438.92	250	101.45	90	110	
As	75	72	He	246.374	ppb	0.3	300469.85	250	98.55	90	110	
Se	78	72	H2	250.251	ppb	1.0	106644.88	250	100.1	90	110	
Sr	88	72	No Gas	260.381	ppb	4.6	6866396.26	250	104.15	90	110	
Zr	90	72	No Gas	25.515	ppb	4.7	437281.00	25	102.06	90	110	
Mo	95	115	No Gas	245.258	ppb	5.0	1296305.36	250	98.1	90	110	
Ag	107	115	No Gas	24.892	ppb	5.1	309357.52	25	99.57	90	110	
Cd	111	115	No Gas	248.008	ppb	4.9	616459.70	250	99.2	90	110	
Sn	118	115	No Gas	249.414	ppb	4.8	1843731.39	250	99.77	90	110	
Sb	123	115	No Gas	49.680	ppb	4.9	434357.72	50	99.36	90	110	
Ba	137	115	No Gas	510.395	ppb	4.4	1966717.91	500	102.08	90	110	
W	182	159	No Gas	25.239	ppb	4.2	233225.88	25	100.96	90	110	
Hg	201	159	No Gas	2.535	ppb	3.1	3729.06	2.5	101.4	90	110	
Hg	201	159	He	2.486	ppb	0.3	2977.19	2.5	99.44	90	110	
Tl	205	159	No Gas	257.989	ppb	4.8	5077318.41	250	103.2	90	110	
Pb	208	159	No Gas	258.527	ppb	4.9	6999678.29	250	103.41	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	257.234	ppb	5.2	6902642.37	250	102.89	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1341103.50	4.5	1258579.15	106.56	70	120	
Sc	45	No Gas	4648837.33	6.7	4603948.17	100.98	70	120	
Sc	45	H2	3513572.25	0.8	3561110.25	98.67	70	120	
Sc	45	He	611854.12	0.9	636135.04	96.18	70	120	
Ge	72	No Gas	1003821.42	6.2	1012928.52	99.1	70	120	
Ge	72	H2	894671.31	0.8	900410.75	99.36	70	120	
Ge	72	He	332093.27	0.3	337654.98	98.35	70	120	
In	115	No Gas	5439144.11	6.1	5577796.43	97.51	70	120	
Tb	159	No Gas	7668041.36	6.0	7631930.25	100.47	70	120	
Tb	159	He	5780480.17	0.5	5723538	100.99	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB17
File Name	H6A19173.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:36:15
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	74781.27	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	42.22	0.08	
B	11	6	No Gas	0.365	ppb	53.9	10451.67	4	
Na	23	45	H2	<0.000	ppb	N/A	824592.21	40	
Mg	24	45	No Gas	0.035	ppb	523.5	31929.20	10	
Al	27	45	No Gas	0.178	ppb	67.6	22314.66	15	
Si	28	45	H2	2.131	ppb	106.2	8132.52	8	
P	31	45	No Gas	29.704	ppb	4.5	59363.18	10	>LOD
K	39	45	He	8.939	ppb	85.9	122209.38	20	
Ca	40	45	H2	1.096	ppb	26.6	220814.01	25	
Ti	47	45	No Gas	0.040	ppb	34.2	264.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1556.75	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1576.09	0.2	
Mn	55	45	No Gas	0.035	ppb	31.0	11114.52	0.2	
Fe	56	45	H2	0.893	ppb	6.2	41119.06	10	
Co	59	45	No Gas	<0.000	ppb	N/A	653.35	0.15	
Ni	60	45	He	<0.000	ppb	N/A	151.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1368.07	0.4	
Zn	66	72	No Gas	0.013	ppb	104.9	2913.65	2	
As	75	72	He	<0.000	ppb	N/A	150.33	0.2	
Se	78	72	H2	0.027	ppb	15.3	37.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1387.85	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	196.67	2	
Mo	95	115	No Gas	0.022	ppb	19.3	187.78	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	66.67	0.08	
Cd	111	115	No Gas	0.016	ppb	24.4	85.22	0.2	
Sn	118	115	No Gas	0.003	ppb	20.8	815.58	0.2	
Sb	123	115	No Gas	0.010	ppb	30.9	190.00	0.4	
Ba	137	115	No Gas	0.031	ppb	46.0	295.56	0.2	
W	182	159	No Gas	0.003	ppb	91.0	100.00	0.3	
Hg	201	159	No Gas	0.014	ppb	19.9	41.17	0.1	
Hg	201	159	He	0.003	ppb	207.3	24.00	0.1	
Tl	205	159	No Gas	0.030	ppb	54.8	1238.96	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1152.24	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.012	ppb	16.8	520.01	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1288691.06	2.3	1258579.15	102.39	70	120	
Sc	45	No Gas	4400325.17	1.5	4603948.17	95.58	70	120	
Sc	45	H2	3387706.00	5.1	3561110.25	95.13	70	120	
Sc	45	He	619351.54	0.1	636135.04	97.36	70	120	
Ge	72	No Gas	954538.67	1.5	1012928.52	94.24	70	120	
Ge	72	H2	853385.65	2.4	900410.75	94.78	70	120	
Ge	72	He	323106.38	1.0	337654.98	95.69	70	120	
In	115	No Gas	5328133.54	1.7	5577796.43	95.52	70	120	
Tb	159	No Gas	7235591.38	2.3	7631930.25	94.81	70	120	
Tb	159	He	5829992.33	1.1	5723538	101.86	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A19174.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:38:50
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.357	ppb	69.5	81824.34	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	50.00	0.4	-50	50	
B	11	6	No Gas	0.378	ppb	79.5	11000.98	10	-50	50	
Na	23	45	H2	102047.432	ppb	1.0	442480714.67	100000	80	120	
Mg	24	45	No Gas	98522.518	ppb	1.2	933696682.67	100000	80	120	
Al	27	45	No Gas	100776.982	ppb	1.2	1268634541.09	100000	80	120	
Si	28	45	H2	4.192	ppb	18.0	11688.00	50	-50	50	
P	31	45	No Gas	98614.556	ppb	1.6	79941581.33	100000	80	120	
K	39	45	He	97100.164	ppb	1.8	82946018.67	100000	80	120	
Ca	40	45	H2	100738.047	ppb	0.7	1087585749.33	100000	80	120	
Ti	47	45	No Gas	2035.986	ppb	0.4	3392640.00	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1658.77	1	-50	50	
Cr	52	45	He	1.970	ppb	1.9	16747.56	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.197	ppb	7.6	16206.26	1	-50	50	
Fe	56	45	H2	100119.489	ppb	0.7	1530337877.33	100000	80	120	
Co	59	45	No Gas	0.140	ppb	0.9	3795.20	0.75	-50	50	
Ni	60	45	He	0.402	ppb	4.0	1210.05	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	1984.14	2	-50	50	
Zn	66	72	No Gas	3.341	ppb	2.6	13617.50	20	-50	50	
As	75	72	He	0.054	ppb	14.9	227.00	1	-50	50	
Se	78	72	H2	0.090	ppb	21.4	65.00	1	-50	50	
Sr	88	72	No Gas	0.833	ppb	2.1	23826.75	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.161	ppb	6.1	2997.02	10	-50	50	
Mo	95	115	No Gas	2013.579	ppb	6.7	10426507.09	2000	80	120	
Ag	107	115	No Gas	0.075	ppb	13.5	1013.37	0.4	-50	50	
Cd	111	115	No Gas	0.054	ppb	42.2	176.32	1	-50	50	
Sn	118	115	No Gas	0.084	ppb	21.1	1401.19	1	-50	50	
Sb	123	115	No Gas	0.068	ppb	1.4	683.35	1	-50	50	
Ba	137	115	No Gas	0.595	ppb	5.7	2422.45	1	-50	50	> +/- 20%
W	182	159	No Gas	0.148	ppb	10.6	1440.09	1	-50	50	
Hg	201	159	No Gas	0.002	ppb	98.7	26.17	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	18.33	0.5	-50	50	
Tl	205	159	No Gas	0.005	ppb	229.7	817.81	0.5	-50	50	
Pb	208	159	No Gas	0.017	ppb	6.4	2076.74	0.5	-50	50	

TH 1/27/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.015	ppb	10.3	651.13	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1355061.73	2.9	1258579.15	107.67	70	120	
Sc	45	No Gas	4744360.50	2.2	4603948.17	103.05	70	120	
Sc	45	H2	3487931.50	1.1	3561110.25	97.95	70	120	
Sc	45	He	618709.64	2.2	636135.04	97.26	70	120	
Ge	72	No Gas	1013876.94	1.2	1012928.52	100.09	70	120	
Ge	72	H2	874171.88	0.5	900410.75	97.09	70	120	
Ge	72	He	331178.15	0.5	337654.98	98.08	70	120	
In	115	No Gas	5329750.01	5.7	5577796.43	95.55	70	120	
Tb	159	No Gas	7685631.64	5.4	7631930.25	100.7	70	120	
Tb	159	He	5854749.50	0.8	5723538	102.29	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A19175.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A19.b
Acq Time	2023-01-26 19:41:27
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A19003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	18.167	ppb	2.2	198037.77	20	80	120	
Be	9	6	No Gas	17.769	ppb	3.3	40654.23	20	80	120	
B	11	6	No Gas	13.842	ppb	2.1	32053.19	20	80	120	> +/- 20%
Na	23	45	H2	91903.625	ppb	2.1	393750656.00	100000	80	120	
Mg	24	45	No Gas	87494.331	ppb	2.5	830537130.67	100000	80	120	
Al	27	45	No Gas	88150.813	ppb	2.4	1111370970.10	100000	80	120	
Si	28	45	H2	192.620	ppb	1.1	299504.14	200	80	120	
P	31	45	No Gas	88384.327	ppb	1.6	71749472.00	100000	80	120	
K	39	45	He	90260.355	ppb	0.8	73584338.67	100000	80	120	
Ca	40	45	H2	90215.640	ppb	1.3	962218666.67	100000	80	120	
Ti	47	45	No Gas	1836.982	ppb	2.6	3066102.17	2000	80	120	
V	51	45	He	18.038	ppb	1.5	117924.21	20	80	120	
Cr	52	45	He	20.155	ppb	0.8	145439.45	20	80	120	
Mn	55	45	No Gas	17.688	ppb	1.5	473661.57	20	80	120	
Fe	56	45	H2	89880.567	ppb	0.7	1357248896.00	100000	80	120	
Co	59	45	No Gas	17.579	ppb	2.5	382577.56	20	80	120	
Ni	60	45	He	18.331	ppb	1.5	44080.40	20	80	120	
Cu	63	45	He	18.221	ppb	1.6	113672.83	20	80	120	
Zn	66	72	No Gas	21.764	ppb	1.3	72481.68	20	80	120	
As	75	72	He	17.650	ppb	0.5	21120.15	20	80	120	
Se	78	72	H2	18.258	ppb	2.6	7637.16	20	80	120	
Sr	88	72	No Gas	18.339	ppb	2.6	495230.78	20	80	120	
Zr	90	72	No Gas	9.404	ppb	1.8	164668.27	20	80	120	> +/- 20%
Mo	95	115	No Gas	1792.486	ppb	1.1	9380296.57	2000	80	120	
Ag	107	115	No Gas	17.513	ppb	1.1	215526.18	20	80	120	
Cd	111	115	No Gas	17.630	ppb	1.2	43427.25	20	80	120	
Sn	118	115	No Gas	18.896	ppb	0.8	139005.03	20	80	120	
Sb	123	115	No Gas	17.576	ppb	0.4	152187.82	20	80	120	
Ba	137	115	No Gas	18.926	ppb	0.8	72358.60	20	80	120	
W	182	159	No Gas	17.574	ppb	0.9	166178.23	20	80	120	
Hg	201	159	No Gas	1.733	ppb	1.2	2613.77	2	80	120	
Hg	201	159	He	1.720	ppb	1.4	2048.00	2	80	120	
Tl	205	159	No Gas	17.505	ppb	2.7	353283.14	20	80	120	
Pb	208	159	No Gas	17.866	ppb	2.0	496630.37	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	18.009	ppb	1.7	494970.52	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1335675.51	1.5	1258579.15	106.13	70	120	
Sc	45	No Gas	4751109.33	1.6	4603948.17	103.2	70	120	
Sc	45	H2	3445800.50	1.0	3561110.25	96.76	70	120	
Sc	45	He	590280.04	0.9	636135.04	92.79	70	120	
Ge	72	No Gas	1022652.21	1.7	1012928.52	100.96	70	120	
Ge	72	H2	875199.32	0.4	900410.75	97.2	70	120	
Ge	72	He	323568.35	0.2	337654.98	95.83	70	120	
In	115	No Gas	5373833.48	2.2	5577796.43	96.34	70	120	
Tb	159	No Gas	7833290.24	3.8	7631930.25	102.64	70	120	
Tb	159	He	5732325.17	1.3	5723538	100.15	70	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/27/23 11:47

End Date: 1/27/23 22:40

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

Micropipette ID: CU2761702
CU270533
BU2781098

see analytical sequence

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	IH6A20
Analytical Sequence:	H6A20
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☐ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ S42761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B27-0302	MRL1	SM6B-269502
S1	0401	MRL2	9601
S2	0402	MRL3	9602
S3	0501	MRL4	NA
S4	0502	MRL5	
S5	0601	MRL6	
S6	NA	Internal Standard	SM6B-26-6701
S7		Post-Spike 1	SM6A-2302-03
ICV	SM6B-2671-01	Post-Spike 2	0201
CCV	SM6B-27-0602	Post-Spike 3	NA
ICSA	0202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.	9701		

Analyzed By: TH

Date: 1/27/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A20
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A20009				H6A20014			H6A20015		
DateAnalyed :		01/27/2312:10				01/27/2312:40			01/27/2312:42		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.62	30	2.5	92	0.13411	0	>0	19.848	20	99
Beryllium		29.57	30	2.2	99	0.0044071	0	<0.1	21.313	20	107
Boron		27.09	30	3.8	90	0.63629	0	<5.0	19.895	20	99
Sodium	T	30720	30000	1.0	102	103450	100000	103	99080	100000	99
Magnesium	T	30090	30000	2.1	100	101400	100000	101	98221	100000	98
Aluminum		30900	30000	1.8	103	101670	100000	102	99109	100000	99
Silicon		3117	3000	1.2	104	4.0018	0	<20	210.08	200	105
Phosphorus		289.6	300	0.4	97	100240	100000	100	106070	100000	106
Potassium	T	31090	30000	0.3	104	104060	100000	104	98949	100000	99
Calcium	T	30520	30000	0.3	102	104210	100000	104	98716	100000	99
Titanium		303.4	300	0.6	101	2137.9	2000	107	2107.4	2000	105
Vanadium		308.1	300	0.6	103	0.019985	0	<0.5	20.230	20	101
Chromium		311.2	300	0.4	104	2.2085	0	>0.2	22.635	20	113
Manganese		1998	2000	1.4	100	0.27875	0	>0.2	20.335	20	102
Iron		30590	30000	1.0	102	103360	100000	103	99015	100000	99
Cobalt		306.1	300	0.8	102	0.16465	0	<0.2	20.667	20	103
Nickel		309.0	300	0.2	103	0.46084	0	>0.2	20.610	20	103
Copper		321.9	300	0.2	107	0.10340	0	<0.5	20.445	20	102
Zinc		303.8	300	1.7	101	3.4310	0	<10	23.826	20	119
Arsenic		299.6	300	1.0	100	0.082905	0	<0.2	20.130	20	101
Selenium		294.8	300	0.5	98	0.074479	0	<0.3	20.144	20	101
Strontium		304.8	300	1.8	102	0.85088	0	<1.0	21.276	20	106
Zirconium		30.26	30	1.5	101	0.19573	0	<2.0	19.731	20	99
Molybdenum		300.7	300	1.6	100	2117.5	2000	106	2147.2	2000	107
Silver		30.22	30	1.5	101	0.081665	0	<0.2	21.053	20	105
Cadmium		299.1	300	1.1	100	0.027711	0	<0.2	21.786	20	109
Tin		303.8	300	1.1	101	0.10367	0	<0.2	21.420	20	107
Antimony		56.62	60	1.2	94	0.062409	0	<0.5	20.797	20	104
Barium		300.0	300	1.2	100	0.61134	0	>0.5	22.064	20	110
Tungsten		30.26	30	0.8	101	0.16035	0	<1.0	19.636	20	98
Mercury		2.810	3	3.2	94	0.0051740	0	<0.1	1.9783	2	99
Thallium		298.3	300	2.0	99	0.0072965	0	<0.2	20.235	20	101
Lead		301.6	300	2.2	101	0.043422	0	<0.1	20.495	20	102
Uranium		302.2	300	2.0	101	0.017328	0	<0.1	20.757	20	104

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A20
Instrument ID: H6

CCV SampleID		: CCV1				CCV8			CCV9		
CCV DataFileID		: H6A20017				H6A20089			H6A20101		
CCV DateTime		: 01/27/23 12:48				01/27/23 16:50			01/27/23 17:21		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.9	99	2.6	24.7	99	4.8	24.1	96	2.7
Beryllium		25	25.2	101	3.6	25.2	101	3.1	23.5	94	2.3
Boron		50	48.0	96	6.9	60.3	121*	3.8	46.4	93	4.2
Sodium	T	25000	25200	101	1.0	24900	99	0.7	25200	101	0.3
Magnesium	T	25000	25100	100	0.7	25700	103	6.6	25100	100	1.3
Aluminum		25000	25400	102	2.4	25300	101	5.8	24900	100	1.2
Silicon		2500	2560	102	1.1	2520	101	1.2	2490	99	0.1
Phosphorus		250	257	103	6.1	276	110	5.4	244	97	0.5
Potassium	T	25000	25600	103	1.0	25100	101	1.4	24900	100	0.6
Calcium	T	25000	25400	102	1.1	24300	97	1.0	24700	99	0.3
Titanium		250	254	102	1.9	251	101	6.1	245	98	0.6
Vanadium		250	259	104	0.7	246	99	0.3	249	100	0.7
Chromium		250	259	104	1.6	247	99	1.2	250	100	0.7
Manganese		1500	1530	102	1.2	1520	101	6.5	1480	98	1.0
Iron		25000	25500	102	0.8	24700	99	2.1	24800	99	0.4
Cobalt		250	259	104	1.6	256	102	6.4	245	98	0.8
Nickel		250	265	106	0.7	252	101	1.0	254	102	0.4
Copper		250	263	105	0.7	253	101	0.9	254	102	0.4
Zinc		250	254	102	1.4	255	102	4.6	244	97	0.2
Arsenic		250	251	101	1.0	261	105	1.5	245	98	0.6
Selenium		250	253	101	1.4	262	105	1.0	246	98	0.8
Strontium		250	253	101	0.8	255	102	3.8	251	101	1.0
Zirconium		25	24.8	99	1.2	25.3	101	3.4	24.4	97	0.8
Molybdenum		250	256	102	1.6	251	100	3.3	240	96	0.9
Silver		25	26.3	105	0.6	25.6	102	3.3	24.3	97	1.1
Cadmium		250	258	103	1.1	257	103	3.4	244	98	0.9
Tin		250	252	101	0.4	255	102	4.7	243	97	1.0
Antimony		50	51.5	103	1.1	51.7	103	4.0	48.5	97	0.3
Barium		500	512	102	0.9	515	103	4.2	495	99	1.1
Tungsten		25	25.3	101	1.5	25.0	100	4.2	24.7	99	1.0
Mercury		2.5	2.57	103	2.9	2.55	102	4.3	2.48	99	0.4
Thallium		250	253	101	0.6	249	100	4.6	250	100	2.0
Lead		250	255	102	1.5	252	101	5.4	249	100	0.6
Uranium		250	252	101	1.7	247	99	5.9	253	101	1.1

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A
Sequence : IH6A20
Instrument ID: H6

		CB SampleID	CB DataFileID	CB DateTime
		: ICB	: H6A20010	: 01/27/2312:13
		CCB1	H6A20018	01/27/2312:50
		CCB8	H6A20090	01/27/2316:52
		CCB9	H6A20102	01/27/2317:24

PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.09	>0	0.2	>0	0.07	>0	0.07	>0
Beryllium		0.1	0.008	<0.1	0.004	<0.1	0.001	<0.1	0.008	<0.1
Boron		5.0	0.8	<5.0	0.8	<5.0	7	>5.0	3	<5.0
Sodium	T	50	40	<50	10	<50	10	<50	6	<50
Magnesium	T	20	0.3	<20	1	<20	0.09	<20	1	<20
Aluminum		20	1.0	<20	2	<20	0.3	<20	2	<20
Silicon		20	0.8	<20	0.5	<20	0.1	<20	0.06	<20
Phosphorus		25	0.3	<25	2	<25	8	<25	0.4	<25
Potassium	T	25	40	>25	4	<25	3	<25	5	<25
Calcium	T	60	10	<60	10	<60	3	<60	0.7	<60
Titanium		0.5	0.01	<0.5	0.03	<0.5	0.03	<0.5	0.06	<0.5
Vanadium		0.5	0.03	<0.5	0.03	<0.5	0.02	<0.5	0.04	<0.5
Chromium		0.2	0.09	<0.2	0.005	<0.2	0.03	<0.2	0.05	<0.2
Manganese		0.2	0.3	>0.2	0.3	>0.2	0.1	<0.2	0.08	<0.2
Iron		10	1	<10	1	<10	0.09	<10	2	<10
Cobalt		0.2	0.01	<0.2	0.01	<0.2	0.006	<0.2	0.006	<0.2
Nickel		0.2	0.04	<0.2	0.02	<0.2	0.04	<0.2	0.03	<0.2
Copper		0.5	0.2	<0.5	0.1	<0.5	0.3	<0.5	0.3	<0.5
Zinc		10	0.8	<10	0.8	<10	0.06	<10	0.05	<10
Arsenic		0.2	0.05	<0.2	0.02	<0.2	0.009	<0.2	0.03	<0.2
Selenium		0.3	0.07	<0.3	0.04	<0.3	0.01	<0.3	0.04	<0.3
Strontium		1.0	0.01	<1.0	0.02	<1.0	0.008	<1.0	0.01	<1.0
Zirconium		2.0	0.005	<2.0	0.007	<2.0	0.01	<2.0	0.01	<2.0
Molybdenum		0.5	0.05	<0.5	0.06	<0.5	0.03	<0.5	0.09	<0.5
Silver		0.2	0.003	<0.2	0.002	<0.2	0.0007	<0.2	0.003	<0.2
Cadmium		0.2	0.05	<0.2	0.03	<0.2	0.02	<0.2	0.02	<0.2
Tin		0.2	0.2	<0.2	0.1	<0.2	0.006	<0.2	0.04	<0.2
Antimony		0.5	0.007	<0.5	0.010	<0.5	0.009	<0.5	0.01	<0.5
Barium		0.5	0.01	<0.5	0.03	<0.5	0.003	<0.5	0.009	<0.5
Tungsten		1.0	0.005	<1.0	0.007	<1.0	0.001	<1.0	0.001	<1.0
Mercury		0.1	0.03	<0.1	0.03	<0.1	0.01	<0.1	0.02	<0.1
Thallium		0.2	0.08	<0.2	0.06	<0.2	0.04	<0.2	0.05	<0.2
Lead		0.1	0.02	<0.1	0.03	<0.1	0.002	<0.1	0.007	<0.1
Uranium		0.1	0.02	<0.1	0.02	<0.1	0.01	<0.1	0.01	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		CalBlk	BLANK		1101	H6A20001.d		1
2		CalBlk	BLANK		1101	H6A20002.d		1
3		CalBlk	S0		1102	H6A20003.d		1
4		CalStd	S1		1103	H6A20004.d		2
5		CalStd	S2		1104	H6A20005.d		3
6		CalStd	S3		1105	H6A20006.d		4
7		CalStd	S4		1106	H6A20007.d		5
8		CalStd	S5		1107	H6A20008.d		6
9		ICV	ICV		1204	H6A20009.d	1	
10		ICB	ICB		1102	H6A20010.d	1	
11		LLCCV	MRLA2701	1/100/10 ppb	1306	H6A20011.d	1	
12		LLCCV2	MRLA2702	0.4/40/4 ppb	1307	H6A20012.d	1	
13		Sample	MRLA2703	20 ppb Zn	1301	H6A20013.d	1	
14		ICS-A	ICSA		1304	H6A20014.d	1	
15		ICSB	ICSAB		1305	H6A20015.d	1	
16		Sample	MRLA2704	500 ppb CAT	1207	H6A20016.d	1	
17		CCV	CCV1		1206	H6A20017.d	1	
18		CCB	CCB1		1102	H6A20018.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		Blank	IMA015WB		2101	H6A20019.d	1	
2		LCSW	IMA015WL		2102	H6A20020.d	1	
3		LCSW	IMA015WC		2103	H6A20021.d	1	
4		CCV	CCV2		1206	H6A20022.d	1	
5		CCB	CCB2		1102	H6A20023.d	1	
6		Blank	IMK026WB		2111	H6A20024.d	1	
7		LCSW	IMK026WL		2112	H6A20025.d	1	
8		LCSW	IMK026WC		2201	H6A20026.d	1	
9		Sample	K159-01G	TNA	2202	H6A20027.d	5	
10		Sample	K159-02G	↓	2203	H6A20028.d	5	
11		Sample	K159-03N		2204	H6A20029.d	1	
12		Sample	K159-04N		2205	H6A20030.d	1	
13		Sample	K159-05G	TNA	2206	H6A20031.d	5	
14		Sample	K159-06G	↓	2207	H6A20032.d	5	
15		Sample	K159-07G	↓	2208	H6A20033.d	5	
16		CCV	CCV3		1206	H6A20034.d	1	
17		CCB	CCB3		1102	H6A20035.d	1	
18		Sample	K159-08A	TNA	2209	H6A20036.d	5	
19		Sample	K159-08G	↓	2210	H6A20037.d	5	
20		Sample	K159-08J		2211	H6A20038.d	25	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
21		Sample	K159-08M	↑Na	2212	H6A20039.d	5	
22		Sample	K159-08S	↓	2301	H6A20040.d	5	
23		Sample	K159-09G	↑CaNa	2302	H6A20041.d	5	
24		Sample	K159-10G		2303	H6A20042.d	5	
25		Sample	K159-11G		2304	H6A20043.d	5	
26		Sample	K159-12N		2305	H6A20044.d	1	
27		Sample	K159-05T		4511	H6A20045.d	20	
28		CCV	CCV4		1206	H6A20046.d	1	
29		CCB	CCB4		1102	H6A20047.d	1	
30		Blank	IMK028SB		2306	H6A20048.d	1	
31		LCSS	IMK028SL		2307	H6A20049.d	1	
32		LCSS	IMK028SC		2308	H6A20050.d	1	
33		Sample	K197-03A		2309	H6A20051.d	1	
34		Sample	K197-03		2310	H6A20052.d	1	
35		Sample	K197-03J		2311	H6A20053.d	5	
36		Sample	K197-03M		2312	H6A20054.d	1	
37		Sample	K197-03S		2401	H6A20055.d	1	
38		Sample	K197-04		2402	H6A20056.d	1	
39		Sample	K197-05		2403	H6A20057.d	1	
40		CCV	CCV5		1206	H6A20058.d	1	
41		CCB	CCB5		1102	H6A20059.d	1	
42		Sample	K197-06		2404	H6A20060.d	1	
43		Sample	K197-07		2405	H6A20061.d	1	
44		Sample	K197-08		2406	H6A20062.d	1	
45		Sample	K197-09		2407	H6A20063.d	1	
46		Sample	K197-10		2408	H6A20064.d	1	
47		Sample	K197-11		2409	H6A20065.d	1	
48		Sample	K197-12		2410	H6A20066.d	1	
49		CCV	CCV6		1206	H6A20067.d	1	
50		CCB	CCB6		1102	H6A20068.d	1	
51		Blank	IMK029SB		2411	H6A20069.d	1	
52		LCSS	IMK029SL		2412	H6A20070.d	1	
53		LCSS	IMK029SC		2501	H6A20071.d	1	
54		Sample	K198-02A		2502	H6A20072.d	1	
55		Sample	K198-02		2503	H6A20073.d	1	
56		Sample	K198-02J		2504	H6A20074.d	5	
57		Sample	K198-02M		2505	H6A20075.d	1	
58		Sample	K198-02S		2506	H6A20076.d	1	
59		Sample	K198-03		2507	H6A20077.d	1	
60		Sample	K198-04		2508	H6A20078.d	1	
61		CCV	CCV7		1206	H6A20079.d	1	
62		CCB	CCB7		1102	H6A20080.d	1	
63		Sample	K198-05		2509	H6A20081.d	1	
64		Sample	K198-06		2510	H6A20082.d	1	
65		Sample	K198-08		2511	H6A20083.d	1	
66		Sample	K198-09		2512	H6A20084.d	1	
67		Sample	K198-10		3101	H6A20085.d	1	
68		Sample	K198-11		3102	H6A20086.d	1	
69		Sample	K198-12		3103	H6A20087.d	1	
70		Sample	K198-13		3104	H6A20088.d	1	
71		CCV	CCV8		1206	H6A20089.d	1	
72		CCB	CCB8		1102	H6A20090.d	1	
73		Sample	L226-12N		3105	H6A20091.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
74		Sample	L226-06T		3106	H6A20092.d	100	
75		Sample	L226-07T		3107	H6A20093.d	100	
76		Sample	K060-08A		3108	H6A20094.d	5	
77		Sample	K060-08G		3109	H6A20095.d	5	
78		Sample	K060-08J		3110	H6A20096.d	25	
79		Sample	K060-08M		3111	H6A20097.d	5	
80		Sample	K060-08S		3112	H6A20098.d	5	
81		ICS-A	ICSA2		1304	H6A20099.d	1	
82		ICSB	ICSAB2		1305	H6A20100.d	1	
83		CCV	CCV9		1206	H6A20101.d	1	
84		CCB	CCB9		1102	H6A20102.d	1	
85		Blank	IMK037SB		3201	H6A20103.d	1	
86		LCSS	IMK037SL		3202	H6A20104.d	1	
87		LCSS	IMK037SC		3203	H6A20105.d	1	
88		Sample	K223-04A		3204	H6A20106.d	1	
89		Sample	K223-04		3205	H6A20107.d	1	
90		Sample	K223-04J		3206	H6A20108.d	5	
91		Sample	K223-04M		3207	H6A20109.d	1	
92		Sample	K223-04S		3208	H6A20110.d	1	
93		Sample	K223-05		3209	H6A20111.d	1	
94		Sample	K223-06		3210	H6A20112.d	1	
95		CCV	CCV10		1206	H6A20113.d	1	
96		CCB	CCB10		1102	H6A20114.d	1	
97		Sample	K223-07		3211	H6A20115.d	1	
98		Sample	K223-08		3212	H6A20116.d	1	
99		Sample	K223-09		3301	H6A20117.d	1	
100		Sample	K223-10		3302	H6A20118.d	1	
101		Sample	K223-11		3303	H6A20119.d	1	
102		Sample	K225-02		3304	H6A20120.d	1	
103		Sample	K225-04		3305	H6A20121.d	1	
104		Sample	K250-01		3306	H6A20122.d	1	
105		Sample	K250-02		3307	H6A20123.d	1	
106		Sample	K250-03		3308	H6A20124.d	1	
107		CCV	CCV11		1206	H6A20125.d	1	
108		CCB	CCB11		1102	H6A20126.d	1	
109		Blank	IMK034SB		3309	H6A20127.d	1	
110		LCSS	IMK034SL		3310	H6A20128.d	1	
111		LCSS	IMK034SC		3311	H6A20129.d	1	
112		Sample	K224-02A	↑Pb	3312	H6A20130.d	1	
113		Sample	K224-02	↓	3401	H6A20131.d	1	
114		Sample	K224-02J		3402	H6A20132.d	5	
115		Sample	K224-02M	↑Pb	3403	H6A20133.d	1	
116		Sample	K224-02S	↓	3404	H6A20134.d	1	
117		Sample	K224-03		3405	H6A20135.d	1	
118		Sample	K224-04		3406	H6A20136.d	1	
119		CCV	CCV12		1206	H6A20137.d	1	
120		CCB	CCB12		1102	H6A20138.d	1	
121		Sample	K224-05		3407	H6A20139.d	1	
122		Sample	K224-06		3408	H6A20140.d	1	
123		Sample	K224-07		3409	H6A20141.d	1	
124		Sample	K224-08		3410	H6A20142.d	1	
125		Sample	K224-09	↑ Zn	3411	H6A20143.d	1	
126		Sample	K224-10		3412	H6A20144.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
127		Sample	K224-11		3501	H6A20145.d	1	
128		Sample	K224-12		3502	H6A20146.d	1	
129		Sample	K224-13		3503	H6A20147.d	1	
130		Sample	K230-01		3504	H6A20148.d	1	
131		CCV	CCV13		1206	H6A20149.d	1	
132		CCB	CCB13		1102	H6A20150.d	1	
133		Blank	IML004SB		3505	H6A20151.d	1	
134		LCSS	IML004SL		3506	H6A20152.d	1	
135		LCSS	IML004SC		3507	H6A20153.d	1	
136		Sample	L024-04		3508	H6A20154.d	1	
137		Sample	L024-06		3509	H6A20155.d	1	
138		Sample	L024-08		3510	H6A20156.d	1	
139		Sample	L024-11A		3511	H6A20157.d	1	
140		Sample	L024-11		3512	H6A20158.d	1	
141		Sample	L024-11J		4101	H6A20159.d	5	
142		Sample	L024-11M		4102	H6A20160.d	1	
143		CCV	CCV14		1206	H6A20161.d	1	
144		CCB	CCB14		1102	H6A20162.d	1	
145		Sample	L024-11S		4103	H6A20163.d	1	
146		Sample	L024-12		4104	H6A20164.d	1	
147		Sample	L024-13		4105	H6A20165.d	1	
148		Sample	L024-14		4106	H6A20166.d	1	
149		Sample	L025-02		4107	H6A20167.d	1	
150		Sample	L025-03		4108	H6A20168.d	1	
151		Sample	L025-04		4109	H6A20169.d	1	
152		Sample	L025-05		4110	H6A20170.d	1	
153		Sample	L025-06		4111	H6A20171.d	1	
154		Sample	L025-07		4112	H6A20172.d	1	
155		CCV	CCV15		1206	H6A20173.d	1	
156		CCB	CCB15	Li (ISTD)[No Gas] Fail	1102	H6A20174.d	1	
157		Sample	L025-08		4201	H6A20175.d	1	
158		Sample	L025-09		4202	H6A20176.d	1	
159		Sample	L025-10		4203	H6A20177.d	1	
160		Sample	L025-11		4204	H6A20178.d	1	
161		Sample	L226-12I		4205	H6A20179.d	10	
162		Sample	L226-12T		4206	H6A20180.d	100	
163		CCV	CCV16		1206	H6A20181.d	1	
164		CCB	CCB16	Li (ISTD) [No Gas] fail ↓	1102	H6A20182.d	1	
165		Sample	IDL-01		1101	H6A20183.d	1	
166		Sample	IDL-02		1101	H6A20184.d	1	
167		Sample	IDL-03	Li (ISTD) NG fail	1101	H6A20185.d	1	
168		Sample	IDL-04		1101	H6A20186.d	1	
169		Sample	IDL-05	Li (ISTD) NG Fail	1101	H6A20187.d	1	
170		Sample	IDL-06		1101	H6A20188.d	1	
171		Sample	IDL-07		1101	H6A20189.d	1	
172		CCV	CCV17		1206	H6A20190.d	1	
173		CCB	CCB17	Li (ISTD) NG Fail ↓	1102	H6A20191.d	1	
174		Blank	IMA019WB		4207	H6A20192.d	1	
175		LCSW	IMA019WL		4208	H6A20193.d	1	
176		LCSW	IMA019WC		4209	H6A20194.d	1	
177		Sample	LODV-WW1		4210	H6A20195.d	1	
178		Sample	LOQV-WW1		4211	H6A20196.d	1	
179		Sample	LOQV-WW2		4212	H6A20197.d	1	

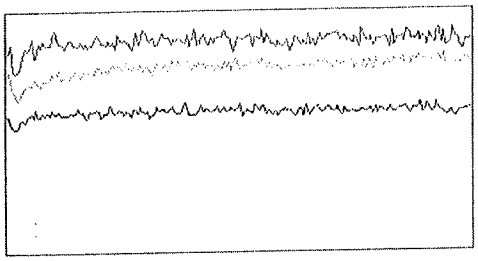
Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
180	Sample	A209-01I	Li (ISTD) NG Fail	4301	H6A20198.d	10	
181	Sample	A209-03I		4302	H6A20199.d	10	
182	Sample	A209-07I		4303	H6A20200.d	10	
183	Sample	A209-25I		4304	H6A20201.d	10	
184	CCV	CCV18		1206	H6A20202.d	1	
185	CCB	CCB18		1102	H6A20203.d	1	
186	Sample	A209-26I		4305	H6A20204.d	10	
187	Sample	A211-01I		4306	H6A20205.d	10	
188	Sample	A211-03I		4307	H6A20206.d	10	
189	CCV	CCV19		1206	H6A20207.d	1	
190	CCB	CCB19		1102	H6A20208.d	1	
191	Blank	IMA018WB		4308	H6A20209.d	1	
192	LCSW	IMA018WL		4309	H6A20210.d	1	
193	LCSW	IMA018WC	Li (ISTD) NG Fail	4310	H6A20211.d	1	
194	Sample	A209-01I	(already @ 10x, pour)	4311	H6A20212.d	10	
195	Sample	A209-02I		4312	H6A20213.d	10	
196	Sample	A209-03I		4401	H6A20214.d	10	
197	Sample	A209-07I		4402	H6A20215.d	10	
198	Sample	A209-25I		4403	H6A20216.d	10	
199	Sample	A209-26I		4404	H6A20217.d	10	
200	CCV	CCV20		1206	H6A20218.d	1	
201	CCB	CCB20		1102	H6A20219.d	1	
202	LLCCV	MRLA2705	1/100/10 ppb Li (ISTD) NG Fail	1306	H6A20220.d	1	
203	LLCCV2	MRLA2706	0.4/40/4 ppb	1307	H6A20221.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-27 09:37:51
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



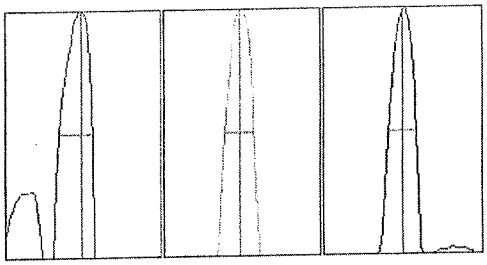
Mass	Range	Count	RSD%	Background
7	5000	4379	3.162	0.250
89	20000	15335	4.000	1.200
205	20000	11667	2.838	3.350

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.055 %
Doubly Charged	70 / 140 1.569 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	4341.07	7.00	0.62	0.76
89	15593.34	89.00	0.56	0.74
205	11528.80	205.00	0.54	0.72

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.6 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.3 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.3 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9996
Mass Offset	125	Axis Offset	-0.06

EM

Discriminator	3.2 mV	Analog HV	2761 V	Pulse HV	1493 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.98	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.19E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.7	°C
Nebulizer Gas(DP)	5.50E+0	kPa
MU./Dil. Gas(DP)	-5.79E-2	kPa
Aux Gas(DP)	1.14E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.64E+2	kPa
MU./Dil. Gas(BP)	-1.93E-2	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.31E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.39E+2	Pa
Analyzer Press	7.86E-5	Pa
IG HV	178	V
IG Emission	4.98	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.1	%
TMP Current	2.73	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.12	V
OctP RF (Avg)	193.7	V
OctP RF Set	3.8	V
OctP FET Bias Set	3.75	V
OctP RF(+)	168.0	V
OctP RF(-)	219.4	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.2	V
+U Voltage	12.5	V

Name	Value	Unit
-U Voltage	-19.1	V
V Voltage	59.7	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.3	V
-120V	-129.9	V
-720V	-738.5	V
Prefilter Bias	-5.08	V
Pickup Heater I	0.08	A
QP PS +48V	47.6	V
QP PS +48V I	0.00	A
Analog HV	-2764	V
Pulse HV	1507	V
EM Gate	-37.1	V
Pulse Gate	338.1	V
EM Entrance	0.2	V
EM HV Gain	-1431.6	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.8	V
RF PS +48V	47.9	V
Forward Power	1549	W
Reflected Power	4	W
Plasma Freq.	26.70	MHz
Drain I 1	11.30	A
Drain I 2	10.87	A
Drain I 3	10.70	A
Drain I 4	10.03	A
Temp Sensor	2.8	V
Driver I	5.66	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.45	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.00	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.44E+0	kPa
ORS AMFC Temp	29.6	°C
Atmospheric Press	1.02E+2	kPa
Extract 1	-0.1	V
Extract 2	-200.3	V
Omega Bias	-110.1	V
Omega Lens	7.5	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.1	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.3	°C
Internal Temp	34.8	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.40	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

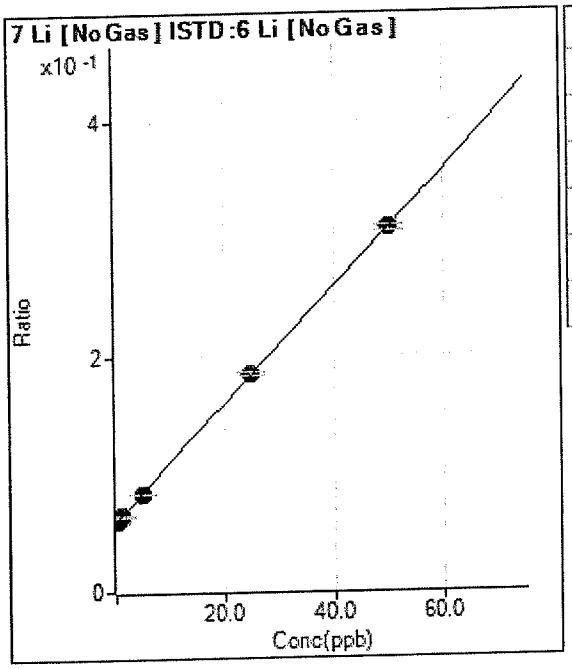
Performance Report History

Sensitivity

Ca ibration for H6A20211.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b\
Analysis File: IH6A20.batch.bin
DA Date-Time: 2023-01-27 22:16:21
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

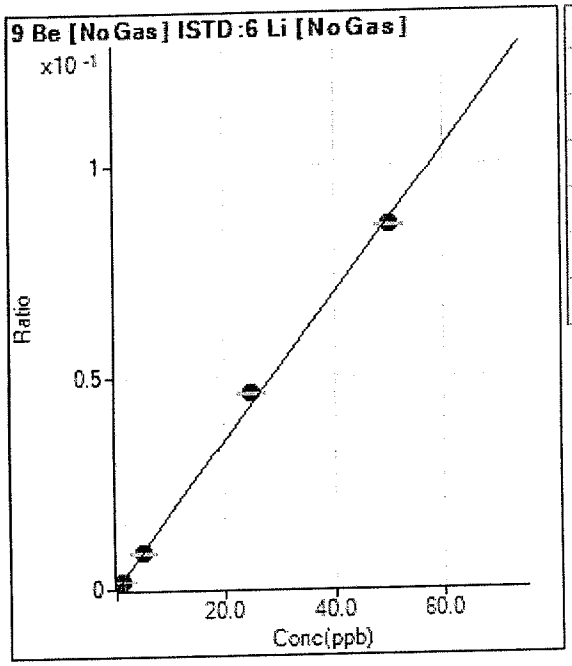
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A20003.d	S0	2023-01-27 11:47:38
2	H6A20004.d	S1	2023-01-27 11:50:30
3	H6A20005.d	S2	2023-01-27 11:53:20
4	H6A20006.d	S3	2023-01-27 11:56:11
5	H6A20007.d	S4	2023-01-27 11:59:17
6	H6A20008.d	S5	2023-01-27 12:02:06



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67741.05	0.0600	P	0.5
2	☐	0.500	0.246	71607.76	0.0612	P	1.0
3	☐	1.000	1.001	73844.82	0.0650	P	1.2
4	☐	5.000	4.784	95434.79	0.0839	P	0.2
5	☐	25.000	25.112	179720.56	0.1855	P	1.2
6	☐	50.000	49.968	344800.52	0.3097	P	1.3

y = 0.0050 * x + 0.0600
R = 1.0000
DL = 0.1755
BEC = 12.01

Weight: <None>
Min Conc: 0

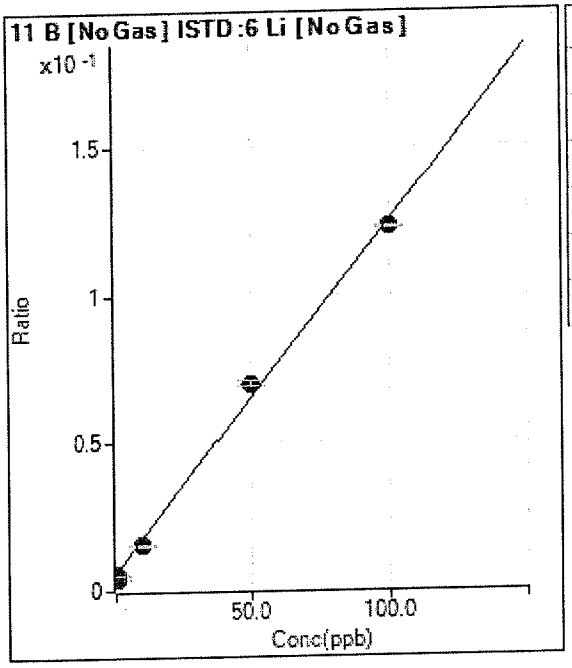


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	20.7
2	☐	0.500	0.454	968.92	0.0008	P	3.3
3	☐	1.000	1.002	2024.59	0.0018	P	7.1
4	☐	5.000	4.830	9596.60	0.0084	P	4.0
5	☐	25.000	26.560	44798.90	0.0462	P	0.6
6	☐	50.000	49.237	95399.46	0.0857	P	0.2

y = 0.0017 * x + 3.8400E-005
R = 0.9993
DL = 0.01369
BEC = 0.02208

Weight: <None>
Min Conc: 0

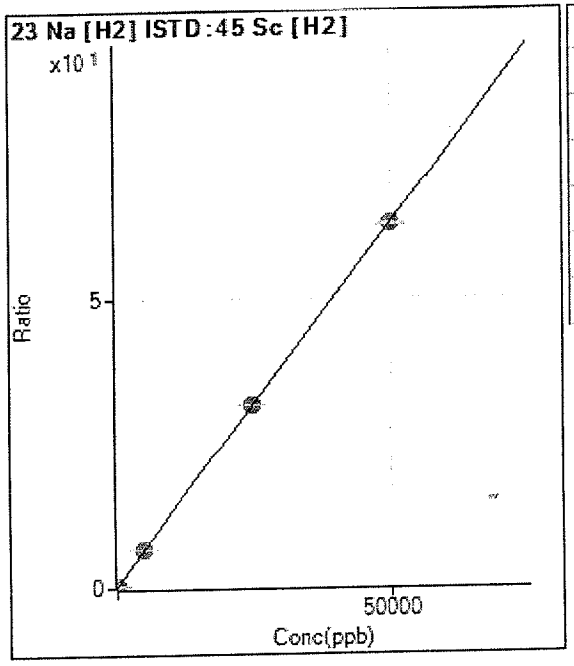
Calibration for H6A20211.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6617.12	0.0059	P	0.9
2	☐	0.500	-1.442	4844.17	0.0041	P	1.2
3	☐	1.000	-0.674	5744.51	0.0051	P	2.3
4	☐	10.000	8.035	17559.86	0.0154	P	1.9
5	☐	50.000	53.803	67826.40	0.0700	P	2.6
6	☐	100.000	98.322	137054.85	0.1231	P	0.4

y = 0.0012 * x + 0.0059
R = 0.9985
DL = 0.1259
BEC = 4.916

Weight: <None>
Min Conc: 0

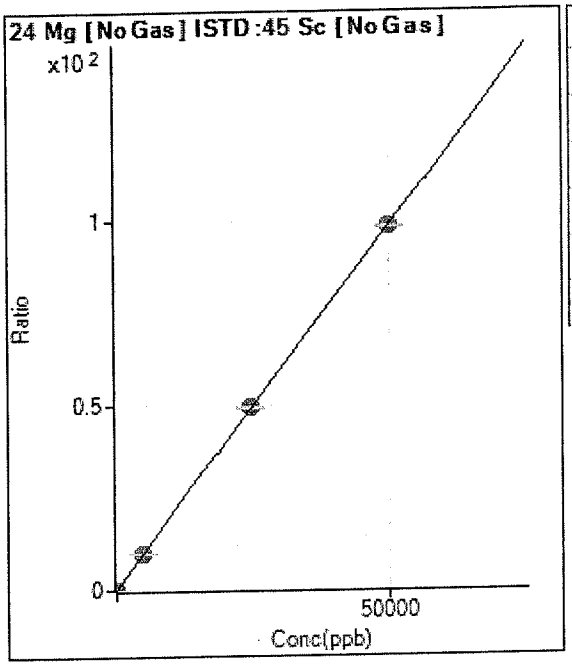


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	801731.17	0.2447	A	1.3
2	☐	50.000	65.374	1029822.44	0.3268	A	4.3
3	☐	100.000	106.428	1227454.83	0.3783	A	1.0
4	☐	5000.000	5135.437	21741833.33	6.6922	A	1.6
5	☐	25000.000	25034.613	94758050.67	31.6753	A	0.3
6	☐	50000.000	49969.122	205430293.33	62.9803	A	0.6

y = 0.0013 * x + 0.2447
R = 1.0000
DL = 7.634
BEC = 194.9

Weight: <None>
Min Conc: 0

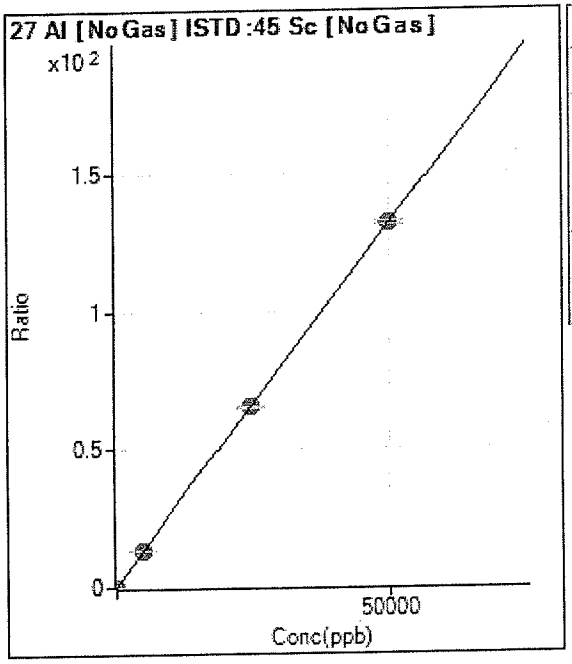
Calibration for H6A20211.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	49462.75	0.0114	P	0.8
2	☐	50.000	50.109	489289.06	0.1099	P	0.7
3	☐	100.000	102.038	920040.92	0.2120	A	1.2
4	☐	5000.000	5097.856	43400820.00	10.0331	A	0.3
5	☐	25000.000	25044.671	193564096.00	49.2459	A	1.1
6	☐	50000.000	49967.875	427124117.33	98.2416	A	0.6

y = 0.0020 * x + 0.0114
R = 1.0000
DL = 0.1457
BEC = 5.812

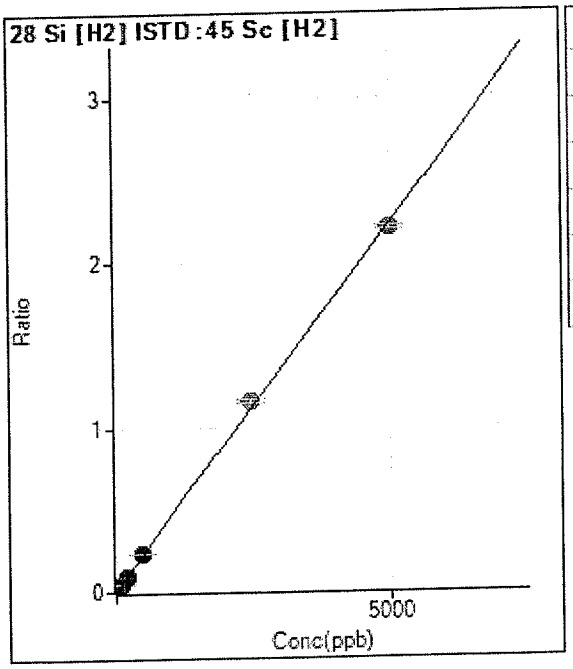
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14477.60	0.0033	P	1.9
2	☐	50.000	50.507	606625.64	0.1363	P	1.8
3	☐	100.000	101.165	1170155.97	0.2697	A	0.8
4	☐	5000.000	5091.740	57994625.80	13.4069	A	0.7
5	☐	25000.000	24834.939	256977649.50	65.3793	A	1.7
6	☐	50000.000	50073.354	573084018.13	131.8173	A	1.1

y = 0.0026 * x + 0.0033
R = 1.0000
DL = 0.07198
BEC = 1.27

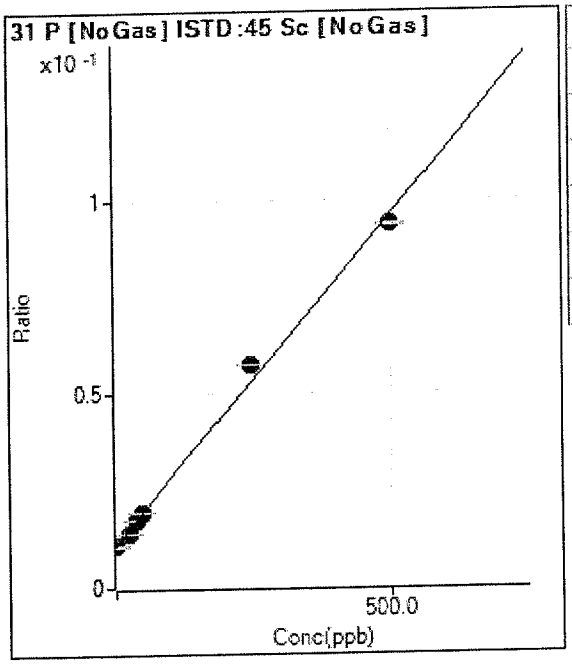
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5319.68	0.0016	P	1.7
2	☐	100.000	99.215	144758.50	0.0459	P	0.2
3	☐	200.000	205.298	302468.08	0.0932	P	1.0
4	☐	500.000	522.582	762700.98	0.2348	P	1.9
5	☐	2500.000	2590.388	3461876.08	1.1573	A	2.3
6	☐	5000.000	4952.351	7211902.17	2.2110	A	1.0

y = 4.4614E-004 * x + 0.0016
R = 0.9998
DL = 0.1887
BEC = 3.639

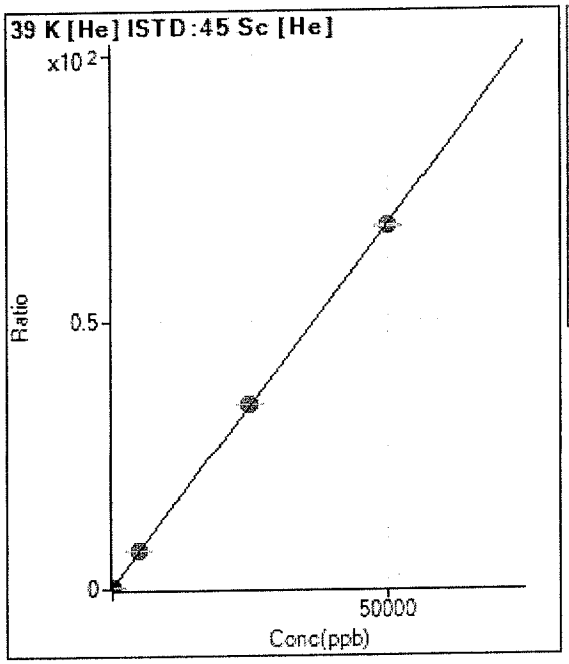
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46440.77	0.0107	P	1.2
2	☐	25.000	19.799	62771.34	0.0141	P	0.7
3	☐	40.000	39.793	75995.10	0.0175	P	0.5
4	☐	50.000	50.499	83649.49	0.0193	P	0.6
5	☐	250.000	275.366	226707.03	0.0577	P	0.2
6	☐	500.000	487.544	408022.59	0.0938	P	0.6

y = 1.7049E-004 * x + 0.0107
R = 0.9979
DL = 2.199
BEC = 62.92

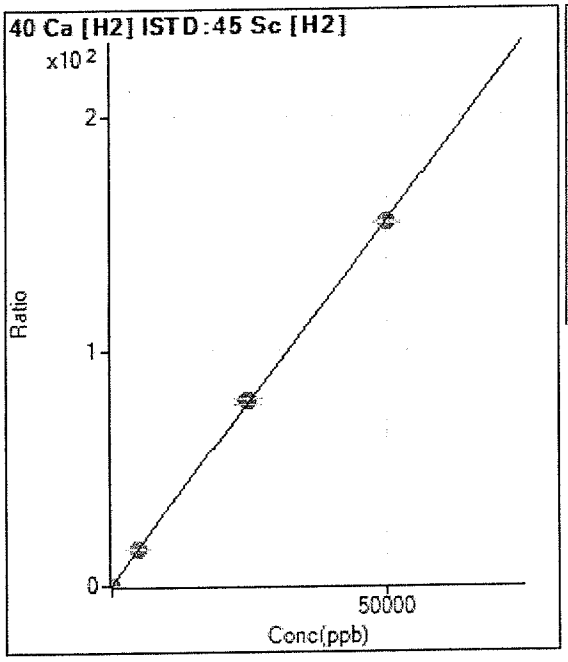
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	101523.71	0.1743	P	2.8
2	☐	50.000	86.180	145935.26	0.2917	P	14.3
3	☐	100.000	103.840	183137.15	0.3158	P	2.3
4	☐	5000.000	5080.306	4097854.00	7.0935	A	1.5
5	☐	25000.000	25325.580	19502380.67	34.6666	A	0.7
6	☐	50000.000	49829.135	38508910.67	68.0393	A	0.3

y = 0.0014 * x + 0.1743
R = 1.0000
DL = 10.61
BEC = 128

Weight: <None>
Min Conc: 0

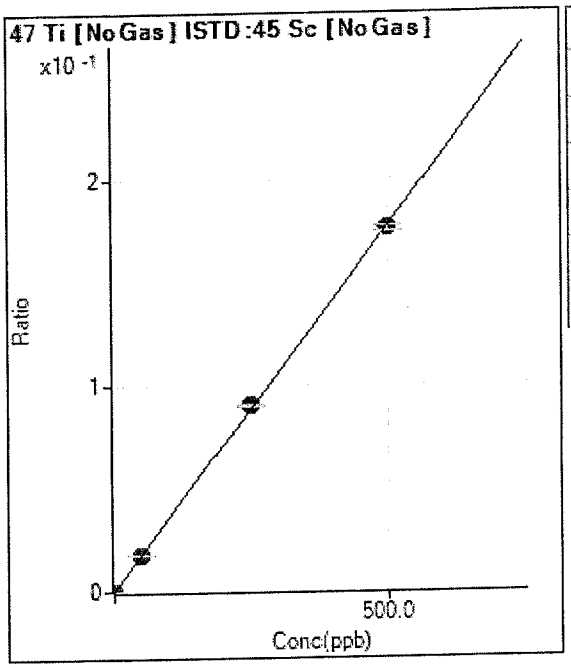


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	225736.44	0.0689	P	1.4
2	☐	50.000	41.793	626471.81	0.1986	P	1.0
3	☐	100.000	95.376	1183731.91	0.3648	A	0.9
4	☐	5000.000	5097.879	51615980.00	15.8864	A	0.9
5	☐	25000.000	25293.238	234960266.67	78.5480	A	2.8
6	☐	50000.000	49843.610	504680672.00	154.7221	A	0.4

y = 0.0031 * x + 0.0689
R = 1.0000
DL = 0.9357
BEC = 22.2

Weight: <None>
Min Conc: 0

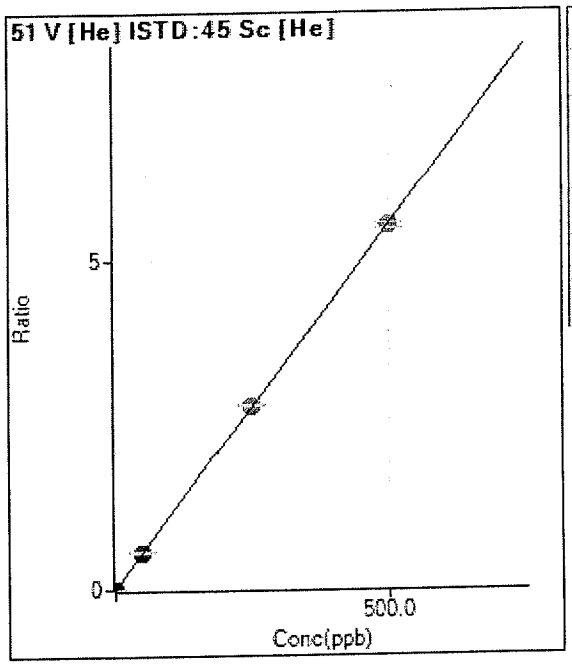
Calibration for H6A20211.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	247.33	0.0001	P	13.7
2	☐	0.500	0.490	1027.37	0.0002	P	1.9
3	☐	1.000	1.069	1890.80	0.0004	P	4.7
4	☐	50.000	50.737	77996.43	0.0180	P	1.8
5	☐	250.000	254.618	354754.00	0.0903	P	0.9
6	☐	500.000	497.617	766614.77	0.1763	P	1.2

y = 3.5424E-004 * x + 5.7137E-005
R = 0.9999
DL = 0.06649
BEC = 0.1613

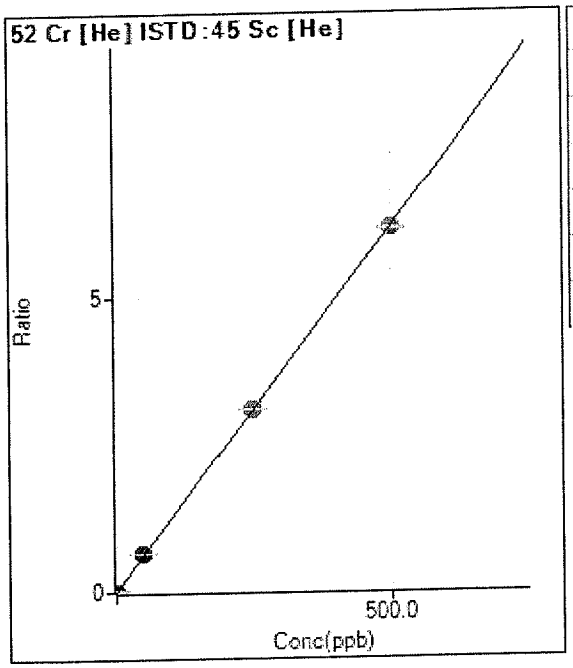
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1797.45	0.0031	P	1.0
2	☐	0.500	0.551	4578.77	0.0092	P	14.9
3	☐	1.000	0.996	8158.43	0.0141	P	2.1
4	☐	50.000	51.241	328218.20	0.5681	P	1.0
5	☐	250.000	251.387	1561360.63	2.7751	A	0.9
6	☐	500.000	499.183	3117097.17	5.5076	A	1.3

y = 0.0110 * x + 0.0031
R = 1.0000
DL = 0.008308
BEC = 0.28

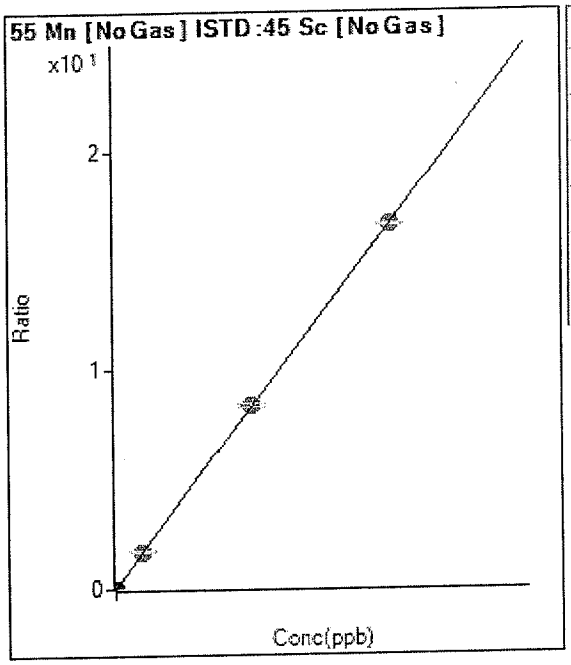
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1795.45	0.0031	P	2.2
2	☐	0.500	0.703	5835.25	0.0117	P	19.5
3	☐	1.000	1.065	9388.55	0.0162	P	1.6
4	☐	50.000	51.971	371376.75	0.6428	P	1.2
5	☐	250.000	251.625	1744173.79	3.1006	A	0.3
6	☐	500.000	498.990	3478233.00	6.1457	A	0.9

y = 0.0123 * x + 0.0031
R = 1.0000
DL = 0.01635
BEC = 0.2505

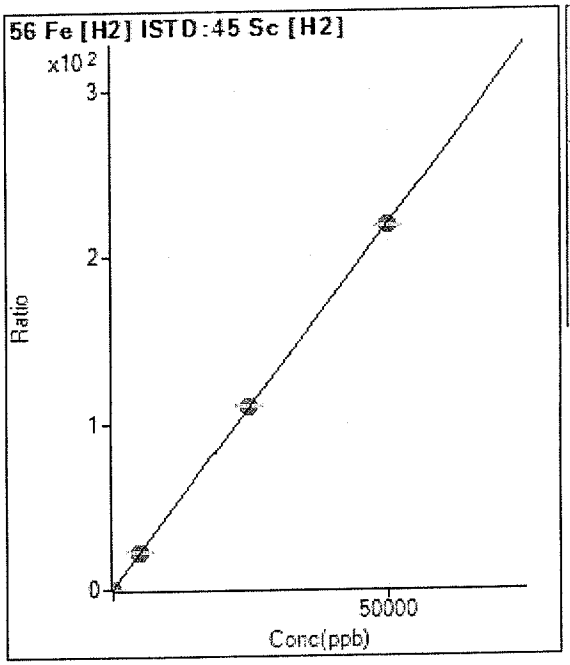
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8927.58	0.0021	P	1.3
2	☐	0.500	0.429	19760.92	0.0044	P	0.9
3	☐	1.000	1.046	34081.03	0.0079	P	0.9
4	☐	300.000	308.517	7397596.00	1.7101	A	1.0
5	☐	1500.000	1507.264	32807521.33	8.3467	A	1.9
6	☐	3000.000	2995.516	72110490.67	16.5862	A	0.9

y = 0.0055 * x + 0.0021
R = 1.0000
DL = 0.01461
BEC = 0.3725

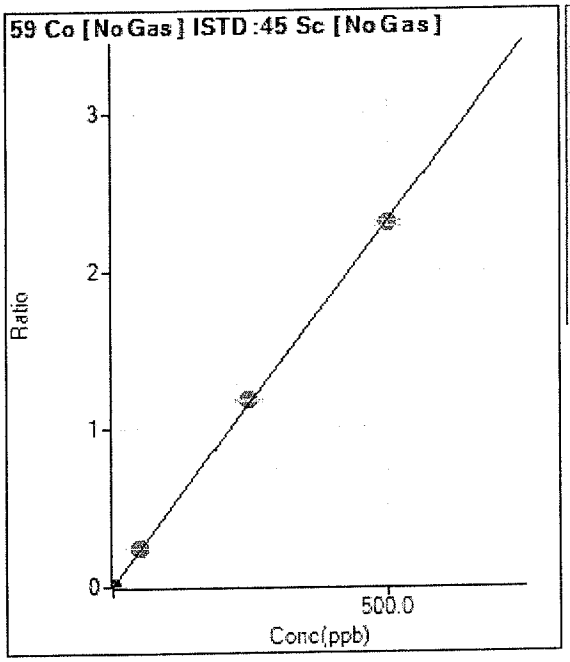
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38977.43	0.0119	P	0.3
2	☐	50.000	50.752	739749.04	0.2345	P	1.0
3	☐	100.000	103.495	1511180.46	0.4657	A	0.9
4	☐	5000.000	5146.421	73365362.67	22.5801	A	1.0
5	☐	25000.000	25232.351	331052853.33	110.6612	A	0.3
6	☐	50000.000	49869.175	713371349.33	218.6991	A	0.6

y = 0.0044 * x + 0.0119
R = 1.0000
DL = 0.02368
BEC = 2.713

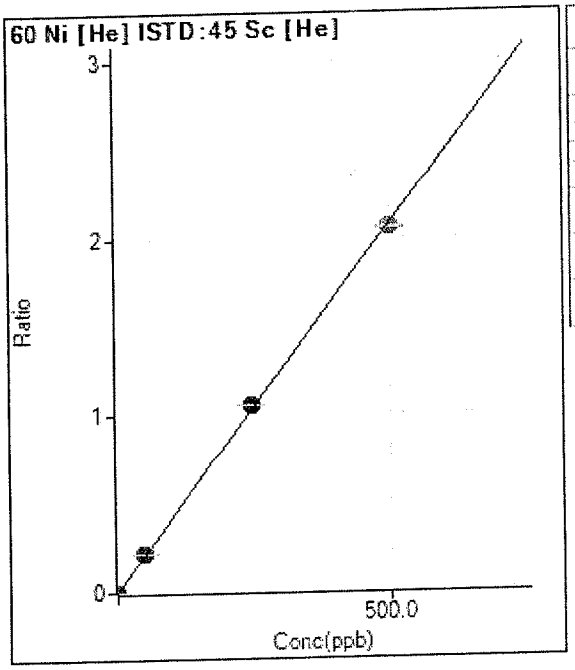
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	361.34	0.0001	P	4.7
2	☐	0.500	0.534	11361.40	0.0026	P	2.4
3	☐	1.000	1.094	22288.18	0.0051	P	1.5
4	☐	50.000	52.127	1042217.04	0.2409	A	0.6
5	☐	250.000	255.031	4631856.83	1.1784	A	1.2
6	☐	500.000	497.272	9988886.00	2.2977	A	1.9

y = 0.0046 * x + 8.3462E-005
R = 0.9999
DL = 0.002543
BEC = 0.01806

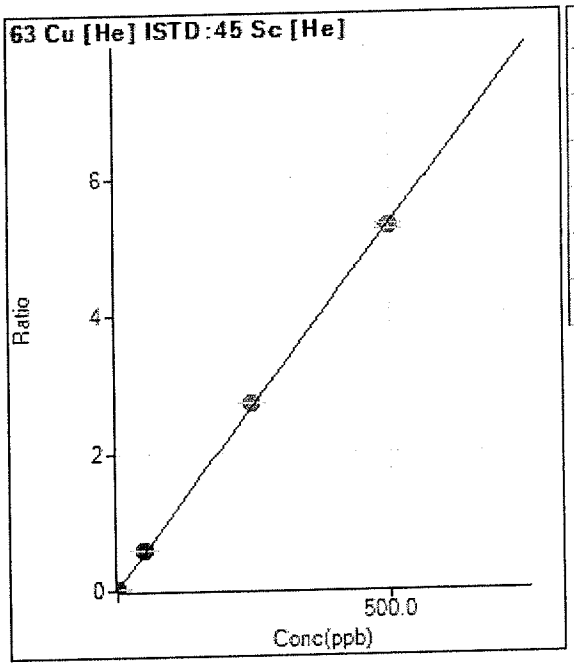
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	234.00	0.0004	P	17.1
2	☐	0.500	0.616	1482.75	0.0030	P	14.2
3	☐	1.000	1.078	2827.63	0.0049	P	2.9
4	☐	50.000	52.912	127100.42	0.2200	P	1.6
5	☐	250.000	256.238	598487.44	1.0639	P	0.2
6	☐	500.000	496.589	1166717.79	2.0615	A	0.8

y = 0.0042 * x + 4.0258E-004
R = 0.9999
DL = 0.04965
BEC = 0.097

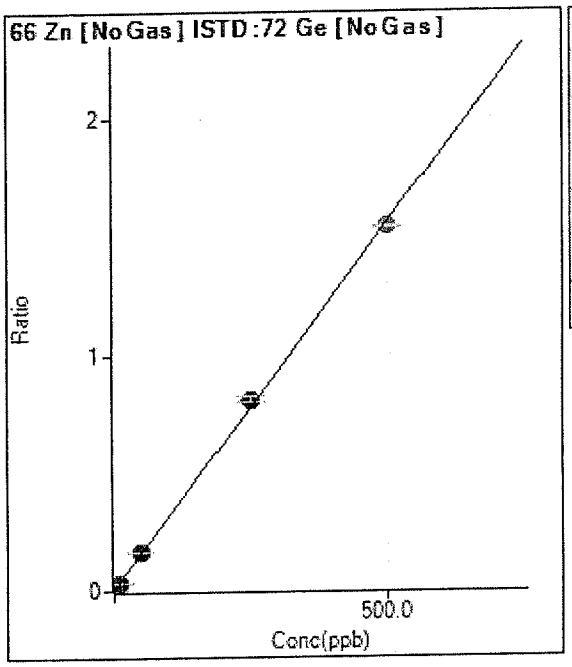
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3803.20	0.0065	P	1.7
2	☐	0.500	0.618	6518.90	0.0131	P	18.3
3	☐	1.000	1.099	10556.76	0.0182	P	1.3
4	☐	50.000	54.191	336126.42	0.5818	P	1.3
5	☐	250.000	254.961	1526177.12	2.7132	A	0.7
6	☐	500.000	497.100	2990443.17	5.2838	A	1.2

y = 0.0106 * x + 0.0065
R = 0.9999
DL = 0.031
BEC = 0.6154

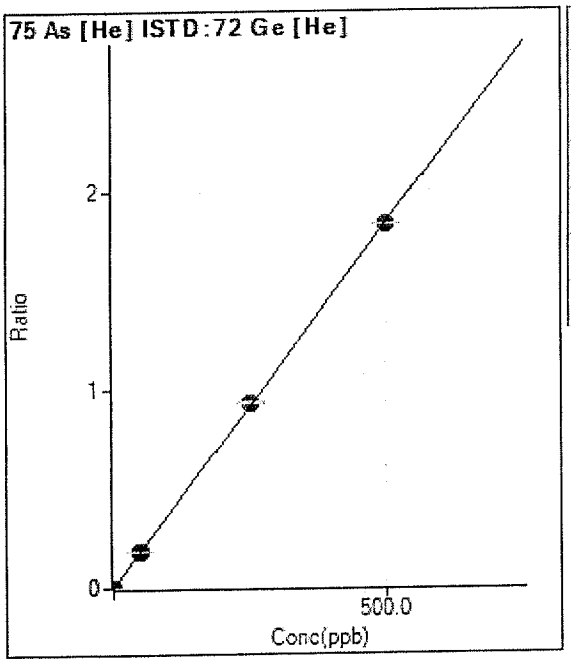
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3139.03	0.0033	P	4.7
2	☐	1.000	0.706	5509.79	0.0055	P	0.8
3	☐	10.000	9.532	32390.54	0.0329	P	0.9
4	☐	50.000	51.353	160139.48	0.1629	P	0.9
5	☐	250.000	259.950	726049.19	0.8110	P	2.5
6	☐	500.000	494.900	1507065.00	1.5411	A	0.7

y = 0.0031 * x + 0.0033
R = 0.9997
DL = 0.1485
BEC = 1.063

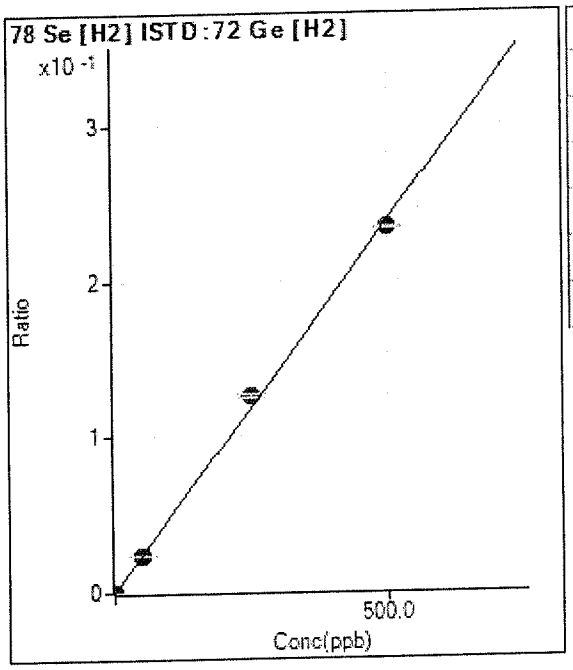
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	134.33	0.0004	P	11.6
2	☐	0.500	0.572	724.35	0.0025	P	16.6
3	☐	1.000	0.943	1262.73	0.0039	P	2.5
4	☐	50.000	50.312	60457.18	0.1852	P	0.6
5	☐	250.000	254.192	294351.58	0.9338	P	1.2
6	☐	500.000	497.873	576996.13	1.8286	P	0.1

y = 0.0037 * x + 4.2590E-004
R = 0.9999
DL = 0.04025
BEC = 0.116

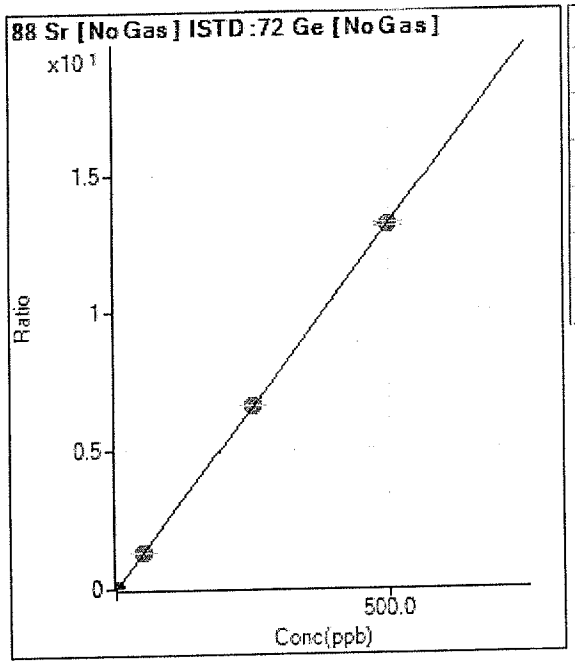
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22.00	0.0000	P	8.2
2	☐	0.500	0.436	190.67	0.0002	P	14.1
3	☐	1.000	0.952	401.34	0.0005	P	4.6
4	☐	50.000	50.478	20120.00	0.0241	P	0.4
5	☐	250.000	266.647	98598.32	0.1271	P	2.0
6	☐	500.000	491.629	193818.86	0.2342	P	0.8

y = 4.7642E-004 * x + 2.7259E-005
R = 0.9992
DL = 0.01408
BEC = 0.05722

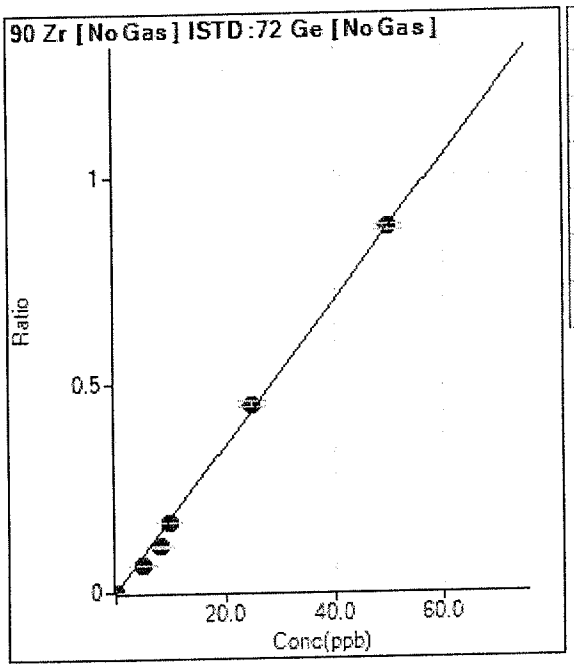
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1035.59	0.0011	P	5.1
2	☐	0.500	0.492	14068.51	0.0140	P	1.7
3	☐	1.000	1.020	27498.18	0.0280	P	0.5
4	☐	50.000	50.379	1304906.48	1.3272	A	1.2
5	☐	250.000	251.582	5929957.26	6.6235	A	0.8
6	☐	500.000	499.171	12850942.54	13.1407	A	0.9

y = 0.0263 * x + 0.0011
R = 1.0000
DL = 0.006308
BEC = 0.04141

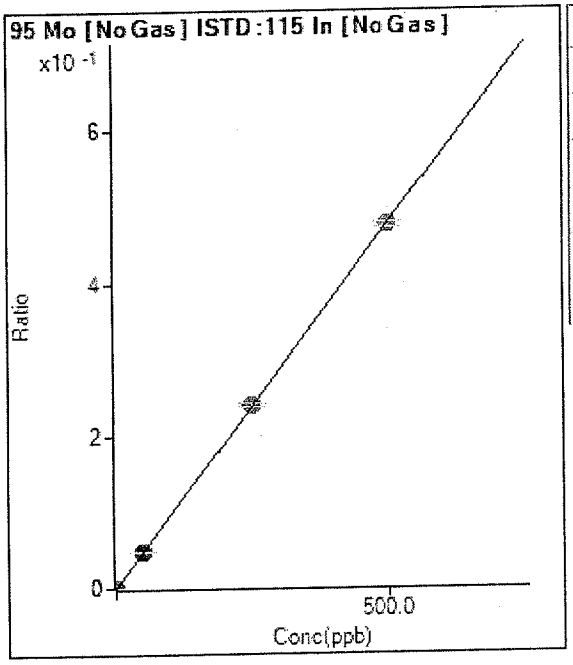
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	323.34	0.0003	P	9.5
2	☐	5.000	3.670	64695.92	0.0645	P	0.4
3	☐	8.000	6.316	109032.48	0.1108	P	3.5
4	☐	10.000	9.541	164440.70	0.1673	P	1.3
5	☐	25.000	25.860	405340.94	0.4528	P	2.7
6	☐	50.000	50.064	856811.96	0.8762	P	1.7

y = 0.0175 * x + 3.4042E-004
R = 0.9990
DL = 0.005574
BEC = 0.01946

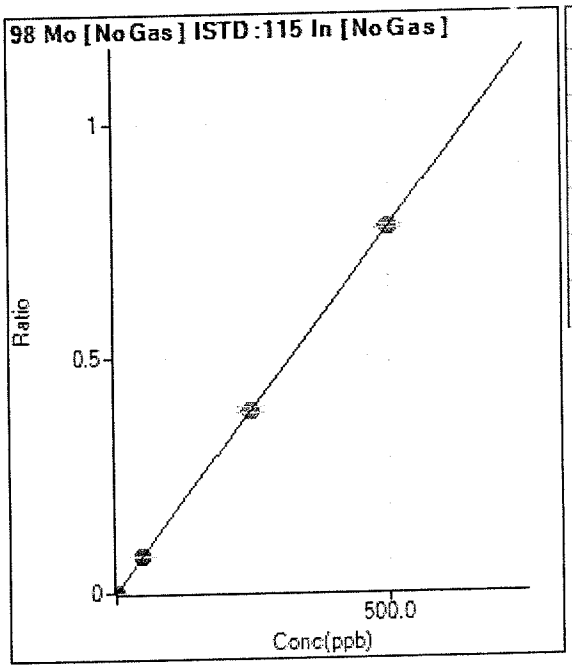
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50.00	0.0000	P	49.9
2	☐	0.500	0.470	2511.35	0.0005	P	1.6
3	☐	1.000	0.940	4846.44	0.0009	P	1.4
4	☐	50.000	49.371	246991.56	0.0471	P	1.4
5	☐	250.000	251.149	1123373.98	0.2395	A	2.7
6	☐	500.000	499.489	2444501.64	0.4763	A	1.3

y = 9.5365E-004 * x + 9.3322E-006
R = 1.0000
DL = 0.01466
BEC = 0.009786

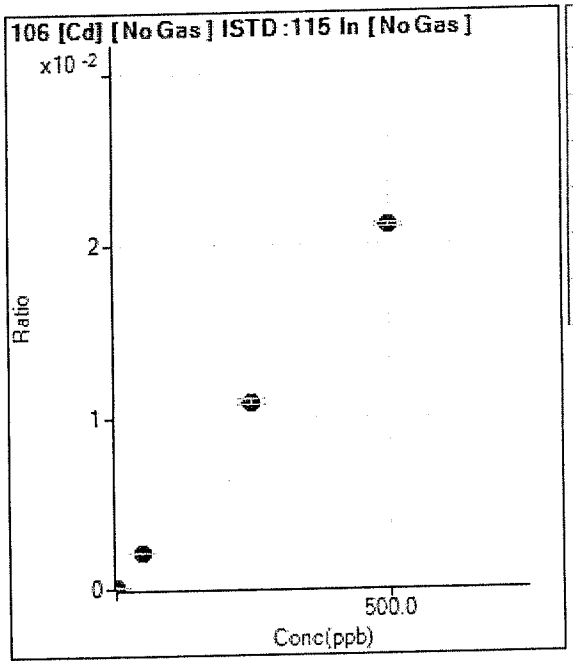
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	171.11	0.0000	P	5.8
2	☐	0.500	0.454	4042.84	0.0007	P	3.0
3	☐	1.000	0.941	7984.62	0.0015	P	2.4
4	☐	50.000	49.189	400725.35	0.0764	P	0.7
5	☐	250.000	250.310	1822732.22	0.3887	A	3.4
6	☐	500.000	499.926	3983431.37	0.7762	A	1.2

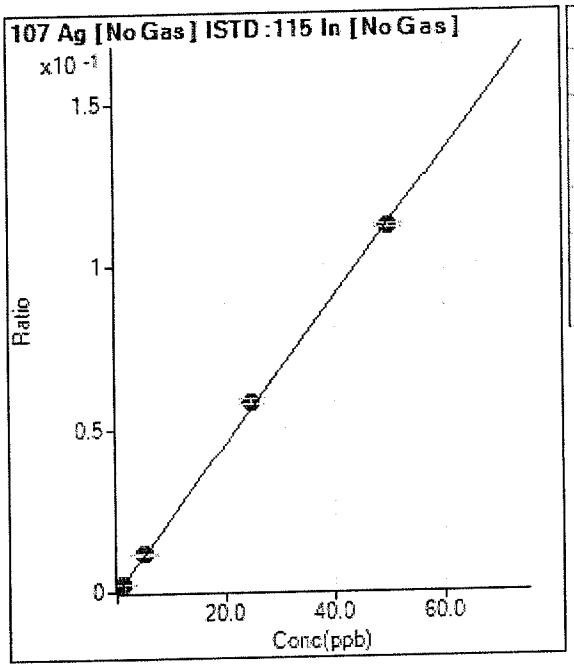
y = 0.0016 * x + 3.1986E-005
R = 1.0000
DL = 0.003557
BEC = 0.0206

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		3.67	0.0000	P	15.7
2	☐	0.500		336.67	0.0001	P	2.9
3	☐	1.000		586.34	0.0001	P	11.0
4	☐	50.000		11405.24	0.0022	P	0.5
5	☐	250.000		51046.04	0.0109	P	3.0
6	☐	500.000		108416.43	0.0211	P	1.0

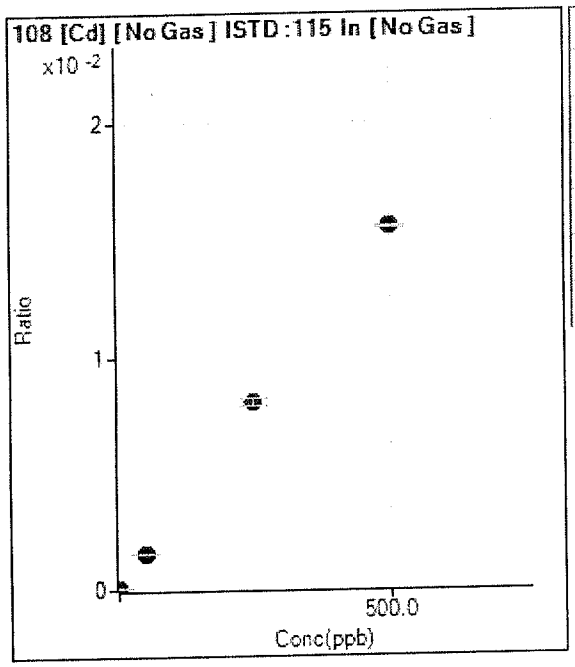
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47.78	0.0000	P	14.1
2	☐	0.500	0.576	7181.95	0.0013	P	3.4
3	☐	1.000	1.136	13762.71	0.0026	P	0.4
4	☐	5.000	5.124	60675.33	0.0116	P	0.9
5	☐	25.000	25.799	272985.01	0.0582	P	2.8
6	☐	50.000	49.585	574099.09	0.1119	P	1.0

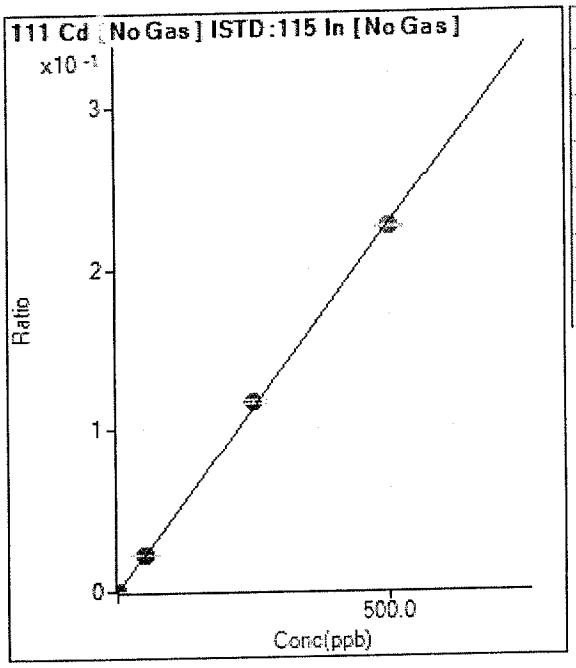
y = 0.0023 * x + 8.9288E-006
R = 0.9998
DL = 0.001671
BEC = 0.003958

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		5.33	0.0000	P	28.8
2	☐	0.500		195.00	0.0000	P	4.4
3	☐	1.000		311.33	0.0001	P	3.5
4	☐	50.000		8357.64	0.0016	P	0.6
5	☐	250.000		37881.09	0.0081	P	3.3
6	☐	500.000		79767.66	0.0155	P	0.7

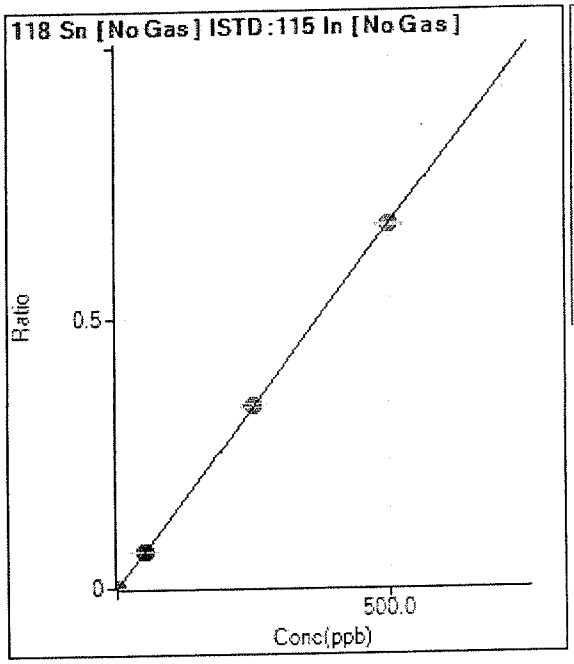
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	29.08	0.0000	P	20.0
2	☐	0.500	0.525	1341.04	0.0002	P	1.9
3	☐	1.000	1.093	2686.82	0.0005	P	3.7
4	☐	50.000	50.181	119686.13	0.0228	P	1.0
5	☐	250.000	257.933	550039.60	0.1173	P	1.8
6	☐	500.000	496.015	1157360.04	0.2255	A	0.4

y = 4.5464E-004 * x + 5.4375E-006
R = 0.9998
DL = 0.007179
BEC = 0.01196

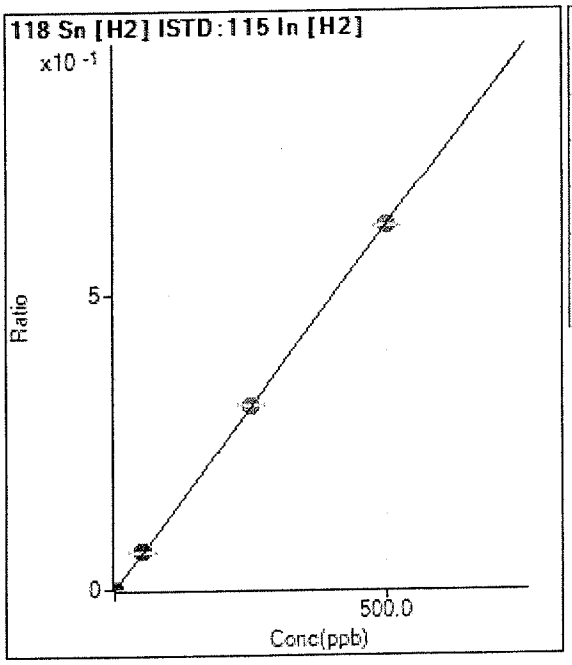
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	726.69	0.0001	P	13.5
2	☐	0.500	0.441	3997.28	0.0007	P	4.7
3	☐	1.000	0.972	7720.04	0.0014	P	2.3
4	☐	50.000	50.649	357803.43	0.0682	P	0.8
5	☐	250.000	250.946	1582943.51	0.3375	A	1.8
6	☐	500.000	499.462	3446313.68	0.6715	A	0.4

y = 0.0013 * x + 1.3586E-004
R = 1.0000
DL = 0.04083
BEC = 0.1011

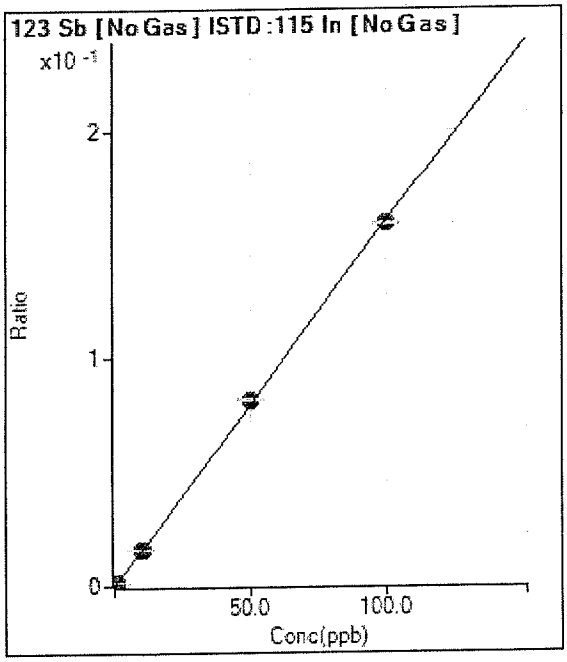
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	713.35	0.0001	P	5.2
2	☐	0.500	0.444	3661.62	0.0007	P	1.6
3	☐	1.000	0.983	7478.80	0.0013	P	3.0
4	☐	50.000	51.709	353364.19	0.0639	P	1.4
5	☐	250.000	251.425	1559936.36	0.3103	A	1.0
6	☐	500.000	499.117	3303847.16	0.6158	A	0.4

y = 0.0012 * x + 1.2774E-004
R = 1.0000
DL = 0.01616
BEC = 0.1036

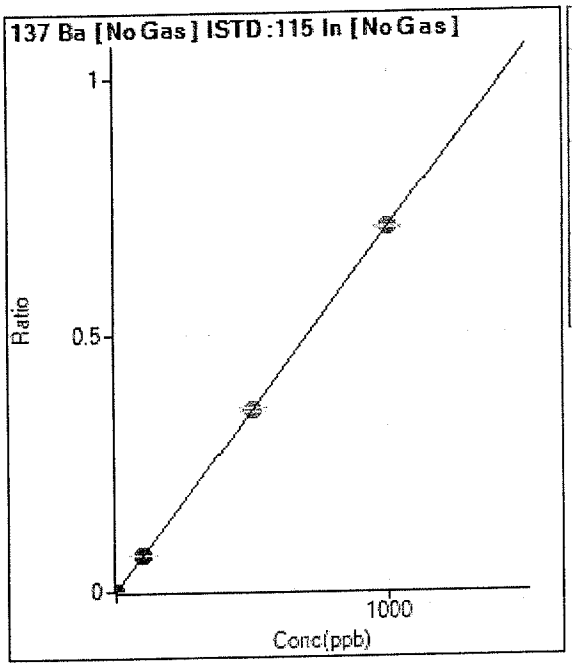
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123.34	0.0000	P	11.9
2	☐	0.500	0.478	4319.61	0.0008	P	2.9
3	☐	1.000	0.933	8105.84	0.0015	P	1.6
4	☐	10.000	9.905	83191.63	0.0159	P	0.9
5	☐	50.000	51.301	384886.23	0.0821	P	1.5
6	☐	100.000	99.360	815506.95	0.1589	P	0.3

y = 0.0016 * x + 2.3051E-005
R = 0.9999
DL = 0.00515
BEC = 0.01442

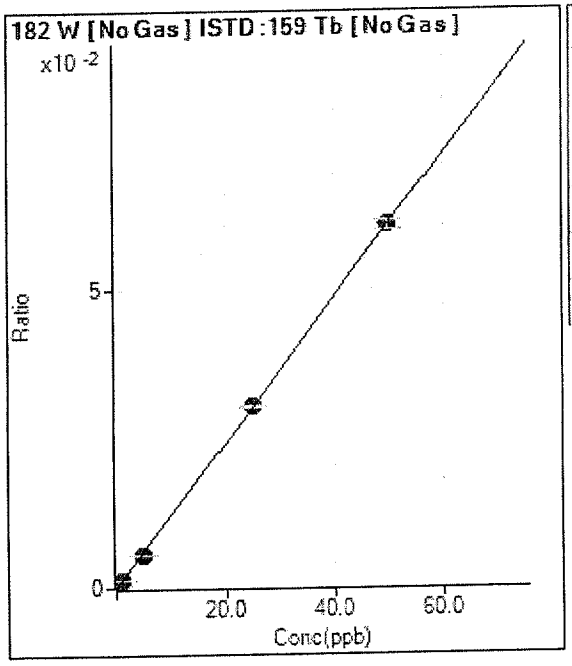
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	244.45	0.0000	P	9.1
2	☐	0.500	0.470	2079.06	0.0004	P	1.0
3	☐	1.000	1.015	4091.76	0.0008	P	6.5
4	☐	100.000	99.356	369681.50	0.0705	P	0.3
5	☐	500.000	499.764	1661886.84	0.3544	A	2.4
6	☐	1000.000	1000.183	3639351.25	0.7091	A	0.3

y = 7.0896E-004 * x + 4.5712E-005
R = 1.0000
DL = 0.01768
BEC = 0.06448

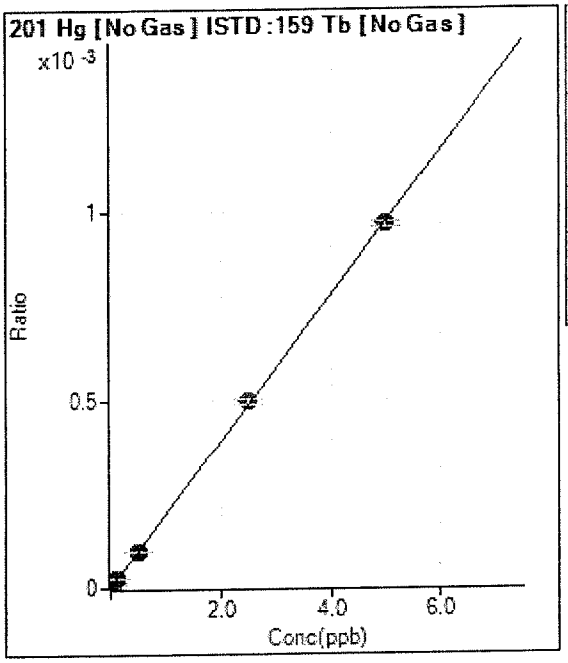
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0000	P	22.5
2	☐	0.500	0.279	2633.62	0.0004	P	8.0
3	☐	1.000	0.999	8886.48	0.0012	P	4.3
4	☐	5.000	4.408	38909.75	0.0054	P	1.8
5	☐	25.000	25.062	199377.58	0.0305	P	1.3
6	☐	50.000	50.030	443427.10	0.0608	P	2.6

y = 0.0012 * x + 1.5548E-005
R = 0.9999
DL = 0.008653
BEC = 0.0128

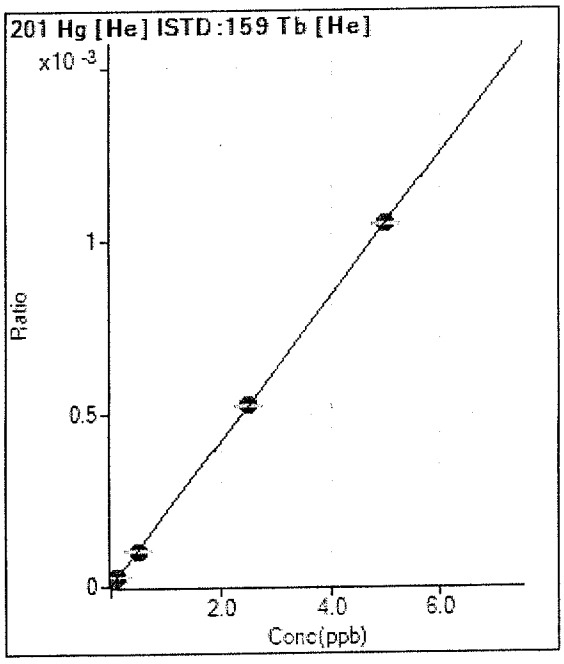
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.50	0.0000	P	14.2
2	☐	0.050	0.054	93.00	0.0000	P	6.6
3	☐	0.100	0.113	174.50	0.0000	P	7.6
4	☐	0.500	0.491	705.35	0.0001	P	1.6
5	☐	2.500	2.547	3249.42	0.0005	P	2.6
6	☐	5.000	4.977	7063.99	0.0010	P	1.5

y = 1.9411E-004 * x + 2.1259E-006
R = 0.9999
DL = 0.004679
BEC = 0.01095

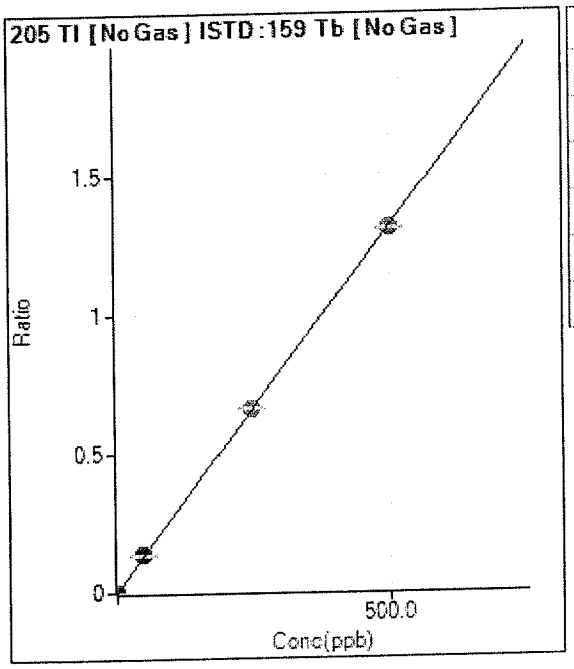
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	18.0
2	☐	0.050	0.058	66.00	0.0000	P	25.2
3	☐	0.100	0.115	143.83	0.0000	P	7.4
4	☐	0.500	0.476	562.01	0.0001	P	4.9
5	☐	2.500	2.506	2822.32	0.0005	P	1.1
6	☐	5.000	4.999	5692.63	0.0010	P	0.2

y = 2.0942E-004 * x + 2.4525E-006
R = 1.0000
DL = 0.006315
BEC = 0.01171

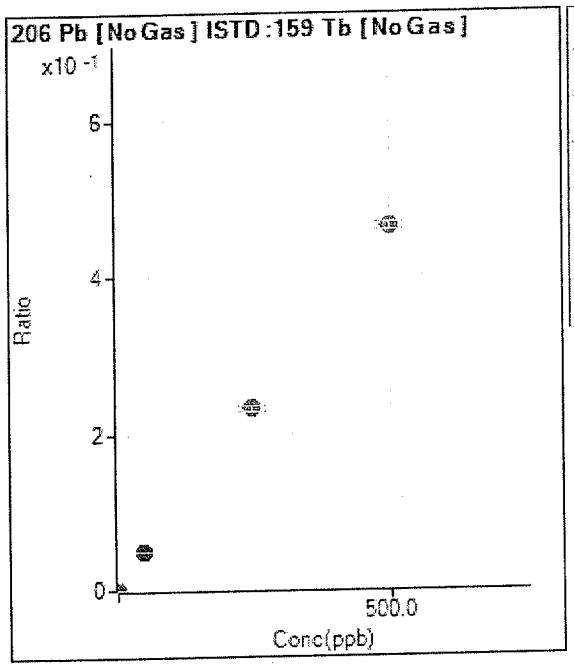
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	378.89	0.0001	P	12.3
2	☐	0.500	0.517	10454.39	0.0014	P	1.8
3	☐	1.000	1.021	19757.84	0.0027	P	1.0
4	☐	50.000	51.583	981853.99	0.1355	P	1.2
5	☐	250.000	252.330	4338083.44	0.6627	A	1.5
6	☐	500.000	498.676	9555186.29	1.3097	A	0.8

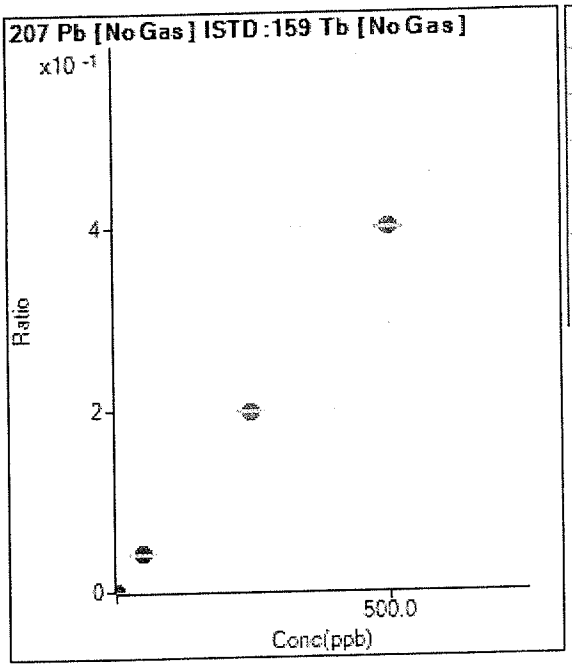
y = 0.0026 * x + 5.1970E-005
R = 1.0000
DL = 0.007289
BEC = 0.01979

Weight: <None>
Min Conc: 0



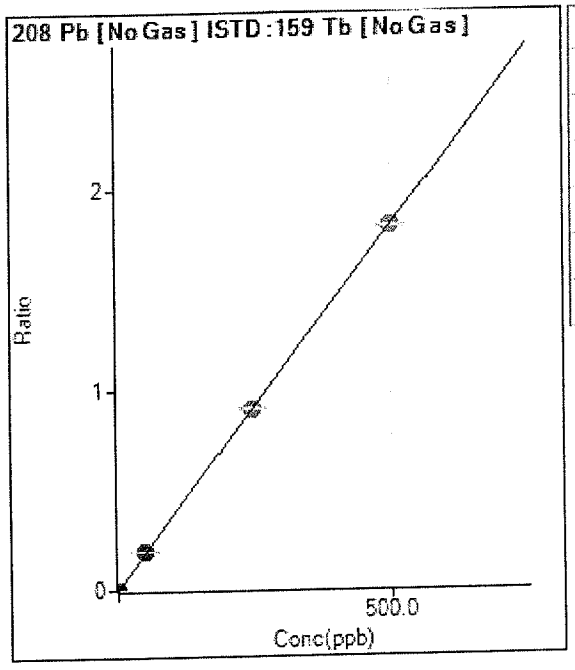
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		250.00	0.0000	P	14.2
2	☐	0.500		3620.54	0.0005	P	9.6
3	☐	1.000		7615.69	0.0011	P	5.3
4	☐	50.000		350840.41	0.0484	P	0.4
5	☐	250.000		1521968.52	0.2325	A	3.2
6	☐	500.000		3384300.89	0.4639	A	2.1

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		193.33	0.0000	P	25.8
2	☐	0.500		3153.75	0.0004	P	5.2
3	☐	1.000		6101.51	0.0008	P	5.7
4	☐	50.000		300556.65	0.0415	P	1.5
5	☐	250.000		1296921.02	0.1981	A	1.1
6	☐	500.000		2917966.10	0.4000	A	0.5

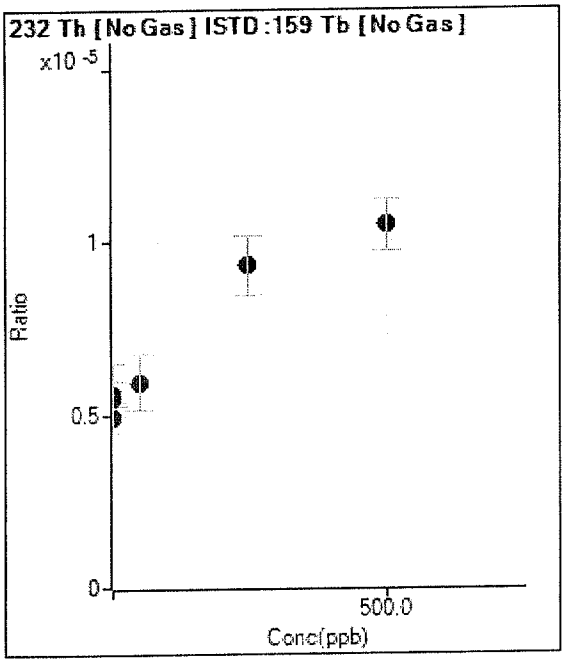
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	957.79	0.0001	P	6.4
2	☐	0.500	0.502	14514.47	0.0020	P	3.0
3	☐	1.000	1.073	29170.12	0.0040	P	2.6
4	☐	50.000	52.373	1380909.57	0.1906	P	1.0
5	☐	250.000	250.166	5955920.73	0.9099	A	1.8
6	☐	500.000	499.680	13258595.32	1.8174	A	0.8

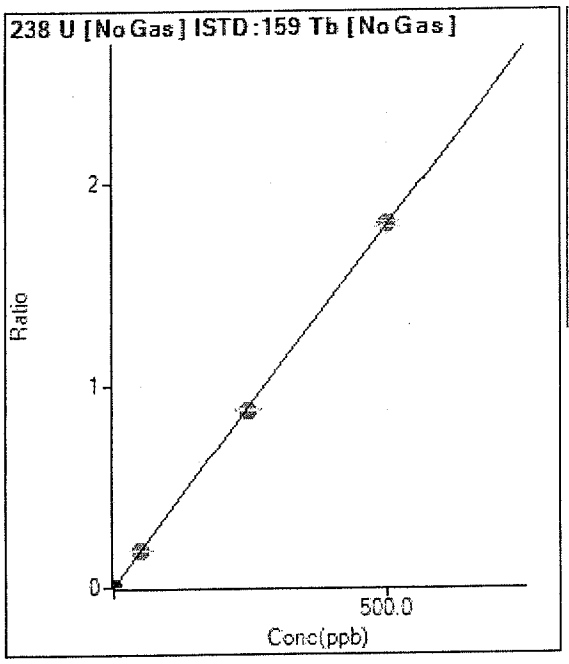
y = 0.0036 * x + 1.3132E-004
R = 1.0000
DL = 0.006976
BEC = 0.03611

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		41.11	0.0000	P	12.3
2	☐	0.500		36.67	0.0000	P	18.1
3	☐	1.000		40.00	0.0000	P	36.3
4	☐	50.000		43.33	0.0000	P	27.8
5	☐	250.000		61.11	0.0000	P	18.1
6	☐	500.000		76.67	0.0000	P	14.4

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	107.78	0.0000	P	25.8
2	☐	0.500	0.487	13034.71	0.0018	P	1.0
3	☐	1.000	1.016	26396.15	0.0037	P	0.9
4	☐	50.000	50.364	1305497.21	0.1802	A	1.9
5	☐	250.000	245.944	5760194.91	0.8799	A	0.6
6	☐	500.000	501.992	13102093.37	1.7959	A	1.3

y = 0.0036 * x + 1.4782E-005
R = 1.0000
DL = 0.003196
BEC = 0.004132

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq. Date-Time	2023-01-27 10:01:39
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

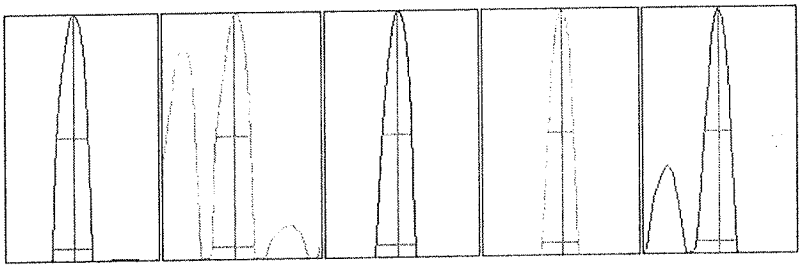
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	17945	179452.98			2.153	5.000
24	10.00	88292	882920.82			3.397	5.000
59	10.00	199415	1994145.18			3.686	5.000
115	10.00	237569	2375688.54			1.876	5.000
208	10.00	135802	1358020.03			1.244	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	18012	18142	17264	18125	18183
24	88776	89474	83017	90145	90048
59	201853	201367	186428	204301	203124
115	236317	238506	230668	242473	239880
208	133386	135148	136540	135998	137937

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	32236.37	8.90	8.90 - 9.10	
24	156555.15	23.90	23.90 - 24.10	
59	361750.91	58.95	58.90 - 59.10	
115	493759.65	115.05	114.90 - 115.10	
208	269333.48	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.780	0.900	
24	0.63	0.789	0.900	
59	0.58	0.778	0.900	
115	0.50	0.688	0.900	
208	0.52	0.776	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.1 V	Deflect	14.4 V
Extract 2	-190.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-105 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.3 mm	Torch V	-0.3 mm		

EM

Discriminator	3.2 mV	Analog HV	2761 V	Pulse HV	1493 V

Calibration Blank Report

Sample Name	S0
File Name	H6A20003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 11:47:38
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	67741.05	0.2
Be	9	6	No Gas	43.33	20.4
B	11	6	No Gas	6617.12	0.9
Na	23	45	H2	801731.17	0.6
Mg	24	45	No Gas	49462.75	1.1
Al	27	45	No Gas	14477.60	2.2
Si	28	45	H2	5319.68	1.1
P	31	45	No Gas	46440.77	1.3
K	39	45	He	101523.71	4.2
Ca	40	45	H2	225736.44	1.3
Ti	47	45	No Gas	247.33	13.7
V	51	45	He	1797.45	1.8
Cr	52	45	He	1795.45	3.6
Mn	55	45	No Gas	8927.58	1.0
Fe	56	45	H2	38977.43	0.6
Co	59	45	No Gas	361.34	5.0
Ni	60	45	He	234.00	15.8
Cu	63	45	He	3803.20	2.2
Zn	66	72	No Gas	3139.03	4.0
As	75	72	He	134.33	11.6
Se	78	72	H2	22.00	7.9
Sr	88	72	No Gas	1035.59	4.4
Zr	90	72	No Gas	323.34	8.9
Mo	95	115	No Gas	50.00	50.3
Mo	98	115	No Gas	171.11	6.3
[Cd]	106	115	No Gas	3.67	15.7
Ag	107	115	No Gas	47.78	14.5
[Cd]	108	115	No Gas	5.33	28.6
Cd	111	115	No Gas	29.08	20.0
Sn	118	115	No Gas	726.69	13.5
Sn	118	115	H2	713.35	6.6
Sb	123	115	No Gas	123.34	12.4
Ba	137	115	No Gas	244.45	8.9
W	182	159	No Gas	113.33	22.2
Hg	201	159	No Gas	15.50	14.1

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	13.33	17.7
Tl	205	159	No Gas	378.89	11.9
Pb	206	159	No Gas	250.00	14.4
Pb	207	159	No Gas	193.33	26.0
Pb	208	159	No Gas	957.79	6.8
Th	232	159	No Gas	41.11	12.4
U	238	159	No Gas	107.78	25.8

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1129062.40	0.4
Sc	45	No Gas	4328907.50	0.4
Sc	45	H2	3276792.92	0.7
Sc	45	He	582155.90	1.5
Ge	72	No Gas	950222.33	0.7
Ge	72	H2	807227.94	0.4
Ge	72	He	315409.62	0.6
In	115	No Gas	5348455.52	0.5
Tb	159	No Gas	7292471.93	0.3
Tb	159	He	5438099.00	0.9

Calibration Standard Report

Sample Name	S1
File Name	H6A20004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 11:50:30
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	71607.76	0.1
Be	9	6	No Gas	988.92	3.8
B	11	6	No Gas	4844.17	0.6
Na	23	45	H2	1029822.44	0.9
Mg	24	45	No Gas	489289.06	0.3
Al	27	45	No Gas	606625.64	1.4
Si	28	45	H2	144758.50	3.4
P	31	45	No Gas	62771.34	0.2
K	39	45	He	145935.26	2.0
Ca	40	45	H2	626471.81	4.0
Ti	47	45	No Gas	1027.37	2.0
V	51	45	He	4578.77	1.9
Cr	52	45	He	5835.25	3.9
Mn	55	45	No Gas	19760.92	0.7
Fe	56	45	H2	739749.04	4.2
Co	59	45	No Gas	11361.40	1.8
Ni	60	45	He	1482.75	5.5
Cu	63	45	He	6518.90	2.5
Zn	66	72	No Gas	5509.79	1.1
As	75	72	He	724.35	4.3
Se	78	72	H2	190.67	11.0
Sr	88	72	No Gas	14068.51	1.9
Zr	90	72	No Gas	64695.92	0.7
Mo	95	115	No Gas	2511.35	1.3
Ag	107	115	No Gas	7181.95	2.9
Cd	111	115	No Gas	1341.04	2.3
Sn	118	115	No Gas	3997.28	4.8
Sb	123	115	No Gas	4319.61	3.6
Ba	137	115	No Gas	2079.06	1.7
W	182	159	No Gas	2633.62	8.3
Hg	201	159	He	66.00	9.2
Tl	205	159	No Gas	10454.39	2.2
Pb	208	159	No Gas	14514.47	2.6
U	238	159	No Gas	13034.71	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1169650.64	0.9	1129062.4	103.59	70	120	
Sc	45	No Gas	4450943.50	0.9	4328907.5	102.82	70	120	
Sc	45	H2	3154705.08	3.5	3276792.92	96.27	70	120	
Sc	45	He	508815.46	17.6	582155.9	87.4	70	120	
Ge	72	No Gas	1002392.85	0.3	950222.33	105.49	70	120	
Ge	72	H2	814803.11	3.9	807227.94	100.94	70	120	
Ge	72	He	291547.64	15.8	315409.62	92.43	70	120	
In	115	No Gas	5489472.21	0.7	5348455.52	102.64	70	120	
Tb	159	No Gas	7420361.93	0.4	7292471.93	101.75	70	120	
Tb	159	He	4662145.83	18.8	5438099	85.73	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6A20005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 11:53:20
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	73844.82	1.2
Be	9	6	No Gas	2024.59	8.9
B	11	6	No Gas	5744.51	0.6
Na	23	45	H2	1227454.83	0.3
Mg	24	45	No Gas	920040.92	0.9
Al	27	45	No Gas	1170155.97	0.8
Si	28	45	H2	302468.08	1.5
P	31	45	No Gas	75995.10	0.7
K	39	45	He	183137.15	2.1
Ca	40	45	H2	1183731.91	0.8
Ti	47	45	No Gas	1890.80	4.5
V	51	45	He	8158.43	1.8
Cr	52	45	He	9388.55	1.4
Mn	55	45	No Gas	34081.03	0.6
Fe	56	45	H2	1511180.46	0.5
Co	59	45	No Gas	22288.18	1.2
Ni	60	45	He	2827.63	3.2
Cu	63	45	He	10556.76	1.2
Zn	66	72	No Gas	32390.54	1.4
As	75	72	He	1262.73	1.8
Se	78	72	H2	401.34	4.6
Sr	88	72	No Gas	27498.18	0.9
Zr	90	72	No Gas	109032.48	3.0
Mo	95	115	No Gas	4846.44	2.0
Ag	107	115	No Gas	13762.71	0.5
Cd	111	115	No Gas	2686.82	3.8
Sn	118	115	No Gas	7720.04	1.7
Sb	123	115	No Gas	8105.84	1.4
Ba	137	115	No Gas	4091.76	5.9
W	182	159	No Gas	8886.48	4.1
Hg	201	159	He	143.83	7.6
Tl	205	159	No Gas	19757.84	0.3
Pb	208	159	No Gas	29170.12	2.9
U	238	159	No Gas	26396.15	1.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1136211.23	1.8	1129062.4	100.63	70	120	
Sc	45	No Gas	4339509.50	0.3	4328907.5	100.24	70	120	
Sc	45	H2	3244915.92	1.3	3276792.92	99.03	70	120	
Sc	45	He	579985.46	0.4	582155.9	99.63	70	120	
Ge	72	No Gas	983834.66	0.7	950222.33	103.54	70	120	
Ge	72	H2	835068.04	0.6	807227.94	103.45	70	120	
Ge	72	He	324662.04	1.2	315409.62	102.93	70	120	
In	115	No Gas	5350329.74	0.6	5348455.52	100.04	70	120	
Tb	159	No Gas	7230328.88	0.6	7292471.93	99.15	70	120	
Tb	159	He	5433160.33	0.2	5438099	99.91	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6A20006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 11:56:11
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	95434.79	1.1
Be	9	6	No Gas	9596.60	3.0
B	11	6	No Gas	17559.86	0.9
Na	23	45	H2	21741833.33	0.5
Mg	24	45	No Gas	43400820.00	0.1
Al	27	45	No Gas	57994625.80	0.4
Si	28	45	H2	762700.98	0.8
P	31	45	No Gas	83649.49	0.7
K	39	45	He	4097854.00	0.4
Ca	40	45	H2	51615980.00	0.7
Ti	47	45	No Gas	77996.43	2.0
V	51	45	He	328218.20	0.8
Cr	52	45	He	371376.75	0.1
Mn	55	45	No Gas	7397596.00	1.1
Fe	56	45	H2	73365362.67	1.1
Co	59	45	No Gas	1042217.04	0.9
Ni	60	45	He	127100.42	1.0
Cu	63	45	He	336126.42	0.4
Zn	66	72	No Gas	160139.48	1.2
As	75	72	He	60457.18	0.4
Se	78	72	H2	20120.00	1.1
Sr	88	72	No Gas	1304906.48	0.6
Zr	90	72	No Gas	164440.70	0.9
Mo	95	115	No Gas	246991.56	1.6
Ag	107	115	No Gas	60675.33	1.0
Cd	111	115	No Gas	119686.13	1.1
Sn	118	115	No Gas	357803.43	0.7
Sb	123	115	No Gas	83191.63	0.8
Ba	137	115	No Gas	369681.50	0.1
W	182	159	No Gas	38909.75	2.1
Hg	201	159	He	562.01	5.3
Tl	205	159	No Gas	981853.99	0.9
Pb	208	159	No Gas	1380909.57	0.6
U	238	159	No Gas	1305497.21	1.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1137489.75	1.3	1129062.4	100.75	70	120	
Sc	45	No Gas	4325774.33	0.3	4328907.5	99.93	70	120	
Sc	45	H2	3249260.42	1.2	3276792.92	99.16	70	120	
Sc	45	He	577762.69	1.3	582155.9	99.25	70	120	
Ge	72	No Gas	983234.79	0.6	950222.33	103.47	70	120	
Ge	72	H2	835688.02	1.0	807227.94	103.53	70	120	
Ge	72	He	326509.31	0.8	315409.62	103.52	70	120	
In	115	No Gas	5244797.72	0.2	5348455.52	98.06	70	120	
Tb	159	No Gas	7245168.32	0.4	7292471.93	99.35	70	120	
Tb	159	He	5498944.83	0.6	5438099	101.12	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6A20007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 11:59:17
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	179720.56	1.1
Be	9	6	No Gas	44798.90	1.2
B	11	6	No Gas	67826.40	2.0
Na	23	45	H2	94758050.67	0.5
Mg	24	45	No Gas	193564096.00	0.5
Al	27	45	No Gas	256977649.50	1.4
Si	28	45	H2	3461876.08	1.9
P	31	45	No Gas	226707.03	0.8
K	39	45	He	19502380.67	2.9
Ca	40	45	H2	234960266.67	2.4
Ti	47	45	No Gas	354754.00	0.7
V	51	45	He	1561360.63	3.4
Cr	52	45	He	1744173.79	2.4
Mn	55	45	No Gas	32807521.33	1.7
Fe	56	45	H2	331052853.33	0.9
Co	59	45	No Gas	4631856.83	0.4
Ni	60	45	He	598487.44	2.5
Cu	63	45	He	1526177.12	2.1
Zn	66	72	No Gas	726049.19	1.8
As	75	72	He	294351.58	1.0
Se	78	72	H2	98598.32	0.9
Sr	88	72	No Gas	5929957.26	0.1
Zr	90	72	No Gas	405340.94	2.4
Mo	95	115	No Gas	1123373.98	1.9
Ag	107	115	No Gas	272985.01	1.0
Cd	111	115	No Gas	550039.60	0.8
Sn	118	115	No Gas	1582943.51	1.6
Sb	123	115	No Gas	384886.23	0.8
Ba	137	115	No Gas	1661886.84	0.3
W	182	159	No Gas	199377.58	1.3
Hg	201	159	He	2822.32	2.3
Tl	205	159	No Gas	4338083.44	1.2
Pb	208	159	No Gas	5955920.73	1.2
U	238	159	No Gas	5760194.91	1.7

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	969016.63	0.6	1129062.4	85.82	70	120	
Sc	45	No Gas	3930803.25	0.9	4328907.5	90.8	70	120	
Sc	45	H2	2991573.50	0.7	3276792.92	91.3	70	120	
Sc	45	He	562549.17	2.6	582155.9	96.63	70	120	
Ge	72	No Gas	895331.58	0.7	950222.33	94.22	70	120	
Ge	72	H2	776109.98	1.4	807227.94	96.15	70	120	
Ge	72	He	315275.73	2.1	315409.62	99.96	70	120	
In	115	No Gas	4691442.58	2.1	5348455.52	87.72	70	120	
Tb	159	No Gas	6546091.27	1.1	7292471.93	89.77	70	120	
Tb	159	He	5352883.00	2.1	5438099	98.43	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A20008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:02:06
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	344800.52	0.4
Be	9	6	No Gas	95399.46	1.0
B	11	6	No Gas	137054.85	1.3
Na	23	45	H2	205430293.33	0.4
Mg	24	45	No Gas	427124117.33	0.7
Al	27	45	No Gas	573084018.13	0.5
Si	28	45	H2	7211902.17	0.6
P	31	45	No Gas	408022.59	0.5
K	39	45	He	38508910.67	0.7
Ca	40	45	H2	504680672.00	0.5
Ti	47	45	No Gas	766614.77	0.7
V	51	45	He	3117097.17	1.1
Cr	52	45	He	3478233.00	0.6
Mn	55	45	No Gas	72110490.67	0.6
Fe	56	45	H2	713371349.33	0.9
Co	59	45	No Gas	9988886.00	1.2
Ni	60	45	He	1166717.79	0.4
Cu	63	45	He	2990443.17	1.0
Zn	66	72	No Gas	1507065.00	0.4
As	75	72	He	576996.13	0.3
Se	78	72	H2	193818.86	0.5
Sr	88	72	No Gas	12850942.54	0.8
Zr	90	72	No Gas	856811.96	0.9
Mo	95	115	No Gas	2444501.64	0.6
Ag	107	115	No Gas	574099.09	0.5
Cd	111	115	No Gas	1157360.04	1.0
Sn	118	115	No Gas	3446313.68	0.4
Sb	123	115	No Gas	815506.95	0.4
Ba	137	115	No Gas	3639351.25	0.9
W	182	159	No Gas	443427.10	1.9
Hg	201	159	He	5692.63	0.2
Tl	205	159	No Gas	9555186.29	1.0
Pb	208	159	No Gas	13258595.32	0.7
U	238	159	No Gas	13102093.37	1.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1113577.95	1.2	1129062.4	98.63	70	120	
Sc	45	No Gas	4347755.83	0.7	4328907.5	100.44	70	120	
Sc	45	H2	3261864.58	0.5	3276792.92	99.54	70	120	
Sc	45	He	565976.48	0.4	582155.9	97.22	70	120	
Ge	72	No Gas	977979.65	0.9	950222.33	102.92	70	120	
Ge	72	H2	827444.81	1.0	807227.94	102.5	70	120	
Ge	72	He	315546.73	0.3	315409.62	100.04	70	120	
In	115	No Gas	5132033.63	0.6	5348455.52	95.95	70	120	
Tb	159	No Gas	7295650.26	0.7	7292471.93	100.04	70	120	
Tb	159	He	5424860.17	0.2	5438099	99.76	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6A20009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:10:38
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.619	ppb	2.5	224489.43	30	92.06	90	110	
Be	9	6	No Gas	29.572	ppb	2.2	58362.24	30	98.57	90	110	
B	11	6	No Gas	27.093	ppb	3.8	43275.62	30	90.31	90	110	
Na	23	45	H2	30723.672	ppb	1.0	128241821.33	30000	102.41	90	110	
Mg	24	45	No Gas	30086.392	ppb	2.1	258704389.33	30000	100.29	90	110	
Al	27	45	No Gas	30904.024	ppb	1.8	355769928.03	30000	103.01	90	110	
Si	28	45	H2	3117.257	ppb	1.2	4599913.17	3000	103.91	90	110	
P	31	45	No Gas	289.602	ppb	0.4	262770.36	300	96.53	90	110	
K	39	45	He	31091.753	ppb	0.3	24251016.00	30000	103.64	90	110	
Ca	40	45	H2	30524.025	ppb	0.3	313121397.33	30000	101.75	90	110	
Ti	47	45	No Gas	303.368	ppb	0.6	470118.20	300	101.12	90	110	
V	51	45	He	308.098	ppb	0.6	1939462.54	300	102.7	90	110	
Cr	52	45	He	311.161	ppb	0.4	2186418.83	300	103.72	90	110	
Mn	55	45	No Gas	1998.379	ppb	1.4	48387377.33	2000	99.92	90	110	
Fe	56	45	H2	30594.024	ppb	1.0	443267413.33	30000	101.98	90	110	
Co	59	45	No Gas	306.139	ppb	0.8	6185052.00	300	102.05	90	110	
Nl	60	45	He	308.988	ppb	0.2	731655.69	300	103	90	110	
Cu	63	45	He	321.875	ppb	0.2	1952622.54	300	107.29	90	110	
Zn	66	72	No Gas	303.849	ppb	1.7	922220.16	300	101.28	90	110	
As	75	72	He	299.559	ppb	1.0	350757.78	300	99.85	90	110	
Se	78	72	H2	294.778	ppb	0.5	116407.72	300	98.26	90	110	
Sr	88	72	No Gas	304.813	ppb	1.8	7811249.97	300	101.6	90	110	
Zr	90	72	No Gas	30.257	ppb	1.5	515582.75	30	100.86	90	110	
Mo	95	115	No Gas	300.657	ppb	1.6	1484278.80	300	100.22	90	110	
Ag	107	115	No Gas	30.221	ppb	1.5	352984.04	30	100.74	90	110	
Cd	111	115	No Gas	299.087	ppb	1.1	703926.68	300	99.7	90	110	
Sn	118	115	No Gas	303.747	ppb	1.1	2114418.94	300	101.25	90	110	
Sb	123	115	No Gas	56.622	ppb	1.2	468840.94	60	94.37	90	110	
Ba	137	115	No Gas	300.001	ppb	1.2	1101274.40	300	100	90	110	
W	182	159	No Gas	30.263	ppb	0.8	271517.11	30	100.88	90	110	
Hg	201	159	No Gas	2.810	ppb	3.2	4044.16	3	93.67	90	110	
Hg	201	159	He	2.893	ppb	1.4	3294.27	3	96.43	90	110	
Tl	205	159	No Gas	298.304	ppb	2.0	5785199.21	300	99.43	90	110	
Pb	208	159	No Gas	301.596	ppb	2.2	8100298.77	300	100.53	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	302.237	ppb	2.0	7984245.79	300	100.75	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1133641.22	1.8	1129062.4	100.41	70	120	
Sc	45	No Gas	4371933.50	2.1	4328907.5	100.99	70	120	
Sc	45	H2	3303763.83	0.5	3276792.92	100.82	70	120	
Sc	45	He	570342.67	0.3	582155.9	97.97	70	120	
Ge	72	No Gas	973275.92	1.1	950222.33	102.43	70	120	
Ge	72	H2	828718.75	0.6	807227.94	102.66	70	120	
Ge	72	He	318786.07	1.4	315409.62	101.07	70	120	
In	115	No Gas	5176321.31	1.3	5348455.52	96.78	70	120	
Tb	159	No Gas	7382541.09	1.5	7292471.93	101.24	70	120	
Tb	159	He	5416371.17	0.6	5438099	99.6	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A20010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:13:15
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	69615.92	0.4	
Be	9	6	No Gas	0.008	ppb	161.9	60.00	0.08	
B	11	6	No Gas	0.807	ppb	26.1	7970.04	4	
Na	23	45	H2	38.652	ppb	21.9	873689.15	40	
Mg	24	45	No Gas	0.342	ppb	200.1	52239.26	10	
Al	27	45	No Gas	0.973	ppb	55.6	25437.64	15	
Si	28	45	H2	0.814	ppb	7.4	5922.60	8	
P	31	45	No Gas	0.292	ppb	419.2	46629.45	10	
K	39	45	He	35.056	ppb	76.9	108039.87	20	>LOD
Ca	40	45	H2	10.304	ppb	2.7	300789.71	25	
Ti	47	45	No Gas	0.011	ppb	123.8	264.00	0.5	
V	51	45	He	0.035	ppb	210.6	1672.77	0.5	
Cr	52	45	He	0.095	ppb	82.9	2052.16	0.2	
Mn	55	45	No Gas	0.328	ppb	16.5	16764.95	0.2	>LOD
Fe	56	45	H2	1.073	ppb	7.5	49490.67	10	
Co	59	45	No Gas	0.012	ppb	23.3	604.68	0.15	
Ni	60	45	He	0.040	ppb	61.8	276.67	0.2	
Cu	63	45	He	0.190	ppb	107.3	4111.29	0.4	
Zn	66	72	No Gas	0.779	ppb	3.7	5392.41	2	
As	75	72	He	0.048	ppb	44.1	165.33	0.2	
Se	78	72	H2	0.068	ppb	18.7	45.00	0.2	
Sr	88	72	No Gas	0.010	ppb	83.7	1276.73	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	233.34	2	
Mo	95	115	No Gas	0.046	ppb	20.5	287.78	0.2	
Ag	107	115	No Gas	0.003	ppb	31.3	80.00	0.08	
Cd	111	115	No Gas	0.052	ppb	31.4	155.69	0.2	
Sn	118	115	No Gas	0.191	ppb	9.8	2115.73	0.2	
Sb	123	115	No Gas	0.007	ppb	28.9	182.22	0.4	
Ba	137	115	No Gas	0.012	ppb	131.3	292.23	0.2	
W	182	159	No Gas	0.005	ppb	215.3	156.67	0.3	
Hg	201	159	No Gas	0.028	ppb	17.7	55.17	0.1	
Hg	201	159	He	0.018	ppb	7.8	29.83	0.1	
Tl	205	159	No Gas	0.084	ppb	16.4	2002.39	0.1	
Pb	208	159	No Gas	0.025	ppb	46.4	1634.49	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.020	ppb	11.4	637.79	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1168960.35	2.9	1129062.4	103.53	70	120	
Sc	45	No Gas	4327906.58	3.3	4328907.5	99.98	70	120	
Sc	45	H2	2982261.83	3.5	3276792.92	91.01	70	120	
Sc	45	He	497089.67	19.6	582155.9	85.39	70	120	
Ge	72	No Gas	941636.35	1.9	950222.33	99.1	70	120	
Ge	72	H2	752601.88	1.5	807227.94	93.23	70	120	
Ge	72	He	277837.02	14.5	315409.62	88.09	70	120	
In	115	No Gas	5382420.93	1.6	5348455.52	100.64	70	120	
Tb	159	No Gas	7393030.26	2.9	7292471.93	101.38	70	120	
Tb	159	He	4736855.92	18.1	5438099	87.1	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA2701
File Name	H6A20011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:22:06
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.990	ppb	16.4	66383.57	1	99	80	120	
Be	9	6	No Gas	1.049	ppb	6.6	1903.46	1	104.9	80	120	
B	11	6	No Gas	8.897	ppb	8.8	16834.54	10	88.97	80	120	
Na	23	45	H2	108.771	ppb	11.0	1222540.58	100	108.77	80	120	
Mg	24	45	No Gas	99.958	ppb	2.5	811305.23	100	99.96	80	120	
Al	27	45	No Gas	100.203	ppb	2.8	1042317.22	100	100.2	80	120	
Si	28	45	H2	101.363	ppb	2.3	150373.75	100	101.36	80	120	
P	31	45	No Gas	58.944	ppb	4.1	81053.12	50	117.89	80	120	
K	39	45	He	109.982	ppb	5.4	186934.39	100	109.98	80	120	
Ca	40	45	H2	107.482	ppb	1.6	1291528.04	100	107.48	80	120	
Ti	47	45	No Gas	1.039	ppb	3.1	1658.77	1	103.9	80	120	
V	51	45	He	1.015	ppb	2.2	8231.80	1	101.5	80	120	
Cr	52	45	He	1.108	ppb	3.7	9641.39	1	110.8	80	120	
Mn	55	45	No Gas	1.102	ppb	1.4	31838.37	1	110.2	80	120	
Fe	56	45	H2	103.017	ppb	0.6	1488428.63	100	103.02	80	120	
Co	59	45	No Gas	1.068	ppb	1.2	19582.08	1	106.8	80	120	
Ni	60	45	He	1.129	ppb	3.1	2934.98	1	112.9	80	120	
Cu	63	45	He	1.083	ppb	2.1	10399.98	1	108.3	80	120	
Zn	66	72	No Gas	13.640	ppb	4.0	41809.02	10	136.4	80	120	> +/- 20%
As	75	72	He	0.997	ppb	4.5	1330.07	1	99.7	80	120	
Se	78	72	H2	0.995	ppb	8.5	411.01	1	99.5	80	120	
Sr	88	72	No Gas	2.069	ppb	1.9	50846.55	2	103.45	80	120	
Zr	90	72	No Gas	3.806	ppb	2.3	61226.99	5	76.12	80	120	> +/- 20%
Mo	95	115	No Gas	0.955	ppb	5.1	4385.17	1	95.5	80	120	
Ag	107	115	No Gas	1.045	ppb	0.2	11262.59	1	104.5	80	120	
Cd	111	115	No Gas	1.082	ppb	1.6	2368.99	1	108.2	80	120	
Sn	118	115	No Gas	1.087	ppb	1.6	7603.32	1	108.7	80	120	
Sb	123	115	No Gas	0.998	ppb	1.8	7705.60	1	99.8	80	120	
Ba	137	115	No Gas	1.128	ppb	5.2	4021.74	1	112.8	80	120	
W	182	159	No Gas	1.703	ppb	4.4	13921.02	2	85.15	80	120	
Hg	201	159	No Gas	0.114	ppb	5.6	161.83	0.1	114	80	120	
Hg	201	159	He	0.117	ppb	3.7	148.67	0.1	117	80	120	
Tl	205	159	No Gas	0.987	ppb	3.5	17659.18	1	98.7	80	120	
Pb	208	159	No Gas	1.024	ppb	3.6	25747.04	1	102.4	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	0.968	ppb	1.9	23232.06	1	96.8	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1022096.17	0.8	1129062.4	90.53	70	120	
Sc	45	No Gas	3901041.00	1.5	4328907.5	90.12	70	120	
Sc	45	H2	3210873.58	5.0	3276792.92	97.99	70	120	
Sc	45	He	576624.65	0.9	582155.9	99.05	70	120	
Ge	72	No Gas	914978.12	1.1	950222.33	96.29	70	120	
Ge	72	H2	821235.94	3.9	807227.94	101.74	70	120	
Ge	72	He	325398.90	0.6	315409.62	103.17	70	120	
In	115	No Gas	4761459.13	2.0	5348455.52	89.02	70	120	
Tb	159	No Gas	6677154.32	1.3	7292471.93	91.56	70	120	
Tb	159	He	5518021.17	0.3	5438099	101.47	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA2702
File Name	H6A20012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:27:16
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.191	ppb	60.0	71163.34	0.4	47.75	80	120	> +/- 20%
Be	9	6	No Gas	0.322	ppb	5.7	698.91	0.4	80.5	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	4920.87	0.4	-345	80	120	> +/- 20%
Na	23	45	H2	44.666	ppb	2.7	991303.85	40	111.66	80	120	
Mg	24	45	No Gas	36.877	ppb	1.0	366732.48	40	92.19	80	120	
Al	27	45	No Gas	36.776	ppb	0.3	437657.70	40	91.94	80	120	
K	39	45	He	39.232	ppb	15.7	132613.81	40	98.08	80	120	
Ca	40	45	H2	75.216	ppb	0.7	996268.33	40	188.04	80	120	> +/- 20%
Ti	47	45	No Gas	0.449	ppb	4.7	944.03	0.4	112.25	80	120	
V	51	45	He	0.356	ppb	3.4	4079.94	0.4	89	80	120	
Cr	52	45	He	0.596	ppb	3.2	6063.35	0.4	149	80	120	> +/- 20%
Mn	55	45	No Gas	0.627	ppb	0.6	24182.03	0.4	156.75	80	120	> +/- 20%
Fe	56	45	H2	39.465	ppb	0.6	609632.10	40	98.66	80	120	
Co	59	45	No Gas	0.369	ppb	1.0	7815.58	0.4	92.25	80	120	
Ni	60	45	He	0.418	ppb	5.6	1244.06	0.4	104.5	80	120	
Cu	63	45	He	0.464	ppb	5.6	6669.63	0.4	116	80	120	
Zn	66	72	No Gas	7.474	ppb	2.7	25102.51	4	186.85	80	120	> +/- 20%
As	75	72	He	0.389	ppb	1.3	571.01	0.4	97.25	80	120	
Se	78	72	H2	0.338	ppb	2.1	151.33	0.4	84.5	80	120	
Sr	88	72	No Gas	0.418	ppb	0.7	11448.24	0.4	104.5	80	120	
Mo	95	115	No Gas	0.326	ppb	2.7	1709.00	0.4	81.5	80	120	
Ag	107	115	No Gas	0.339	ppb	2.4	4128.43	0.4	84.75	80	120	
Cd	111	115	No Gas	0.337	ppb	4.1	845.97	0.4	84.25	80	120	
Sn	118	115	No Gas	0.475	ppb	4.7	4126.21	0.4	118.75	80	120	
Sb	123	115	No Gas	0.316	ppb	5.2	2820.30	0.4	79	80	120	> +/- 20%
Ba	137	115	No Gas	0.393	ppb	8.4	1729.01	0.4	98.25	80	120	
Tl	205	159	No Gas	0.349	ppb	1.4	7036.43	0.4	87.25	80	120	
Pb	208	159	No Gas	0.384	ppb	1.5	11108.59	0.4	96	80	120	
U	238	159	No Gas	0.334	ppb	4.5	8799.84	0.4	83.5	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1167556.11	0.9	1129062.4	103.41	70	120	
Sc	45	No Gas	4369658.33	2.2	4328907.5	100.94	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3296006.92	0.5	3276792.92	100.59	70	120	
Sc	45	He	582144.71	0.4	582155.9	100	70	120	
Ge	72	No Gas	946219.79	1.0	950222.33	99.58	70	120	
Ge	72	H2	803818.44	0.9	807227.94	99.58	70	120	
Ge	72	He	307714.09	0.8	315409.62	97.56	70	120	
In	115	No Gas	5331398.21	1.3	5348455.52	99.68	70	120	
Tb	159	No Gas	7271034.71	1.6	7292471.93	99.71	70	120	
Tb	159	He	5522234.50	0.5	5438099	101.55	70	120	

Sample Report

Sample Name	MRLA2703
File Name	H6A20013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A20.b
Acq Time	2023-01-27 12:37:39
Sample Type	Sample
Total Dilution	1.0000
Comment	20 ppb Zn
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	67904.18	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	35.55	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	3659.37	100	
Na	23	45	H2	6.125	6.125	ppb	17.7	827346.21	50000	
Mg	24	45	No Gas	11.431	11.431	ppb	0.4	146112.17	50000	
Al	27	45	No Gas	1.143	1.143	ppb	2.4	27393.76	50000	
Si	28	45	H2	4.489	4.489	ppb	3.4	11886.41	5000	
P	31	45	No Gas	0.400	0.400	ppb	428.0	46506.33	500	
K	39	45	He	5.065	5.065	ppb	104.5	103960.84	50000	
Ca	40	45	H2	259.854	259.854	ppb	1.2	2868929.33	50000	
Ti	47	45	No Gas	0.050	0.050	ppb	119.7	324.01	500	
V	51	45	He	0.031	0.031	ppb	33.0	1964.14	500	
Cr	52	45	He	0.004	0.004	ppb	80.8	1797.45	500	
Mn	55	45	No Gas	0.787	0.787	ppb	1.7	27666.67	3000	
Fe	56	45	H2	0.396	0.396	ppb	1.6	44683.49	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	327.34	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	214.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3261.06	500	
Zn	66	72	No Gas	21.865	21.865	ppb	0.7	66242.07	500	
As	75	72	He	0.022	0.022	ppb	66.7	156.33	500	
Se	78	72	H2	0.005	0.005	ppb	403.8	23.67	500	
Sr	88	72	No Gas	0.125	0.125	ppb	6.9	4080.63	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	213.33	50	
Mo	95	115	No Gas	<0.000	<0.000	ppb	N/A	42.22	500	
Ag	107	115	No Gas	0.001	0.001	ppb	67.0	65.56	50	
Cd	111	115	No Gas	0.000	0.000	ppb	374.1	30.11	500	
Sn	118	115	No Gas	0.067	0.067	ppb	13.0	1210.06	500	
Sb	123	115	No Gas	0.002	0.002	ppb	247.2	136.67	100	
Ba	137	115	No Gas	0.014	0.014	ppb	58.1	298.89	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	70.00	50	
Hg	201	159	No Gas	0.002	0.002	ppb	73.2	18.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.50	5	
Tl	205	159	No Gas	0.005	0.005	ppb	16.0	483.34	500	
Pb	208	159	No Gas	0.006	0.006	ppb	24.1	1115.58	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	47.78	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1145655.74	3.5	1129062.4	101.47	70	120	
Sc	45	No Gas	4310220.67	3.3	4328907.5	99.57	70	120	
Sc	45	H2	3278348.17	0.8	3276792.92	100.05	70	120	
Sc	45	He	573581.75	0.4	582155.9	98.53	70	120	
Ge	72	No Gas	929727.54	2.5	950222.33	97.84	70	120	
Ge	72	H2	801035.52	0.4	807227.94	99.23	70	120	
Ge	72	He	307551.76	0.8	315409.62	97.51	70	120	
In	115	No Gas	5350591.40	1.1	5348455.52	100.04	70	120	
Tb	159	No Gas	7278958.04	1.3	7292471.93	99.81	70	120	
Tb	159	He	5502831.67	0.4	5438099	101.19	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6A20014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:40:14
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.134	ppb	94.3	67378.21	2	-50	50	
Be	9	6	No Gas	0.004	ppb	139.6	51.11	0.4	-50	50	
B	11	6	No Gas	0.636	ppb	3.6	7351.92	10	-50	50	
Na	23	45	H2	103448.926	ppb	0.2	422042293.33	100000	80	120	
Mg	24	45	No Gas	101403.365	ppb	1.5	848640149.33	100000	80	120	
Al	27	45	No Gas	101666.499	ppb	1.7	1139006836.36	100000	80	120	
Sl	28	45	H2	4.002	ppb	0.9	11056.41	50	-50	50	
P	31	45	No Gas	100242.733	ppb	0.9	72789928.00	100000	80	120	
K	39	45	He	104061.625	ppb	0.6	79060445.33	100000	80	120	
Ca	40	45	H2	104210.163	ppb	0.4	1048953621.33	100000	80	120	
Ti	47	45	No Gas	2137.871	ppb	0.9	3223607.67	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1598.09	1	-50	50	
Cr	52	45	He	2.209	ppb	1.3	16865.03	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.279	ppb	4.4	15341.27	1	-50	50	
Fe	56	45	H2	103360.048	ppb	0.6	1470136192.00	100000	80	120	
Co	59	45	No Gas	0.165	ppb	2.7	3593.81	0.75	-50	50	
Ni	60	45	He	0.461	ppb	2.2	1290.06	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	3028.34	2	-50	50	
Zn	66	72	No Gas	3.431	ppb	1.9	13373.26	20	-50	50	
As	75	72	He	0.083	ppb	7.8	227.67	1	-50	50	
Se	78	72	H2	0.074	ppb	18.4	51.00	1	-50	50	
Sr	88	72	No Gas	0.851	ppb	1.0	22490.03	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.196	ppb	13.1	3610.51	10	-50	50	
Mo	95	115	No Gas	2117.469	ppb	0.7	10027530.71	2000	80	120	
Ag	107	115	No Gas	0.082	ppb	8.0	957.82	0.4	-50	50	
Cd	111	115	No Gas	0.028	ppb	69.8	88.74	1	-50	50	
Sn	118	115	No Gas	0.104	ppb	17.5	1364.52	1	-50	50	
Sb	123	115	No Gas	0.062	ppb	11.4	611.13	1	-50	50	
Ba	137	115	No Gas	0.611	ppb	2.7	2379.11	1	-50	50	> +/- 20%
W	182	159	No Gas	0.160	ppb	17.6	1516.77	1	-50	50	
Hg	201	159	No Gas	0.005	ppb	79.9	22.67	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	12.33	0.5	-50	50	
Tl	205	159	No Gas	0.007	ppb	41.2	513.34	0.5	-50	50	
Pb	208	159	No Gas	0.043	ppb	13.0	2085.63	0.5	-50	50	

TH 1/27/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.017	ppb	13.3	554.46	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1110669.61	2.0	1129062.4	98.37	70	120	
Sc	45	No Gas	4256009.25	2.3	4328907.5	98.32	70	120	
Sc	45	H2	3243411.08	0.3	3276792.92	98.98	70	120	
Sc	45	He	557168.23	0.8	582155.9	95.71	70	120	
Ge	72	No Gas	957459.12	2.2	950222.33	100.76	70	120	
Ge	72	H2	812978.52	0.2	807227.94	100.71	70	120	
Ge	72	He	311726.89	0.2	315409.62	98.83	70	120	
In	115	No Gas	4965256.17	3.1	5348455.52	92.84	70	120	
Tb	159	No Gas	7213916.10	3.0	7292471.93	98.92	70	120	
Tb	159	He	5360678.50	0.4	5438099	98.58	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6A20015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:42:51
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.848	ppb	5.4	157226.52	20	80	120	
Be	9	6	No Gas	21.313	ppb	3.8	36647.68	20	80	120	
B	11	6	No Gas	19.895	ppb	6.5	29201.43	20	80	120	
Na	23	45	H2	99079.839	ppb	0.4	403883338.67	100000	80	120	
Mg	24	45	No Gas	98220.503	ppb	6.6	747680853.33	100000	80	120	
Al	27	45	No Gas	99109.369	ppb	7.1	1010093931.61	100000	80	120	
Si	28	45	H2	210.082	ppb	1.1	308973.85	200	80	120	
P	31	45	No Gas	106068.507	ppb	7.1	70051397.33	100000	80	120	
K	39	45	He	98948.993	ppb	0.5	73222109.33	100000	80	120	
Ca	40	45	H2	98715.890	ppb	0.7	992748266.67	100000	80	120	
Tl	47	45	No Gas	2107.359	ppb	7.2	2890953.08	2000	80	120	
V	51	45	He	20.230	ppb	0.3	122733.80	20	80	120	
Cr	52	45	He	22.635	ppb	1.4	152846.77	20	80	120	
Mn	55	45	No Gas	20.335	ppb	7.4	443875.41	20	80	120	
Fe	56	45	H2	99015.225	ppb	0.4	1407069269.33	100000	80	120	
Co	59	45	No Gas	20.667	ppb	7.2	369961.63	20	80	120	
Ni	60	45	He	20.610	ppb	1.2	46627.56	20	80	120	
Cu	63	45	He	20.445	ppb	0.5	121334.86	20	80	120	
Zn	66	72	No Gas	23.826	ppb	8.6	66615.37	20	80	120	
As	75	72	He	20.130	ppb	1.3	22714.06	20	80	120	
Se	78	72	H2	20.144	ppb	0.2	7816.93	20	80	120	
Sr	88	72	No Gas	21.276	ppb	7.7	483451.42	20	80	120	
Zr	90	72	No Gas	19.731	ppb	7.8	297590.29	20	80	120	
Mo	95	115	No Gas	2147.174	ppb	9.9	9011552.14	2000	80	120	
Ag	107	115	No Gas	21.053	ppb	8.6	209138.23	20	80	120	
Cd	111	115	No Gas	21.786	ppb	9.3	43617.55	20	80	120	
Sn	118	115	No Gas	21.420	ppb	10.2	127277.19	20	80	120	
Sb	123	115	No Gas	20.797	ppb	9.5	146430.27	20	80	120	
Ba	137	115	No Gas	22.064	ppb	9.8	69022.26	20	80	120	
W	182	159	No Gas	19.636	ppb	9.2	152106.16	20	80	120	
Hg	201	159	No Gas	1.978	ppb	11.1	2458.57	2	80	120	
Hg	201	159	He	1.905	ppb	1.5	2114.35	2	80	120	
Tl	205	159	No Gas	20.235	ppb	9.6	338955.34	20	80	120	
Pb	208	159	No Gas	20.495	ppb	11.3	475294.10	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.757	ppb	10.8	473057.46	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	988373.90	4.1	1129062.4	87.54	70	120	
Sc	45	No Gas	3881123.17	6.2	4328907.5	89.66	70	120	
Sc	45	H2	3240471.00	0.4	3276792.92	98.89	70	120	
Sc	45	He	542694.33	3.2	582155.9	93.22	70	120	
Ge	72	No Gas	864448.65	7.1	950222.33	90.97	70	120	
Ge	72	H2	812223.14	0.8	807227.94	100.62	70	120	
Ge	72	He	305590.70	2.1	315409.62	96.89	70	120	
In	115	No Gas	4421664.36	8.0	5348455.52	82.67	70	120	
Tb	159	No Gas	6407240.44	8.7	7292471.93	87.86	70	120	
Tb	159	He	5269116.33	2.5	5438099	96.89	70	120	

Sample Report

Sample Name	MRLA2704
File Name	H6A20016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:45:29
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	69974.21	50	
Be	9	6	No Gas	0.008	0.008	ppb	86.3	62.22	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4358.46	100	
Na	23	45	H2	538.446	538.446	ppb	2.4	3026425.83	50000	
Mg	24	45	No Gas	540.328	540.328	ppb	0.8	4687274.50	50000	
Al	27	45	No Gas	533.124	533.124	ppb	0.4	6143069.70	50000	
Si	28	45	H2	3.615	3.615	ppb	4.0	10638.73	5000	
P	31	45	No Gas	5.102	5.102	ppb	51.7	50599.25	500	
K	39	45	He	546.820	546.820	ppb	2.6	522280.38	50000	
Ca	40	45	H2	535.746	535.746	ppb	0.7	5690856.17	50000	
Ti	47	45	No Gas	0.207	0.207	ppb	14.1	570.68	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1556.76	500	
Cr	52	45	He	0.034	0.034	ppb	44.1	1991.48	500	
Mn	55	45	No Gas	0.150	0.150	ppb	6.9	12623.16	3000	
Fe	56	45	H2	544.466	544.466	ppb	0.5	7887967.50	50000	
Co	59	45	No Gas	0.021	0.021	ppb	19.0	778.02	500	
Ni	60	45	He	0.109	0.109	ppb	12.9	485.34	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3123.03	500	
Zn	66	72	No Gas	3.213	3.213	ppb	3.3	12605.85	500	
As	75	72	He	0.009	0.009	ppb	79.7	143.33	500	
Se	78	72	H2	0.037	0.037	ppb	37.1	36.33	500	
Sr	88	72	No Gas	0.045	0.045	ppb	7.0	2152.40	500	
Zr	90	72	No Gas	0.012	0.012	ppb	32.7	516.68	50	
Mo	95	115	No Gas	0.296	0.296	ppb	13.2	1580.10	500	
Ag	107	115	No Gas	0.075	0.075	ppb	8.8	971.15	50	
Cd	111	115	No Gas	0.020	0.020	ppb	69.8	78.82	500	
Sn	118	115	No Gas	0.056	0.056	ppb	12.3	1150.05	500	
Sb	123	115	No Gas	0.030	0.030	ppb	15.4	384.45	100	
Ba	137	115	No Gas	0.120	0.120	ppb	9.4	712.24	1000	
W	182	159	No Gas	0.005	0.005	ppb	215.5	156.67	50	
Hg	201	159	No Gas	0.016	0.016	ppb	24.6	39.17	5	
Hg	201	159	He	0.007	0.007	ppb	74.6	21.83	5	
Tl	205	159	No Gas	0.028	0.028	ppb	9.2	937.81	500	
Pb	208	159	No Gas	0.031	0.031	ppb	14.0	1804.51	500	
U	238	159	No Gas	0.011	0.011	ppb	5.0	405.56	497	

Sample Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1182067.68	3.6	1129062.4	104.69	70	120	
Sc	45	No Gas	4366565.58	3.5	4328907.5	100.87	70	120	
Sc	45	H2	3287352.33	0.7	3276792.92	100.32	70	120	
Sc	45	He	568362.08	1.3	582155.9	97.63	70	120	
Ge	72	No Gas	949009.93	3.0	950222.33	99.87	70	120	
Ge	72	H2	806085.58	0.6	807227.94	99.86	70	120	
Ge	72	He	311939.12	1.2	315409.62	98.9	70	120	
In	115	No Gas	5437821.52	2.7	5348455.52	101.67	70	120	
Tb	159	No Gas	7445337.20	3.1	7292471.93	102.1	70	120	
Tb	159	He	5542135.17	0.4	5438099	101.91	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6A20017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:48:05
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.851	ppb	2.6	198053.82	25	99.4	90	110	
Be	9	6	No Gas	25.218	ppb	3.6	47189.06	25	100.87	90	110	
B	11	6	No Gas	48.050	ppb	6.9	67840.17	50	96.1	90	110	
Na	23	45	H2	25174.128	ppb	1.0	102722549.33	25000	100.7	90	110	
Mg	24	45	No Gas	25094.430	ppb	0.7	204340112.00	25000	100.38	90	110	
Al	27	45	No Gas	25409.712	ppb	2.4	277090689.20	25000	101.64	90	110	
Si	28	45	H2	2556.248	ppb	1.1	3682874.83	2500	102.25	90	110	
P	31	45	No Gas	257.262	ppb	6.1	225798.44	250	102.9	90	110	
K	39	45	He	25649.615	ppb	1.0	19715158.67	25000	102.6	90	110	
Ca	40	45	H2	25379.055	ppb	1.1	254158256.00	25000	101.52	90	110	
Ti	47	45	No Gas	254.327	ppb	1.9	373144.91	250	101.73	90	110	
V	51	45	He	259.334	ppb	0.7	1607609.87	250	103.73	90	110	
Cr	52	45	He	259.316	ppb	1.6	1794294.33	250	103.73	90	110	
Mn	55	45	No Gas	1533.782	ppb	1.2	35161033.33	1500	102.25	90	110	
Fe	56	45	H2	25508.117	ppb	0.8	360760234.67	25000	102.03	90	110	
Co	59	45	No Gas	258.848	ppb	1.6	4951920.50	250	103.54	90	110	
Ni	60	45	He	265.022	ppb	0.7	617913.90	250	106.01	90	110	
Cu	63	45	He	262.859	ppb	0.7	1570696.58	250	105.14	90	110	
Zn	66	72	No Gas	254.037	ppb	1.4	752552.25	250	101.61	90	110	
As	75	72	He	251.294	ppb	1.0	293997.54	250	100.52	90	110	
Se	78	72	H2	252.861	ppb	1.4	99163.21	250	101.14	90	110	
Sr	88	72	No Gas	252.795	ppb	0.8	6318808.36	250	101.12	90	110	
Zr	90	72	No Gas	24.814	ppb	1.2	412467.35	25	99.26	90	110	
Mo	95	115	No Gas	256.003	ppb	1.6	1194274.26	250	102.4	90	110	
Ag	107	115	No Gas	26.276	ppb	0.6	290113.51	25	105.1	90	110	
Cd	111	115	No Gas	258.397	ppb	1.1	574745.61	250	103.36	90	110	
Sn	118	115	No Gas	251.618	ppb	0.4	1655689.55	250	100.65	90	110	
Sb	123	115	No Gas	51.521	ppb	1.1	403221.09	50	103.04	90	110	
Ba	137	115	No Gas	511.573	ppb	0.9	1775312.05	500	102.31	90	110	
W	182	159	No Gas	25.297	ppb	1.5	215168.31	25	101.19	90	110	
Hg	201	159	No Gas	2.565	ppb	2.9	3498.49	2.5	102.6	90	110	
Hg	201	159	He	2.561	ppb	1.2	2970.52	2.5	102.44	90	110	
Tl	205	159	No Gas	253.186	ppb	0.6	4655175.09	250	101.27	90	110	
Pb	208	159	No Gas	255.092	ppb	1.5	6494142.03	250	102.04	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	251.611	ppb	1.7	6300175.45	250	100.64	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1075819.53	3.5	1129062.4	95.28	70	120	
Sc	45	No Gas	4140674.08	3.5	4328907.5	95.65	70	120	
Sc	45	H2	3225219.83	2.7	3276792.92	98.43	70	120	
Sc	45	He	561559.44	0.4	582155.9	96.46	70	120	
Ge	72	No Gas	949523.62	2.2	950222.33	99.93	70	120	
Ge	72	H2	823070.23	1.4	807227.94	101.96	70	120	
Ge	72	He	318477.31	0.3	315409.62	100.97	70	120	
In	115	No Gas	4893348.35	3.3	5348455.52	91.49	70	120	
Tb	159	No Gas	7001299.30	4.1	7292471.93	96.01	70	120	
Tb	159	He	5512966.00	0.7	5438099	101.38	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6A20018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 12:50:41
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	70690.01	0.4	
Be	9	6	No Gas	0.004	ppb	157.9	54.44	0.08	
B	11	6	No Gas	0.849	ppb	31.7	8246.87	4	
Na	23	45	H2	11.593	ppb	14.1	857129.56	40	
Mg	24	45	No Gas	1.064	ppb	82.1	58607.66	10	
Al	27	45	No Gas	1.608	ppb	57.8	32727.85	15	
Si	28	45	H2	0.542	ppb	10.8	6168.70	8	
P	31	45	No Gas	<0.000	ppb	N/A	45476.26	10	
K	39	45	He	3.515	ppb	167.6	102491.53	20	
Ca	40	45	H2	10.349	ppb	1.1	333969.76	25	
Ti	47	45	No Gas	0.025	ppb	84.5	287.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1582.09	0.5	
Cr	52	45	He	0.005	ppb	267.7	1797.45	0.2	
Mn	55	45	No Gas	0.317	ppb	14.2	16564.71	0.2	>LOD
Fe	56	45	H2	1.431	ppb	5.0	60093.71	10	
Co	59	45	No Gas	0.015	ppb	40.8	653.35	0.15	
Ni	60	45	He	0.018	ppb	10.0	272.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2876.31	0.4	
Zn	66	72	No Gas	0.833	ppb	2.0	5485.78	2	
As	75	72	He	0.021	ppb	48.5	155.00	0.2	
Se	78	72	H2	0.044	ppb	46.9	38.33	0.2	
Sr	88	72	No Gas	0.015	ppb	19.2	1388.96	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	200.00	2	
Mo	95	115	No Gas	0.063	ppb	11.1	371.12	0.2	
Ag	107	115	No Gas	0.002	ppb	24.1	76.67	0.08	
Cd	111	115	No Gas	0.031	ppb	44.0	105.25	0.2	
Sn	118	115	No Gas	0.117	ppb	5.6	1578.98	0.2	
Sb	123	115	No Gas	0.010	ppb	38.8	207.78	0.4	
Ba	137	115	No Gas	0.026	ppb	29.8	344.45	0.2	
W	182	159	No Gas	0.007	ppb	62.4	176.67	0.3	
Hg	201	159	No Gas	0.025	ppb	12.6	52.17	0.1	
Hg	201	159	He	0.015	ppb	25.6	30.67	0.1	
Tl	205	159	No Gas	0.060	ppb	25.7	1555.66	0.1	
Pb	208	159	No Gas	0.027	ppb	23.6	1713.39	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.017	ppb	15.5	572.24	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1200491.57	2.1	1129062.4	106.33	70	120	
Sc	45	No Gas	4346357.00	3.0	4328907.5	100.4	70	120	
Sc	45	H2	3306509.92	1.2	3276792.92	100.91	70	120	
Sc	45	He	572127.50	0.7	582155.9	98.28	70	120	
Ge	72	No Gas	931115.39	2.2	950222.33	97.99	70	120	
Ge	72	H2	797883.23	1.3	807227.94	98.84	70	120	
Ge	72	He	307529.84	0.5	315409.62	97.5	70	120	
In	115	No Gas	5378883.28	2.7	5348455.52	100.57	70	120	
Tb	159	No Gas	7468225.26	2.3	7292471.93	102.41	70	120	
Tb	159	He	5563153.00	0.9	5438099	102.3	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV8
File Name	H6A20089.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 16:50:01
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.693	ppb	4.8	198347.39	25	98.77	90	110	
Be	9	6	No Gas	25.208	ppb	3.1	47461.24	25	100.83	90	110	
B	11	6	No Gas	60.296	ppb	3.8	84059.62	50	120.59	90	110	> +/- 10%
Na	23	45	H2	24869.211	ppb	0.7	96542074.67	25000	99.48	90	110	
Mg	24	45	No Gas	25734.280	ppb	6.6	201588650.67	25000	102.94	90	110	
Al	27	45	No Gas	25277.357	ppb	5.8	265176916.05	25000	101.11	90	110	
Si	28	45	H2	2524.041	ppb	1.2	3459709.75	2500	100.96	90	110	
P	31	45	No Gas	275.845	ppb	5.4	230180.54	250	110.34	90	110	> +/- 10%
K	39	45	He	25136.054	ppb	1.4	18402117.33	25000	100.54	90	110	
Ca	40	45	H2	24329.291	ppb	1.0	231812096.00	25000	97.32	90	110	
Ti	47	45	No Gas	251.371	ppb	6.1	354951.01	250	100.55	90	110	
V	51	45	He	246.360	ppb	0.3	1454626.21	250	98.54	90	110	
Cr	52	45	He	246.951	ppb	1.2	1627428.83	250	98.78	90	110	
Mn	55	45	No Gas	1518.068	ppb	6.5	33488902.67	1500	101.2	90	110	
Fe	56	45	H2	24716.282	ppb	2.1	332556565.33	25000	98.87	90	110	
Co	59	45	No Gas	256.021	ppb	6.4	4711996.83	250	102.41	90	110	
Ni	60	45	He	251.578	ppb	1.0	558633.27	250	100.63	90	110	
Cu	63	45	He	253.179	ppb	0.9	1440948.17	250	101.27	90	110	
Zn	66	72	No Gas	255.108	ppb	4.6	720613.58	250	102.04	90	110	
As	75	72	He	261.496	ppb	1.5	293235.89	250	104.6	90	110	
Se	78	72	H2	261.555	ppb	1.0	97538.92	250	104.62	90	110	
Sr	88	72	No Gas	254.691	ppb	3.8	6069620.87	250	101.88	90	110	
Zr	90	72	No Gas	25.263	ppb	3.4	400485.93	25	101.05	90	110	
Mo	95	115	No Gas	250.970	ppb	3.3	1155880.85	250	100.39	90	110	
Ag	107	115	No Gas	25.582	ppb	3.3	278742.20	25	102.33	90	110	
Cd	111	115	No Gas	257.440	ppb	3.4	565154.76	250	102.98	90	110	
Sn	118	115	No Gas	255.025	ppb	4.7	1655608.20	250	102.01	90	110	
Sb	123	115	No Gas	51.746	ppb	4.0	399602.39	50	103.49	90	110	
Ba	137	115	No Gas	514.577	ppb	4.2	1761649.97	500	102.92	90	110	
W	182	159	No Gas	25.020	ppb	4.2	212577.99	25	100.08	90	110	
Hg	201	159	No Gas	2.554	ppb	4.3	3479.15	2.5	102.16	90	110	
Hg	201	159	He	2.492	ppb	0.9	2750.80	2.5	99.68	90	110	
Tl	205	159	No Gas	249.326	ppb	4.6	4576296.90	250	99.73	90	110	
Pb	208	159	No Gas	251.522	ppb	5.4	6392623.97	250	100.61	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	246.922	ppb	5.9	6169657.26	250	98.77	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1081953.45	3.2	1129062.4	95.83	70	120	
Sc	45	No Gas	3987725.75	2.9	4328907.5	92.12	70	120	
Sc	45	H2	3068002.75	0.2	3276792.92	93.63	70	120	
Sc	45	He	534836.25	1.0	582155.9	91.87	70	120	
Ge	72	No Gas	905921.37	3.6	950222.33	95.34	70	120	
Ge	72	H2	782673.34	2.1	807227.94	96.96	70	120	
Ge	72	He	305290.34	1.0	315409.62	96.79	70	120	
In	115	No Gas	4830936.33	3.7	5348455.52	90.32	70	120	
Tb	159	No Gas	6998539.72	5.7	7292471.93	95.97	70	120	
Tb	159	He	5245823.83	1.5	5438099	96.46	70	120	

Sample Report

Sample Name	L226-12N
File Name	H6A20091.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A20.b
Acq Time	2023-01-27 16:55:15
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	190.539	190.539	ppb	1.3	1168922.18	50	>LDR
Be	9	6	No Gas	0.006	0.006	ppb	187.0	56.67	50	
B	11	6	No Gas	522.847	522.847	ppb	2.5	726622.38	100	>LDR
Na	23	45	H2	385898.456	385898.456	ppb	1.2	1546577450.67	50000	>LDR
Mg	24	45	No Gas	2058.236	2058.236	ppb	1.9	17479697.33	50000	
Al	27	45	No Gas	9.037	9.037	ppb	1.7	116855.54	50000	
Si	28	45	H2	12100.765	12100.765	ppb	0.6	17230053.33	5000	>LDR
P	31	45	No Gas	6.088	6.088	ppb	10.0	50678.86	500	
K	39	45	He	6373.579	6373.579	ppb	0.2	4929407.67	50000	
Ca	40	45	H2	27364.052	27364.052	ppb	0.4	271118752.00	50000	
Ti	47	45	No Gas	0.460	0.460	ppb	7.4	949.37	500	
V	51	45	He	20.805	20.805	ppb	0.6	129432.59	500	
Cr	52	45	He	61.456	61.456	ppb	0.3	422867.21	500	
Mn	55	45	No Gas	23.995	23.995	ppb	1.3	581212.44	3000	
Fe	56	45	H2	668.165	668.165	ppb	0.1	9386859.33	50000	
Co	59	45	No Gas	3.462	3.462	ppb	0.8	69268.16	500	
Ni	60	45	He	41.292	41.292	ppb	0.2	95628.37	500	
Cu	63	45	He	5.447	5.447	ppb	0.7	35826.38	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	2940.32	500	
As	75	72	He	16.724	16.724	ppb	1.4	19185.94	500	
Se	78	72	H2	0.741	0.741	ppb	8.1	305.67	500	
Sr	88	72	No Gas	636.437	636.437	ppb	1.1	16081919.36	500	>LDR
Zr	90	72	No Gas	0.058	0.058	ppb	15.1	1306.74	50	
Mo	95	115	No Gas	14.838	14.838	ppb	1.2	73082.89	500	
Ag	107	115	No Gas	0.010	0.010	ppb	17.1	165.55	50	
Cd	111	115	No Gas	0.007	0.007	ppb	46.2	44.18	500	
Sn	118	115	No Gas	0.018	0.018	ppb	50.9	823.36	500	
Sb	123	115	No Gas	0.107	0.107	ppb	7.7	1000.04	100	
Ba	137	115	No Gas	104.039	104.039	ppb	0.8	380951.96	1000	
W	182	159	No Gas	4.804	4.804	ppb	0.3	42638.50	50	
Hg	201	159	No Gas	0.010	0.010	ppb	22.4	29.17	5	
Hg	201	159	He	0.001	0.001	ppb	166.1	15.17	5	
Tl	205	159	No Gas	0.013	0.013	ppb	5.4	622.24	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	887.79	500	
U	238	159	No Gas	3.162	3.162	ppb	0.8	82538.12	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1154843.80	2.6	1129062.4	102.28	70	120	
Sc	45	No Gas	4307773.83	2.2	4328907.5	99.51	70	120	
Sc	45	H2	3190680.92	0.7	3276792.92	97.37	70	120	
Sc	45	He	556687.87	0.6	582155.9	95.63	70	120	
Ge	72	No Gas	959810.48	1.2	950222.33	101.01	70	120	
Ge	72	H2	804179.04	1.0	807227.94	99.62	70	120	
Ge	72	He	310277.06	0.2	315409.62	98.37	70	120	
In	115	No Gas	5162184.54	2.2	5348455.52	96.52	70	120	
Tb	159	No Gas	7287018.05	2.0	7292471.93	99.93	70	120	
Tb	159	He	5514839.67	1.0	5438099	101.41	70	120	

Sample Report

Sample Name	L226-06T
File Name	H6A20092.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 16:57:52
Sample Type	Sample
Total Dilution	100.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	379.286	3.793	ppb	2.3	90198.69	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	31.11	50	
B	11	6	No Gas	3379.277	33.793	ppb	1.8	52715.34	100	
Na	23	45	H2	1646618.378	16466.184	ppb	0.3	63806080.00	50000	
Mg	24	45	No Gas	62593.750	625.937	ppb	1.0	5135504.00	50000	
Al	27	45	No Gas	61.613	0.616	ppb	5.6	20531.88	50000	
Si	28	45	H2	13445.800	134.458	ppb	1.8	187932.55	5000	
P	31	45	No Gas	1401.726	14.017	ppb	8.0	54232.96	500	
K	39	45	He	11746.555	117.466	ppb	7.1	177977.55	50000	
Ca	40	45	H2	109919.590	1099.196	ppb	0.7	10613349.00	50000	
Ti	47	45	No Gas	4.963	0.050	ppb	25.1	309.33	500	
V	51	45	He	4.098	0.041	ppb	18.9	1884.13	500	
Cr	52	45	He	3.725	0.037	ppb	26.4	1885.46	500	
Mn	55	45	No Gas	551.766	5.518	ppb	0.7	134844.54	3000	
Fe	56	45	H2	25862.833	258.628	ppb	0.9	3495787.67	50000	
Co	59	45	No Gas	0.028	0.000	ppb	1104.1	350.01	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	193.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2113.50	500	
Zn	66	72	No Gas	542.592	5.426	ppb	1.4	18722.25	500	
As	75	72	He	35.366	0.354	ppb	6.9	528.68	500	
Se	78	72	H2	1.319	0.013	ppb	71.9	26.33	500	
Sr	88	72	No Gas	3027.920	30.279	ppb	0.4	741041.17	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	223.33	50	
Mo	95	115	No Gas	45.925	0.459	ppb	6.6	2267.98	500	
Ag	107	115	No Gas	0.081	0.001	ppb	217.3	54.45	50	
Cd	111	115	No Gas	0.261	0.003	ppb	67.5	33.55	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	431.12	500	
Sb	123	115	No Gas	1.014	0.010	ppb	39.2	198.89	100	
Ba	137	115	No Gas	79.805	0.798	ppb	2.1	3100.37	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	90.00	50	
Hg	201	159	No Gas	0.322	0.003	ppb	119.0	19.33	5	
Hg	201	159	He	0.151	0.002	ppb	147.6	14.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	343.34	500	
Pb	208	159	No Gas	1.857	0.019	ppb	13.2	1401.14	500	
U	238	159	No Gas	2.774	0.028	ppb	5.3	804.47	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1142457.94	1.1	1129062.4	101.19	70	120	
Sc	45	No Gas	4135656.92	3.3	4328907.5	95.54	70	120	
Sc	45	H2	3050347.00	0.3	3276792.92	93.09	70	120	
Sc	45	He	532328.40	0.1	582155.9	91.44	70	120	
Ge	72	No Gas	928430.83	2.2	950222.33	97.71	70	120	
Ge	72	H2	785130.27	0.2	807227.94	97.26	70	120	
Ge	72	He	306638.81	0.7	315409.62	97.22	70	120	
In	115	No Gas	5070899.99	1.4	5348455.52	94.81	70	120	
Tb	159	No Gas	7050634.86	2.7	7292471.93	96.68	70	120	
Tb	159	He	5296643.83	0.2	5438099	97.4	70	120	

Sample Report

Sample Name	L226-07T
File Name	H6A20093.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 17:00:29
Sample Type	Sample
Total Dilution	100.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	421.190	4.212	ppb	2.1	102956.62	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	30.00	50	
B	11	6	No Gas	2396.331	23.963	ppb	2.2	43731.25	100	
Na	23	45	H2	2286153.411	22861.534	ppb	0.2	94461992.00	50000	
Mg	24	45	No Gas	96788.403	967.884	ppb	0.7	8547298.17	50000	
Al	27	45	No Gas	39.827	0.398	ppb	22.4	19600.53	50000	
Si	28	45	H2	1522.275	15.223	ppb	1.6	27459.75	5000	
P	31	45	No Gas	512.169	5.122	ppb	14.1	51792.95	500	
K	39	45	He	16151.747	161.517	ppb	5.3	224703.01	50000	
Ca	40	45	H2	27330.569	273.306	ppb	0.5	2992097.83	50000	
Ti	47	45	No Gas	1.440	0.014	ppb	104.2	278.00	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1754.11	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1571.43	500	
Mn	55	45	No Gas	76.770	0.768	ppb	2.3	28181.66	3000	
Fe	56	45	H2	6673.023	66.730	ppb	0.1	993740.89	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	282.00	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	197.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1964.81	500	
Zn	66	72	No Gas	166.908	1.669	ppb	2.1	8395.93	500	
As	75	72	He	2.434	0.024	ppb	19.3	163.33	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	20.67	500	
Sr	88	72	No Gas	2054.136	20.541	ppb	0.2	535749.53	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	146.67	50	
Mo	95	115	No Gas	20.055	0.201	ppb	3.9	1088.94	500	
Ag	107	115	No Gas	0.057	0.001	ppb	233.7	55.55	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	28.28	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	605.57	500	
Sb	123	115	No Gas	1.027	0.010	ppb	11.3	214.45	100	
Ba	137	115	No Gas	7.586	0.076	ppb	11.2	540.01	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	83.33	50	
Hg	201	159	No Gas	0.362	0.004	ppb	12.6	21.83	5	
Hg	201	159	He	0.018	0.000	ppb	556.5	14.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	347.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	973.34	500	
U	238	159	No Gas	0.486	0.005	ppb	18.4	247.78	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1270341.62	1.5	1129062.4	112.51	70	120	
Sc	45	No Gas	4465024.50	2.0	4328907.5	103.14	70	120	
Sc	45	H2	3263286.25	0.4	3276792.92	99.59	70	120	
Sc	45	He	569934.79	0.9	582155.9	97.9	70	120	
Ge	72	No Gas	988820.58	1.3	950222.33	104.06	70	120	
Ge	72	H2	821732.73	0.7	807227.94	101.8	70	120	
Ge	72	He	316942.61	0.6	315409.62	100.49	70	120	
In	115	No Gas	5430383.99	1.2	5348455.52	101.53	70	120	
Tb	159	No Gas	7713950.53	2.2	7292471.93	105.78	70	120	
Tb	159	He	5689082.33	0.7	5438099	104.62	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV9
File Name	H6A20101.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 17:21:41
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.111	ppb	2.7	223529.17	25	96.44	90	110	
Be	9	6	No Gas	23.466	ppb	2.3	50599.81	25	93.86	90	110	
B	11	6	No Gas	46.428	ppb	4.2	75826.61	50	92.86	90	110	
Na	23	45	H2	25222.645	ppb	0.3	103270469.33	25000	100.89	90	110	
Mg	24	45	No Gas	25092.366	ppb	1.3	223523562.67	25000	100.37	90	110	
Al	27	45	No Gas	24928.135	ppb	1.2	297292768.90	25000	99.71	90	110	
Si	28	45	H2	2487.034	ppb	0.1	3595962.17	2500	99.48	90	110	
P	31	45	No Gas	243.714	ppb	0.5	236794.17	250	97.49	90	110	
K	39	45	He	24925.055	ppb	0.6	19202110.67	25000	99.7	90	110	
Ca	40	45	H2	24659.183	ppb	0.3	247828165.33	25000	98.64	90	110	
Ti	47	45	No Gas	244.678	ppb	0.6	392870.30	250	97.87	90	110	
V	51	45	He	248.847	ppb	0.7	1545988.46	250	99.54	90	110	
Cr	52	45	He	250.083	ppb	0.7	1734212.46	250	100.03	90	110	
Mn	55	45	No Gas	1474.986	ppb	1.0	37002082.67	1500	98.33	90	110	
Fe	56	45	H2	24815.256	ppb	0.4	352197845.33	25000	99.26	90	110	
Co	59	45	No Gas	244.817	ppb	0.8	5124504.50	250	97.93	90	110	
Ni	60	45	He	254.112	ppb	0.4	593759.02	250	101.64	90	110	
Cu	63	45	He	254.291	ppb	0.4	1522897.08	250	101.72	90	110	
Zn	66	72	No Gas	243.521	ppb	0.2	759027.29	250	97.41	90	110	
As	75	72	He	245.311	ppb	0.6	283864.31	250	98.12	90	110	
Se	78	72	H2	245.650	ppb	0.8	96615.44	250	98.26	90	110	
Sr	88	72	No Gas	251.370	ppb	1.0	6610760.01	250	100.55	90	110	
Zr	90	72	No Gas	24.370	ppb	0.8	426205.16	25	97.48	90	110	
Mo	95	115	No Gas	240.246	ppb	0.9	1240355.23	250	96.1	90	110	
Ag	107	115	No Gas	24.276	ppb	1.1	296525.90	25	97.1	90	110	
Cd	111	115	No Gas	244.168	ppb	0.9	600886.45	250	97.67	90	110	
Sn	118	115	No Gas	242.735	ppb	1.0	1766824.58	250	97.09	90	110	
Sb	123	115	No Gas	48.521	ppb	0.3	420131.05	50	97.04	90	110	
Ba	137	115	No Gas	495.372	ppb	1.1	1901147.49	500	99.07	90	110	
W	182	159	No Gas	24.656	ppb	1.0	233769.85	25	98.62	90	110	
Hg	201	159	No Gas	2.476	ppb	0.4	3765.73	2.5	99.04	90	110	
Hg	201	159	He	2.460	ppb	1.2	2965.18	2.5	98.4	90	110	
Tl	205	159	No Gas	249.528	ppb	2.0	5114237.71	250	99.81	90	110	
Pb	208	159	No Gas	248.894	ppb	0.6	7062363.55	250	99.56	90	110	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB8
File Name	H6A20090.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 16:52:38
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	67410.61	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	41.11	0.08	
B	11	6	No Gas	6.663	ppb	7.6	15596.43	4	>LOD
Na	23	45	H2	<0.000	ppb	N/A	733952.44	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	45662.58	10	
Al	27	45	No Gas	0.303	ppb	84.0	16770.28	15	
Si	28	45	H2	0.116	ppb	127.6	5414.39	8	
P	31	45	No Gas	8.353	ppb	12.1	49311.97	10	
K	39	45	He	3.070	ppb	198.9	101403.71	20	
Ca	40	45	H2	<0.000	ppb	N/A	194917.90	25	
Ti	47	45	No Gas	0.031	ppb	142.4	275.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1614.76	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1522.75	0.2	
Mn	55	45	No Gas	0.112	ppb	21.7	10887.00	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	37212.54	10	
Co	59	45	No Gas	0.006	ppb	47.1	453.34	0.15	
Ni	60	45	He	<0.000	ppb	N/A	130.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2052.16	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	2812.30	2	
As	75	72	He	0.009	ppb	79.7	141.67	0.2	
Se	78	72	H2	0.015	ppb	82.1	27.00	0.2	
Sr	88	72	No Gas	0.008	ppb	75.2	1165.61	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	110.00	2	
Mo	95	115	No Gas	0.034	ppb	24.1	207.78	0.2	
Ag	107	115	No Gas	0.001	ppb	182.3	53.33	0.08	
Cd	111	115	No Gas	0.019	ppb	34.8	71.42	0.2	
Sn	118	115	No Gas	0.006	ppb	70.6	726.69	0.2	
Sb	123	115	No Gas	0.009	ppb	51.9	192.23	0.4	
Ba	137	115	No Gas	0.003	ppb	206.8	242.22	0.2	
W	182	159	No Gas	0.001	ppb	312.3	116.67	0.3	
Hg	201	159	No Gas	0.015	ppb	38.8	34.67	0.1	
Hg	201	159	He	0.006	ppb	43.5	21.33	0.1	
Tl	205	159	No Gas	0.041	ppb	24.0	1104.50	0.1	
Pb	208	159	No Gas	0.002	ppb	259.7	955.57	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.012	ppb	22.8	406.68	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1130305.93	1.5	1129062.4	100.11	70	120	
Sc	45	No Gas	4058565.42	2.1	4328907.5	93.75	70	120	
Sc	45	H2	3231327.17	0.4	3276792.92	98.61	70	120	
Sc	45	He	567888.48	0.7	582155.9	97.55	70	120	
Ge	72	No Gas	903510.52	1.6	950222.33	95.08	70	120	
Ge	72	H2	788500.42	0.2	807227.94	97.68	70	120	
Ge	72	He	307713.76	1.0	315409.62	97.56	70	120	
In	115	No Gas	5036517.90	1.5	5348455.52	94.17	70	120	
Tb	159	No Gas	6958801.80	2.5	7292471.93	95.42	70	120	
Tb	159	He	5658262.83	1.1	5438099	104.05	70	120	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	252.805	ppb	1.1	7054834.86	250	101.12	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1238448.21	1.1	1129062.4	109.69	70	120	
Sc	45	No Gas	4529546.83	1.9	4328907.5	104.63	70	120	
Sc	45	H2	3236163.42	0.2	3276792.92	98.76	70	120	
Sc	45	He	562762.08	0.1	582155.9	96.67	70	120	
Ge	72	No Gas	998770.62	2.6	950222.33	105.11	70	120	
Ge	72	H2	825349.40	0.1	807227.94	102.24	70	120	
Ge	72	He	314994.52	0.3	315409.62	99.87	70	120	
In	115	No Gas	5413550.03	3.2	5348455.52	101.22	70	120	
Tb	159	No Gas	7801197.75	2.5	7292471.93	106.98	70	120	
Tb	159	He	5728510.33	0.5	5438099	105.34	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB9
File Name	H6A20102.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 17:24:19
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	76725.65	0.4	
Be	9	6	No Gas	0.008	ppb	35.5	66.67	0.08	
B	11	6	No Gas	2.600	ppb	12.8	11518.05	4	
Na	23	45	H2	<0.000	ppb	N/A	771479.21	40	
Mg	24	45	No Gas	1.115	ppb	42.4	61634.60	10	
Al	27	45	No Gas	1.866	ppb	24.2	37333.98	15	
Si	28	45	H2	0.055	ppb	266.6	5373.04	8	
P	31	45	No Gas	0.418	ppb	316.1	48914.58	10	
K	39	45	He	5.244	ppb	134.6	103211.09	20	
Ca	40	45	H2	<0.000	ppb	N/A	217821.09	25	
Ti	47	45	No Gas	0.058	ppb	55.6	350.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1498.75	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1392.07	0.2	
Mn	55	45	No Gas	0.079	ppb	12.9	11318.02	0.2	
Fe	56	45	H2	1.685	ppb	2.1	62852.00	10	
Co	59	45	No Gas	0.006	ppb	42.8	505.34	0.15	
Ni	60	45	He	<0.000	ppb	N/A	148.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1888.13	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	3025.01	2	
As	75	72	He	0.028	ppb	33.5	161.67	0.2	
Se	78	72	H2	0.043	ppb	14.0	37.67	0.2	
Sr	88	72	No Gas	0.013	ppb	45.7	1381.18	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	146.67	2	
Mo	95	115	No Gas	0.089	ppb	28.2	525.57	0.2	
Ag	107	115	No Gas	0.003	ppb	47.2	85.56	0.08	
Cd	111	115	No Gas	0.025	ppb	22.8	93.79	0.2	
Sn	118	115	No Gas	0.037	ppb	35.5	1042.27	0.2	
Sb	123	115	No Gas	0.013	ppb	13.2	247.78	0.4	
Ba	137	115	No Gas	0.009	ppb	126.7	293.34	0.2	
W	182	159	No Gas	0.001	ppb	476.6	133.33	0.3	
Hg	201	159	No Gas	0.018	ppb	50.2	44.00	0.1	
Hg	201	159	He	0.012	ppb	26.1	28.50	0.1	
Tl	205	159	No Gas	0.050	ppb	23.4	1437.86	0.1	
Pb	208	159	No Gas	0.007	ppb	7.9	1224.47	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.012	ppb	10.1	457.79	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1285964.27	1.5	1129062.4	113.9	70	120	
Sc	45	No Gas	4530828.50	2.3	4328907.5	104.66	70	120	
Sc	45	H2	3259444.58	0.6	3276792.92	99.47	70	120	
Sc	45	He	568670.75	0.8	582155.9	97.68	70	120	
Ge	72	No Gas	961979.73	2.6	950222.33	101.24	70	120	
Ge	72	H2	787438.56	0.8	807227.94	97.55	70	120	
Ge	72	He	305171.88	0.5	315409.62	96.75	70	120	
In	115	No Gas	5614798.10	1.6	5348455.52	104.98	70	120	
Tb	159	No Gas	7848872.47	2.9	7292471.93	107.63	70	120	
Tb	159	He	5729287.50	0.5	5438099	105.35	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A20099.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 17:16:27
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.395	ppb	61.0	73644.01	2	-50	50	
Be	9	6	No Gas	0.001	ppb	705.0	47.78	0.4	-50	50	
B	11	6	No Gas	3.894	ppb	12.9	12476.65	10	-50	50	
Na	23	45	H2	105030.532	ppb	1.2	431286122.67	100000	80	120	
Mg	24	45	No Gas	102250.670	ppb	1.0	886984277.33	100000	80	120	
Al	27	45	No Gas	104535.054	ppb	1.1	1214192248.57	100000	80	120	
Si	28	45	H2	4.222	ppb	6.9	11448.05	50	-50	50	
P	31	45	No Gas	100434.290	ppb	1.8	75600112.00	100000	80	120	
K	39	45	He	104408.710	ppb	1.0	79749176.00	100000	80	120	
Ca	40	45	H2	104223.796	ppb	0.4	1055992490.67	100000	80	120	
Ti	47	45	No Gas	2149.278	ppb	0.8	3359604.33	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1713.44	1	-50	50	
Cr	52	45	He	2.224	ppb	0.3	17063.28	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.257	ppb	4.4	15385.99	1	-50	50	
Fe	56	45	H2	103453.113	ppb	0.7	1481117568.00	100000	80	120	
Co	59	45	No Gas	0.161	ppb	3.1	3653.16	0.75	-50	50	
Ni	60	45	He	0.473	ppb	1.5	1324.06	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2346.87	2	-50	50	
Zn	66	72	No Gas	3.417	ppb	1.1	13734.28	20	-50	50	
As	75	72	He	0.067	ppb	15.1	209.33	1	-50	50	
Se	78	72	H2	0.081	ppb	14.3	53.67	1	-50	50	
Sr	88	72	No Gas	0.870	ppb	0.8	23674.25	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.139	ppb	3.0	2740.29	10	-50	50	
Mo	95	115	No Gas	2113.450	ppb	1.4	10368338.75	2000	80	120	
Ag	107	115	No Gas	0.079	ppb	8.1	957.81	0.4	-50	50	
Cd	111	115	No Gas	0.070	ppb	68.6	190.84	1	-50	50	
Sn	118	115	No Gas	0.050	ppb	13.3	1047.82	1	-50	50	
Sb	123	115	No Gas	0.079	ppb	7.7	767.80	1	-50	50	
Ba	137	115	No Gas	0.619	ppb	2.6	2490.24	1	-50	50	> +/- 20%
W	182	159	No Gas	0.152	ppb	11.7	1500.09	1	-50	50	
Hg	201	159	No Gas	0.004	ppb	42.0	22.33	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	13.33	0.5	-50	50	
Tl	205	159	No Gas	0.002	ppb	19.4	435.56	0.5	-50	50	
Pb	208	159	No Gas	0.041	ppb	13.8	2090.08	0.5	-50	50	

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Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.015	ppb	7.5	521.12	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1188686.07	2.5	1129062.4	105.28	70	120	
Sc	45	No Gas	4411931.83	2.2	4328907.5	101.92	70	120	
Sc	45	H2	3264837.33	1.0	3276792.92	99.64	70	120	
Sc	45	He	560155.29	0.6	582155.9	96.22	70	120	
Ge	72	No Gas	986446.71	1.2	950222.33	103.81	70	120	
Ge	72	H2	812371.81	1.2	807227.94	100.64	70	120	
Ge	72	He	310736.56	0.9	315409.62	98.52	70	120	
In	115	No Gas	5143499.84	1.6	5348455.52	96.17	70	120	
Tb	159	No Gas	7485756.37	2.6	7292471.93	102.65	70	120	
Tb	159	He	5526148.50	1.0	5438099	101.62	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A20100.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 17:19:04
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.192	ppb	0.3	178083.42	20	80	120	
Be	9	6	No Gas	20.318	ppb	1.0	39152.24	20	80	120	
B	11	6	No Gas	21.778	ppb	1.6	35218.62	20	80	120	
Na	23	45	H2	93974.678	ppb	10.5	380205568.00	100000	80	120	
Mg	24	45	No Gas	98068.651	ppb	1.7	798062869.33	100000	80	120	
Al	27	45	No Gas	98857.331	ppb	1.2	1077124543.95	100000	80	120	
Si	28	45	H2	202.701	ppb	10.7	296028.98	200	80	120	
P	31	45	No Gas	104545.731	ppb	1.4	73811512.00	100000	80	120	
K	39	45	He	99681.422	ppb	1.3	73676178.67	100000	80	120	
Ca	40	45	H2	93507.602	ppb	10.7	933083221.33	100000	80	120	
Ti	47	45	No Gas	2070.494	ppb	0.7	3035743.33	2000	80	120	
V	51	45	He	20.099	ppb	0.4	121773.42	20	80	120	
Cr	52	45	He	22.337	ppb	1.7	150693.69	20	80	120	
Mn	55	45	No Gas	19.764	ppb	1.8	461460.58	20	80	120	
Fe	56	45	H2	93172.546	ppb	11.9	1312666837.33	100000	80	120	
Co	59	45	No Gas	20.080	ppb	1.1	384318.26	20	80	120	
Ni	60	45	He	20.468	ppb	1.1	46261.03	20	80	120	
Cu	63	45	He	20.082	ppb	1.7	119092.15	20	80	120	
Zn	66	72	No Gas	22.705	ppb	1.5	69598.01	20	80	120	
As	75	72	He	20.611	ppb	3.3	23105.40	20	80	120	
Se	78	72	H2	20.241	ppb	9.8	7829.61	20	80	120	
Sr	88	72	No Gas	20.495	ppb	1.4	509587.71	20	80	120	
Zr	90	72	No Gas	16.521	ppb	1.6	272779.57	20	80	120	
Mo	95	115	No Gas	2026.932	ppb	2.3	9371775.18	2000	80	120	
Ag	107	115	No Gas	20.384	ppb	2.0	222994.98	20	80	120	
Cd	111	115	No Gas	20.866	ppb	0.4	46023.14	20	80	120	
Sn	118	115	No Gas	20.025	ppb	0.7	131170.14	20	80	120	
Sb	123	115	No Gas	20.024	ppb	1.3	155333.09	20	80	120	
Ba	137	115	No Gas	21.185	ppb	2.2	73017.96	20	80	120	
W	182	159	No Gas	19.141	ppb	0.3	163584.51	20	80	120	
Hg	201	159	No Gas	1.920	ppb	1.0	2635.61	2	80	120	
Hg	201	159	He	1.927	ppb	1.3	2160.85	2	80	120	
Tl	205	159	No Gas	19.622	ppb	1.4	362652.80	20	80	120	
Pb	208	159	No Gas	19.760	ppb	1.8	506078.21	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.677	ppb	0.6	495113.66	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1106935.63	2.9	1129062.4	98.04	70	120	
Sc	45	No Gas	4138246.67	2.3	4328907.5	95.6	70	120	
Sc	45	H2	3238576.42	10.1	3276792.92	98.83	70	120	
Sc	45	He	541932.42	2.1	582155.9	93.09	70	120	
Ge	72	No Gas	942511.39	2.3	950222.33	99.19	70	120	
Ge	72	H2	815070.92	10.3	807227.94	100.97	70	120	
Ge	72	He	303629.09	0.6	315409.62	96.27	70	120	
In	115	No Gas	4849005.67	3.2	5348455.52	90.66	70	120	
Tb	159	No Gas	7030906.67	2.8	7292471.93	96.41	70	120	
Tb	159	He	5323740.83	2.5	5438099	97.9	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV15
File Name	H6A20173.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A20.b
Acq Time	2023-01-27 20:35:09
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.881	ppb	2.2	243800.65	25	99.52	90	110	
Be	9	6	No Gas	23.459	ppb	1.5	54013.58	25	93.84	90	110	
B	11	6	No Gas	54.816	ppb	1.7	94185.45	50	109.63	90	110	
Na	23	45	H2	24949.798	ppb	0.9	107916018.67	25000	99.8	90	110	
Mg	24	45	No Gas	24960.763	ppb	1.8	235500986.67	25000	99.84	90	110	
Al	27	45	No Gas	24961.115	ppb	1.6	315305461.97	25000	99.84	90	110	
Si	28	45	H2	2465.856	ppb	1.3	3766303.42	2500	98.63	90	110	
P	31	45	No Gas	234.303	ppb	1.6	243097.47	250	93.72	90	110	
K	39	45	He	24394.153	ppb	1.9	19447068.67	25000	97.58	90	110	
Ca	40	45	H2	24192.081	ppb	0.9	256832880.00	25000	96.77	90	110	
Ti	47	45	No Gas	242.379	ppb	0.7	412230.50	250	96.95	90	110	
V	51	45	He	247.993	ppb	0.6	1594197.33	250	99.2	90	110	
Cr	52	45	He	246.655	ppb	1.4	1769866.29	250	98.66	90	110	
Mn	55	45	No Gas	1457.923	ppb	1.3	38742792.00	1500	97.19	90	110	
Fe	56	45	H2	24442.992	ppb	0.1	366459850.67	25000	97.77	90	110	
Co	59	45	No Gas	239.983	ppb	1.5	5321570.67	250	95.99	90	110	
Ni	60	45	He	253.446	ppb	0.6	612769.60	250	101.38	90	110	
Cu	63	45	He	250.878	ppb	0.7	1554682.05	250	100.35	90	110	
Zn	66	72	No Gas	243.783	ppb	1.0	787658.04	250	97.51	90	110	
As	75	72	He	240.058	ppb	1.0	287948.73	250	96.02	90	110	
Se	78	72	H2	246.040	ppb	1.2	99764.93	250	98.42	90	110	
Sr	88	72	No Gas	253.795	ppb	1.3	6919572.78	250	101.52	90	110	
Zr	90	72	No Gas	24.869	ppb	1.6	450858.17	25	99.48	90	110	
Mo	95	115	No Gas	237.977	ppb	1.8	1304490.50	250	95.19	90	110	
Ag	107	115	No Gas	24.166	ppb	2.4	313388.18	25	96.66	90	110	
Cd	111	115	No Gas	242.768	ppb	0.7	634625.59	250	97.11	90	110	
Sn	118	115	No Gas	241.885	ppb	2.8	1869199.02	250	96.75	90	110	
Sb	123	115	No Gas	48.313	ppb	3.4	443988.66	50	96.63	90	110	
Ba	137	115	No Gas	497.668	ppb	2.6	2027768.53	500	99.53	90	110	
W	182	159	No Gas	24.654	ppb	1.6	251522.67	25	98.62	90	110	
Hg	201	159	No Gas	2.452	ppb	0.8	4013.48	2.5	98.08	90	110	
Hg	201	159	He	2.475	ppb	2.4	3120.39	2.5	99	90	110	
Tl	205	159	No Gas	249.274	ppb	1.1	5496408.53	250	99.71	90	110	
Pb	208	159	No Gas	247.921	ppb	1.0	7570220.05	250	99.17	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	251.656	ppb	0.3	7557988.03	250	100.66	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1322647.84	1.2	1129062.4	117.15	70	120	
Sc	45	No Gas	4798016.33	2.0	4328907.5	110.84	70	120	
Sc	45	H2	3418471.08	0.4	3276792.92	104.32	70	120	
Sc	45	He	582318.44	0.6	582155.9	100.03	70	120	
Ge	72	No Gas	1035480.75	2.6	950222.33	108.97	70	120	
Ge	72	H2	850968.71	0.9	807227.94	105.42	70	120	
Ge	72	He	326524.19	0.7	315409.62	103.52	70	120	
In	115	No Gas	5750445.64	4.0	5348455.52	107.52	70	120	
Tb	159	No Gas	8394219.39	2.1	7292471.93	115.11	70	120	
Tb	159	He	5992607.17	0.9	5438099	110.2	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB15
File Name	H6A20174.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A20.b
Acq Time	2023-01-27 20:37:46
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.183	ppb	9.4	86795.89	0.4	
Be	9	6	No Gas	0.007	ppb	8.3	71.11	0.08	
B	11	6	No Gas	6.612	ppb	9.1	19548.02	4	>LOD
Na	23	45	H2	<0.000	ppb	N/A	721054.00	40	
Mg	24	45	No Gas	5.085	ppb	21.1	105887.69	10	
Al	27	45	No Gas	7.106	ppb	11.4	108979.60	15	
Si	28	45	H2	0.765	ppb	36.9	6649.60	8	
P	31	45	No Gas	<0.000	ppb	N/A	50956.74	10	
K	39	45	He	13.912	ppb	153.3	101805.30	20	
Ca	40	45	H2	20.366	ppb	4.7	447179.23	25	
Ti	47	45	No Gas	0.118	ppb	25.7	490.01	0.5	
V	51	45	He	0.027	ppb	163.8	1784.79	0.5	
Cr	52	45	He	0.057	ppb	79.7	1989.48	0.2	
Mn	55	45	No Gas	0.473	ppb	12.8	23167.62	0.2	>LOD
Fe	56	45	H2	6.965	ppb	3.6	143670.41	10	
Co	59	45	No Gas	0.059	ppb	19.1	1752.78	0.15	
Ni	60	45	He	0.060	ppb	40.8	342.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1683.44	0.4	
Zn	66	72	No Gas	1.013	ppb	10.0	6652.97	2	
As	75	72	He	0.072	ppb	41.1	201.33	0.2	
Se	78	72	H2	0.085	ppb	9.8	56.00	0.2	
Sr	88	72	No Gas	0.098	ppb	13.4	3772.76	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	276.67	2	
Mo	95	115	No Gas	0.084	ppb	19.4	542.23	0.2	
Ag	107	115	No Gas	0.009	ppb	11.6	184.45	0.08	
Cd	111	115	No Gas	0.070	ppb	9.0	227.69	0.2	
Sn	118	115	No Gas	0.066	ppb	11.4	1364.51	0.2	
Sb	123	115	No Gas	0.021	ppb	11.6	344.45	0.4	
Ba	137	115	No Gas	0.178	ppb	11.2	1047.82	0.2	
W	182	159	No Gas	0.004	ppb	61.7	180.00	0.3	
Hg	201	159	No Gas	0.015	ppb	63.6	43.17	0.1	
Hg	201	159	He	0.012	ppb	28.4	26.83	0.1	
Tl	205	159	No Gas	0.115	ppb	12.8	3019.26	0.1	>LOD
Pb	208	159	No Gas	0.068	ppb	20.5	3241.29	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.069	ppb	5.4	2252.43	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1424945.38	5.2	1129062.4	126.21	70	120	ISTD Failed
Sc	45	No Gas	4959879.50	5.5	4328907.5	114.58	70	120	
Sc	45	H2	3386559.17	1.9	3276792.92	103.35	70	120	
Sc	45	He	533594.31	13.7	582155.9	91.66	70	120	
Ge	72	No Gas	1032500.98	4.5	950222.33	108.66	70	120	
Ge	72	H2	826056.65	2.3	807227.94	102.33	70	120	
Ge	72	He	295338.54	11.5	315409.62	93.64	70	120	
In	115	No Gas	6104864.32	6.4	5348455.52	114.14	70	120	
Tb	159	No Gas	8570984.38	6.7	7292471.93	117.53	70	120	
Tb	159	He	5469429.83	13.6	5438099	100.58	70	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/30/23 12:10

End Date: 1/30/23 21:04

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

Micropipette ID: C42761702
C4270533
B42781098

see analytical sequence

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	IH6A22
Analytical Sequence:	H6A22
Method File:	EGOW
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B270302	MRL1 (LT)	SM6B-26-9502
S1	0401	MRL2 (LM)	9601
S2	0402	MRL3 (AT)	9602
S3	0501	MRL4	N/A
S4	0502	MRL5	
S5	0601	MRL6	
S6	N/A	Internal Standard	SM6B-26-6701
S7		Post-Spike 1	SM6A-23-0203
ICV	SM6B-2671-01	Post-Spike 2	0204
CCV	SM6B-27-0602	Post-Spike 3	N/A
ICSA	0202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.			

Analyzed By: TH

Date: 1/30/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A22
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A22009				H6A22014			H6A22015		
DateAnalyed :		01/30/2312:27				01/30/2312:40			01/30/2312:52		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.77	30	1.8	93	0.27763	0	>0	20.086	20	100
Beryllium		29.67	30	0.7	99	0.022942	0	<0.1	20.501	20	103
Boron		29.17	30	2.1	97	0.17824	0	<5.0	19.097	20	95
Sodium	T	31210	30000	2.1	104	110560	100000	111	101720	100000	102
Magnesium	T	30050	30000	2.9	100	108720	100000	109	97375	100000	97
Aluminum		30860	30000	3.3	103	109910	100000	110	98589	100000	99
Silicon		3163	3000	1.3	105	4.8841	0	<20	215.00	200	108
Phosphorus		288.1	300	2.4	96	108160	100000	108	100760	100000	101
Potassium	T	30930	30000	0.3	103	112370	100000	112	100770	100000	101
Calcium	T	30740	30000	1.4	102	112040	100000	112	102350	100000	102
Titanium		298.7	300	1.8	100	2263.3	2000	113	2054.3	2000	103
Vanadium		308.5	300	0.7	103	0.021603	0	<0.5	20.700	20	104
Chromium		312.2	300	1.3	104	2.3812	0	>0.2	23.330	20	117
Manganese		1973	2000	2.2	99	0.037832	0	<0.2	20.038	20	100
Iron		31170	30000	1.2	104	112360	100000	112	102750	100000	103
Cobalt		303.9	300	2.0	101	0.12635	0	<0.2	20.402	20	102
Nickel		311.9	300	1.0	104	0.44108	0	>0.2	21.356	20	107
Copper		326.2	300	1.2	109	0.0028416	0	<0.5	21.307	20	107
Zinc		308.6	300	1.7	103	2.9042	0	<10	22.219	20	111
Arsenic		300.5	300	1.8	100	0.039060	0	<0.2	20.204	20	101
Selenium		304.5	300	0.2	102	0.10491	0	<0.3	20.882	20	104
Strontium		305.5	300	1.7	102	0.87554	0	<1.0	21.170	20	106
Zirconium		31.33	30	2.2	104	0.20834	0	<2.0	10.959	20	55*
Molybdenum		301.1	300	2.2	100	2271.9	2000	114	2042.0	2000	102
Silver		30.43	30	1.8	101	0.084116	0	<0.2	20.262	20	101
Cadmium		297.0	300	1.6	99	0.017474	0	<0.2	20.361	20	102
Tin		303.6	300	1.7	101	0.12280	0	<0.2	20.385	20	102
Antimony		57.12	60	0.5	95	0.055467	0	<0.5	20.224	20	101
Barium		301.0	300	1.6	100	0.57991	0	>0.5	21.368	20	107
Tungsten		30.64	30	1.6	102	0.16045	0	<1.0	19.169	20	96
Mercury		2.860	3	0.9	95	0.0057680	0	<0.1	1.9536	2	98
Thallium		305.0	300	1.8	102	0.029216	0	<0.2	20.230	20	101
Lead		308.3	300	1.2	103	0.00077521	0	<0.1	20.665	20	103
Uranium		310.0	300	1.6	103	0.020448	0	<0.1	20.979	20	105

| Unit: ug/L
| T: Target analyte
| EV: Expected Value
| Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A22
Instrument ID: H6

CCV SampleID			CCV10			CCV11		
CCV DataFileID			H6A22101			H6A22113		
CCV DateTime			01/30/23 17:30			01/30/23 18:02		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	25.2	101	2.2	25.1	100	1.1
Beryllium		25	24.0	96	1.9	24.2	97	2.7
Boron		50	68.7	137*	1.5	52.6	105	1.7
Sodium	T	25000	25500	102	0.5	25600	103	0.4
Magnesium	T	25000	25300	101	1.3	25400	102	1.6
Aluminum		25000	25100	100	1.5	25300	101	1.2
Silicon		2500	2520	101	0.7	2560	102	0.4
Phosphorus		250	240	96	1.6	241	96	1.0
Potassium	T	25000	24900	99	1.1	25000	100	1.1
Calcium	T	25000	25100	100	0.4	25100	100	0.9
Titanium		250	246	98	0.9	246	98	1.0
Vanadium		250	250	100	0.9	250	100	0.6
Chromium		250	252	101	1.5	252	101	0.9
Manganese		1500	1500	100	1.7	1470	98	1.2
Iron		25000	25300	101	1.0	25100	100	0.9
Cobalt		250	248	99	1.8	244	97	1.3
Nickel		250	255	102	1.3	254	102	0.6
Copper		250	256	103	0.9	255	102	0.6
Zinc		250	248	99	2.7	247	99	0.7
Arsenic		250	245	98	1.4	245	98	0.5
Selenium		250	250	100	0.6	251	100	0.8
Strontium		250	254	101	1.7	255	102	0.9
Zirconium		25	25.7	103	2.7	25.7	103	2.0
Molybdenum		250	240	96	3.3	240	96	1.3
Silver		25	24.4	97	3.3	24.1	96	0.4
Cadmium		250	244	98	4.3	242	97	0.3
Tin		250	247	99	4.7	244	98	0.1
Antimony		50	49.2	98	4.4	48.6	97	0.3
Barium		500	505	101	3.6	504	101	0.2
Tungsten		25	25.5	102	5.6	24.7	99	1.5
Mercury		2.5	2.52	101	6.4	2.50	100	0.2
Thallium		250	257	103	6.7	256	102	0.4
Lead		250	255	102	5.4	256	102	1.1
Uranium		250	258	103	5.6	260	104	0.3

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A
Sequence : IH6A22
Instrument ID: H6

CB SampleID		: ICB		CCB10		CCB11	
CB DataFileID		: H6A22010		H6A22102		H6A22114	
CB DateTime		: 01/30/2312:29		01/30/2317:33		01/30/2318:04	
PARAMETER	LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium	0	0.1	>0	0.6	>0	0.3	>0
Beryllium	0.1	0.01	<0.1	0.04	<0.1	0.04	<0.1
Boron	5.0	0.9	<5.0	10	>5.0	4	<5.0
Sodium T	50	5	<50	70	>50	50	<50
Magnesium T	20	2	<20	6	<20	7	<20
Aluminum	20	2	<20	4	<20	4	<20
Silicon	20	4	<20	1	<20	2	<20
Phosphorus	25	3	<25	5	<25	4	<25
Potassium T	25	0.7	<25	4	<25	8	<25
Calcium T	60	0.8	<60	20	<60	30	<60
Titanium	0.5	0.03	<0.5	0.04	<0.5	0.04	<0.5
Vanadium	0.5	0.01	<0.5	0.06	<0.5	0.09	<0.5
Chromium	0.2	0.03	<0.2	0.1	<0.2	0.2	<0.2
Manganese	0.2	0.2	<0.2	0.4	>0.2	0.4	>0.2
Iron	10	1	<10	5	<10	5	<10
Cobalt	0.2	0.02	<0.2	0.06	<0.2	0.06	<0.2
Nickel	0.2	0.02	<0.2	0.08	<0.2	0.08	<0.2
Copper	0.5	0.03	<0.5	0.3	<0.5	0.4	<0.5
Zinc	10	0.04	<10	2	<10	2	<10
Arsenic	0.2	0.03	<0.2	0.03	<0.2	0.04	<0.2
Selenium	0.3	0.07	<0.3	0.02	<0.3	0.004	<0.3
Strontium	1.0	0.02	<1.0	0.007	<1.0	0.04	<1.0
Zirconium	2.0	0.001	<2.0	0.01	<2.0	0.01	<2.0
Molybdenum	0.5	0.06	<0.5	0.02	<0.5	0.03	<0.5
Silver	0.2	0.003	<0.2	0.005	<0.2	0.006	<0.2
Cadmium	0.2	0.08	<0.2	0.002	<0.2	0.001	<0.2
Tin	0.2	0.2	>0.2	0.06	<0.2	0.05	<0.2
Antimony	0.5	0.009	<0.5	0.004	<0.5	0.002	<0.5
Barium	0.5	0.03	<0.5	0.09	<0.5	0.09	<0.5
Tungsten	1.0	0.01	<1.0	0.006	<1.0	0.005	<1.0
Mercury	0.1	0.04	<0.1	0.007	<0.1	0.009	<0.1
Thallium	0.2	0.1	<0.2	0.003	<0.2	0.005	<0.2
Lead	0.1	0.04	<0.1	0.03	<0.1	0.04	<0.1
Uranium	0.1	0.03	<0.1	0.02	<0.1	0.03	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	CalBlk	BLANK		1101	H6A22001.d		1
2	Skip	CalBlk	BLANK		1101	H6A22002.d		1
3	Skip	CalBlk	S0		1102	H6A22003.d		1
4	Skip	CalStd	S1		1103	H6A22004.d		2
5	Skip	CalStd	S2		1104	H6A22005.d		3
6	Skip	CalStd	S3		1105	H6A22006.d		4
7	Skip	CalStd	S4		1106	H6A22007.d		5
8	Skip	CalStd	S5		1107	H6A22008.d		6
9	Skip	ICV	ICV		1204	H6A22009.d	1	
10	Skip	ICB	ICB		1102	H6A22010.d	1	
11	Skip	LLCCV	MRLA3001	1/100/10 ppb ↑Zn	1306	H6A22011.d	1	
12	Skip	LLCCV2	MRLA3002	0.4/40/4 ppb	1307	H6A22012.d	1	
13	Skip	Sample	MRLA3003	20 ppb Zn ✓	1301	H6A22013.d	1	
14	Skip	ICS-A	ICSA		1304	H6A22014.d	1	
15	Skip	ICSB	ICSAB		1305	H6A22015.d	1	
16	Skip	Sample	MRLA3004	500 ppb CAT	1207	H6A22016.d	1	
17	Skip	CCV	CCV1		1206	H6A22017.d	1	
18	Skip	CCB	CCB1		1102	H6A22018.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	Blank	IML026WB		2101	H6A22019.d	1	
2	Skip	LCSW	IML026WL		2102	H6A22020.d	1	
3	Skip	LCSW	IML026WC		2103	H6A22021.d	1	
4	Skip	Sample	L268-02		2104	H6A22022.d	1	
5	Skip	Sample	L268-03A		2105	H6A22023.d	1	
6	Skip	Sample	L268-03		2106	H6A22024.d	1	
7	Skip	Sample	L268-03J		2107	H6A22025.d	5	
8	Skip	Sample	L268-03M		2108	H6A22026.d	1	
9	Skip	Sample	L268-03S		2109	H6A22027.d	1	
10	Skip	Sample	L268-04		2110	H6A22028.d	1	
11	Skip	CCV	CCV2		1206	H6A22029.d	1	
12		CCB	CCB2		1102	H6A22030.d	1	
13		Sample	L268-05		2111	H6A22031.d	1	
14		Sample	L268-06		2112	H6A22032.d	1	
15		Sample	L268-07		2201	H6A22033.d	1	
16		Sample	L268-10		2202	H6A22034.d	1	
17		Sample	L268-11		2203	H6A22035.d	1	
18		CCV	CCV3		1206	H6A22036.d	1	
19		CCB	CCB3		1102	H6A22037.d	1	
20		Blank	IMA003WB		2204	H6A22038.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
21		LCSW	IMA003WL		2205	H6A22039.d	1	
22		LCSW	IMA003WC		2206	H6A22040.d	1	
23		Sample	L298-01I	YELLOW	2207	H6A22041.d	10	
24		Sample	A008-06A		2208	H6A22042.d	1	
25		Sample	A008-06		2209	H6A22043.d	1	
26		Sample	A008-06J		2210	H6A22044.d	5	
27		Sample	A008-06M		2211	H6A22045.d	1	
28		Sample	A008-06S		2212	H6A22046.d	1	
29		CCV	CCV4		1206	H6A22047.d	1	
30		CCB	CCB4		1102	H6A22048.d	1	
31		Blank	IML026WB		2301	H6A22049.d	1	
32		LCSW	IML026WL		2302	H6A22050.d	1	
33		LCSW	IML026WC		2303	H6A22051.d	1	
34		Sample	L237-01		2304	H6A22052.d	As Cr Mn Se Mo	
35		Sample	L237-02		2305	H6A22053.d	1	
36		Sample	L237-03		2306	H6A22054.d	1	
37		Sample	L237-04		2307	H6A22055.d	1	
38		Sample	L237-05		2308	H6A22056.d	1	
39		Sample	L237-07		2309	H6A22057.d	1	
40		Sample	L237-09		2310	H6A22058.d	1	
41		CCV	CCV5	Be IS 200%	1206	H6A22059.d	1	
42		CCB	CCB5		1102	H6A22060.d	1	
43		Sample	L237-11		2311	H6A22061.d	1	
44		Sample	L237-13		2312	H6A22062.d	1	
45		Sample	L237-14		2401	H6A22063.d	1	
46		Sample	L237-15		2402	H6A22064.d	1	
47		Sample	L237-16		2403	H6A22065.d	1	
48		CCV	CCV6	Li6[NH], Sc45[NH], 72[NH] Tb[NH] >1ppb	1206	H6A22066.d	1	
49		CCB	CCB6		1102	H6A22067.d	1	
50		Blank	IML027WB		2404	H6A22068.d	1	
51		LCSW	IML027WL	Li6 IS?	2405	H6A22069.d	1	
52		LCSW	IML027WC	Li6, Sc159[NH]	2406	H6A22070.d	1	
53		Sample	L180-05I	23	2407	H6A22071.d	10	23 Metals CAM
54		Sample	L228-02I		2408	H6A22072.d	10	
55		Sample	L228-03I	Li6, Sc45[NH], Tb159[NH]	2409	H6A22073.d	10	
56		Sample	L228-04A		2410	H6A22074.d	10	
57		Sample	L228-04I		2411	H6A22075.d	10	
58		Sample	L228-04J		2412	H6A22076.d	50	
59		Sample	L228-04M	Tb159[NH]	2501	H6A22077.d	10	
60		CCV	CCV7		1206	H6A22078.d	1	
61		CCB	CCB7		1102	H6A22079.d	1	
62		Sample	L228-04S	Tb159[NH]	2502	H6A22080.d	10	
63		Sample	L228-05I		2503	H6A22081.d	10	
64		Sample	L228-06I		2504	H6A22082.d	10	
65		Sample	L228-07I		2505	H6A22083.d	10	
66		Sample	L228-08I		2506	H6A22084.d	10	
67		Sample	L228-09I		2507	H6A22085.d	10	
68		Sample	L228-10I		2508	H6A22086.d	10	
69		CCV	CCV8		1206	H6A22087.d	1	
70		CCB	CCB8	Li6, Tb159[NH]	1102	H6A22088.d	1	
71		Sample	K224-02A	Tb159[NH]	2509	H6A22089.d	5	
72		Sample	K224-02G		2510	H6A22090.d	5	
73		Sample	K224-02J		2511	H6A22091.d	25	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name		Total Dil.	Level
74		Sample	K224-02M		2512	H6A22092.d	Pb	5	
75		Sample	K224-02S		3101	H6A22093.d	↓	5	
76		Sample	K224-09G		3102	H6A22094.d	Zn	5	
77		CCV	CCV9		1206	H6A22095.d		1	
78		CCB	CCB9	Tb159[NH3]	1102	H6A22096.d		1	
79		Sample	L024-11S		3103	H6A22097.d	Be	1	
80		Sample	L024-12N		3104	H6A22098.d		1	
81		Sample	L024-13N		3105	H6A22099.d		1	
82		Sample	L024-14N		3106	H6A22100.d		1	
83		CCV	CCV10	Li6, Tb159[NH3]	1206	H6A22101.d		1	
84		CCB	CCB10	Li6, Tb159[NH3]	1102	H6A22102.d		1	
85		Sample	L025-02N		3107	H6A22103.d	Be	1	
86		Sample	L025-03N		3108	H6A22104.d		1	
87		Sample	L025-04N		3109	H6A22105.d		1	
88		Sample	L025-05N		3110	H6A22106.d		1	
89		Sample	L025-06N		3111	H6A22107.d		1	
90		Sample	L025-07N		3112	H6A22108.d		1	
91		Sample	L025-08N		3201	H6A22109.d		1	
92		Sample	L025-09N		3202	H6A22110.d		1	
93		Sample	L025-10N		3203	H6A22111.d		1	
94		Sample	L226-12T		3204	H6A22112.d	Na	100	
95		CCV	CCV11		1206	H6A22113.d		1	
96		CCB	CCB11		1102	H6A22114.d		1	
97		ICS-A	ICSA2		1304	H6A22115.d		1	
98		ICSB	ICSAB2		1305	H6A22116.d		1	
99		Blank	IMA025WB		3205	H6A22117.d		1	
100		LCSW	IMA025WL		3206	H6A22118.d		1	
101		LCSW	IMA025WC		3207	H6A22119.d		1	
102		Sample	A204-01	TOT	3208	H6A22120.d	CAMTSn	1	
103		Sample	A204-02A	TOT	3209	H6A22121.d		1	
104		Sample	A204-02	TOT	3210	H6A22122.d		1	
105		Sample	A204-02J	TOT	3211	H6A22123.d		5	
106		Sample	A204-02M	TOT	3212	H6A22124.d		1	
107		CCV	CCV12		1206	H6A22125.d		1	
108		CCB	CCB12		1102	H6A22126.d		1	
109		Sample	A204-02S	TOT	3301	H6A22127.d		1	
110		Sample	A204-01	DISS	3302	H6A22128.d	23metals	1	
111		Sample	A204-02	DISS	3303	H6A22129.d	↓	1	
112		Sample	A258-01	TOT	3304	H6A22130.d	camtsn	1	
113		Sample	A258-01	DISS	3305	H6A22131.d	↓	1	
114		LLCCV	MRLA3005	1/100/10 ppb	1306	H6A22132.d		1	
115		LLCCV2	MRLA3006	0.4/40/4 ppb	1307	H6A22133.d		1	
116		CCV	CCV13		1206	H6A22134.d		1	
117		CCB	CCB13		1102	H6A22135.d		1	
118		Blank	IML028WB		3306	H6A22136.d	(Cu Mn)	1	
119		LCSW	IML028WL		3307	H6A22137.d		1	
120		LCSW	IML028WC		3308	H6A22138.d		1	
121		Sample	L232-01N		3309	H6A22139.d		1	
122		Sample	L232-02N		3310	H6A22140.d		1	
123		Sample	L263-01N		3311	H6A22141.d		1	
124		Sample	L263-02N		3312	H6A22142.d		1	
125		Sample	L247-02G		3401	H6A22143.d		10	Cal
126		Sample	L247-02I		3402	H6A22144.d		100	+

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
127		Sample	L247-02T		3403	H6A22145.d	500	
128		CCV	CCV14		1206	H6A22146.d	1	
129		CCB	CCB14		1102	H6A22147.d	1	
130		Sample	L196-03G		3404	H6A22148.d	10	
131		Sample	L196-03I		3405	H6A22149.d	100	
132		Sample	L196-03T		3406	H6A22150.d	500	
133		CCV	CCV15		1206	H6A22151.d	1	
134		CCB	CCB15		1102	H6A22152.d	1	
135		Blank	IMK033WB		3407	H6A22153.d	1	
136		LCSW	IMK033WL		3408	H6A22154.d	1	
137		LCSW	IMK033WC		3409	H6A22155.d	1	
138		Sample	K240-01N	TOT	3410	H6A22156.d	1	
139		Sample	K240-02N	TOT	3411	H6A22157.d	1	
140		Sample	K240-03N	TOT	3412	H6A22158.d	1	
141		Sample	K240-04N	TOT	3501	H6A22159.d	1	
142		Sample	K240-05N	TOT	3502	H6A22160.d	1	
143		CCV	CCV16		1206	H6A22161.d	1	
144		CCB	CCB16		1102	H6A22162.d	1	
145		Sample	K240-06A	TOT	3503	H6A22163.d	1	
146		Sample	K240-06N	TOT	3504	H6A22164.d	1	
147		Sample	K240-06J	TOT	3505	H6A22165.d	5	
148		Sample	K240-06M	TOT	3506	H6A22166.d	1	
149		Sample	K240-06S	TOT	3507	H6A22167.d	1	
150		Sample	K240-07N	TOT	3508	H6A22168.d	1	
151		Sample	K240-08N	TOT	3509	H6A22169.d	1	
152		CCV	CCV17		1206	H6A22170.d	1	
153		CCB	CCB17		1102	H6A22171.d	1	
154		Sample	K240-01N	DISS	3510	H6A22172.d	1	
155		Sample	K240-02N	DISS	3511	H6A22173.d	1	
156		Sample	K240-03N	DISS	3512	H6A22174.d	1	
157		Sample	K240-04N	DISS	4101	H6A22175.d	1	
158		Sample	K240-05N	DISS	4102	H6A22176.d	1	
159		Sample	K240-06N	DISS	4103	H6A22177.d	1	
160		Sample	K240-07N	DISS	4104	H6A22178.d	1	
161		Sample	K240-08N	DISS	4105	H6A22179.d	1	
162		Sample	A900-02N		4106	H6A22180.d	1	
163		Sample	A907-01N		4107	H6A22181.d	1	
164		CCV	CCV18		1206	H6A22182.d	1	
165		CCB	CCB18		1102	H6A22183.d	1	

Cu Mn

Cat

Cu Mn

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq. Date-Time	2023-01-30 10:43:54
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

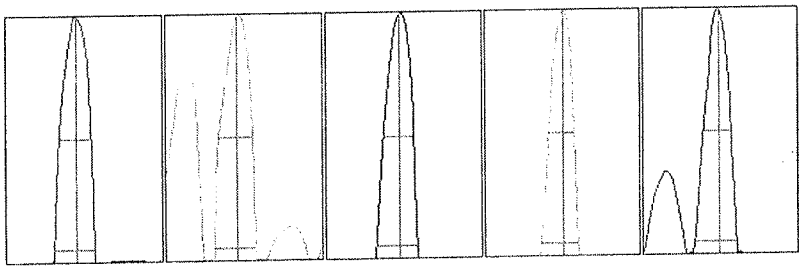
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	19210	192103.95			3.056	5.000
24	10.00	91369	913692.42			3.156	5.000
59	10.00	203936	2039358.50			2.931	5.000
115	10.00	244715	2447150.46			4.862	5.000
208	10.00	140092	1400923.29			4.615	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	18969	18901	18988	18934	20259
24	89492	89978	90432	90467	96478
59	199522	201213	202101	202404	214439
115	237336	239769	241046	239559	265865
208	135457	136143	139197	138338	151327

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	34693.46	8.90	8.90 - 9.10	
24	161548.23	23.90	23.90 - 24.10	
59	369373.70	58.95	58.90 - 59.10	
115	497735.24	115.05	114.90 - 115.10	
208	266173.48	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.778	0.900	
24	0.63	0.787	0.900	
59	0.58	0.779	0.900	
115	0.51	0.721	0.900	
208	0.55	0.811	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.3 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-105 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.4 mm

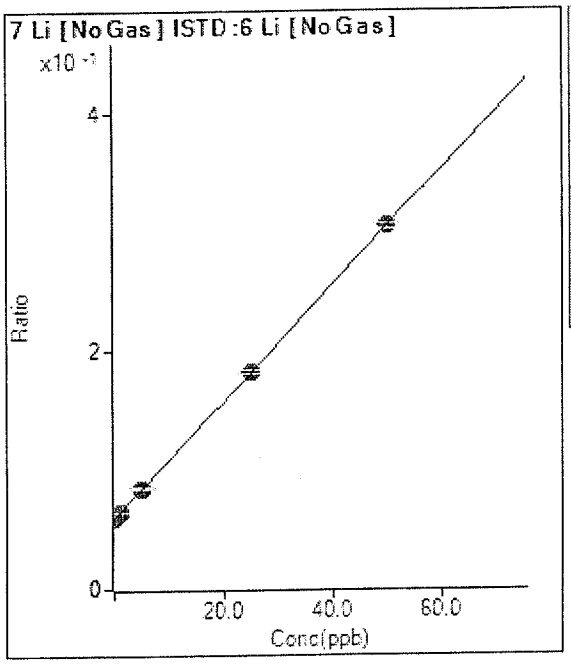
EM

Discriminator	3.3 mV	Analog HV	2773 V	Pulse HV	1510 V

Calibration for H6A22009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b\
Analysis File: IH6A22.batch.bin
DA Date-Time: 2023-01-30 12:29:04
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

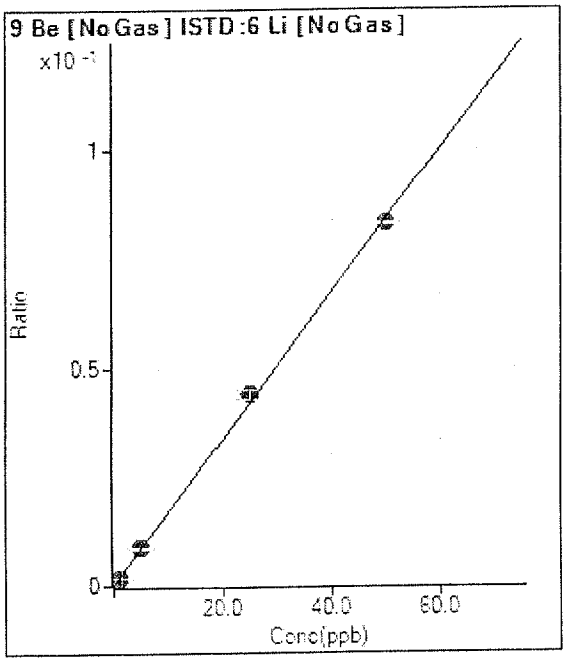
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A22003.d	S0	2023-01-30 12:10:22
2	H6A22004.d	S1	2023-01-30 12:13:13
3	H6A22005.d	S2	2023-01-30 12:16:03
4	H6A22006.d	S3	2023-01-30 12:18:54
5	H6A22007.d	S4	2023-01-30 12:21:44
6	H6A22008.d	S5	2023-01-30 12:24:34



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54672.49	0.0598	P	1.3
2	☐	0.500	0.514	60900.38	0.0624	P	1.0
3	☐	1.000	1.097	68239.01	0.0652	P	0.5
4	☐	5.000	5.065	81669.19	0.0847	P	1.4
5	☐	25.000	24.991	166592.83	0.1826	P	2.2
6	☐	50.000	49.996	311028.60	0.3054	P	1.6

y = 0.0049 * x + 0.0598
R = 1.0000
DL = 0.4764
BEC = 12.19

Weight: <None>
Min Conc: 0

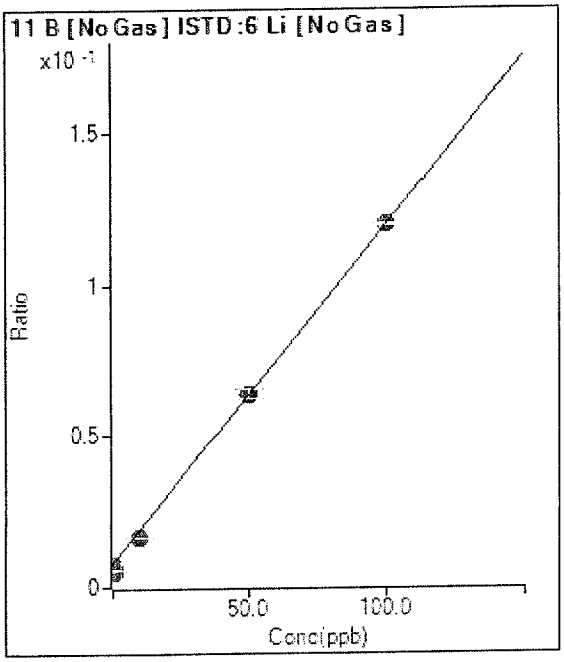


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	105.55	0.0001	P	24.1
2	☐	0.500	0.518	963.37	0.0010	P	4.4
3	☐	1.000	0.940	1773.45	0.0017	P	5.0
4	☐	5.000	5.140	8429.21	0.0088	P	3.5
5	☐	25.000	26.064	39970.03	0.0439	P	5.7
6	☐	50.000	49.455	84788.65	0.0832	P	0.8

y = 0.0017 * x + 1.1587E-004
R = 0.9997
DL = 0.04983
BEC = 0.06894

Weight: <None>
Min Conc: 0

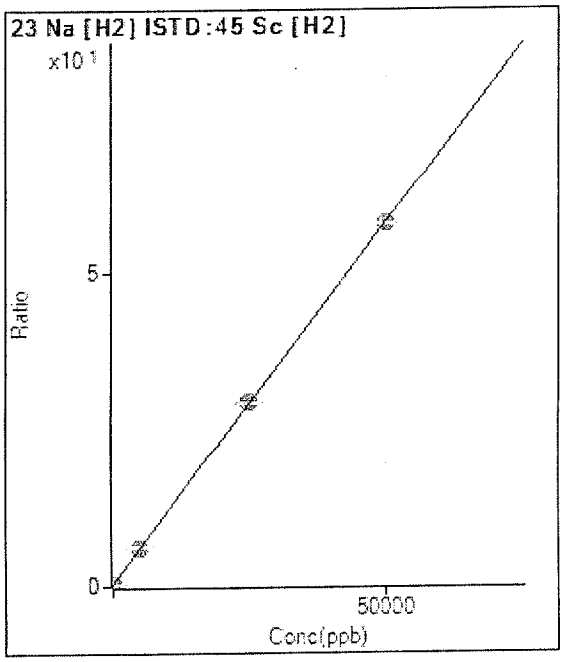
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7234.09	0.0079	P	4.9
2	☐	0.500	-2.631	4863.07	0.0050	P	1.7
3	☐	1.000	-1.777	6205.82	0.0059	P	2.4
4	☐	10.000	7.542	15759.98	0.0163	P	1.1
5	☐	50.000	50.024	58150.16	0.0638	P	4.4
6	☐	100.000	100.277	122253.97	0.1200	P	0.7

y = 0.0011 * x + 0.0079
R = 0.9996
DL = 1.046
BEC = 7.084

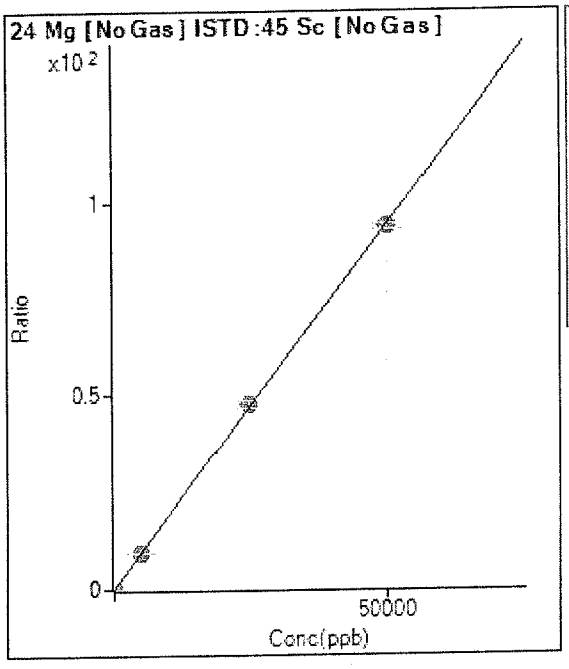
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	793667.19	0.2595	A	0.8
2	☐	50.000	46.856	960647.44	0.3136	A	0.4
3	☐	100.000	97.523	1138999.58	0.3721	A	0.6
4	☐	5000.000	5215.818	19257104.00	6.2835	A	0.5
5	☐	25000.000	25182.931	89527368.00	29.3443	A	1.6
6	☐	50000.000	49886.961	177557034.67	57.8761	A	0.7

y = 0.0012 * x + 0.2595
R = 1.0000
DL = 5.251
BEC = 224.7

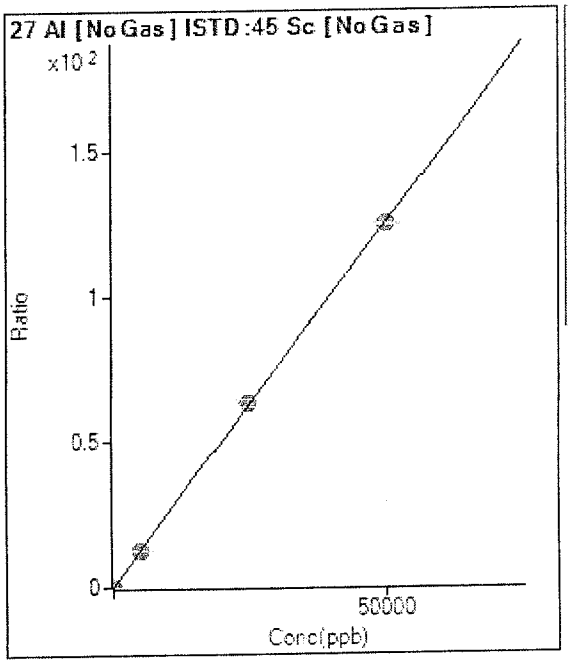
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67952.27	0.0191	P	1.2
2	☐	50.000	46.632	399612.25	0.1069	P	0.3
3	☐	100.000	96.633	808317.77	0.2009	M	1.4
4	☐	5000.000	5125.222	36186550.67	9.6615	A	0.4
5	☐	25000.000	25363.013	171032928.00	47.7360	A	4.6
6	☐	50000.000	49805.982	375859189.33	93.7220	A	1.3

y = 0.0019 * x + 0.0191
R = 1.0000
DL = 0.3585
BEC = 10.17

Weight: <None>
Min Conc: 0

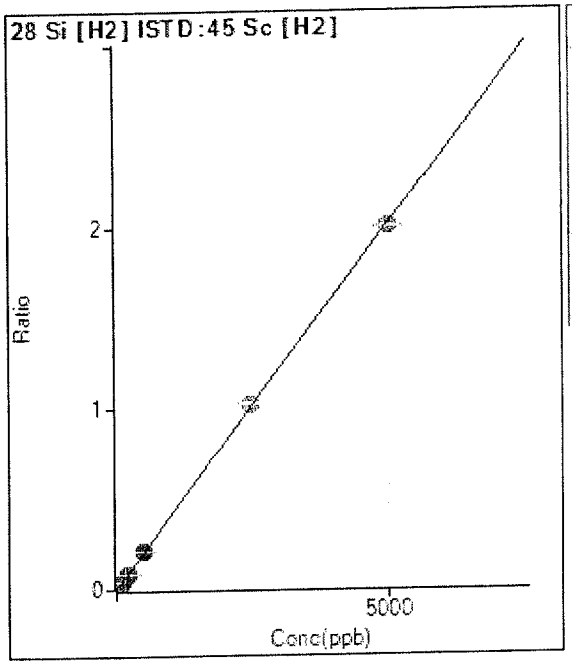


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50822.64	0.0143	P	1.4
2	☐	50.000	47.030	492977.30	0.1318	P	0.7
3	☐	100.000	96.338	1026006.55	0.2551	A	1.1
4	☐	5000.000	5079.756	47552175.96	12.7081	A	1.6
5	☐	25000.000	25300.496	226651209.96	63.2375	A	4.3
6	☐	50000.000	49841.787	499554872.55	124.5636	A	0.6

y = 0.0025 * x + 0.0143
R = 1.0000
DL = 0.2384
BEC = 5.728

Weight: <None>
Min Conc: 0

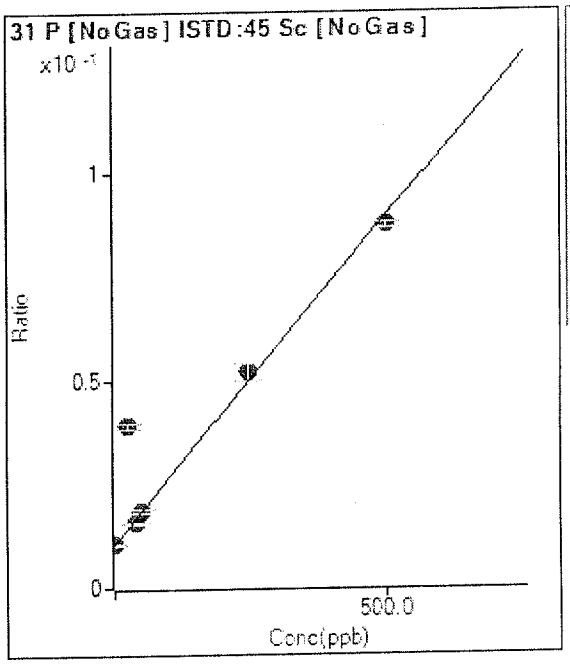
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7632.09	0.0025	P	1.5
2	☐	100.000	104.061	136224.26	0.0445	P	0.6
3	☐	200.000	203.414	258770.34	0.0845	P	1.5
4	☐	500.000	530.189	663069.33	0.2164	P	0.8
5	☐	2500.000	2540.096	3133673.17	1.0271	A	1.1
6	☐	5000.000	4976.715	6166238.83	2.0099	A	0.9

y = 4.0337E-004 * x + 0.0025
R = 0.9999
DL = 0.2735
BEC = 6.186

Weight: <None>
Min Conc: 0

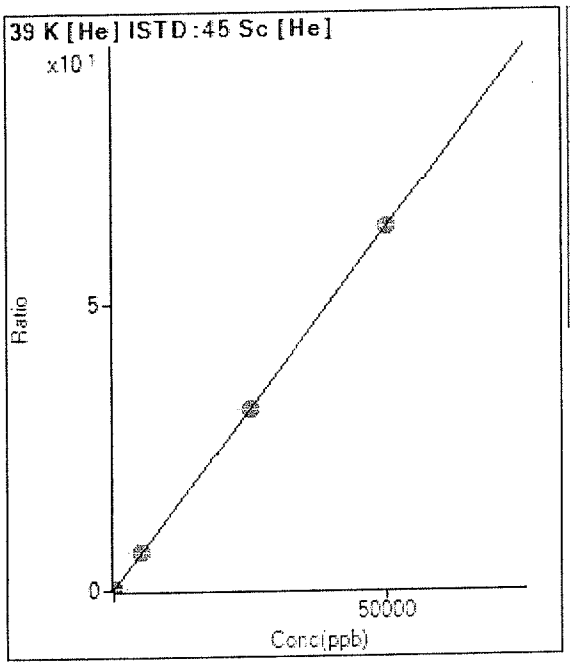


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36942.34	0.0104	P	0.8
2	☐	25.000	181.812	146104.91	0.0391	P	4.1
3	☐	40.000	32.431	62451.93	0.0155	P	1.4
4	☐	50.000	50.194	68495.69	0.0183	P	4.6
5	☐	250.000	263.667	185841.64	0.0520	P	8.1
6	☐	500.000	485.912	349483.39	0.0871	P	1.3

y = 1.5793E-004 * x + 0.0104
R = 0.9430
DL = 1.486
BEC = 65.87

Weight: <None>
Min Conc: 0

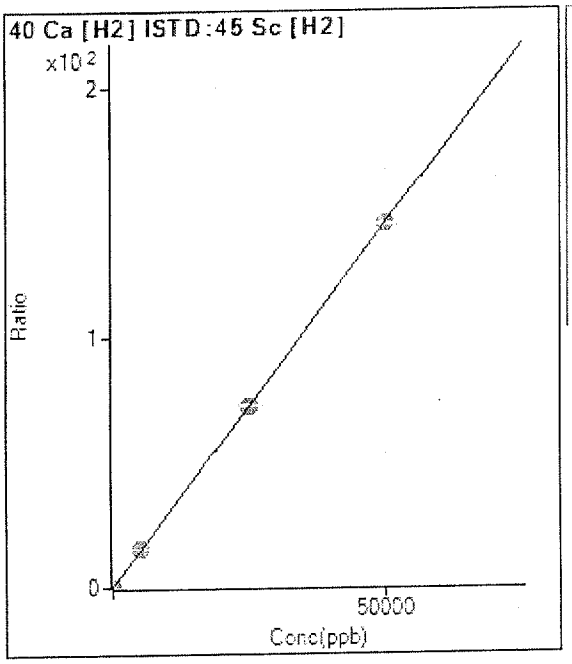
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80210.67	0.1724	P	2.6
2	☐	50.000	56.300	109226.20	0.2436	P	5.5
3	☐	100.000	98.426	138203.38	0.2969	P	1.5
4	☐	5000.000	5107.292	3087109.58	6.6305	A	1.7
5	☐	25000.000	24919.600	14144105.00	31.6830	A	0.4
6	☐	50000.000	50029.468	28781697.33	63.4342	A	0.7

y = 0.0013 * x + 0.1724
R = 1.0000
DL = 11.54
BEC = 136.4

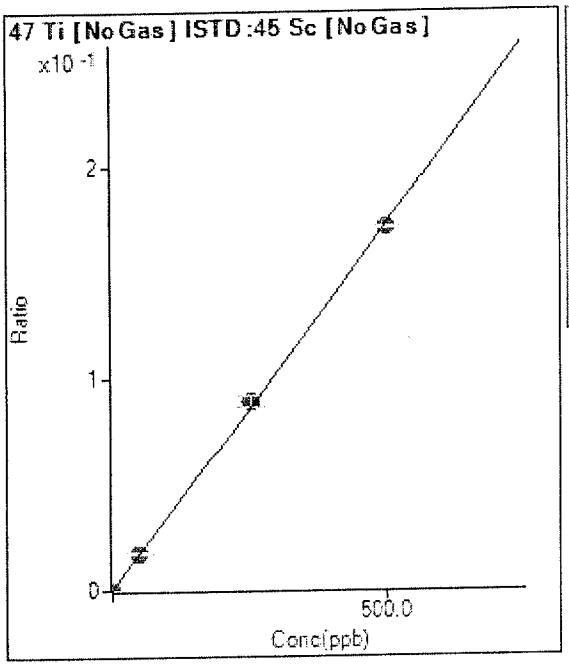
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	378313.23	0.1237	P	0.5
2	☐	50.000	28.341	630493.89	0.2058	P	0.3
3	☐	100.000	80.541	1093012.96	0.3571	A	1.2
4	☐	5000.000	5138.133	46017182.67	15.0149	A	0.3
5	☐	25000.000	24999.742	221435669.33	72.5773	A	1.0
6	☐	50000.000	49986.376	444834325.33	144.9929	A	0.6

y = 0.0029 * x + 0.1237
R = 1.0000
DL = 0.6301
BEC = 42.68

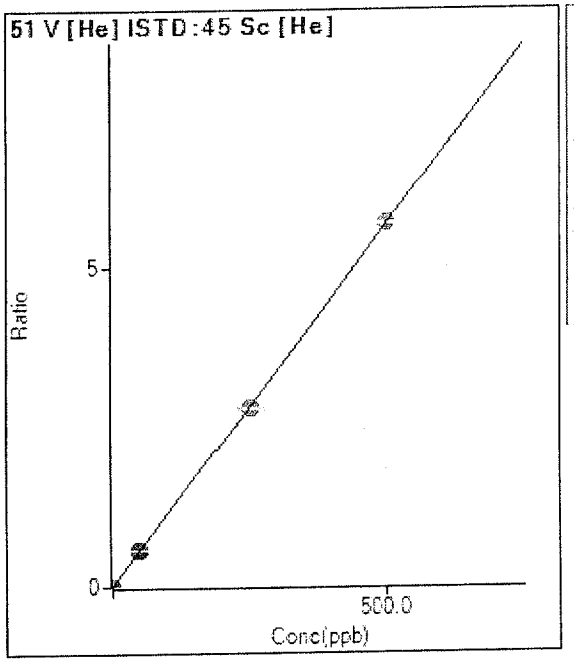
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	262.00	0.0001	P	9.4
2	☐	0.500	0.526	955.37	0.0003	P	2.4
3	☐	1.000	0.992	1674.77	0.0004	P	5.7
4	☐	50.000	50.859	66029.30	0.0176	P	1.0
5	☐	250.000	257.420	318412.69	0.0890	P	5.4
6	☐	500.000	496.204	687493.46	0.1714	P	0.6

y = 3.4533E-004 * x + 7.3787E-005
R = 0.9998
DL = 0.06044
BEC = 0.2137

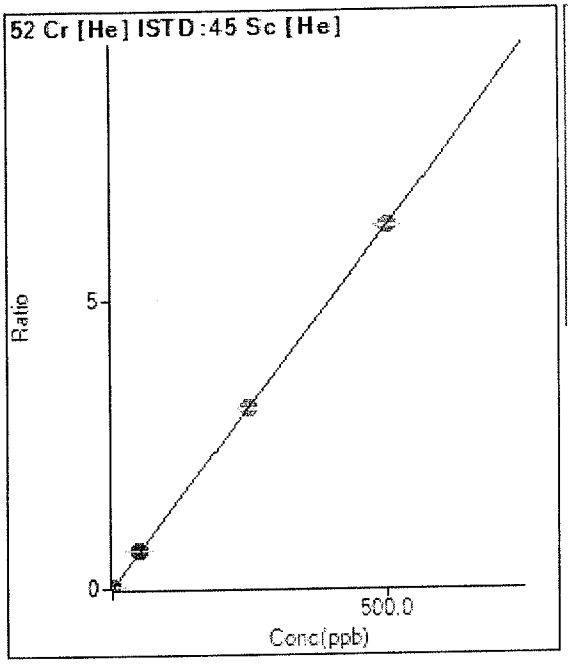
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1454.08	0.0031	P	2.6
2	☐	0.500	0.465	3760.52	0.0084	P	2.4
3	☐	1.000	0.962	6517.55	0.0140	P	1.4
4	☐	50.000	51.378	271771.58	0.5837	P	0.6
5	☐	250.000	246.336	1244067.79	2.7868	A	0.4
6	☐	500.000	501.694	2573692.67	5.6724	A	0.6

y = 0.0113 * x + 0.0031
R = 1.0000
DL = 0.02166
BEC = 0.2766

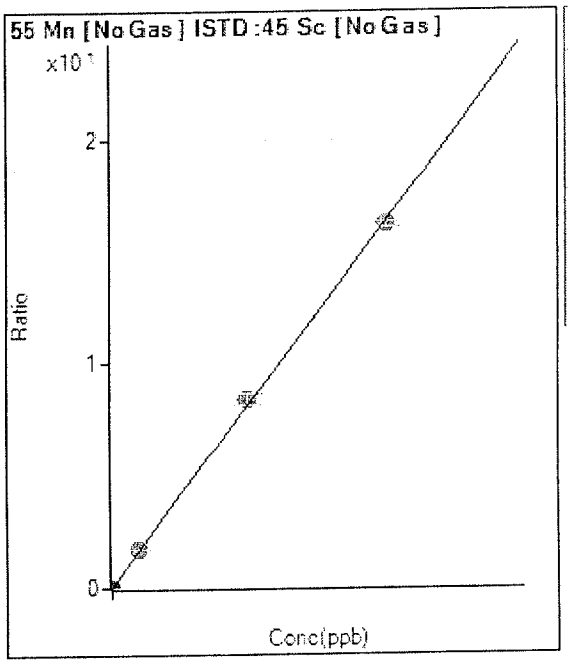
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2040.82	0.0044	P	0.9
2	☐	0.500	0.500	4790.84	0.0107	P	1.0
3	☐	1.000	1.011	7965.65	0.0171	P	0.7
4	☐	50.000	52.957	312295.28	0.6707	P	0.6
5	☐	250.000	248.349	1397268.54	3.1294	A	1.2
6	☐	500.000	500.530	2859615.83	6.3026	A	0.8

y = 0.0126 * x + 0.0044
R = 1.0000
DL = 0.0096
BEC = 0.3487

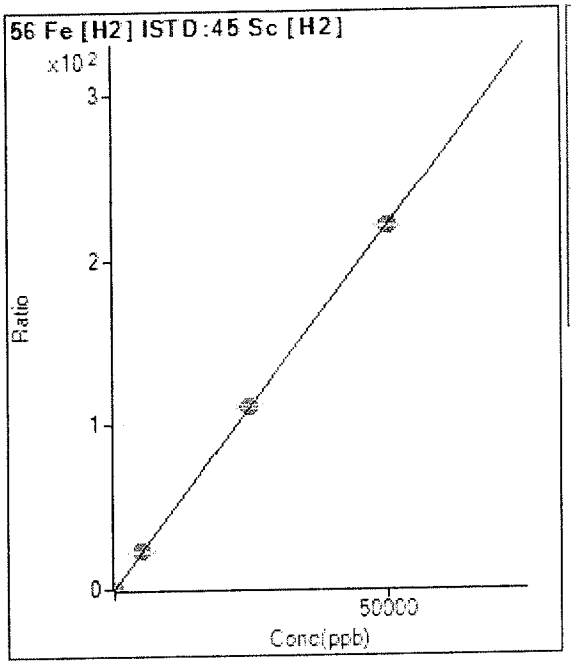
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14696.56	0.0041	P	1.0
2	☐	0.500	0.203	19574.00	0.0052	P	3.3
3	☐	1.000	0.709	32132.99	0.0080	P	0.6
4	☐	300.000	309.905	6312279.00	1.6866	A	1.3
5	☐	1500.000	1540.619	29937975.33	8.3683	A	6.0
6	☐	3000.000	2978.700	64870813.33	16.1758	A	1.3

y = 0.0054 * x + 0.0041
R = 0.9999
DL = 0.02275
BEC = 0.7623

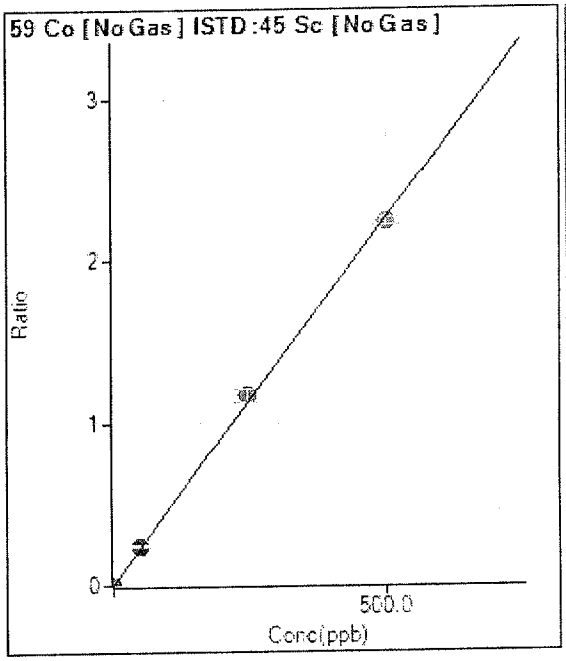
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	99015.53	0.0324	F	0.5
2	☐	50.000	48.426	753078.98	0.2458	F	0.9
3	☐	100.000	99.194	1437475.37	0.4696	A	0.4
4	☐	5000.000	5162.802	69844077.33	22.7906	A	1.0
5	☐	25000.000	25130.469	338080053.33	110.8105	A	1.2
6	☐	50000.000	49918.488	675178090.67	220.0791	A	0.8

y = 0.0044 * x + 0.0324
R = 1.0000
DL = 0.1176
BEC = 7.344

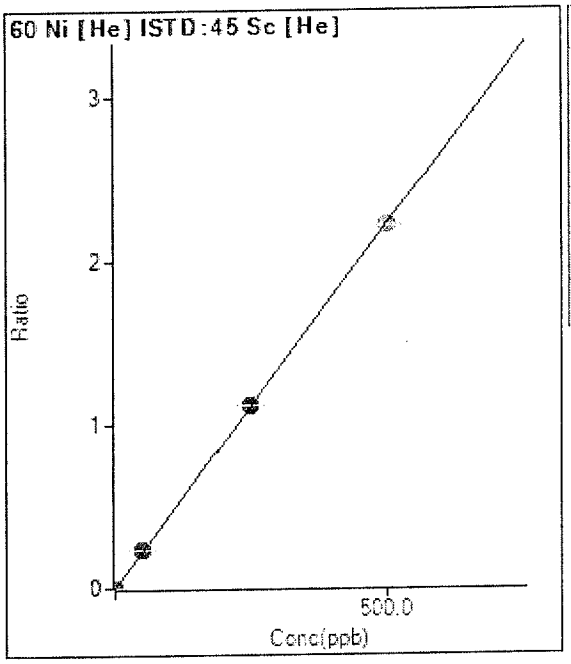
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1396.07	0.0004	F	4.3
2	☐	0.500	0.498	9878.91	0.0026	F	0.3
3	☐	1.000	1.020	20097.45	0.0050	F	1.9
4	☐	50.000	53.488	904742.14	0.2418	F	1.6
5	☐	250.000	258.745	4176136.42	1.1680	A	7.0
6	☐	500.000	495.279	8964476.33	2.2354	A	2.0

y = 0.0045 * x + 3.9309E-004
R = 0.9998
DL = 0.01132
BEC = 0.08711

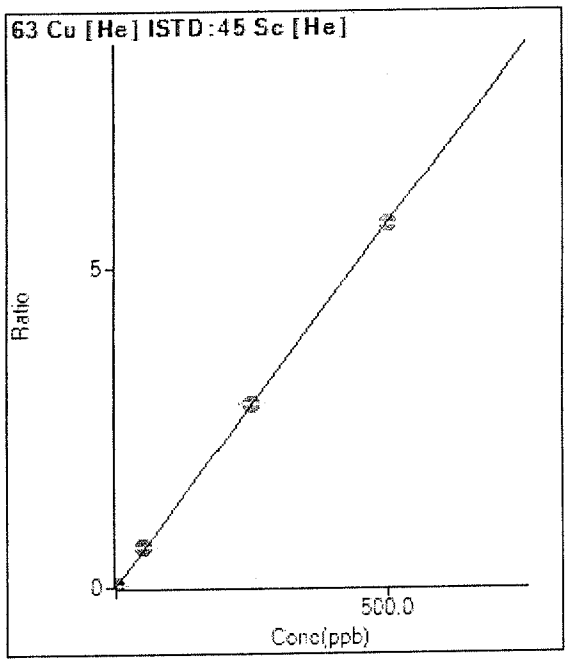
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	292.00	0.0006	P	5.1
2	☐	0.500	0.484	1248.73	0.0028	P	2.9
3	☐	1.000	1.007	2378.21	0.0051	P	2.0
4	☐	50.000	53.071	110192.30	0.2367	P	1.0
5	☐	250.000	251.544	499719.18	1.1194	P	0.5
6	☐	500.000	498.921	1007129.60	2.2197	M	0.2

y = 0.0044 * x + 6.2777E-004
R = 1.0000
DL = 0.02142
BEC = 0.1411

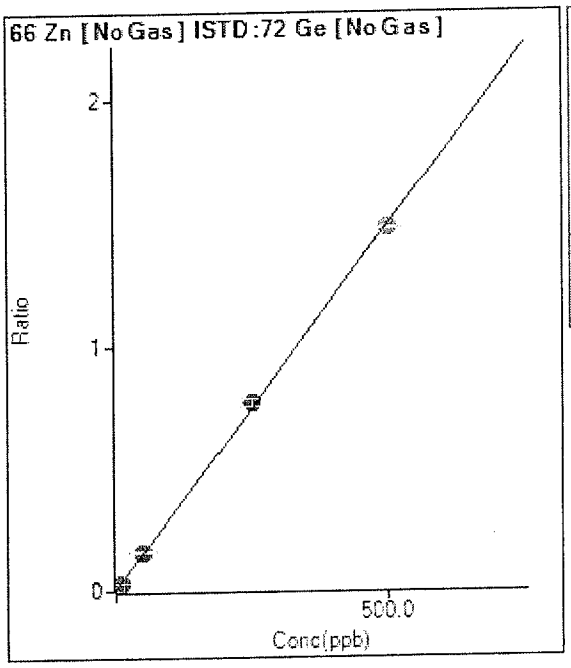
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3042.34	0.0065	P	3.0
2	☐	0.500	0.502	5493.11	0.0122	P	1.8
3	☐	1.000	1.051	8605.39	0.0185	P	0.2
4	☐	50.000	54.827	293251.23	0.6299	P	1.5
5	☐	250.000	251.639	1280055.46	2.8674	A	0.5
6	☐	500.000	498.698	2575361.33	5.6761	A	0.6

y = 0.0114 * x + 0.0065
R = 0.9999
DL = 0.05112
BEC = 0.5753

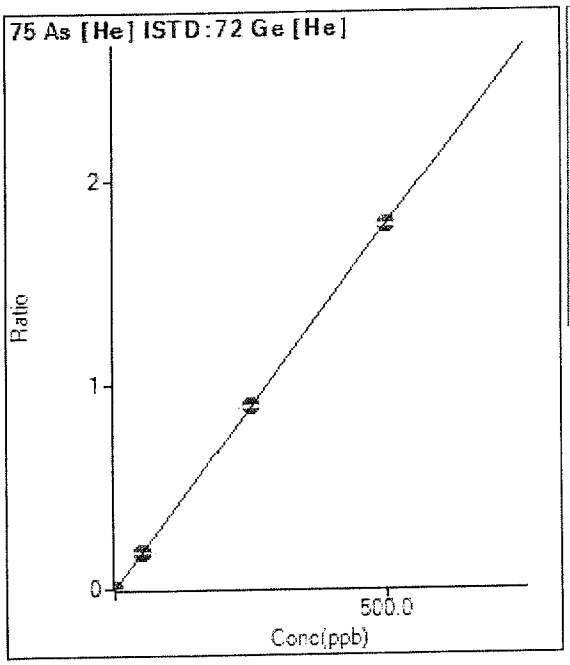
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5667.18	0.0070	P	1.6
2	☐	1.000	-0.202	5577.15	0.0064	P	4.5
3	☐	10.000	8.777	30573.67	0.0330	P	1.6
4	☐	50.000	51.823	141626.28	0.1607	P	1.8
5	☐	250.000	256.784	657293.52	0.7689	P	4.1
6	☐	500.000	496.452	1378434.54	1.4801	A	0.2

y = 0.0030 * x + 0.0070
R = 0.9998
DL = 0.1128
BEC = 2.347

Weight: <None>
Min Conc: 0

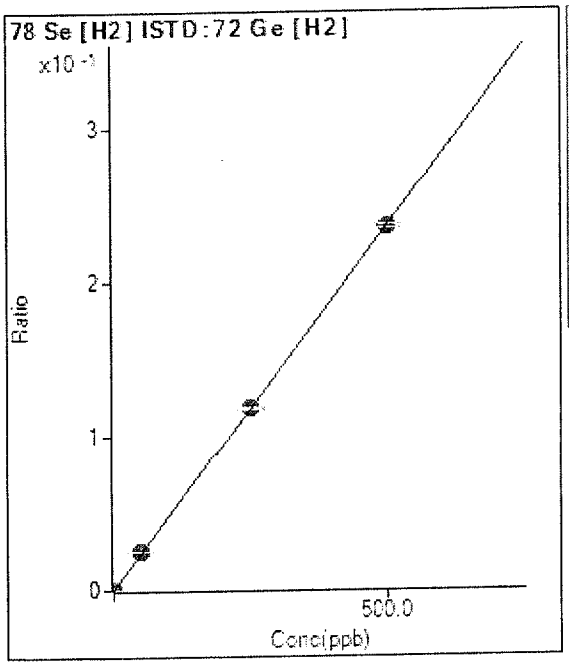


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	138.67	0.0005	P	10.2
2	☐	0.500	0.465	580.01	0.0022	P	6.3
3	☐	1.000	0.972	1091.38	0.0040	P	1.2
4	☐	50.000	50.547	49671.03	0.1805	P	0.6
5	☐	250.000	251.167	235751.01	0.8946	P	1.1
6	☐	500.000	499.362	472283.50	1.7780	P	0.7

y = 0.0036 * x + 5.2597E-004
R = 1.0000
DL = 0.04532
BEC = 0.1478

Weight: <None>
Min Conc: 0

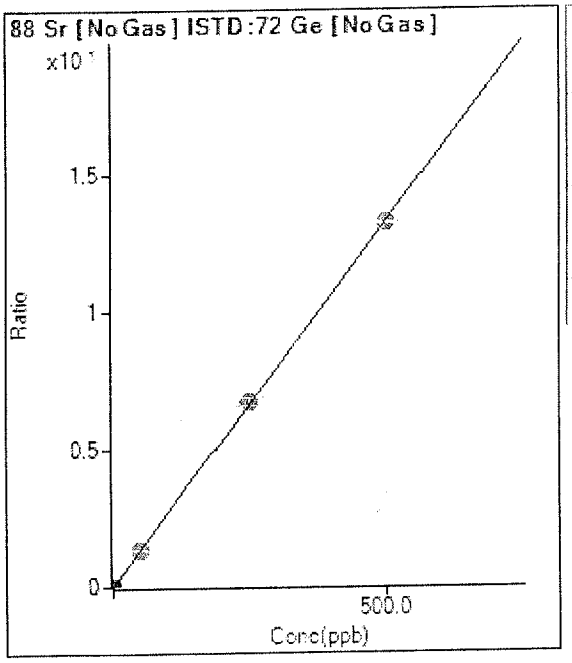
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.67	0.0000	F	3.9
2	☐	0.500	0.457	215.67	0.0003	F	5.2
3	☐	1.000	0.976	418.01	0.0005	F	3.7
4	☐	50.000	52.033	20452.48	0.0246	F	0.9
5	☐	250.000	250.905	97508.87	0.1186	F	1.2
6	☐	500.000	499.344	193507.33	0.2360	F	0.9

y = 4.7251E-004 * x + 4.1973E-005
R = 1.0000
DL = 0.01044
BEC = 0.08883

Weight: <None>
Min Conc: 0

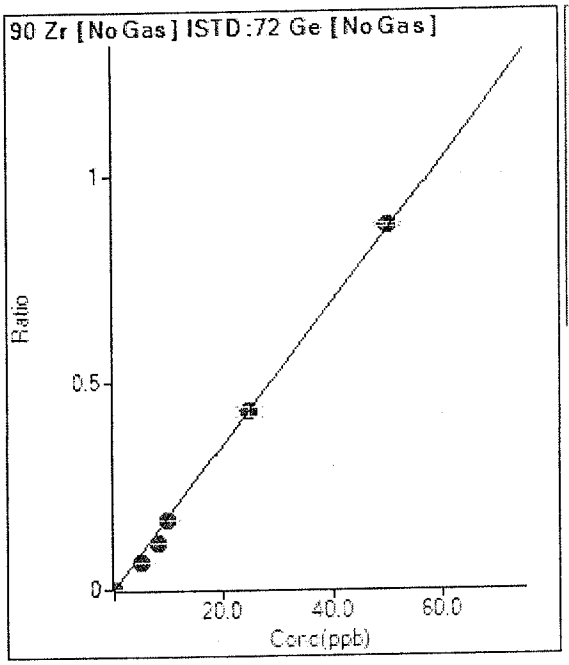


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2329.09	0.0029	F	4.2
2	☐	0.500	0.456	13104.22	0.0149	F	1.1
3	☐	1.000	0.950	25966.24	0.0280	F	0.4
4	☐	50.000	50.465	1180622.56	1.3397	A	0.7
5	☐	250.000	253.468	5745626.86	6.7171	A	4.1
6	☐	500.000	498.220	12293284.51	13.2005	A	0.5

y = 0.0265 * x + 0.0029
R = 1.0000
DL = 0.01346
BEC = 0.1081

Weight: <None>
Min Conc: 0

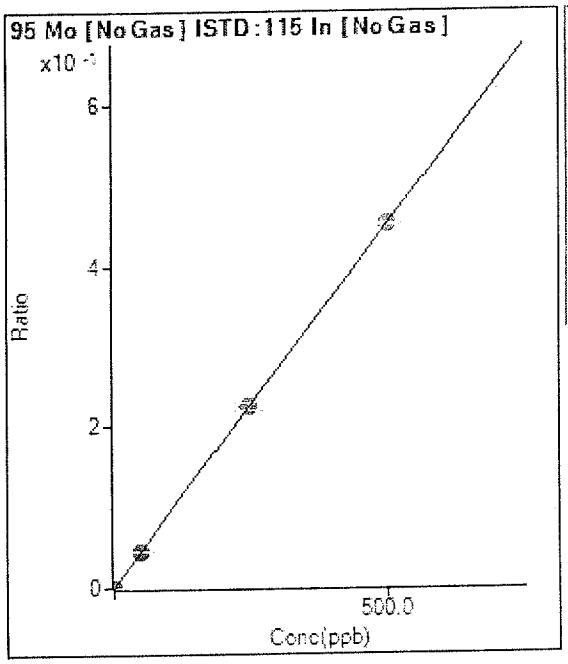
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273.34	0.0003	P	24.8
2	☐	5.000	3.700	56526.15	0.0644	P	1.6
3	☐	8.000	6.517	104916.65	0.1133	P	0.2
4	☐	10.000	9.692	148298.69	0.1683	P	0.8
5	☐	25.000	24.779	367419.66	0.4297	P	4.6
6	☐	50.000	50.539	815810.06	0.8760	P	0.9

y = 0.0173 * x + 3.3572E-004
R = 0.9995
DL = 0.01441
BEC = 0.01938

Weight: <None>
Min Conc: 0

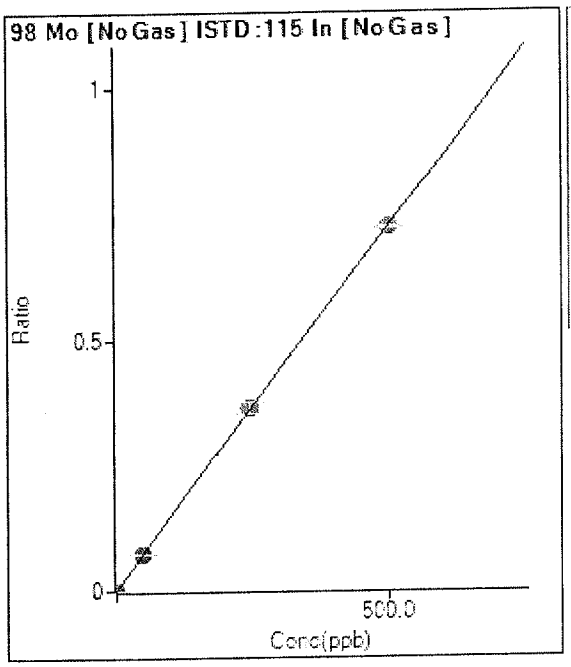


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	282.23	0.0001	P	4.5
2	☐	0.500	0.442	2367.99	0.0005	P	3.4
3	☐	1.000	0.893	4748.63	0.0009	P	4.1
4	☐	50.000	49.866	230738.48	0.0450	P	0.7
5	☐	250.000	249.164	1095990.13	0.2244	A	4.8
6	☐	500.000	500.431	2359750.05	0.4506	A	0.7

y = 9.0027E-004 * x + 5.7863E-005
R = 1.0000
DL = 0.008606
BEC = 0.06427

Weight: <None>
Min Conc: 0

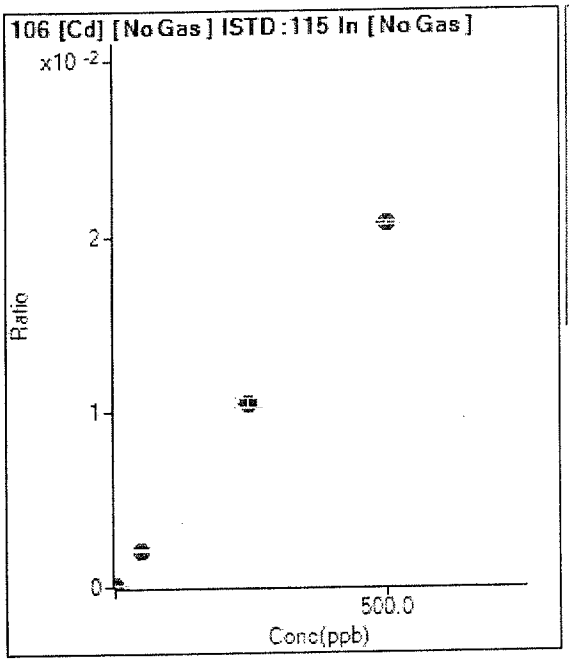
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	476.68	0.0001	F	8.8
2	☐	0.500	0.419	3663.84	0.0007	F	1.7
3	☐	1.000	0.918	7863.44	0.0014	F	3.5
4	☐	50.000	49.847	371151.71	0.0723	F	0.5
5	☐	250.000	251.309	1778380.97	0.3641	A	5.4
6	☐	500.000	499.361	3788753.04	0.7234	A	0.9

y = 0.0014 * x + 9.7657E-005
R = 1.0000
DL = 0.01779
BEC = 0.06742

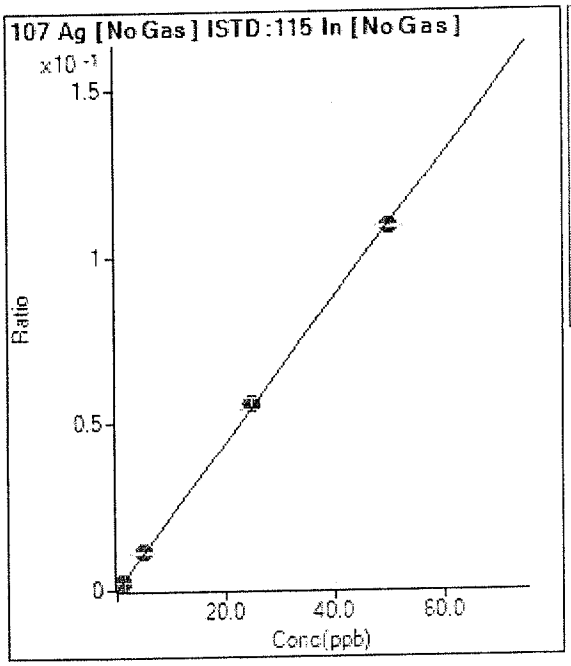
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		12.67	0.0000	F	42.5
2	☐	0.500		285.33	0.0001	F	6.4
3	☐	1.000		552.34	0.0001	F	4.9
4	☐	50.000		10869.80	0.0021	F	2.9
5	☐	250.000		50855.39	0.0104	F	5.3
6	☐	500.000		108314.30	0.0207	F	0.9

Excluded

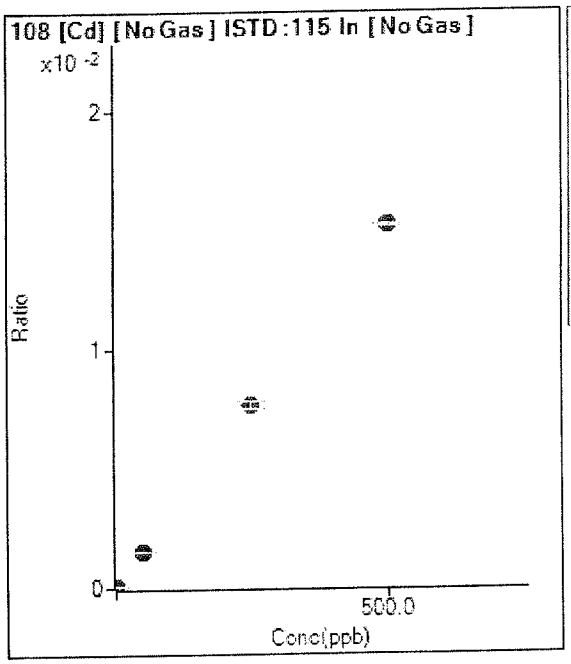
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	167.78	0.0000	P	9.7
2	☐	0.500	0.584	6824.00	0.0013	P	2.9
3	☐	1.000	1.057	12931.88	0.0023	P	1.6
4	☐	5.000	5.139	57881.96	0.0113	P	0.8
5	☐	25.000	25.527	272885.66	0.0559	P	5.5
6	☐	50.000	49.720	569875.01	0.1088	P	0.4

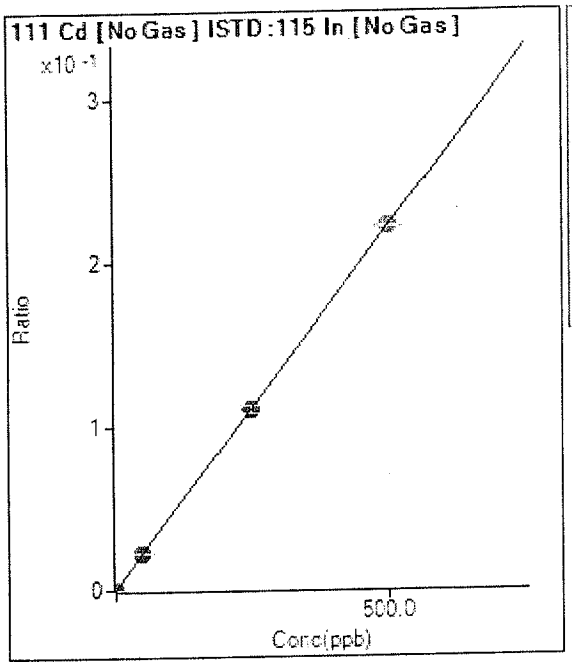
y = 0.0022 * x + 3.4406E-005
R = 0.9999
DL = 0.00429
BEC = 0.01573

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		19.33	0.0000	P	25.7
2	☐	0.500		188.00	0.0000	P	5.0
3	☐	1.000		313.33	0.0001	P	2.5
4	☐	50.000		8023.77	0.0016	P	0.8
5	☐	250.000		37388.11	0.0077	P	4.0
6	☐	500.000		79578.88	0.0152	P	0.6

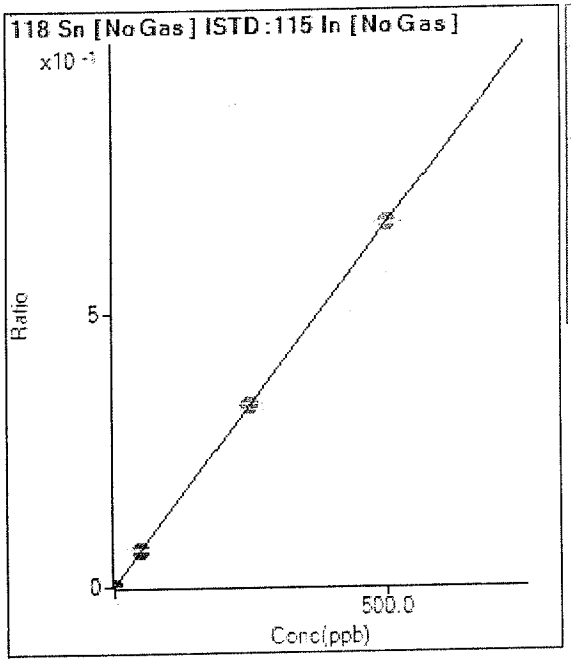
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	118.93	0.0000	F	16.7
2	☐	0.500	0.492	1265.66	0.0002	F	3.5
3	☐	1.000	1.013	2615.02	0.0005	F	2.5
4	☐	50.000	49.918	114062.15	0.0222	F	0.9
5	☐	250.000	249.978	543210.41	0.1112	F	4.4
6	☐	500.000	500.019	1164705.36	0.2224	A	0.4

y = 4.4472E-004 * x + 2.4383E-005
R = 1.0000
DL = 0.02743
BEC = 0.05483

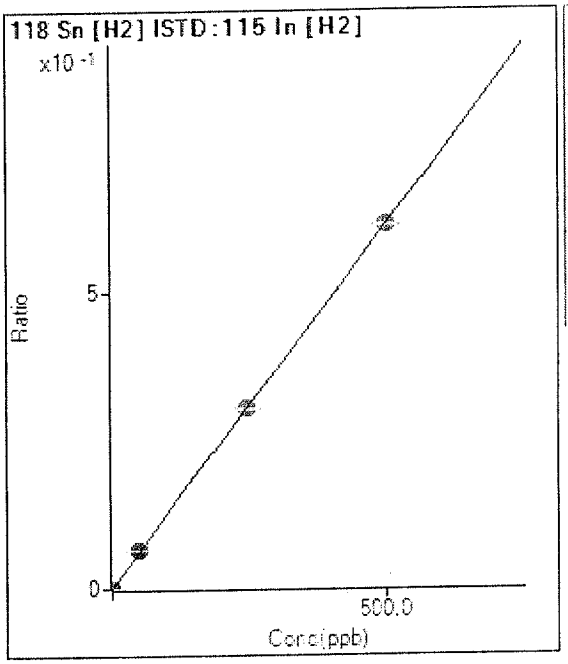
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1238.95	0.0003	F	1.8
2	☐	0.500	0.442	4367.40	0.0008	F	4.3
3	☐	1.000	0.924	8161.42	0.0015	F	0.5
4	☐	50.000	51.573	353004.36	0.0688	F	0.2
5	☐	250.000	248.358	1614103.83	0.3302	A	3.7
6	☐	500.000	500.664	3484390.21	0.6653	A	0.2

y = 0.0013 * x + 2.5392E-004
R = 1.0000
DL = 0.01054
BEC = 0.1912

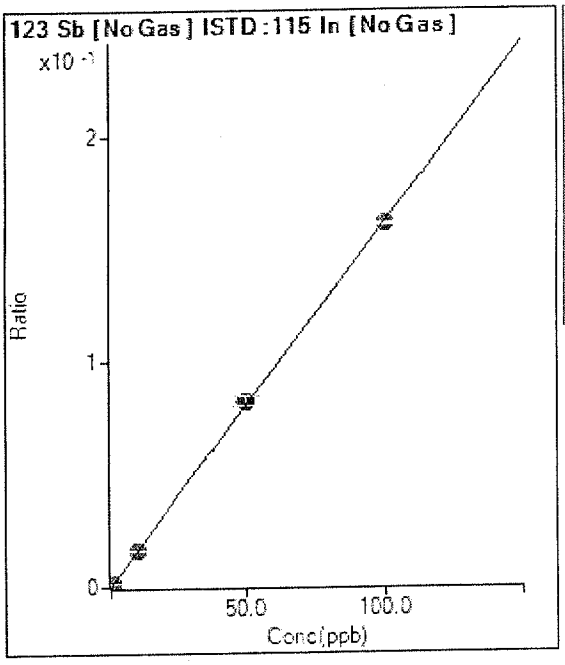
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1546.76	0.0002	P	2.6
2	☐	0.500	0.435	4982.06	0.0008	P	3.1
3	☐	1.000	0.936	8791.83	0.0014	P	0.8
4	☐	50.000	52.510	403647.15	0.0644	P	0.2
5	☐	250.000	248.616	1870264.92	0.3042	A	1.3
6	☐	500.000	500.441	3708173.46	0.6120	A	0.5

y = 0.0012 * x + 2.4420E-004
R = 1.0000
DL = 0.01566
BEC = 0.1998

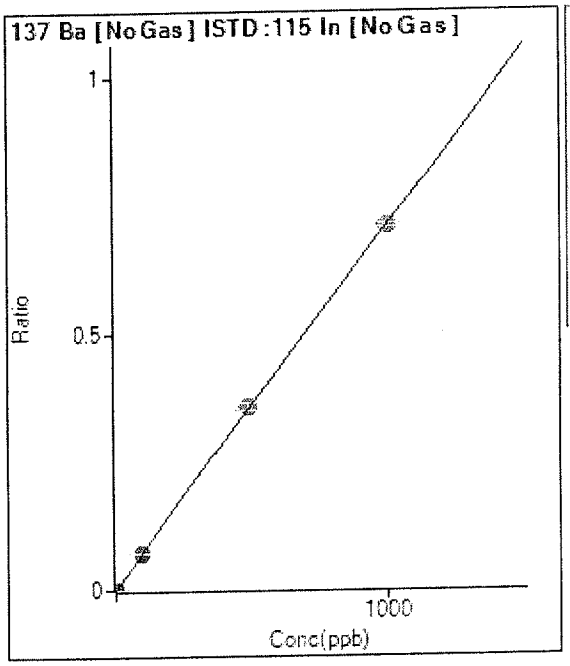
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.33	0.0000	P	4.8
2	☐	0.500	0.463	4137.32	0.0008	P	4.4
3	☐	1.000	0.935	8585.03	0.0016	P	2.4
4	☐	10.000	10.067	83707.74	0.0163	P	1.3
5	☐	50.000	50.789	400888.67	0.0821	P	4.9
6	☐	100.000	99.600	842867.19	0.1609	P	0.5

y = 0.0016 * x + 4.7826E-005
R = 1.0000
DL = 0.004305
BEC = 0.02961

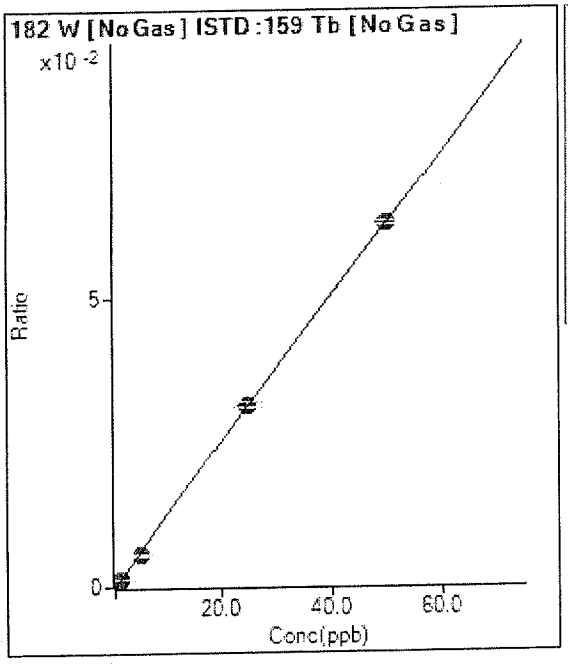
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	548.90	0.0001	P	8.9
2	☐	0.500	0.416	2119.06	0.0004	P	1.9
3	☐	1.000	0.893	4110.65	0.0007	P	2.0
4	☐	100.000	101.075	368842.90	0.0718	P	0.2
5	☐	500.000	502.241	1741860.03	0.3565	A	4.2
6	☐	1000.000	998.772	3712320.96	0.7088	A	1.0

y = 7.0960E-004 * x + 1.1255E-004
R = 1.0000
DL = 0.04216
BEC = 0.1586

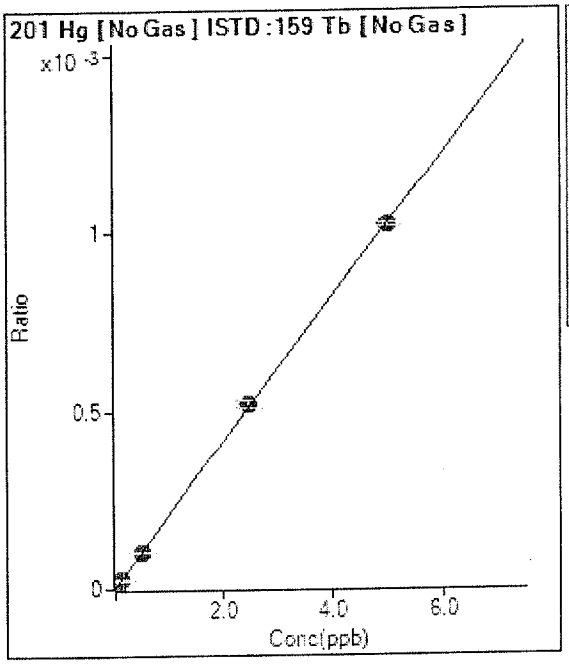
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0000	P	22.3
2	☐	0.500	0.263	2640.28	0.0003	P	6.6
3	☐	1.000	0.999	10277.54	0.0013	P	3.0
4	☐	5.000	4.375	42030.05	0.0055	P	1.3
5	☐	25.000	24.964	231547.12	0.0313	P	3.1
6	☐	50.000	50.083	511259.69	0.0627	P	1.0

y = 0.0013 * x + 1.6764E-005
R = 0.9999
DL = 0.008984
BEC = 0.0134

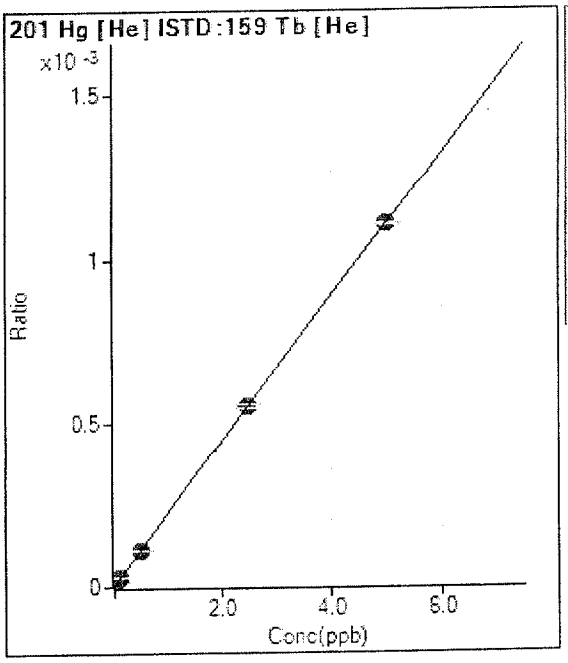
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.33	0.0000	P	8.4
2	☐	0.050	0.048	96.50	0.0000	P	8.4
3	☐	0.100	0.108	202.50	0.0000	P	8.5
4	☐	0.500	0.494	794.36	0.0001	P	2.9
5	☐	2.500	2.530	3852.60	0.0005	P	3.8
6	☐	5.000	4.985	8338.11	0.0010	P	0.9

y = 2.0447E-004 * x + 2.8392E-006
R = 1.0000
DL = 0.003514
BEC = 0.01389

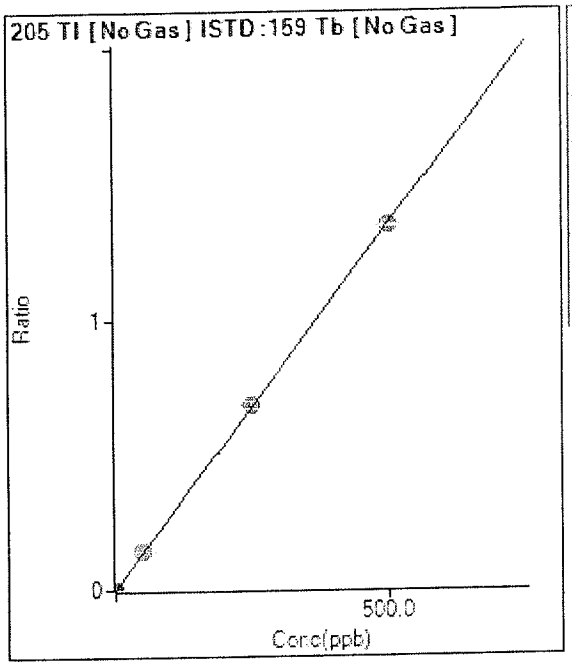
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18.67	0.0000	P	18.9
2	☐	0.050	0.052	82.33	0.0000	P	11.0
3	☐	0.100	0.108	156.67	0.0000	P	4.9
4	☐	0.500	0.485	643.69	0.0001	P	2.7
5	☐	2.500	2.486	3104.72	0.0006	P	1.3
6	☐	5.000	5.008	6390.29	0.0011	P	0.7

y = 2.2034E-004 * x + 3.2436E-006
R = 1.0000
DL = 0.008361
BEC = 0.01472

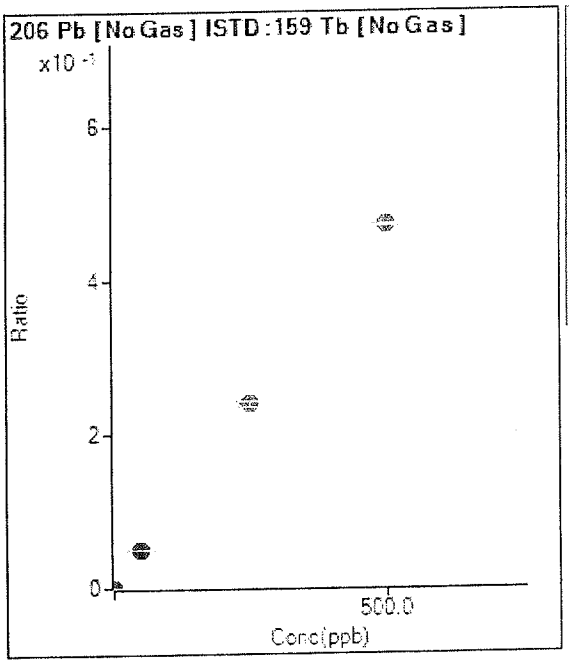
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1445.64	0.0002	P	3.7
2	☐	0.500	0.464	11081.61	0.0015	P	0.7
3	☐	1.000	0.983	23140.30	0.0029	P	1.2
4	☐	50.000	51.968	1073106.24	0.1404	M	2.0
5	☐	250.000	253.631	5070703.97	0.6844	A	3.7
6	☐	500.000	497.988	10959122.34	1.3436	A	0.8

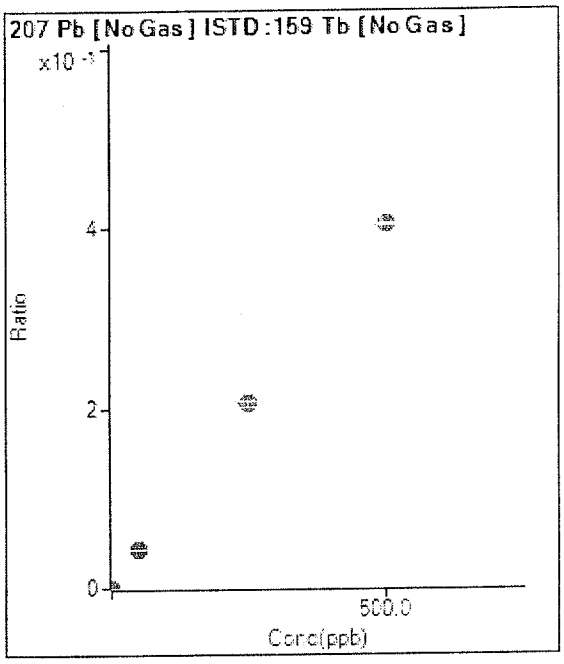
y = 0.0027 * x + 2.0188E-004
R = 1.0000
DL = 0.008306
BEC = 0.07484

Weight: <None>
Min Conc: 0



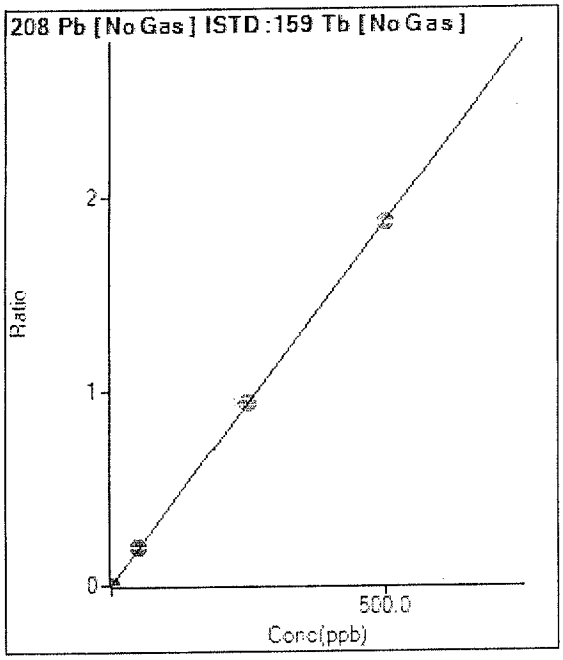
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		696.69	0.0001	P	21.0
2	☐	0.500		4120.69	0.0005	P	5.4
3	☐	1.000		8646.35	0.0011	P	5.5
4	☐	50.000		377868.52	0.0494	P	1.2
5	☐	250.000		1770405.44	0.2389	A	3.0
6	☐	500.000		3845739.01	0.4715	A	0.4

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		500.01	0.0001	P	10.4
2	☐	0.500		3593.86	0.0005	P	1.9
3	☐	1.000		7612.38	0.0009	P	7.9
4	☐	50.000		327583.26	0.0428	P	0.7
5	☐	250.000		1516410.34	0.2046	A	2.7
6	☐	500.000		3296627.25	0.4042	A	0.7

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2571.22	0.0004	P	4.3
2	☐	0.500	0.481	16443.18	0.0022	P	1.7
3	☐	1.000	1.034	34273.96	0.0042	P	4.0
4	☐	50.000	52.355	1500217.96	0.1961	P	0.6
5	☐	250.000	252.231	6991675.92	0.9435	A	3.4
6	☐	500.000	498.649	15211247.32	1.8649	A	0.7

y = 0.0037 * x + 3.5908E-004

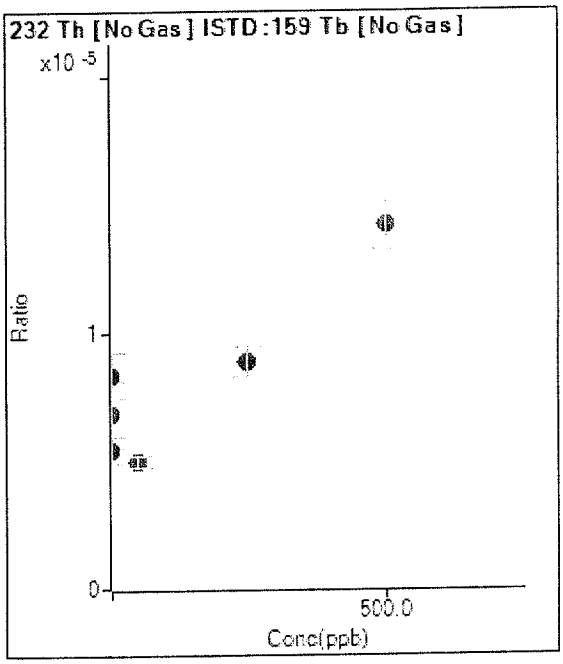
R = 1.0000

DL = 0.01239

BEC = 0.09603

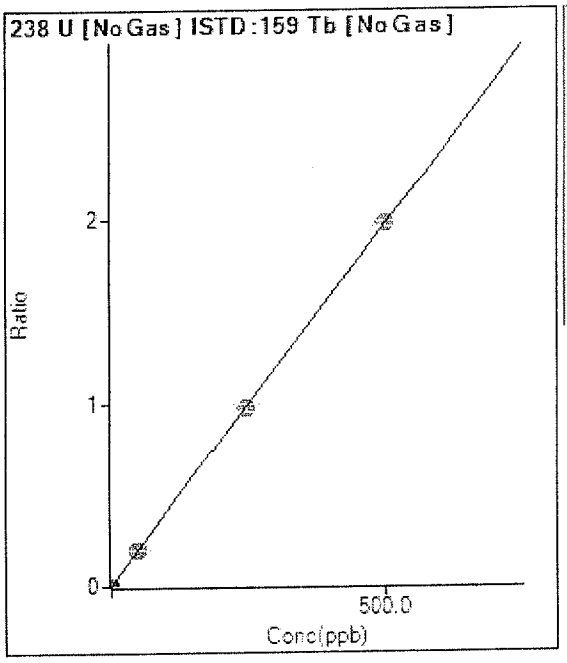
Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		48.89	0.0000	F	38.4
2	☐	0.500		41.11	0.0000	F	19.9
3	☐	1.000		67.78	0.0000	F	21.4
4	☐	50.000		37.78	0.0000	F	8.8
5	☐	250.000		65.56	0.0000	F	13.4
6	☐	500.000		115.56	0.0000	F	13.0

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1192.28	0.0002	F	10.1
2	☐	0.500	0.460	15107.12	0.0020	F	1.9
3	☐	1.000	0.973	32490.78	0.0040	F	1.8
4	☐	50.000	49.947	1509067.13	0.1972	A	0.7
5	☐	250.000	246.941	7223088.46	0.9745	A	3.7
6	☐	500.000	501.535	16143133.80	1.9791	A	1.4

y = 0.0039 * x + 1.6654E-004

R = 1.0000

DL = 0.01276

BEC = 0.04221

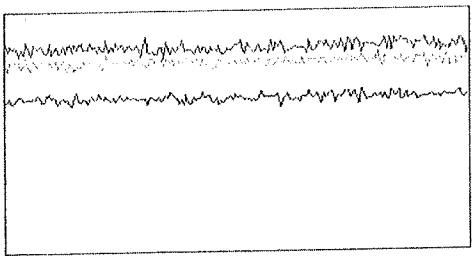
Weight: <None>

Min Conc: 0

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-30 09:44:42
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



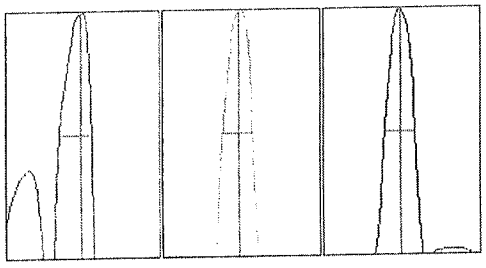
Mass	Range	Count	RSD%	Background
7	5000	4262	2.128	0.350
89	20000	15812	1.787	1.400
205	20000	12806	2.028	3.450

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.141 %
Doubly Charged	70 / 140 1.543 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	4265.11	7.00	0.62	0.76
89	15700.77	89.00	0.58	0.76
205	12756.63	205.00	0.58	0.79

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.2 V	Deflect	13.4 V
Extract 2	-190.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.2 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.4 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	122	Axis Gain	0.9996
Mass Offset	125	Axis Offset	-0.06

EM

Discriminator	3.3 mV	Analog HV	2773 V	Pulse HV	1510 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.99	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.17E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.8	°C
Nebulizer Gas(DP)	5.44E+0	kPa
MU./Dil. Gas(DP)	-1.16E-2	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.69E+2	kPa
MU./Dil. Gas(BP)	-3.28E-1	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.31E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.35E+2	Pa
Analyzer Press	7.77E-5	Pa
IG HV	178	V
IG Emission	4.96	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.3	%
TMP Current	2.75	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	202.7	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.2	V
+U Voltage	5.1	V

Name	Value	Unit
-U Voltage	-12.4	V
V Voltage	31.6	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	608.6	V
-120V	-129.6	V
-720V	-738.2	V
Prefilter Bias	-5.11	V
Pickup Heater I	0.08	A
QP PS +48V	47.6	V
QP PS +48V I	0.00	A
Analog HV	-2777	V
Pulse HV	1524	V
EM Gate	100.0	V
Pulse Gate	0.1	V
EM Entrance	0.1	V
EM HV Gain	-1444.2	V
Inner Pole	-300.3	V
Outer Pole	20.0	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.2	V
RF PS +48V	47.7	V
Forward Power	1550	W
Reflected Power	4	W
Plasma Freq.	26.70	MHz
Drain I 1	11.33	A
Drain I 2	10.84	A
Drain I 3	10.74	A
Drain I 4	10.09	A
Temp Sensor	2.8	V
Driver I	5.66	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.46	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.56E+0	kPa
ORS AMFC Temp	29.6	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-190.3	V
Omega Bias	-110.0	V
Omega Lens	8.0	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.3	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	27.7	°C
Internal Temp	33.5	°C
+24V	23.6	V
Water Temp	18.1	°C
Water RF/WC/IF	1.41	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

Performance Report History

Sensitivity

Calibration Blank Report

Sample Name	S0
File Name	H6A22003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:10:22
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	54672.49	0.9
Be	9	6	No Gas	105.55	22.2
B	11	6	No Gas	7234.09	4.3
Na	23	45	H2	793667.19	0.5
Mg	24	45	No Gas	67952.27	1.1
Al	27	45	No Gas	50822.64	0.3
Si	28	45	H2	7632.09	1.7
P	31	45	No Gas	36942.34	0.5
K	39	45	He	80210.67	3.0
Ca	40	45	H2	378313.23	0.8
Ti	47	45	No Gas	262.00	9.3
V	51	45	He	1454.08	2.7
Cr	52	45	He	2040.82	0.7
Mn	55	45	No Gas	14696.56	0.7
Fe	56	45	H2	99015.53	0.6
Co	59	45	No Gas	1396.07	4.7
Ni	60	45	He	292.00	4.8
Cu	63	45	He	3042.34	3.0
Zn	66	72	No Gas	5667.18	1.4
As	75	72	He	138.67	10.8
Se	78	72	H2	33.67	3.4
Sr	88	72	No Gas	2329.09	3.0
Zr	90	72	No Gas	273.34	24.9
Mo	95	115	No Gas	282.23	3.6
Mo	98	115	No Gas	476.68	9.6
[Cd]	106	115	No Gas	12.67	43.5
Ag	107	115	No Gas	167.78	8.3
[Cd]	108	115	No Gas	19.33	26.5
Cd	111	115	No Gas	118.93	16.5
Sn	118	115	No Gas	1238.95	2.7
Sn	118	115	H2	1546.76	2.8
Sb	123	115	No Gas	233.33	4.9
Ba	137	115	No Gas	548.90	8.3
W	182	159	No Gas	120.00	22.0
Hg	201	159	No Gas	20.33	8.6

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	18.67	17.8
Tl	205	159	No Gas	1445.64	3.7
Pb	206	159	No Gas	696.69	20.9
Pb	207	159	No Gas	500.01	10.0
Pb	208	159	No Gas	2571.22	4.1
Th	232	159	No Gas	48.89	38.8
U	238	159	No Gas	1192.28	9.7

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	913794.78	1.9
Sc	45	No Gas	3551284.17	1.1
Sc	45	H2	3058687.42	0.3
Sc	45	He	465177.56	0.3
Ge	72	No Gas	813952.92	1.6
Ge	72	H2	802203.96	0.5
Ge	72	He	263530.43	0.9
In	115	No Gas	4878774.56	0.9
Tb	159	No Gas	7160929.99	0.4
Tb	159	He	5763662.17	1.2

Calibration Standard Report

Sample Name	S1
File Name	H6A22004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:13:13
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	60900.38	4.6
Be	9	6	No Gas	963.37	4.8
B	11	6	No Gas	4863.07	6.0
Na	23	45	H2	960647.44	0.3
Mg	24	45	No Gas	399612.25	4.3
Al	27	45	No Gas	492977.30	4.3
Si	28	45	H2	136224.26	0.6
P	31	45	No Gas	146104.91	0.6
K	39	45	He	109226.20	2.6
Ca	40	45	H2	630493.89	0.2
Tl	47	45	No Gas	955.37	4.3
V	51	45	He	3760.52	3.2
Cr	52	45	He	4790.84	2.0
Mn	55	45	No Gas	19574.00	1.9
Fe	56	45	H2	753078.98	0.8
Co	59	45	No Gas	9878.91	4.4
Ni	60	45	He	1248.73	5.5
Cu	63	45	He	5493.11	1.2
Zn	66	72	No Gas	5577.15	1.1
As	75	72	He	580.01	4.7
Se	78	72	H2	215.67	5.8
Sr	88	72	No Gas	13104.22	4.7
Zr	90	72	No Gas	56526.15	3.7
Mo	95	115	No Gas	2367.99	3.1
Ag	107	115	No Gas	6824.00	3.5
Cd	111	115	No Gas	1265.66	6.7
Sn	118	115	No Gas	4367.40	2.7
Sb	123	115	No Gas	4137.32	1.3
Ba	137	115	No Gas	2119.06	1.9
W	182	159	No Gas	2640.28	7.1
Hg	201	159	He	82.33	10.0
Tl	205	159	No Gas	11081.61	3.5
Pb	208	159	No Gas	16443.18	3.4
U	238	159	No Gas	15107.12	5.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	976565.08	4.5	913794.78	106.87	70	120	
Sc	45	No Gas	3739678.42	4.6	3551284.17	105.3	70	120	
Sc	45	H2	3063305.67	0.2	3058687.42	100.15	70	120	
Sc	45	He	448843.85	3.0	465177.56	96.49	70	120	
Ge	72	No Gas	877253.02	3.6	813952.92	107.78	70	120	
Ge	72	H2	835940.17	1.1	802203.96	104.21	70	120	
Ge	72	He	266007.92	2.6	263530.43	100.94	70	120	
In	115	No Gas	5200917.14	3.8	4878774.56	106.6	70	120	
Tb	159	No Gas	7626530.25	3.8	7160929.99	106.5	70	120	
Tb	159	He	5617787.50	3.4	5763662.17	97.47	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6A22005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:16:03
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	68239.01	0.5
Be	9	6	No Gas	1773.45	5.1
B	11	6	No Gas	6205.82	1.6
Na	23	45	H2	1138999.58	0.6
Mg	24	45	No Gas	808317.77	1.0
Al	27	45	No Gas	1026006.55	0.7
Si	28	45	H2	258770.34	0.9
P	31	45	No Gas	62451.93	0.6
K	39	45	He	138203.38	1.3
Ca	40	45	H2	1093012.96	0.5
Ti	47	45	No Gas	1674.77	4.8
V	51	45	He	6517.55	1.2
Cr	52	45	He	7965.65	0.8
Mn	55	45	No Gas	32132.99	0.4
Fe	56	45	H2	1437475.37	0.3
Co	59	45	No Gas	20097.45	1.2
Ni	60	45	He	2378.21	2.1
Cu	63	45	He	8605.39	0.4
Zn	66	72	No Gas	30573.67	1.2
As	75	72	He	1091.38	1.6
Se	78	72	H2	418.01	3.5
Sr	88	72	No Gas	25966.24	1.1
Zr	90	72	No Gas	104916.65	1.2
Mo	95	115	No Gas	4748.63	3.2
Ag	107	115	No Gas	12931.88	1.8
Cd	111	115	No Gas	2615.02	1.3
Sn	118	115	No Gas	8161.42	1.9
Sb	123	115	No Gas	8585.03	2.3
Ba	137	115	No Gas	4110.65	0.6
W	182	159	No Gas	10277.54	3.2
Hg	201	159	He	156.67	4.5
Tl	205	159	No Gas	23140.30	1.2
Pb	208	159	No Gas	34273.96	3.1
U	238	159	No Gas	32490.78	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1046175.53	1.0	913794.78	114.49	70	120	
Sc	45	No Gas	4022984.42	0.9	3551284.17	113.28	70	120	
Sc	45	H2	3060921.33	0.7	3058687.42	100.07	70	120	
Sc	45	He	465524.40	0.2	465177.56	100.07	70	120	
Ge	72	No Gas	926341.39	1.0	813952.92	113.81	70	120	
Ge	72	H2	830728.00	0.6	802203.96	103.56	70	120	
Ge	72	He	273816.10	0.5	263530.43	103.9	70	120	
In	115	No Gas	5509444.62	1.5	4878774.56	112.93	70	120	
Tb	159	No Gas	8111686.07	0.9	7160929.99	113.28	70	120	
Tb	159	He	5785567.67	0.7	5763662.17	100.38	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6A22006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:18:54
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	81669.19	7.6
Be	9	6	No Gas	8429.21	5.2
B	11	6	No Gas	15759.98	7.3
Na	23	45	H2	19257104.00	0.9
Mg	24	45	No Gas	36186550.67	7.4
Al	27	45	No Gas	47552175.96	5.3
Si	28	45	H2	663069.33	0.9
P	31	45	No Gas	68495.69	2.5
K	39	45	He	3087109.58	0.6
Ca	40	45	H2	46017182.67	1.0
Ti	47	45	No Gas	66029.30	6.6
V	51	45	He	271771.58	0.1
Cr	52	45	He	312295.28	0.3
Mn	55	45	No Gas	6312279.00	5.7
Fe	56	45	H2	69844077.33	0.5
Co	59	45	No Gas	904742.14	5.7
Ni	60	45	He	110192.30	0.6
Cu	63	45	He	293251.23	1.1
Zn	66	72	No Gas	141626.28	4.4
As	75	72	He	49671.03	0.2
Se	78	72	H2	20452.48	0.3
Sr	88	72	No Gas	1180622.56	4.9
Zr	90	72	No Gas	148298.69	5.2
Mo	95	115	No Gas	230738.48	5.7
Ag	107	115	No Gas	57881.96	5.4
Cd	111	115	No Gas	114062.15	5.2
Sn	118	115	No Gas	353004.36	5.9
Sb	123	115	No Gas	83707.74	5.3
Ba	137	115	No Gas	368842.90	6.3
W	182	159	No Gas	42030.05	8.2
Hg	201	159	He	643.69	2.6
Tl	205	159	No Gas	1073106.24	5.2
Pb	208	159	No Gas	1500217.96	6.7
U	238	159	No Gas	1509067.13	7.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	964427.62	8.3	913794.78	105.54	70	120	
Sc	45	No Gas	3744696.67	7.0	3551284.17	105.45	70	120	
Sc	45	H2	3064809.25	1.1	3058687.42	100.2	70	120	
Sc	45	He	465603.46	0.4	465177.56	100.09	70	120	
Ge	72	No Gas	881531.19	5.7	813952.92	108.3	70	120	
Ge	72	H2	830500.54	1.1	802203.96	103.53	70	120	
Ge	72	He	275263.72	0.5	263530.43	104.45	70	120	
In	115	No Gas	5134256.87	6.1	4878774.56	105.24	70	120	
Tb	159	No Gas	7650702.48	7.1	7160929.99	106.84	70	120	
Tb	159	He	5840207.17	0.6	5763662.17	101.33	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6A22007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:21:44
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	166592.83	9.0
Be	9	6	No Gas	39970.03	4.8
B	11	6	No Gas	58150.16	6.4
Na	23	45	H2	89527368.00	1.0
Mg	24	45	No Gas	171032928.00	8.2
Al	27	45	No Gas	226651209.96	8.7
Si	28	45	H2	3133673.17	0.8
P	31	45	No Gas	185841.64	3.0
K	39	45	He	14144105.00	3.3
Ca	40	45	H2	221435669.33	0.7
Ti	47	45	No Gas	318412.69	6.5
V	51	45	He	1244067.79	3.2
Cr	52	45	He	1397268.54	4.2
Mn	55	45	No Gas	29937975.33	6.1
Fe	56	45	H2	338080053.33	0.5
Co	59	45	No Gas	4176136.42	5.6
Ni	60	45	He	499719.18	3.1
Cu	63	45	He	1280055.46	3.3
Zn	66	72	No Gas	657293.52	3.9
As	75	72	He	235751.01	1.1
Se	78	72	H2	97508.87	0.6
Sr	88	72	No Gas	5745626.86	6.0
Zr	90	72	No Gas	367419.66	5.5
Mo	95	115	No Gas	1095990.13	5.4
Ag	107	115	No Gas	272885.66	5.1
Cd	111	115	No Gas	543210.41	5.4
Sn	118	115	No Gas	1614103.83	6.8
Sb	123	115	No Gas	400888.67	4.8
Ba	137	115	No Gas	1741860.03	5.7
W	182	159	No Gas	231547.12	7.1
Hg	201	159	He	3104.72	1.3
Tl	205	159	No Gas	5070703.97	7.3
Pb	208	159	No Gas	6991675.92	7.6
U	238	159	No Gas	7223088.46	8.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	913674.49	10.8	913794.78	99.99	70	120	
Sc	45	No Gas	3591644.67	10.9	3551284.17	101.14	70	120	
Sc	45	H2	3051307.00	1.5	3058687.42	99.76	70	120	
Sc	45	He	446449.18	3.5	465177.56	95.97	70	120	
Ge	72	No Gas	856402.33	7.4	813952.92	105.22	70	120	
Ge	72	H2	822213.06	0.5	802203.96	102.49	70	120	
Ge	72	He	263576.80	2.2	263530.43	100.02	70	120	
In	115	No Gas	4895581.64	8.6	4878774.56	100.34	70	120	
Tb	159	No Gas	7420797.34	9.4	7160929.99	103.63	70	120	
Tb	159	He	5636231.17	2.6	5763662.17	97.79	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A22008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:24:34
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	311028.60	1.0
Be	9	6	No Gas	84788.65	0.3
B	11	6	No Gas	122253.97	1.2
Na	23	45	H2	177557034.67	0.2
Mg	24	45	No Gas	375859189.33	0.9
Al	27	45	No Gas	499554872.55	0.3
Si	28	45	H2	6166238.83	0.3
P	31	45	No Gas	349483.39	0.9
K	39	45	He	28781697.33	0.3
Ca	40	45	H2	444834325.33	0.9
Ti	47	45	No Gas	687493.46	0.2
V	51	45	He	2573692.67	0.6
Cr	52	45	He	2859615.83	0.6
Mn	55	45	No Gas	64870813.33	0.9
Fe	56	45	H2	675178090.67	0.4
Co	59	45	No Gas	8964476.33	1.6
Ni	60	45	He	1007129.60	0.3
Cu	63	45	He	2575361.33	0.4
Zn	66	72	No Gas	1378434.54	0.6
As	75	72	He	472283.50	0.4
Se	78	72	H2	193507.33	0.4
Sr	88	72	No Gas	12293284.51	0.1
Zr	90	72	No Gas	815810.06	1.1
Mo	95	115	No Gas	2359750.05	0.7
Ag	107	115	No Gas	569875.01	0.3
Cd	111	115	No Gas	1164705.36	0.4
Sn	118	115	No Gas	3484390.21	0.5
Sb	123	115	No Gas	842867.19	0.8
Ba	137	115	No Gas	3712320.96	1.1
W	182	159	No Gas	511259.69	0.7
Hg	201	159	He	6390.29	0.9
Tl	205	159	No Gas	10959122.34	0.7
Pb	208	159	No Gas	15211247.32	0.5
U	238	159	No Gas	16143133.80	1.3

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1018631.11	0.9	913794.78	111.47	70	120	
Sc	45	No Gas	4010505.67	0.4	3551284.17	112.93	70	120	
Sc	45	H2	3067961.75	0.5	3058687.42	100.3	70	120	
Sc	45	He	453724.91	0.3	465177.56	97.54	70	120	
Ge	72	No Gas	931287.92	0.4	813952.92	114.42	70	120	
Ge	72	H2	820017.63	0.7	802203.96	102.22	70	120	
Ge	72	He	265623.31	0.3	263530.43	100.79	70	120	
In	115	No Gas	5237148.71	0.3	4878774.56	107.35	70	120	
Tb	159	No Gas	8156822.73	0.4	7160929.99	113.91	70	120	
Tb	159	He	5773652.00	0.1	5763662.17	100.17	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6A22009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:27:20
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.769	ppb	1.8	198552.97	30	92.56	90	110	
Be	9	6	No Gas	29.673	ppb	0.7	50585.38	30	98.91	90	110	
B	11	6	No Gas	29.174	ppb	2.1	41025.39	30	97.25	90	110	
Na	23	45	H2	31207.013	ppb	2.1	109898650.67	30000	104.02	90	110	
Mg	24	45	No Gas	30045.369	ppb	2.9	222771536.00	30000	100.15	90	110	
Al	27	45	No Gas	30861.923	ppb	3.3	303911868.81	30000	102.87	90	110	
Si	28	45	H2	3162.915	ppb	1.3	3870208.75	3000	105.43	90	110	
P	31	45	No Gas	288.100	ppb	2.4	220205.48	300	96.03	90	110	
K	39	45	He	30934.675	ppb	0.3	17722739.33	30000	103.12	90	110	
Ca	40	45	H2	30745.223	ppb	1.4	270134656.00	30000	102.48	90	110	
Ti	47	45	No Gas	298.660	ppb	1.8	406527.78	300	99.55	90	110	
V	51	45	He	308.544	ppb	0.7	1574177.96	300	102.85	90	110	
Cr	52	45	He	312.249	ppb	1.3	1774220.59	300	104.08	90	110	
Mn	55	45	No Gas	1973.110	ppb	2.2	42213677.33	2000	98.66	90	110	
Fe	56	45	H2	31173.666	ppb	1.2	416128128.00	30000	103.91	90	110	
Co	59	45	No Gas	303.941	ppb	2.0	5404069.83	300	101.31	90	110	
Ni	60	45	He	311.912	ppb	1.0	626041.25	300	103.97	90	110	
Cu	63	45	He	326.211	ppb	1.2	1675742.25	300	108.74	90	110	
Zn	66	72	No Gas	308.608	ppb	1.7	833836.48	300	102.87	90	110	
As	75	72	He	300.521	ppb	1.8	283316.03	300	100.17	90	110	
Se	78	72	H2	304.523	ppb	0.2	116416.70	300	101.51	90	110	
Sr	88	72	No Gas	305.460	ppb	1.7	7314182.21	300	101.82	90	110	
Zr	90	72	No Gas	31.329	ppb	2.2	490844.63	30	104.43	90	110	
Mo	95	115	No Gas	301.049	ppb	2.2	1409319.00	300	100.35	90	110	
Ag	107	115	No Gas	30.435	ppb	1.8	346333.57	30	101.45	90	110	
Cd	111	115	No Gas	296.974	ppb	1.6	686681.17	300	98.99	90	110	
Sn	118	115	No Gas	303.630	ppb	1.7	2098000.75	300	101.21	90	110	
Sb	123	115	No Gas	57.123	ppb	0.5	479824.41	60	95.2	90	110	
Ba	137	115	No Gas	301.040	ppb	1.6	1111063.39	300	100.35	90	110	
W	182	159	No Gas	30.637	ppb	1.6	307777.67	30	102.12	90	110	
Hg	201	159	No Gas	2.860	ppb	0.9	4714.22	3	95.33	90	110	
Hg	201	159	He	2.941	ppb	0.8	3790.74	3	98.03	90	110	
Tl	205	159	No Gas	305.001	ppb	1.8	6604646.96	300	101.67	90	110	
Pb	208	159	No Gas	308.307	ppb	1.2	9252398.79	300	102.77	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	310.041	ppb	1.6	9819689.33	300	103.35	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1011788.78	3.5	913794.78	110.72	70	120	
Sc	45	No Gas	3937547.75	2.9	3551284.17	110.88	70	120	
Sc	45	H2	3027815.92	1.3	3058687.42	98.99	70	120	
Sc	45	He	451091.35	1.0	465177.56	96.97	70	120	
Ge	72	No Gas	903434.36	2.4	813952.92	110.99	70	120	
Ge	72	H2	808834.29	0.9	802203.96	100.83	70	120	
Ge	72	He	264738.05	0.7	263530.43	100.46	70	120	
In	115	No Gas	5196774.00	3.1	4878774.56	106.52	70	120	
Tb	159	No Gas	8022826.07	3.5	7160929.99	112.04	70	120	
Tb	159	He	5820456.83	0.2	5763662.17	100.99	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A22010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:29:57
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	58773.67	0.4	
Be	9	6	No Gas	0.011	ppb	75.6	133.33	0.08	
B	11	6	No Gas	0.925	ppb	6.8	8865.03	4	
Na	23	45	H2	<0.000	ppb	N/A	764056.00	40	
Mg	24	45	No Gas	1.554	ppb	45.6	82375.60	10	
Al	27	45	No Gas	2.069	ppb	38.2	72884.23	15	
Si	28	45	H2	4.491	ppb	35.5	12959.63	8	
P	31	45	No Gas	<0.000	ppb	N/A	36878.17	10	
K	39	45	He	0.670	ppb	738.8	78822.81	20	
Ca	40	45	H2	0.838	ppb	22.5	379585.22	25	
Tl	47	45	No Gas	0.030	ppb	41.0	312.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1354.74	0.5	
Cr	52	45	He	0.028	ppb	65.7	2153.50	0.2	
Mn	55	45	No Gas	0.182	ppb	24.4	19140.16	0.2	
Fe	56	45	H2	1.483	ppb	2.7	117116.20	10	
Co	59	45	No Gas	0.024	ppb	9.3	1865.46	0.15	
Ni	60	45	He	0.020	ppb	24.6	326.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2832.96	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	5747.22	2	
As	75	72	He	0.034	ppb	18.3	168.33	0.2	
Se	78	72	H2	0.071	ppb	31.9	60.00	0.2	
Sr	88	72	No Gas	0.020	ppb	47.0	2863.64	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	263.33	2	
Mo	95	115	No Gas	0.065	ppb	11.1	601.12	0.2	
Ag	107	115	No Gas	0.003	ppb	39.6	207.78	0.08	
Cd	111	115	No Gas	0.083	ppb	16.7	317.98	0.2	
Sn	118	115	No Gas	0.209	ppb	2.1	2756.96	0.2	>LOD
Sb	123	115	No Gas	0.009	ppb	31.6	324.45	0.4	
Ba	137	115	No Gas	0.032	ppb	61.0	704.46	0.2	
W	182	159	No Gas	0.012	ppb	25.3	246.67	0.3	
Hg	201	159	No Gas	0.039	ppb	7.0	83.00	0.1	
Hg	201	159	He	0.027	ppb	12.5	54.33	0.1	
Tl	205	159	No Gas	0.114	ppb	20.1	3931.75	0.1	>LOD
Pb	208	159	No Gas	0.039	ppb	59.4	3894.70	0.1	

TH/30/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.033	ppb	25.4	2303.56	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	990286.04	6.4	913794.78	108.37	70	120	
Sc	45	No Gas	3724877.67	6.4	3551284.17	104.89	70	120	
Sc	45	H2	3009895.83	0.3	3058687.42	98.4	70	120	
Sc	45	He	454848.76	0.6	465177.56	97.78	70	120	
Ge	72	No Gas	841711.15	5.1	813952.92	103.41	70	120	
Ge	72	H2	794034.39	1.1	802203.96	98.98	70	120	
Ge	72	He	259812.03	1.0	263530.43	98.59	70	120	
In	115	No Gas	5180389.16	4.9	4878774.56	106.18	70	120	
Tb	159	No Gas	7696460.25	4.6	7160929.99	107.48	70	120	
Tb	159	He	5848716.83	0.6	5763662.17	101.48	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3001
File Name	H6A22011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:32:32
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.953	ppb	15.6	67035.60	1	95.3	80	120	
Be	9	6	No Gas	0.954	ppb	3.8	1785.67	1	95.4	80	120	
B	11	6	No Gas	9.136	ppb	0.8	18838.18	10	91.36	80	120	
Na	23	45	H2	92.409	ppb	0.0	1106977.29	100	92.41	80	120	
Mg	24	45	No Gas	97.367	ppb	0.4	789014.94	100	97.37	80	120	
Al	27	45	No Gas	98.379	ppb	0.4	1014563.84	100	98.38	80	120	
Si	28	45	H2	102.365	ppb	1.4	132357.22	100	102.36	80	120	
P	31	45	No Gas	41.982	ppb	2.6	66425.08	50	83.96	80	120	
K	39	45	He	98.910	ppb	8.1	137304.93	100	98.91	80	120	
Ca	40	45	H2	113.228	ppb	0.8	1365835.79	100	113.23	80	120	
Ti	47	45	No Gas	0.993	ppb	2.2	1624.76	1	99.3	80	120	
V	51	45	He	0.927	ppb	1.5	6278.11	1	92.7	80	120	
Cr	52	45	He	1.008	ppb	3.7	7881.60	1	100.8	80	120	
Mn	55	45	No Gas	0.931	ppb	1.6	35841.58	1	93.1	80	120	
Fe	56	45	H2	100.327	ppb	0.8	1434729.79	100	100.33	80	120	
Co	59	45	No Gas	1.026	ppb	1.1	19591.42	1	102.6	80	120	
Ni	60	45	He	1.019	ppb	4.0	2380.87	1	101.9	80	120	
Cu	63	45	He	1.056	ppb	1.3	8558.69	1	105.6	80	120	
Zn	66	72	No Gas	12.311	ppb	0.4	38977.91	10	123.11	80	120	> +/- 20%
As	75	72	He	1.001	ppb	2.0	1103.05	1	100.1	80	120	
Se	78	72	H2	0.977	ppb	3.0	413.68	1	97.7	80	120	
Sr	88	72	No Gas	2.082	ppb	0.7	51998.48	2	104.1	80	120	
Zr	90	72	No Gas	4.329	ppb	1.7	67500.01	5	86.58	80	120	
Mo	95	115	No Gas	0.934	ppb	0.5	4850.89	1	93.4	80	120	
Ag	107	115	No Gas	1.088	ppb	0.6	13028.65	1	108.8	80	120	
Cd	111	115	No Gas	1.009	ppb	4.6	2552.98	1	100.9	80	120	
Sn	118	115	No Gas	1.116	ppb	2.6	9374.46	1	111.6	80	120	
Sb	123	115	No Gas	0.916	ppb	4.0	8247.05	1	91.6	80	120	
Ba	137	115	No Gas	0.976	ppb	1.6	4345.17	1	97.6	80	120	
W	182	159	No Gas	1.938	ppb	0.5	19588.58	2	96.9	80	120	
Hg	201	159	No Gas	0.131	ppb	2.8	237.33	0.1	131	80	120	> +/- 20%
Hg	201	159	He	0.120	ppb	4.3	174.17	0.1	120	80	120	
Tl	205	159	No Gas	1.052	ppb	1.2	24396.03	1	105.2	80	120	
Pb	208	159	No Gas	1.046	ppb	3.2	34269.67	1	104.6	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	0.983	ppb	1.0	32467.45	1	98.3	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1038916.07	1.8	913794.78	113.69	70	120	
Sc	45	No Gas	3900038.17	1.8	3551284.17	109.82	70	120	
Sc	45	H2	3022792.92	0.5	3058687.42	98.83	70	120	
Sc	45	He	461601.48	0.7	465177.56	99.23	70	120	
Ge	72	No Gas	896129.85	1.8	813952.92	110.1	70	120	
Ge	72	H2	821349.08	0.8	802203.96	102.39	70	120	
Ge	72	He	269813.88	1.4	263530.43	102.38	70	120	
In	115	No Gas	5397112.30	2.2	4878774.56	110.62	70	120	
Tb	159	No Gas	8023971.91	1.6	7160929.99	112.05	70	120	
Tb	159	He	5871323.33	0.5	5763662.17	101.87	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3002
File Name	H6A22012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:35:31
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.334	ppb	41.7	64607.54	0.4	83.5	80	120	
Be	9	6	No Gas	0.356	ppb	10.0	751.13	0.4	89	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	7427.52	0.4	-190	80	120	> +/- 20%
Na	23	45	H2	36.076	ppb	6.9	905704.39	40	90.19	80	120	
Mg	24	45	No Gas	37.584	ppb	2.5	356692.70	40	93.96	80	120	
Al	27	45	No Gas	38.203	ppb	3.8	435871.28	40	95.51	80	120	
K	39	45	He	39.674	ppb	14.8	101800.13	40	99.18	80	120	
Ca	40	45	H2	49.709	ppb	1.2	805274.90	40	124.27	80	120	> +/- 20%
Ti	47	45	No Gas	0.377	ppb	3.1	810.02	0.4	94.25	80	120	
V	51	45	He	0.383	ppb	3.4	3406.42	0.4	95.75	80	120	
Cr	52	45	He	0.518	ppb	3.4	4988.24	0.4	129.5	80	120	> +/- 20%
Mn	55	45	No Gas	0.231	ppb	5.0	21404.74	0.4	57.75	80	120	> +/- 20%
Fe	56	45	H2	40.773	ppb	1.0	637928.25	40	101.93	80	120	
Co	59	45	No Gas	0.372	ppb	3.4	8227.15	0.4	93	80	120	
Ni	60	45	He	0.410	ppb	5.6	1122.05	0.4	102.5	80	120	
Cu	63	45	He	0.422	ppb	4.3	5186.32	0.4	105.5	80	120	
Zn	66	72	No Gas	5.855	ppb	2.9	21386.17	4	146.38	80	120	> +/- 20%
As	75	72	He	0.376	ppb	3.7	488.68	0.4	94	80	120	
Se	78	72	H2	0.429	ppb	3.3	192.67	0.4	107.25	80	120	
Sr	88	72	No Gas	0.410	ppb	2.2	12062.13	0.4	102.5	80	120	
Mo	95	115	No Gas	0.342	ppb	9.5	2007.93	0.4	85.5	80	120	
Ag	107	115	No Gas	0.396	ppb	4.7	4954.26	0.4	99	80	120	
Cd	111	115	No Gas	0.370	ppb	0.9	1039.79	0.4	92.5	80	120	
Sn	118	115	No Gas	0.499	ppb	4.8	5045.42	0.4	124.75	80	120	> +/- 20%
Sb	123	115	No Gas	0.389	ppb	4.3	3714.97	0.4	97.25	80	120	
Ba	137	115	No Gas	0.396	ppb	7.0	2165.74	0.4	99	80	120	
Tl	205	159	No Gas	0.391	ppb	4.0	10292.03	0.4	97.75	80	120	
Pb	208	159	No Gas	0.401	ppb	3.0	15216.93	0.4	100.25	80	120	
U	238	159	No Gas	0.381	ppb	1.1	13687.66	0.4	95.25	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1050794.41	0.8	913794.78	114.99	70	120	
Sc	45	No Gas	3969755.58	1.1	3551284.17	111.78	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3007672.75	0.9	3058687.42	98.33	70	120	
Sc	45	He	457348.78	0.3	465177.56	98.32	70	120	
Ge	72	No Gas	878661.67	1.0	813952.92	107.95	70	120	
Ge	72	H2	787981.98	0.6	802203.96	98.23	70	120	
Ge	72	He	262000.16	0.5	263530.43	99.42	70	120	
In	115	No Gas	5500670.44	1.7	4878774.56	112.75	70	120	
Tb	159	No Gas	8193891.90	1.3	7160929.99	114.42	70	120	
Tb	159	He	5843200.83	0.4	5763662.17	101.38	70	120	

Sample Report

Sample Name	MRLA3003
File Name	H6A22013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:38:07
Sample Type	Sample
Total Dilution	1.0000
Comment	20 ppb Zn
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	63010.35	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	103.33	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4574.08	100	
Na	23	45	H2	<0.000	<0.000	ppb	N/A	768015.96	50000	
Mg	24	45	No Gas	6.304	6.304	ppb	4.5	124249.09	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	28773.20	50000	
Si	28	45	H2	6.183	6.183	ppb	3.5	15196.30	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	36229.17	500	
K	39	45	He	<0.000	<0.000	ppb	N/A	77098.60	50000	
Ca	40	45	H2	252.881	252.881	ppb	0.2	2609023.08	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	214.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1326.06	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1672.10	500	
Mn	55	45	No Gas	0.448	0.448	ppb	5.5	26351.38	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	51873.46	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	530.68	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	208.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2526.90	500	
Zn	66	72	No Gas	20.700	20.700	ppb	3.4	60842.10	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	116.00	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	29.00	500	
Sr	88	72	No Gas	0.072	0.072	ppb	8.9	4241.79	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	250.00	50	
Mo	95	115	No Gas	<0.000	<0.000	ppb	N/A	62.22	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	103.33	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	74.59	500	
Sn	118	115	No Gas	0.093	0.093	ppb	7.1	2056.83	500	
Sb	123	115	No Gas	<0.000	<0.000	ppb	N/A	221.12	100	
Ba	137	115	No Gas	<0.000	<0.000	ppb	N/A	344.45	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	66.67	50	
Hg	201	159	No Gas	0.007	0.007	ppb	37.8	34.17	5	
Hg	201	159	He	0.004	0.004	ppb	95.1	24.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	883.37	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1756.72	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	88.89	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1061057.98	0.5	913794.78	116.12	70	120	
Sc	45	No Gas	4008329.50	1.0	3551284.17	112.87	70	120	
Sc	45	H2	3045873.50	0.5	3058687.42	99.58	70	120	
Sc	45	He	460276.16	0.7	465177.56	98.95	70	120	
Ge	72	No Gas	889649.09	0.3	813952.92	109.3	70	120	
Ge	72	H2	796298.40	1.7	802203.96	99.26	70	120	
Ge	72	He	261561.96	0.3	263530.43	99.25	70	120	
In	115	No Gas	5456960.76	0.4	4878774.56	111.85	70	120	
Tb	159	No Gas	8165976.90	0.7	7160929.99	114.04	70	120	
Tb	159	He	5897179.00	0.7	5763662.17	102.32	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6A22014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:40:42
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.278	ppb	75.3	59125.93	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	74.44	0.4	-50	50	
B	11	6	No Gas	0.178	ppb	198.8	7839.97	10	-50	50	
Na	23	45	H2	110558.151	ppb	0.7	349165738.67	100000	80	120	
Mg	24	45	No Gas	108716.091	ppb	0.9	784886336.00	100000	80	120	
Al	27	45	No Gas	109908.663	ppb	1.6	1053867290.96	100000	80	120	
Si	28	45	H2	4.884	ppb	4.4	12189.35	50	-50	50	
P	31	45	No Gas	108157.112	ppb	0.5	65592593.33	100000	80	120	
K	39	45	He	112369.479	ppb	1.5	59170956.00	100000	80	120	
Ca	40	45	H2	112039.033	ppb	0.4	886359040.00	100000	80	120	
Ti	47	45	No Gas	2263.272	ppb	0.8	2999086.83	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1196.05	1	-50	50	
Cr	52	45	He	2.381	ppb	0.6	14292.13	1	-50	50	> +/-20%
Mn	55	45	No Gas	<0.000	ppb	N/A	15084.31	1	-50	50	
Fe	56	45	H2	112363.959	ppb	0.3	1351642709.33	100000	80	120	
Co	59	45	No Gas	0.126	ppb	7.1	3693.84	0.75	-50	50	
Ni	60	45	He	0.441	ppb	3.4	1078.04	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2703.60	2	-50	50	
Zn	66	72	No Gas	2.904	ppb	2.8	13587.47	20	-50	50	
As	75	72	He	0.039	ppb	42.0	165.33	1	-50	50	
Se	78	72	H2	0.105	ppb	63.4	66.67	1	-50	50	
Sr	88	72	No Gas	0.876	ppb	1.0	22723.71	1	-50	50	> +/-20%
Zr	90	72	No Gas	0.208	ppb	2.2	3440.45	10	-50	50	
Mo	95	115	No Gas	2271.918	ppb	1.2	10234538.76	2000	80	120	
Ag	107	115	No Gas	0.084	ppb	9.3	1092.27	0.4	-50	50	
Cd	111	115	No Gas	0.017	ppb	55.7	160.63	1	-50	50	
Sn	118	115	No Gas	0.123	ppb	5.8	2086.83	1	-50	50	
Sb	123	115	No Gas	0.055	ppb	3.3	687.80	1	-50	50	
Ba	137	115	No Gas	0.580	ppb	5.6	2623.60	1	-50	50	> +/-20%
W	182	159	No Gas	0.160	ppb	8.6	1703.46	1	-50	50	
Hg	201	159	No Gas	0.006	ppb	10.6	31.50	0.5	-50	50	
Hg	201	159	He	0.003	ppb	90.9	21.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	963.37	0.5	-50	50	
Pb	208	159	No Gas	<0.000	ppb	N/A	2790.13	0.5	-50	50	

TH 1/30/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	673.35	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	966011.91	2.1	913794.78	105.71	70	120	
Sc	45	No Gas	3837445.58	2.9	3551284.17	108.06	70	120	
Sc	45	H2	2728773.75	3.0	3058687.42	89.21	70	120	
Sc	45	He	416114.89	4.9	465177.56	89.45	70	120	
Ge	72	No Gas	872202.23	2.0	813952.92	107.16	70	120	
Ge	72	H2	730592.12	2.4	802203.96	91.07	70	120	
Ge	72	He	249120.68	3.5	263530.43	94.53	70	120	
In	115	No Gas	5004054.05	2.1	4878774.56	102.57	70	120	
Tb	159	No Gas	7840675.24	2.4	7160929.99	109.49	70	120	
Tb	159	He	5403996.33	4.5	5763662.17	93.76	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6A22015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:52:29
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.086	ppb	1.6	147927.08	20	80	120	
Be	9	6	No Gas	20.501	ppb	0.6	32293.85	20	80	120	
B	11	6	No Gas	19.097	ppb	3.7	27292.07	20	80	120	
Na	23	45	H2	101716.274	ppb	1.9	342422144.00	100000	80	120	
Mg	24	45	No Gas	97375.489	ppb	1.2	685469248.00	100000	80	120	
Al	27	45	No Gas	98588.947	ppb	2.5	921784092.93	100000	80	120	
Si	28	45	H2	215.002	ppb	0.9	259378.40	200	80	120	
P	31	45	No Gas	100756.631	ppb	2.4	59504968.00	100000	80	120	
K	39	45	He	100772.669	ppb	0.3	54744984.00	100000	80	120	
Ca	40	45	H2	102347.648	ppb	1.0	862895488.00	100000	80	120	
Ti	47	45	No Gas	2054.333	ppb	1.9	2654450.33	2000	80	120	
V	51	45	He	20.700	ppb	0.4	101698.01	20	80	120	
Cr	52	45	He	23.330	ppb	1.3	127830.17	20	80	120	
Mn	55	45	No Gas	20.038	ppb	2.0	422565.93	20	80	120	
Fe	56	45	H2	102745.336	ppb	1.0	1316961578.67	100000	80	120	
Co	59	45	No Gas	20.402	ppb	1.1	345864.69	20	80	120	
Ni	60	45	He	21.356	ppb	0.8	41020.91	20	80	120	
Cu	63	45	He	21.307	ppb	0.9	106733.74	20	80	120	
Zn	66	72	No Gas	22.219	ppb	2.1	62540.73	20	80	120	
As	75	72	He	20.204	ppb	1.1	18457.26	20	80	120	
Se	78	72	H2	20.882	ppb	0.6	7717.21	20	80	120	
Sr	88	72	No Gas	21.170	ppb	2.1	483580.88	20	80	120	
Zr	90	72	No Gas	10.959	ppb	2.2	162992.13	20	80	120	> +/- 20%
Mo	95	115	No Gas	2041.965	ppb	1.9	9044253.81	2000	80	120	
Ag	107	115	No Gas	20.262	ppb	0.9	218099.39	20	80	120	
Cd	111	115	No Gas	20.361	ppb	0.8	44646.51	20	80	120	
Sn	118	115	No Gas	20.385	ppb	2.3	134461.75	20	80	120	
Sb	123	115	No Gas	20.224	ppb	1.0	160889.68	20	80	120	
Ba	137	115	No Gas	21.368	ppb	1.0	75101.13	20	80	120	
W	182	159	No Gas	19.169	ppb	1.3	187463.39	20	80	120	
Hg	201	159	No Gas	1.954	ppb	1.7	3141.73	2	80	120	
Hg	201	159	He	2.004	ppb	0.6	2565.60	2	80	120	
Tl	205	159	No Gas	20.230	ppb	2.0	427938.76	20	80	120	
Pb	208	159	No Gas	20.665	ppb	1.5	606322.32	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.979	ppb	3.7	648438.22	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	933738.89	7.5	913794.78	102.18	70	120	
Sc	45	No Gas	3740891.67	6.8	3551284.17	105.34	70	120	
Sc	45	H2	2907404.83	2.9	3058687.42	95.05	70	120	
Sc	45	He	429037.69	0.4	465177.56	92.23	70	120	
Ge	72	No Gas	857464.06	4.8	813952.92	105.35	70	120	
Ge	72	H2	778881.92	2.2	802203.96	97.09	70	120	
Ge	72	He	254785.28	0.1	263530.43	96.68	70	120	
In	115	No Gas	4916598.41	5.0	4878774.56	100.78	70	120	
Tb	159	No Gas	7807172.19	5.4	7160929.99	109.02	70	120	
Tb	159	He	5768255.17	0.5	5763662.17	100.08	70	120	

Sample Report

Sample Name	MRLA3004
File Name	H6A22016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:55:07
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	62298.30	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	88.89	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4552.96	100	
Na	23	45	H2	525.425	525.425	ppb	1.9	2574516.00	50000	
Mg	24	45	No Gas	516.152	516.152	ppb	2.0	3935993.00	50000	
Al	27	45	No Gas	517.533	517.533	ppb	1.8	5197527.84	50000	
Si	28	45	H2	<0.000	<0.000	ppb	N/A	6048.00	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	38211.14	500	
K	39	45	He	522.889	522.889	ppb	0.9	365082.15	50000	
Ca	40	45	H2	510.623	510.623	ppb	1.2	4765305.67	50000	
Ti	47	45	No Gas	0.099	0.099	ppb	8.0	428.68	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1058.04	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1552.09	500	
Mn	55	45	No Gas	<0.000	<0.000	ppb	N/A	10142.43	3000	
Fe	56	45	H2	538.681	538.681	ppb	1.5	7152516.83	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	803.36	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	260.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1956.81	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	4516.09	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	94.67	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	32.33	500	
Sr	88	72	No Gas	<0.000	<0.000	ppb	N/A	1463.42	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	223.33	50	
Mo	95	115	No Gas	0.235	0.235	ppb	18.6	1500.09	500	
Ag	107	115	No Gas	0.063	0.063	ppb	3.6	958.92	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	71.62	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	1305.62	500	
Sb	123	115	No Gas	<0.000	<0.000	ppb	N/A	253.34	100	
Ba	137	115	No Gas	<0.000	<0.000	ppb	N/A	342.23	1000	
W	182	159	No Gas	0.013	0.013	ppb	46.1	276.67	50	
Hg	201	159	No Gas	0.021	0.021	ppb	24.0	59.00	5	
Hg	201	159	He	0.014	0.014	ppb	37.5	37.33	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	1324.52	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	2174.53	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	486.68	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1053965.25	0.6	913794.78	115.34	70	120	
Sc	45	No Gas	3974537.75	1.3	3551284.17	111.92	70	120	
Sc	45	H2	2972031.67	1.4	3058687.42	97.17	70	120	
Sc	45	He	437934.14	1.2	465177.56	94.14	70	120	
Ge	72	No Gas	889081.54	1.8	813952.92	109.23	70	120	
Ge	72	H2	784355.00	0.5	802203.96	97.78	70	120	
Ge	72	He	254567.40	1.9	263530.43	96.6	70	120	
In	115	No Gas	5569042.64	1.9	4878774.56	114.15	70	120	
Tb	159	No Gas	8388791.89	0.9	7160929.99	117.15	70	120	
Tb	159	He	5892811.17	2.2	5763662.17	102.24	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6A22017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:57:43
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.921	ppb	2.1	184272.21	25	99.68	90	110	
Be	9	6	No Gas	24.978	ppb	2.5	42574.30	25	99.91	90	110	
B	11	6	No Gas	47.205	ppb	3.9	61378.25	50	94.41	90	110	
Na	23	45	H2	26299.734	ppb	0.7	90945040.00	25000	105.2	90	110	
Mg	24	45	No Gas	25794.046	ppb	2.3	192469498.67	25000	103.18	90	110	
Al	27	45	No Gas	25732.180	ppb	0.7	254974309.54	25000	102.93	90	110	
Si	28	45	H2	2617.495	ppb	0.6	3141816.50	2500	104.7	90	110	
P	31	45	No Gas	244.972	ppb	2.1	194622.12	250	97.99	90	110	
K	39	45	He	26048.132	ppb	0.6	14303008.67	25000	104.19	90	110	
Ca	40	45	H2	26012.699	ppb	0.8	224179712.00	25000	104.05	90	110	
Ti	47	45	No Gas	254.291	ppb	1.4	348420.07	250	101.72	90	110	
V	51	45	He	263.957	ppb	0.6	1289937.71	250	105.58	90	110	
Cr	52	45	He	266.795	ppb	1.3	1452306.59	250	106.72	90	110	
Mn	55	45	No Gas	1539.512	ppb	2.5	33153632.67	1500	102.63	90	110	
Fe	56	45	H2	26432.012	ppb	0.5	345991285.33	25000	105.73	90	110	
Co	59	45	No Gas	257.300	ppb	2.3	4604820.50	250	102.92	90	110	
Ni	60	45	He	272.197	ppb	1.2	523331.82	250	108.88	90	110	
Cu	63	45	He	273.649	ppb	1.2	1346918.71	250	109.46	90	110	
Zn	66	72	No Gas	258.983	ppb	1.2	705161.77	250	103.59	90	110	
As	75	72	He	258.517	ppb	1.5	238650.01	250	103.41	90	110	
Se	78	72	H2	259.493	ppb	0.5	98587.02	250	103.8	90	110	
Sr	88	72	No Gas	259.925	ppb	1.0	6263575.59	250	103.97	90	110	
Zr	90	72	No Gas	26.296	ppb	2.4	414655.29	25	105.18	90	110	
Mo	95	115	No Gas	254.058	ppb	2.4	1204292.59	250	101.62	90	110	
Ag	107	115	No Gas	25.637	ppb	1.5	295434.72	25	102.55	90	110	
Cd	111	115	No Gas	255.613	ppb	1.2	598478.98	250	102.25	90	110	
Sn	118	115	No Gas	255.925	ppb	1.6	1790869.79	250	102.37	90	110	
Sb	123	115	No Gas	51.380	ppb	0.7	437133.06	50	102.76	90	110	
Ba	137	115	No Gas	519.773	ppb	1.9	1942154.02	500	103.95	90	110	
W	182	159	No Gas	25.791	ppb	0.2	265888.56	25	103.16	90	110	
Hg	201	159	No Gas	2.606	ppb	2.2	4411.44	2.5	104.24	90	110	
Hg	201	159	He	2.640	ppb	1.1	3372.79	2.5	105.6	90	110	
Tl	205	159	No Gas	263.185	ppb	1.8	5848931.71	250	105.27	90	110	
Pb	208	159	No Gas	264.852	ppb	1.7	8158902.95	250	105.94	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	268.860	ppb	2.1	8738037.15	250	107.54	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1011207.97	0.7	913794.78	110.66	70	120	
Sc	45	No Gas	3964262.33	0.7	3551284.17	111.63	70	120	
Sc	45	H2	2968729.92	0.7	3058687.42	97.06	70	120	
Sc	45	He	431992.73	2.3	465177.56	92.87	70	120	
Ge	72	No Gas	909304.69	0.9	813952.92	111.71	70	120	
Ge	72	H2	803793.00	1.1	802203.96	100.2	70	120	
Ge	72	He	259258.40	2.6	263530.43	98.38	70	120	
In	115	No Gas	5263687.95	0.9	4878774.56	107.89	70	120	
Tb	159	No Gas	8235384.95	1.1	7160929.99	115	70	120	
Tb	159	He	5767394.17	3.6	5763662.17	100.06	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6A22018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 13:00:19
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	56128.71	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	91.11	0.08	
B	11	6	No Gas	0.606	ppb	114.5	8017.85	4	
Na	23	45	H2	19.334	ppb	102.8	781095.69	40	
Mg	24	45	No Gas	2.197	ppb	67.9	81691.06	10	
Al	27	45	No Gas	1.640	ppb	53.4	64795.79	15	
Si	28	45	H2	1.426	ppb	33.2	8520.64	8	
P	31	45	No Gas	<0.000	ppb	N/A	34648.05	10	
K	39	45	He	6.066	ppb	33.8	77484.43	20	
Ca	40	45	H2	1.089	ppb	52.7	352568.76	25	
Ti	47	45	No Gas	0.040	ppb	85.5	307.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1218.72	0.5	
Cr	52	45	He	0.010	ppb	140.7	1939.47	0.2	
Mn	55	45	No Gas	0.087	ppb	125.7	16166.91	0.2	
Fe	56	45	H2	2.358	ppb	5.3	118871.02	10	
Co	59	45	No Gas	<0.000	ppb	N/A	1282.73	0.15	
Ni	60	45	He	0.006	ppb	198.7	281.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2218.85	0.4	
Zn	66	72	No Gas	0.136	ppb	141.6	5841.26	2	
As	75	72	He	0.011	ppb	152.1	139.67	0.2	
Se	78	72	H2	0.084	ppb	21.4	59.67	0.2	
Sr	88	72	No Gas	0.016	ppb	78.3	2601.37	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	216.67	2	
Mo	95	115	No Gas	0.062	ppb	17.5	556.68	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	156.67	0.08	
Cd	111	115	No Gas	0.049	ppb	32.0	224.16	0.2	
Sn	118	115	No Gas	0.095	ppb	21.3	1854.58	0.2	
Sb	123	115	No Gas	0.009	ppb	84.2	302.22	0.4	
Ba	137	115	No Gas	0.040	ppb	41.7	685.57	0.2	
W	182	159	No Gas	0.027	ppb	30.6	373.34	0.3	
Hg	201	159	No Gas	0.033	ppb	19.0	71.50	0.1	
Hg	201	159	He	0.020	ppb	21.4	42.67	0.1	
Tl	205	159	No Gas	0.072	ppb	22.9	2937.02	0.1	
Pb	208	159	No Gas	0.021	ppb	67.1	3239.06	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.017	ppb	37.1	1739.02	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	938126.70	11.7	913794.78	102.66	70	120	
Sc	45	No Gas	3546988.25	14.4	3551284.17	99.88	70	120	
Sc	45	H2	2780909.75	6.1	3058687.42	90.92	70	120	
Sc	45	He	430324.30	2.4	465177.56	92.51	70	120	
Ge	72	No Gas	797261.42	10.3	813952.92	97.95	70	120	
Ge	72	H2	732043.21	5.2	802203.96	91.25	70	120	
Ge	72	He	247005.01	2.6	263530.43	93.73	70	120	
In	115	No Gas	4898669.99	10.4	4878774.56	100.41	70	120	
Tb	159	No Gas	7428066.37	11.5	7160929.99	103.73	70	120	
Tb	159	He	5623759.17	2.7	5763662.17	97.57	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV10
File Name	H6A22101.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 17:30:33
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.216	ppb	2.2	198716.33	25	100.86	90	110	
Be	9	6	No Gas	24.010	ppb	1.9	43792.49	25	96.04	90	110	
B	11	6	No Gas	68.738	ppb	1.5	91684.41	50	137.48	90	110	> +/- 10%
Na	23	45	H2	25459.448	ppb	0.5	91435250.67	25000	101.84	90	110	
Mg	24	45	No Gas	25252.814	ppb	1.3	194105898.67	25000	101.01	90	110	
Al	27	45	No Gas	25066.454	ppb	1.5	255875316.19	25000	100.27	90	110	
Si	28	45	H2	2524.667	ppb	0.7	3146721.58	2500	100.99	90	110	
P	31	45	No Gas	239.992	ppb	1.6	197266.38	250	96	90	110	
K	39	45	He	24852.172	ppb	1.1	14363684.67	25000	99.41	90	110	
Ca	40	45	H2	25096.195	ppb	0.4	224568490.67	25000	100.38	90	110	
Ti	47	45	No Gas	245.712	ppb	0.9	346821.61	250	98.28	90	110	
V	51	45	He	250.470	ppb	0.9	1288063.75	250	100.19	90	110	
Cr	52	45	He	252.166	ppb	1.5	1444357.25	250	100.87	90	110	
Mn	55	45	No Gas	1498.707	ppb	1.7	33249228.67	1500	99.91	90	110	
Fe	56	45	H2	25289.827	ppb	1.0	343715616.00	25000	101.16	90	110	
Co	59	45	No Gas	247.976	ppb	1.8	4571678.83	250	99.19	90	110	
Ni	60	45	He	255.503	ppb	1.3	516866.97	250	102.2	90	110	
Cu	63	45	He	256.491	ppb	0.9	1328525.62	250	102.6	90	110	
Zn	66	72	No Gas	247.509	ppb	2.7	701021.17	250	99	90	110	
As	75	72	He	245.485	ppb	1.4	237524.36	250	98.19	90	110	
Se	78	72	H2	250.198	ppb	0.6	99129.55	250	100.08	90	110	
Sr	88	72	No Gas	253.711	ppb	1.7	6356973.91	250	101.48	90	110	
Zr	90	72	No Gas	25.653	ppb	2.7	420531.47	25	102.61	90	110	
Mo	95	115	No Gas	239.685	ppb	3.3	1211846.59	250	95.87	90	110	
Ag	107	115	No Gas	24.361	ppb	3.3	299458.68	25	97.44	90	110	
Cd	111	115	No Gas	243.927	ppb	4.3	609138.52	250	97.57	90	110	
Sn	118	115	No Gas	247.088	ppb	4.7	1843913.05	250	98.84	90	110	
Sb	123	115	No Gas	49.168	ppb	4.4	446128.61	50	98.34	90	110	
Ba	137	115	No Gas	505.200	ppb	3.6	2013314.64	500	101.04	90	110	
W	182	159	No Gas	25.501	ppb	5.6	279380.69	25	102	90	110	
Hg	201	159	No Gas	2.519	ppb	6.4	4531.82	2.5	100.76	90	110	
Hg	201	159	He	2.500	ppb	1.7	3456.14	2.5	100	90	110	
Tl	205	159	No Gas	256.688	ppb	6.7	6060251.84	250	102.68	90	110	
Pb	208	159	No Gas	254.734	ppb	5.4	8339121.26	250	101.89	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	258.085	ppb	5.6	8913508.81	250	103.23	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1081819.98	1.5	913794.78	118.39	70	120	
Sc	45	No Gas	4083829.67	1.3	3551284.17	115	70	120	
Sc	45	H2	3082354.75	0.4	3058687.42	100.77	70	120	
Sc	45	He	454607.87	0.9	465177.56	97.73	70	120	
Ge	72	No Gas	945588.63	1.3	813952.92	116.17	70	120	
Ge	72	H2	838212.83	0.5	802203.96	104.49	70	120	
Ge	72	He	271696.25	1.5	263530.43	103.1	70	120	
In	115	No Gas	5616928.14	2.0	4878774.56	115.13	70	120	
Tb	159	No Gas	8763216.04	3.7	7160929.99	122.38	70	120	ISTD Failed
Tb	159	He	6237539.17	0.2	5763662.17	108.22	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB10
File Name	H6A22102.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 17:33:10
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.618	ppb	29.0	69662.59	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	61.11	0.08	
B	11	6	No Gas	12.559	ppb	3.7	24325.45	4	>LOD
Na	23	45	H2	69.713	ppb	1.3	1053346.96	40	>LOD
Mg	24	45	No Gas	<0.000	ppb	N/A	31360.21	10	
Al	27	45	No Gas	<0.000	ppb	N/A	19904.74	15	
Si	28	45	H2	<0.000	ppb	N/A	5942.64	8	
P	31	45	No Gas	<0.000	ppb	N/A	39443.20	10	
K	39	45	He	<0.000	ppb	N/A	78199.25	20	
Ca	40	45	H2	<0.000	ppb	N/A	182679.55	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	240.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1162.05	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1189.39	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	9135.72	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	35871.65	10	
Co	59	45	No Gas	<0.000	ppb	N/A	553.34	0.15	
Ni	60	45	He	<0.000	ppb	N/A	124.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1495.42	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	2026.82	2	
As	75	72	He	<0.000	ppb	N/A	110.00	0.2	
Se	78	72	H2	0.017	ppb	86.4	40.00	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	2412.44	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	143.33	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	234.45	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	135.56	0.08	
Cd	111	115	No Gas	0.002	ppb	316.6	147.48	0.2	
Sn	118	115	No Gas	0.060	ppb	15.7	1939.04	0.2	
Sb	123	115	No Gas	0.004	ppb	91.6	312.23	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	302.23	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	83.33	0.3	
Hg	201	159	No Gas	0.007	ppb	59.4	38.00	0.1	
Hg	201	159	He	0.003	ppb	153.7	24.17	0.1	
Tl	205	159	No Gas	0.003	ppb	569.9	1854.59	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	2337.87	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	672.24	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1108017.33	2.0	913794.78	121.25	70	120	ISTD Failed
Sc	45	No Gas	4119028.08	2.3	3551284.17	115.99	70	120	
Sc	45	H2	3098115.08	0.3	3058687.42	101.29	70	120	
Sc	45	He	467826.95	0.2	465177.56	100.57	70	120	
Ge	72	No Gas	903766.33	2.3	813952.92	111.03	70	120	
Ge	72	H2	802611.27	0.4	802203.96	100.05	70	120	
Ge	72	He	267596.20	0.9	263530.43	101.54	70	120	
In	115	No Gas	5815946.24	2.1	4878774.56	119.21	70	120	
Tb	159	No Gas	8850132.15	2.7	7160929.99	123.59	70	120	ISTD Failed
Tb	159	He	6290939.33	0.7	5763662.17	109.15	70	120	

Sample Report

Sample Name	L226-12T
File Name	H6A22112.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 17:59:26
Sample Type	Sample
Total Dilution	100.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	258.139	2.581	ppb	5.6	83768.00	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	40.00	50	
B	11	6	No Gas	1244.378	12.444	ppb	6.3	25196.99	100	
Na	23	45	H2	405876.336	4058.763	ppb	0.3	15306243.67	50000	
Mg	24	45	No Gas	1636.036	16.360	ppb	2.5	210024.01	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	41652.91	50000	
Si	28	45	H2	12266.131	122.661	ppb	0.4	160802.70	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	42013.39	500	
K	39	45	He	5893.475	58.935	ppb	8.3	115306.76	50000	
Ca	40	45	H2	28228.321	282.283	ppb	1.2	2913955.42	50000	
Ti	47	45	No Gas	11.542	0.115	ppb	50.7	477.34	500	
V	51	45	He	11.413	0.114	ppb	2.3	2061.49	500	
Cr	52	45	He	91.491	0.915	ppb	3.8	7422.02	500	
Mn	55	45	No Gas	12.305	0.123	ppb	20.3	20220.27	3000	
Fe	56	45	H2	740.250	7.402	ppb	0.6	201118.30	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	985.37	500	
Ni	60	45	He	42.415	0.424	ppb	5.9	1174.05	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2195.51	500	
Zn	66	72	No Gas	106.190	1.062	ppb	3.8	9667.45	500	
As	75	72	He	9.324	0.093	ppb	6.3	239.00	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	22.00	500	
Sr	88	72	No Gas	660.636	6.606	ppb	1.9	169950.34	500	
Zr	90	72	No Gas	0.781	0.008	ppb	21.6	450.01	50	
Mo	95	115	No Gas	10.292	0.103	ppb	13.9	881.14	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	147.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	36.23	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	837.81	500	
Sb	123	115	No Gas	0.171	0.002	ppb	295.8	296.67	100	
Ba	137	115	No Gas	108.657	1.087	ppb	1.3	5174.36	1000	
W	182	159	No Gas	4.321	0.043	ppb	21.1	633.36	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	15.50	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	16.00	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	381.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	2780.13	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	1141.17	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1154979.10	2.4	913794.78	126.39	70	120	ISTD Failed
Sc	45	No Gas	4208745.25	2.6	3551284.17	118.51	70	120	
Sc	45	H2	3093942.50	0.7	3058687.42	101.15	70	120	
Sc	45	He	466863.64	0.8	465177.56	100.36	70	120	
Ge	72	No Gas	955778.85	2.2	813952.92	117.42	70	120	
Ge	72	H2	841229.67	0.3	802203.96	104.86	70	120	
Ge	72	He	278566.99	0.9	263530.43	105.71	70	120	
In	115	No Gas	5857419.28	2.9	4878774.56	120.06	70	120	ISTD Failed
Tb	159	No Gas	8943427.42	2.7	7160929.99	124.89	70	120	ISTD Failed
Tb	159	He	6374121.67	0.3	5763662.17	110.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV11
File Name	H6A22113.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 18:02:02
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.118	ppb	1.1	201750.18	25	100.47	90	110	
Be	9	6	No Gas	24.180	ppb	2.7	44899.47	25	96.72	90	110	
B	11	6	No Gas	52.579	ppb	1.7	73464.09	50	105.16	90	110	
Na	23	45	H2	25630.070	ppb	0.4	91752541.33	25000	102.52	90	110	
Mg	24	45	No Gas	25436.025	ppb	1.6	197736282.67	25000	101.74	90	110	
Al	27	45	No Gas	25288.325	ppb	1.2	261060029.44	25000	101.15	90	110	
Si	28	45	H2	2562.095	ppb	0.4	3183187.17	2500	102.48	90	110	
P	31	45	No Gas	241.019	ppb	1.0	200192.12	250	96.41	90	110	
K	39	45	He	25006.096	ppb	1.1	14493559.00	25000	100.02	90	110	
Ca	40	45	H2	25093.420	ppb	0.9	223838906.67	25000	100.37	90	110	
Ti	47	45	No Gas	245.729	ppb	1.0	350803.71	250	98.29	90	110	
V	51	45	He	249.716	ppb	0.6	1287838.16	250	99.89	90	110	
Cr	52	45	He	252.212	ppb	0.9	1448768.84	250	100.88	90	110	
Mn	55	45	No Gas	1471.268	ppb	1.2	33008912.00	1500	98.08	90	110	
Fe	56	45	H2	25068.102	ppb	0.9	339635552.00	25000	100.27	90	110	
Co	59	45	No Gas	243.532	ppb	1.3	4541022.83	250	97.41	90	110	
Ni	60	45	He	253.828	ppb	0.6	514949.20	250	101.53	90	110	
Cu	63	45	He	254.581	ppb	0.6	1322391.00	250	101.83	90	110	
Zn	66	72	No Gas	246.708	ppb	0.7	694832.67	250	98.68	90	110	
As	75	72	He	245.143	ppb	0.5	236323.05	250	98.06	90	110	
Se	78	72	H2	250.645	ppb	0.8	97897.68	250	100.26	90	110	
Sr	88	72	No Gas	254.970	ppb	0.9	6351887.80	250	101.99	90	110	
Zr	90	72	No Gas	25.740	ppb	2.0	419697.47	25	102.96	90	110	
Mo	95	115	No Gas	239.686	ppb	1.3	1212103.32	250	95.87	90	110	
Ag	107	115	No Gas	24.065	ppb	0.4	295817.58	25	96.26	90	110	
Cd	111	115	No Gas	241.841	ppb	0.3	604015.88	250	96.74	90	110	
Sn	118	115	No Gas	244.320	ppb	0.1	1823709.51	250	97.73	90	110	
Sb	123	115	No Gas	48.644	ppb	0.3	441450.19	50	97.29	90	110	
Ba	137	115	No Gas	503.696	ppb	0.2	2007465.75	500	100.74	90	110	
W	182	159	No Gas	24.748	ppb	1.5	273315.53	25	98.99	90	110	
Hg	201	159	No Gas	2.495	ppb	0.2	4525.65	2.5	99.8	90	110	
Hg	201	159	He	2.552	ppb	1.2	3499.82	2.5	102.08	90	110	
Tl	205	159	No Gas	255.996	ppb	0.4	6093672.68	250	102.4	90	110	
Pb	208	159	No Gas	255.658	ppb	1.1	8434316.03	250	102.26	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	260.278	ppb	0.3	9061121.03	250	104.11	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1101183.19	2.7	913794.78	120.51	70	120	ISTD Failed
Sc	45	No Gas	4129954.67	2.1	3551284.17	116.29	70	120	
Sc	45	H2	3072748.08	0.9	3058687.42	100.46	70	120	
Sc	45	He	455872.90	0.3	465177.56	98	70	120	
Ge	72	No Gas	940130.25	2.9	813952.92	115.5	70	120	
Ge	72	H2	826332.56	0.7	802203.96	103.01	70	120	
Ge	72	He	270658.55	0.6	263530.43	102.7	70	120	
In	115	No Gas	5614774.73	2.3	4878774.56	115.09	70	120	
Tb	159	No Gas	8821060.21	2.3	7160929.99	123.18	70	120	ISTD Failed
Tb	159	He	6189107.67	0.2	5763662.17	107.38	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB11
File Name	H6A22114.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 18:04:38
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.346	ppb	13.0	72487.94	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	57.78	0.08	
B	11	6	No Gas	4.258	ppb	7.8	14931.26	4	>LOD
Na	23	45	H2	46.407	ppb	3.0	953006.09	40	>LOD
Mg	24	45	No Gas	<0.000	ppb	N/A	27950.73	10	
Al	27	45	No Gas	<0.000	ppb	N/A	16089.39	15	
Si	28	45	H2	<0.000	ppb	N/A	5644.48	8	
P	31	45	No Gas	<0.000	ppb	N/A	41628.92	10	
K	39	45	He	<0.000	ppb	N/A	74262.93	20	
Ca	40	45	H2	<0.000	ppb	N/A	151247.52	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	250.00	0.5	
V	51	45	He	<0.000	ppb	N/A	950.70	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1116.05	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	8798.17	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	32921.61	10	
Co	59	45	No Gas	<0.000	ppb	N/A	496.68	0.15	
Ni	60	45	He	<0.000	ppb	N/A	115.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1138.05	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	1937.47	2	
As	75	72	He	<0.000	ppb	N/A	102.67	0.2	
Se	78	72	H2	0.004	ppb	580.8	35.33	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1709.00	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	133.33	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	200.00	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	118.89	0.08	
Cd	111	115	No Gas	0.001	ppb	248.3	146.39	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1077.82	0.2	
Sb	123	115	No Gas	<0.000	ppb	N/A	264.45	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	293.34	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	93.33	0.3	
Hg	201	159	No Gas	0.009	ppb	10.8	41.83	0.1	
Hg	201	159	He	0.002	ppb	86.7	23.00	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	1691.23	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1766.72	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	596.68	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1177890.30	1.8	913794.78	128.9	70	120	ISTD Failed
Sc	45	No Gas	4243609.33	2.2	3551284.17	119.5	70	120	
Sc	45	H2	3043939.00	0.3	3058687.42	99.52	70	120	
Sc	45	He	457450.99	0.7	465177.56	98.34	70	120	
Ge	72	No Gas	922035.63	2.3	813952.92	113.28	70	120	
Ge	72	H2	804617.38	0.2	802203.96	100.3	70	120	
Ge	72	He	263617.74	0.9	263530.43	100.03	70	120	
In	115	No Gas	5867611.69	2.6	4878774.56	120.27	70	120	ISTD Failed
Tb	159	No Gas	8950452.42	3.0	7160929.99	124.99	70	120	ISTD Failed
Tb	159	He	6250050.83	1.7	5763662.17	108.44	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A22115.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 18:07:13
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.916	ppb	9.5	60205.96	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	48.89	0.4	-50	50	
B	11	6	No Gas	6.775	ppb	7.2	14490.79	10	-50	50	> +/- 20%
Na	23	45	H2	112654.231	ppb	1.8	387643445.33	100000	80	120	
Mg	24	45	No Gas	109305.239	ppb	0.1	752503680.00	100000	80	120	
Al	27	45	No Gas	109786.207	ppb	1.4	1004021771.70	100000	80	120	
Si	28	45	H2	4.011	ppb	8.3	12230.12	50	-50	50	
P	31	45	No Gas	116314.228	ppb	0.3	67252030.67	100000	80	120	
K	39	45	He	109248.360	ppb	0.4	61616796.00	100000	80	120	
Ca	40	45	H2	111929.055	ppb	0.6	964667008.00	100000	80	120	
Ti	47	45	No Gas	2260.143	ppb	0.3	2856092.67	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1181.38	1	-50	50	
Cr	52	45	He	2.278	ppb	0.3	14723.24	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.226	ppb	9.0	19634.08	1	-50	50	
Fe	56	45	H2	111380.494	ppb	1.1	1458957696.00	100000	80	120	
Co	59	45	No Gas	0.110	ppb	2.0	3251.05	0.75	-50	50	
Ni	60	45	He	0.437	ppb	5.2	1144.72	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2052.16	2	-50	50	
Zn	66	72	No Gas	3.129	ppb	3.8	13859.76	20	-50	50	
As	75	72	He	0.040	ppb	41.3	175.00	1	-50	50	
Se	78	72	H2	0.082	ppb	39.5	63.67	1	-50	50	
Sr	88	72	No Gas	0.914	ppb	0.4	23084.37	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.146	ppb	4.9	2443.57	10	-50	50	
Mo	95	115	No Gas	2241.853	ppb	1.3	9913528.21	2000	80	120	
Ag	107	115	No Gas	0.075	ppb	3.8	976.70	0.4	-50	50	
Cd	111	115	No Gas	0.033	ppb	166.3	191.72	1	-50	50	
Sn	118	115	No Gas	0.032	ppb	34.0	1453.41	1	-50	50	
Sb	123	115	No Gas	0.061	ppb	8.4	716.69	1	-50	50	
Ba	137	115	No Gas	0.616	ppb	2.6	2699.17	1	-50	50	> +/- 20%
W	182	159	No Gas	0.149	ppb	5.9	1583.44	1	-50	50	
Hg	201	159	No Gas	0.002	ppb	72.4	25.33	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	19.67	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	701.13	0.5	-50	50	
Pb	208	159	No Gas	<0.000	ppb	N/A	2659.00	0.5	-50	50	

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	821.14	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	935700.77	1.7	913794.78	102.4	70	120	
Sc	45	No Gas	3658920.50	1.8	3551284.17	103.03	70	120	
Sc	45	H2	2972186.50	4.2	3058687.42	97.17	70	120	
Sc	45	He	445469.48	0.9	465177.56	95.76	70	120	
Ge	72	No Gas	852771.42	1.9	813952.92	104.77	70	120	
Ge	72	H2	792774.71	3.3	802203.96	98.82	70	120	
Ge	72	He	261345.09	0.4	263530.43	99.17	70	120	
In	115	No Gas	4912244.19	1.8	4878774.56	100.69	70	120	
Tb	159	No Gas	7806850.52	1.9	7160929.99	109.02	70	120	
Tb	159	He	6089361.50	0.3	5763662.17	105.65	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A22116.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 18:09:51
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.780	ppb	1.1	174193.94	20	80	120	
Be	9	6	No Gas	19.768	ppb	2.9	35880.18	20	80	120	
B	11	6	No Gas	23.099	ppb	1.3	36302.40	20	80	120	
Na	23	45	H2	96593.361	ppb	7.4	351493418.67	100000	80	120	
Mg	24	45	No Gas	100116.936	ppb	1.1	758559829.33	100000	80	120	
Al	27	45	No Gas	100324.689	ppb	1.9	1009689931.62	100000	80	120	
Si	28	45	H2	201.482	ppb	6.9	263390.80	200	80	120	
P	31	45	No Gas	96467.160	ppb	1.8	61388381.33	100000	80	120	
K	39	45	He	97687.778	ppb	2.7	54424557.33	100000	80	120	
Ca	40	45	H2	95182.249	ppb	7.5	867421141.33	100000	80	120	
Ti	47	45	No Gas	2037.612	ppb	2.0	2833516.50	2000	80	120	
V	51	45	He	20.141	ppb	1.8	101519.28	20	80	120	
Cr	52	45	He	22.514	ppb	1.9	126581.83	20	80	120	
Mn	55	45	No Gas	19.894	ppb	0.5	451545.12	20	80	120	
Fe	56	45	H2	95064.587	ppb	8.3	1316666965.33	100000	80	120	
Co	59	45	No Gas	19.887	ppb	0.5	362900.99	20	80	120	
Ni	60	45	He	20.638	ppb	2.4	40663.15	20	80	120	
Cu	63	45	He	20.302	ppb	1.6	104436.01	20	80	120	
Zn	66	72	No Gas	21.809	ppb	0.8	65708.78	20	80	120	
As	75	72	He	19.760	ppb	1.2	18529.02	20	80	120	
Se	78	72	H2	19.531	ppb	6.5	7703.53	20	80	120	
Sr	88	72	No Gas	21.327	ppb	0.8	520496.84	20	80	120	
Zr	90	72	No Gas	10.218	ppb	1.9	162566.94	20	80	120	> +/- 20%
Mo	95	115	No Gas	2019.568	ppb	1.9	9693844.34	2000	80	120	
Ag	107	115	No Gas	19.873	ppb	3.5	231915.78	20	80	120	
Cd	111	115	No Gas	20.060	ppb	2.8	47681.91	20	80	120	
Sn	118	115	No Gas	20.282	ppb	2.5	144973.01	20	80	120	
Sb	123	115	No Gas	19.996	ppb	2.4	172452.00	20	80	120	
Ba	137	115	No Gas	21.791	ppb	1.7	83053.56	20	80	120	
W	182	159	No Gas	19.321	ppb	4.0	208989.76	20	80	120	
Hg	201	159	No Gas	1.948	ppb	2.0	3466.15	2	80	120	
Hg	201	159	He	1.953	ppb	3.4	2655.45	2	80	120	
Tl	205	159	No Gas	20.598	ppb	2.5	481847.81	20	80	120	
Pb	208	159	No Gas	20.766	ppb	2.3	674135.47	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	21.742	ppb	3.2	742551.71	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1075956.04	1.4	913794.78	117.75	70	120	
Sc	45	No Gas	4026328.83	1.9	3551284.17	113.38	70	120	
Sc	45	H2	3154938.50	7.6	3058687.42	103.15	70	120	
Sc	45	He	440059.15	1.0	465177.56	94.6	70	120	
Ge	72	No Gas	916767.75	2.7	813952.92	112.63	70	120	
Ge	72	H2	833113.77	6.0	802203.96	103.85	70	120	
Ge	72	He	261494.20	0.7	263530.43	99.23	70	120	
In	115	No Gas	5334270.22	4.2	4878774.56	109.34	70	120	
Tb	159	No Gas	8647698.27	5.1	7160929.99	120.76	70	120	ISTD Failed
Tb	159	He	6127544.83	1.3	5763662.17	106.31	70	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SM5A-05-01-06

ALL SAMPLES PH<2

Book #: EIM-094
Batch: IML027W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.0 °C		93.3 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-23-02-03	.15
LCS-2	↓ -02-04	.15
MS	SAMESPIKESOLNVOLASLCS1,2	
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SW1A-011-17-09	.5+1.0
HCl	↓ -17-10	.25+.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM6A-23-02-06	.1
pH Strip (0-14)	HC160347	N/A
Digestate Location	METALS	
Extract Location	N/A	

☑ Reagent Water ID: SW1A-011-19-03
☑ Thermometer ID: 21G02428/E09
☑ Pipette ID: 742766331
☐ Pipette ID:
☐ Pipette ID:
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask

Prepared By: CK
Standard Added By: CK Witnessed By: DF
Extract Rcvd By: DF Checked By: CK

EMAX LABORATORIES, INC.

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
22IML027W01	IML027WB	50	ml	12/22/22 12:25	50	50	50	1	
22IML027W02	IML027WL	50	ml	12/22/22 12:25	50	50	50	1	
22IML027W03	IML027WC	50	ml	12/22/22 12:25	50	50	50	1	
22IML027W04	L180-05	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML027W05	L226-06	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W06	L226-07	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W07	L226-08	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W08	L226-09	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W09	L226-10	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W10	L226-11	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W11	L226-12	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W12	L226-13	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W13	L226-14	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W14	L226-15	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W15	L228-02	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W16	L228-03	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W17	L228-04	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W18	L228-04M	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W19	L228-04S	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W20	L228-05	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W21	L228-06	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W22	L228-07	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W23	L228-08	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W24	L228-09	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML027W25	L228-10	50	ml	12/22/22 12:25	50	50	50	1	TOTAL

CK 12-22-22

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 12/22/22 13:02

☑ Digestion Ended @ 12/22/22 15:32

Prepared By: CKaing

Checked By: CK

Comments:

Date 12-22-22

DISSOLVED METALS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of four(4) water samples were received on 12/15/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML028WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML028WL/IML028WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Samples were reported from dilution due to suspected matrix interference exhibited by high Cation concentrations.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22L226
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML028WB	1	NA	01/28/2315:13	12/22/2216:40	H6A21048	H6A21046	IML028W	Method Blank
LCS1W	IML028WL	1	NA	01/28/2315:16	12/22/2216:40	H6A21049	H6A21046	IML028W	Lab Control Sample (LCS)
LCD1W	IML028WC	1	NA	01/28/2315:19	12/22/2216:40	H6A21050	H6A21046	IML028W	LCS Duplicate
MW-56D-Q422	L226-01G	5	NA	01/28/2315:32	12/22/2216:40	H6A21052	H6A21046	IML028W	Diluted Sample
MW-56M-Q422	L226-02G	5	NA	01/28/2315:37	12/22/2216:40	H6A21053	H6A21046	IML028W	Diluted Sample
MW-56S-Q422	L226-03G	5	NA	01/28/2315:39	12/22/2216:40	H6A21054	H6A21046	IML028W	Diluted Sample
MW-929-Q422	L226-04G	5	NA	01/28/2315:42	12/22/2216:40	H6A21055	H6A21046	IML028W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 10:36
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-56D-Q422	Date Analyzed: 01/28/23 15:32
Lab Samp ID: L226-01G	Dilution Factor: 5
Lab File ID: H6A21052	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21046	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	1.25
Chromium	ND	5.00	1.25
Manganese	749	50.0	2.50
Molybdenum	ND	50.0	2.50
Selenium	ND	50.0	1.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 10:10
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-56M-Q422	Date Analyzed: 01/28/23 15:37
Lab Samp ID: L226-02G	Dilution Factor: 5
Lab File ID: H6A21053	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21046	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	1.25
Chromium	ND	5.00	1.25
Manganese	787	50.0	2.50
Molybdenum	ND	50.0	2.50
Selenium	ND	50.0	1.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 09:46
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-56S-Q422	Date Analyzed: 01/28/23 15:39
Lab Samp ID: L226-03G	Dilution Factor: 5
Lab File ID: H6A21054	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21046	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	1.25
Chromium	ND	5.00	1.25
Manganese	746	50.0	2.50
Molybdenum	ND	50.0	2.50
Selenium	ND	50.0	1.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/14/22 09:56
Project	: PG&E TOPOCK-GMP	Date Received:	12/15/22
SDG NO.	: 22L226	Date Extracted:	12/22/22 16:40
Sample ID:	MW-929-Q422	Date Analyzed:	01/28/23 15:42
Lab Samp ID:	L226-04G	Dilution Factor:	5
Lab File ID:	H6A21055	Matrix:	WATER
Ext Btch ID:	IML028W	% Moisture:	NA
Calib. Ref.:	H6A21046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	5.00	1.25
Chromium	ND	5.00	1.25
Manganese	802	50.0	2.50
Molybdenum	ND	50.0	2.50
Selenium	ND	50.0	1.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 22L226	Date Extracted:	12/22/22 16:40
Sample ID:	MBLK1W	Date Analyzed:	01/28/23 15:13
Lab Samp ID:	IML028WB	Dilution Factor:	1
Lab File ID:	H6A21048	Matrix:	WATER
Ext Btch ID:	IML028W	% Moisture:	NA
Calib. Ref.:	H6A21046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	ND	10.0	0.500
Molybdenum	ND	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML028WB	IML028WL	IML028WC
LAB FILE ID	: H6A21048	H6A21049	H6A21050
DATE PREPARED	: 12/22/22 16:40	12/22/22 16:40	12/22/22 16:40
DATE ANALYZED	: 01/28/23 15:13	01/28/23 15:16	01/28/23 15:19
PREP BATCH	: IML028W	IML028W	IML028W
CALIBRATION REF	: H6A21046	H6A21046	H6A21046

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Arsenic	ND	30	30.4	101	30	30.7	102	1	85-115	20
Chromium	ND	30	31.4	105	30	30.8	103	2	85-115	20
Manganese	ND	30	29.8	99	30	30.5	102	2	85-115	20
Molybdenum	ND	30	28.7	96	30	28.8	96	0	85-115	20
Selenium	ND	30	31.0	103	30	31.3	104	1	85-115	20

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A (DISSOLVED) and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. Samples associated Boron that were not CCV compliant were re-analyzed. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML028WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML028WL/IML028WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

Samples were reported from dilution due to suspected matrix interference exhibited by high Cation concentrations.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22L226
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML028WB	1	NA	01/28/2315:13	12/22/2216:40	H6A21048	H6A21046	IML028W	Method Blank
LCS1W	IML028WL	1	NA	01/28/2315:16	12/22/2216:40	H6A21049	H6A21046	IML028W	Lab Control Sample (LCS)
LCD1W	IML028WC	1	NA	01/28/2315:19	12/22/2216:40	H6A21050	H6A21046	IML028W	LCS Duplicate
PGE-09N-Q422	L226-06G	5	NA	01/28/2315:45	12/22/2216:40	H6A21056	H6A21046	IML028W	Diluted Sample
PGE-09S-Q422	L226-07G	5	NA	01/28/2315:47	12/22/2216:40	H6A21057	H6A21046	IML028W	Diluted Sample
SITE B-165-Q422	L226-08G	5	NA	01/28/2315:55	12/22/2216:40	H6A21060	H6A21058	IML028W	Diluted Sample
SITE B-220-Q422	L226-09G	5	NA	01/28/2315:58	12/22/2216:40	H6A21061	H6A21058	IML028W	Diluted Sample
SITE B-285-Q422	L226-10G	5	NA	01/28/2316:00	12/22/2216:40	H6A21062	H6A21058	IML028W	Diluted Sample
HNWR-01A-174-Q422	L226-11G	5	NA	01/28/2316:03	12/22/2216:40	H6A21063	H6A21058	IML028W	Diluted Sample
HNWR-01A-98-Q422	L226-12G	5	NA	01/28/2316:05	12/22/2216:40	H6A21064	H6A21058	IML028W	Diluted Sample
MW-94-030-Q422	L226-13G	5	NA	01/28/2316:08	12/22/2216:40	H6A21065	H6A21058	IML028W	Diluted Sample
MW-94-100-Q422	L226-14G	5	NA	01/28/2316:11	12/22/2216:40	H6A21066	H6A21058	IML028W	Diluted Sample
MW-94-175-Q422	L226-15G	5	NA	01/28/2316:13	12/22/2216:40	H6A21067	H6A21058	IML028W	Diluted Sample
MBLK1W	IML028WB	1	NA	02/02/2317:06	12/22/2216:40	H6B02100	H6B02098	IML028W	Method Blank
LCS1W	IML028WL	1	NA	02/02/2317:09	12/22/2216:40	H6B02101	H6B02098	IML028W	Lab Control Sample (LCS)
LCD1W	IML028WC	1	NA	02/02/2317:11	12/22/2216:40	H6B02102	H6B02098	IML028W	LCS Duplicate
PGE-09N-Q422	L226-06T	50	NA	02/02/2317:14	12/22/2216:40	H6B02103	H6B02098	IML028W	Diluted Sample
SITE B-165-Q422	L226-08T	50	NA	02/02/2317:28	12/22/2216:40	H6B02105	H6B02098	IML028W	Diluted Sample
SITE B-285-Q422	L226-10T	50	NA	02/02/2317:33	12/22/2216:40	H6B02107	H6B02098	IML028W	Diluted Sample
HNWR-01A-174-Q422	L226-11I	10	NA	02/02/2317:36	12/22/2216:40	H6B02108	H6B02098	IML028W	Diluted Sample
HNWR-01A-98-Q422	L226-12I	10	NA	02/02/2317:38	12/22/2216:40	H6B02109	H6B02098	IML028W	Diluted Sample
MW-94-030-Q422	L226-13I	10	NA	02/02/2317:49	12/22/2216:40	H6B02113	H6B02110	IML028W	Diluted Sample
MW-94-100-Q422	L226-14I	10	NA	02/02/2317:52	12/22/2216:40	H6B02114	H6B02110	IML028W	Diluted Sample
MW-94-175-Q422	L226-15I	10	NA	02/02/2317:54	12/22/2216:40	H6B02115	H6B02110	IML028W	Diluted Sample
PGE-09S-Q422	L226-07T	100	NA	02/03/2319:41	12/22/2216:40	H6B03134	H6B03129	IML028W	Diluted Sample
SITE B-220-Q422	L226-09I	10	NA	02/03/2319:44	12/22/2216:40	H6B03135	H6B03129	IML028W	Diluted Sample
SITE B-165-Q422	L226-08G	5	NA	02/07/2315:51	12/22/2216:40	H6B05023	H6B05017	IML028W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: PGE-09N-Q422
Lab Samp ID: L226-06G
Lab File ID: H6A21056
Ext Btch ID: IML028W
Calib. Ref.: H6A21046

Date Collected: 12/14/22 11:11
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 15:45
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	22.8	5.00	1.25
Barium	63.2	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	107000	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	5930	500	250
Lead	ND	5.00	1.00
Magnesium	58000	500	100
Manganese	456	50.0	2.50
Molybdenum	55.0	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	8980	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	ND	5.00	2.50
Zinc	ND	100	50.0

Sample ID: PGE-09N-Q422
Lab Samp ID: L226-06T
Lab File ID: H6B02103
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Analyzed: 02/02/23 17:14
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	2460	500	250
Sodium	1780000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:11
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: PGE-09N-Q422	Date Analyzed: 01/28/23 15:45
Lab Samp ID: L226-06G	Dilution Factor: 5
Lab File ID: H6A21056	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21046	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	22.8	5.00	1.25
Barium	63.2	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	2220E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	107000	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	5930	500	250
Lead	ND	5.00	1.00
Magnesium	58000	500	100
Manganese	456	50.0	2.50
Molybdenum	55.0	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	8980	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	1590000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	ND	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:11
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: PGE-09N-Q422	Date Analyzed: 02/02/23 17:14
Lab Samp ID: L226-06T	Dilution Factor: 50
Lab File ID: H6B02103	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B02098	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	10000	5000
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	70.9	50.0	25.0
Beryllium	ND	50.0	10.0
Boron	2460	500	250
Cadmium	ND	50.0	15.0
Calcium	120000	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Iron	6370	5000	2500
Lead	ND	50.0	10.0
Magnesium	65400	5000	1000
Manganese	523	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	11300	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	1780000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: PGE-09S-Q422
Lab Samp ID: L226-07G
Lab File ID: H6A21057
Ext Btch ID: IML028W
Calib. Ref.: H6A21046

Date Collected: 12/14/22 11:58
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 15:47
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	ND	5.00	1.25
Barium	ND	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	27200	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	92900	500	100
Manganese	ND	50.0	2.50
Molybdenum	26.3	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	15100	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	ND	5.00	2.50
Zinc	ND	100	50.0

Sample ID: PGE-09S-Q422
Lab Samp ID: L226-07T
Lab File ID: H6B03134
Ext Btch ID: IML028W
Calib. Ref.: H6B03129

Date Analyzed: 02/03/23 19:41
Dilution Factor: 100
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	1870	1000	500
Sodium	2340000	50000	5000

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:58
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: PGE-09S-Q422	Date Analyzed: 01/28/23 15:47
Lab Samp ID: L226-07G	Dilution Factor: 5
Lab File ID: H6A21057	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21046	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	ND	5.00	1.25
Barium	ND	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	2110E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	27200	500	300
Chromium	ND	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	92900	500	100
Manganese	ND	50.0	2.50
Molybdenum	26.3	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	15100	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	2260000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	ND	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:58
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: PGE-09S-Q422	Date Analyzed: 02/03/23 19:41
Lab Samp ID: L226-07T	Dilution Factor: 100
Lab File ID: H6B03134	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B03129	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	20000	10000
Antimony	ND	100	50.0
Arsenic	ND	100	25.0
Barium	ND	100	50.0
Beryllium	ND	100	20.0
Boron	1870	1000	500
Cadmium	ND	100	30.0
Calcium	30300	10000	6000
Chromium	ND	100	30.0
Cobalt	ND	100	20.0
Copper	ND	200	100
Iron	ND	10000	5000
Lead	ND	100	20.0
Magnesium	96200	10000	2000
Manganese	ND	1000	50.0
Molybdenum	ND	200	50.0
Nickel	ND	100	50.0
Potassium	16400	10000	2500
Selenium	ND	100	30.0
Silver	ND	100	20.0
Sodium	2340000	50000	5000
Thallium	ND	100	20.0
Vanadium	ND	100	50.0
Zinc	ND	2000	1000

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: SITE B-165-Q422
Lab Samp ID: L226-08G
Lab File ID: H6A21060
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 10:20
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 15:55
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	16.8	5.00	1.25
Barium	120	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	34900	500	300
Chromium	36.0	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6800	500	100
Manganese	ND	50.0	2.50
Molybdenum	11.6	10.0	2.50
Nickel	22.5	5.00	2.50
Potassium	5430	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	17.2	5.00	2.50
Zinc	ND	100	50.0

Sample ID: SITE B-165-Q422
Lab Samp ID: L226-08G
Lab File ID: H6B05023
Ext Btch ID: IML028W
Calib. Ref.: H6B05017

Date Analyzed: 02/07/23 15:51
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	297	50.0	25.0

Sample ID: SITE B-165-Q422
Lab Samp ID: L226-08T
Lab File ID: H6B02105
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Analyzed: 02/02/23 17:28
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Sodium	227000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 10:20
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: SITE B-165-Q422	Date Analyzed: 01/28/23 15:55
Lab Samp ID: L226-08G	Dilution Factor: 5
Lab File ID: H6A21060	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21058	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	16.8	5.00	1.25
Barium	120	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	381E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	34900	500	300
Chromium	36.0	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6800	500	100
Manganese	ND	50.0	2.50
Molybdenum	11.6	10.0	2.50
Nickel	22.5	5.00	2.50
Potassium	5430	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	228000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	17.2	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 10:20
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: SITE B-165-Q422	Date Analyzed: 02/07/23 15:51
Lab Samp ID: L226-08G	Dilution Factor: 5
Lab File ID: H6B05023	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B05017	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	19.1	5.00	1.25
Barium	120	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	297	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	34600	500	300
Chromium	88.4	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	252	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6740	500	100
Manganese	ND	50.0	2.50
Molybdenum	13.5	10.0	2.50
Nickel	35.0	5.00	2.50
Potassium	5670	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	222000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	20.3	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: SITE B-165-Q422
Lab Samp ID: L226-08T
Lab File ID: H6B02105
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Collected: 12/14/22 10:20
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 02/02/23 17:28
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	10000	5000
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	116	50.0	25.0
Beryllium	ND	50.0	10.0
Boron	NDE	500	250
Cadmium	ND	50.0	15.0
Calcium	35000	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Iron	ND	5000	2500
Lead	ND	50.0	10.0
Magnesium	6240	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	ND	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	227000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: SITE B-220-Q422
Lab Samp ID: L226-09G
Lab File ID: H6A21061
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 10:58
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 15:58
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	17.8	5.00	1.25
Barium	118	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	34200	500	300
Chromium	35.0	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6740	500	100
Manganese	ND	50.0	2.50
Molybdenum	12.0	10.0	2.50
Nickel	21.9	5.00	2.50
Potassium	5470	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	16.9	5.00	2.50
Zinc	ND	100	50.0

Sample ID: SITE B-220-Q422
Lab Samp ID: L226-09I
Lab File ID: H6B03135
Ext Btch ID: IML028W
Calib. Ref.: H6B03129

Date Analyzed: 02/03/23 19:44
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	372	100	50.0
Sodium	254000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: SITE B-220-Q422
Lab Samp ID: L226-09G
Lab File ID: H6A21061
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 10:58
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 15:58
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	17.8	5.00	1.25
Barium	118	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	379E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	34200	500	300
Chromium	35.0	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6740	500	100
Manganese	ND	50.0	2.50
Molybdenum	12.0	10.0	2.50
Nickel	21.9	5.00	2.50
Potassium	5470	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	225000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	16.9	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 10:58
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: SITE B-220-Q422	Date Analyzed: 02/03/23 19:44
Lab Samp ID: L226-09I	Dilution Factor: 10
Lab File ID: H6B03135	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B03129	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	2000	1000
Antimony	ND	10.0	5.00
Arsenic	18.6	10.0	2.50
Barium	131	10.0	5.00
Beryllium	ND	10.0	2.00
Boron	372	100	50.0
Cadmium	ND	10.0	3.00
Calcium	38900	1000	600
Chromium	41.6	10.0	3.00
Cobalt	ND	10.0	2.00
Copper	ND	20.0	10.0
Iron	ND	1000	500
Lead	ND	10.0	2.00
Magnesium	7500	1000	200
Manganese	ND	100	5.00
Molybdenum	ND	20.0	5.00
Nickel	26.9	10.0	5.00
Potassium	6570	1000	250
Selenium	ND	10.0	3.00
Silver	ND	10.0	2.00
Sodium	254000	5000	500
Thallium	ND	10.0	2.00
Vanadium	19.6	10.0	5.00
Zinc	ND	200	100

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: SITE B-285-Q422
Lab Samp ID: L226-10G
Lab File ID: H6A21062
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 11:36
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:00
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	17.1	5.00	1.25
Barium	122	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	35300	500	300
Chromium	36.0	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6850	500	100
Manganese	ND	50.0	2.50
Molybdenum	12.0	10.0	2.50
Nickel	22.4	5.00	2.50
Potassium	5540	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	17.3	5.00	2.50
Zinc	ND	100	50.0

Sample ID: SITE B-285-Q422
Lab Samp ID: L226-10T
Lab File ID: H6B02107
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Analyzed: 02/02/23 17:33
Dilution Factor: 50
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	506	500	250
Sodium	238000	25000	2500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:36
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: SITE B-285-Q422	Date Analyzed: 01/28/23 16:00
Lab Samp ID: L226-10G	Dilution Factor: 5
Lab File ID: H6A21062	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21058	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	17.1	5.00	1.25
Barium	122	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	394E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	35300	500	300
Chromium	36.0	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	6850	500	100
Manganese	ND	50.0	2.50
Molybdenum	12.0	10.0	2.50
Nickel	22.4	5.00	2.50
Potassium	5540	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	233000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	17.3	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 11:36
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: SITE B-285-Q422	Date Analyzed: 02/02/23 17:33
Lab Samp ID: L226-10T	Dilution Factor: 50
Lab File ID: H6B02107	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B02098	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	10000	5000
Antimony	ND	50.0	25.0
Arsenic	ND	50.0	12.5
Barium	121	50.0	25.0
Beryllium	ND	50.0	10.0
Boron	506	500	250
Cadmium	ND	50.0	15.0
Calcium	36500	5000	3000
Chromium	ND	50.0	15.0
Cobalt	ND	50.0	10.0
Copper	ND	100	50.0
Iron	ND	5000	2500
Lead	ND	50.0	10.0
Magnesium	6650	5000	1000
Manganese	ND	500	25.0
Molybdenum	ND	100	25.0
Nickel	ND	50.0	25.0
Potassium	5440	5000	1250
Selenium	ND	50.0	15.0
Silver	ND	50.0	10.0
Sodium	238000	25000	2500
Thallium	ND	50.0	10.0
Vanadium	ND	50.0	25.0
Zinc	ND	1000	500

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: HNWR-01A-174-Q422
Lab Samp ID: L226-11G
Lab File ID: H6A21063
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 09:18
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:03
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	13.9	5.00	1.25
Barium	108	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	29200	500	300
Chromium	16.9	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	2000	500	100
Manganese	ND	50.0	2.50
Molybdenum	15.4	10.0	2.50
Nickel	18.8	5.00	2.50
Potassium	6740	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	17.5	5.00	2.50
Zinc	ND	100	50.0

Sample ID: HNWR-01A-174-Q422
Lab Samp ID: L226-11I
Lab File ID: H6B02108
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Analyzed: 02/02/23 17:36
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	608	100	50.0
Sodium	418000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: HNWR-01A-174-Q422
Lab Samp ID: L226-11G
Lab File ID: H6A21063
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 09:18
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:03
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	13.9	5.00	1.25
Barium	108	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	600E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	29200	500	300
Chromium	16.9	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	2000	500	100
Manganese	ND	50.0	2.50
Molybdenum	15.4	10.0	2.50
Nickel	18.8	5.00	2.50
Potassium	6740	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	420000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	17.5	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: HNWR-01A-174-Q422
Lab Samp ID: L226-11I
Lab File ID: H6B02108
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Collected: 12/14/22 09:18
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 02/02/23 17:36
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	2000	1000
Antimony	ND	10.0	5.00
Arsenic	13.4	10.0	2.50
Barium	113	10.0	5.00
Beryllium	ND	10.0	2.00
Boron	608	100	50.0
Cadmium	ND	10.0	3.00
Calcium	29400	1000	600
Chromium	16.6	10.0	3.00
Cobalt	ND	10.0	2.00
Copper	ND	20.0	10.0
Iron	ND	1000	500
Lead	ND	10.0	2.00
Magnesium	2030	1000	200
Manganese	ND	100	5.00
Molybdenum	ND	20.0	5.00
Nickel	18.7	10.0	5.00
Potassium	6820	1000	250
Selenium	ND	10.0	3.00
Silver	ND	10.0	2.00
Sodium	418000	5000	500
Thallium	ND	10.0	2.00
Vanadium	17.5	10.0	5.00
Zinc	ND	200	100

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: HNWR-01A-98-Q422
Lab Samp ID: L226-12G
Lab File ID: H6A21064
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 08:42
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:05
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	14.0	5.00	1.25
Barium	103	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	28700	500	300
Chromium	17.4	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	2110	500	100
Manganese	ND	50.0	2.50
Molybdenum	15.6	10.0	2.50
Nickel	15.0	5.00	2.50
Potassium	6530	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	18.0	5.00	2.50
Zinc	ND	100	50.0

Sample ID: HNWR-01A-98-Q422
Lab Samp ID: L226-12I
Lab File ID: H6B02109
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Analyzed: 02/02/23 17:38
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	563	100	50.0
Sodium	400000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 08:42
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: HNWR-01A-98-Q422	Date Analyzed: 01/28/23 16:05
Lab Samp ID: L226-12G	Dilution Factor: 5
Lab File ID: H6A21064	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21058	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	14.0	5.00	1.25
Barium	103	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	632E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	28700	500	300
Chromium	17.4	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	2110	500	100
Manganese	ND	50.0	2.50
Molybdenum	15.6	10.0	2.50
Nickel	15.0	5.00	2.50
Potassium	6530	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	402000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	18.0	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 08:42
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: HNWR-01A-98-Q422	Date Analyzed: 02/02/23 17:38
Lab Samp ID: L226-12I	Dilution Factor: 10
Lab File ID: H6B02109	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B02098	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	2000	1000
Antimony	ND	10.0	5.00
Arsenic	12.7	10.0	2.50
Barium	103	10.0	5.00
Beryllium	ND	10.0	2.00
Boron	563	100	50.0
Cadmium	ND	10.0	3.00
Calcium	28300	1000	600
Chromium	17.0	10.0	3.00
Cobalt	ND	10.0	2.00
Copper	ND	20.0	10.0
Iron	ND	1000	500
Lead	ND	10.0	2.00
Magnesium	2030	1000	200
Manganese	ND	100	5.00
Molybdenum	ND	20.0	5.00
Nickel	14.8	10.0	5.00
Potassium	6540	1000	250
Selenium	ND	10.0	3.00
Silver	ND	10.0	2.00
Sodium	400000	5000	500
Thallium	ND	10.0	2.00
Vanadium	17.7	10.0	5.00
Zinc	ND	200	100

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: MW-94-030-Q422
Lab Samp ID: L226-13G
Lab File ID: H6A21065
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 08:06
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:08
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	ND	5.00	1.25
Barium	71.0	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	64000	500	300
Chromium	20.9	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	12400	500	100
Manganese	ND	50.0	2.50
Molybdenum	13.6	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	6530	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	15.6	5.00	2.50
Zinc	149	100	50.0

Sample ID: MW-94-030-Q422
Lab Samp ID: L226-13I
Lab File ID: H6B02113
Ext Btch ID: IML028W
Calib. Ref.: H6B02110

Date Analyzed: 02/02/23 17:49
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	593	100	50.0
Sodium	222000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 08:06
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-94-030-Q422	Date Analyzed: 01/28/23 16:08
Lab Samp ID: L226-13G	Dilution Factor: 5
Lab File ID: H6A21065	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21058	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	ND	5.00	1.25
Barium	71.0	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	674E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	64000	500	300
Chromium	20.9	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	12400	500	100
Manganese	ND	50.0	2.50
Molybdenum	13.6	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	6530	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	250000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	15.6	5.00	2.50
Zinc	149	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 08:06
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-94-030-Q422	Date Analyzed: 02/02/23 17:49
Lab Samp ID: L226-13I	Dilution Factor: 10
Lab File ID: H6B02113	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B02110	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	2000	1000
Antimony	ND	10.0	5.00
Arsenic	ND	10.0	2.50
Barium	69.1	10.0	5.00
Beryllium	ND	10.0	2.00
Boron	593	100	50.0
Cadmium	ND	10.0	3.00
Calcium	55500	1000	600
Chromium	20.3	10.0	3.00
Cobalt	ND	10.0	2.00
Copper	ND	20.0	10.0
Iron	ND	1000	500
Lead	ND	10.0	2.00
Magnesium	12600	1000	200
Manganese	ND	100	5.00
Molybdenum	ND	20.0	5.00
Nickel	ND	10.0	5.00
Potassium	6340	1000	250
Selenium	ND	10.0	3.00
Silver	ND	10.0	2.00
Sodium	222000	5000	500
Thallium	ND	10.0	2.00
Vanadium	14.9	10.0	5.00
Zinc	ND	200	100

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: MW-94-100-Q422
Lab Samp ID: L226-14G
Lab File ID: H6A21066
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 08:36
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:11
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	8.54	5.00	1.25
Barium	77.9	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	50000	500	300
Chromium	7.97	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	7070	500	100
Manganese	50.7	50.0	2.50
Molybdenum	21.9	10.0	2.50
Nickel	6.67	5.00	2.50
Potassium	7110	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	14.3	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MW-94-100-Q422
Lab Samp ID: L226-14I
Lab File ID: H6B02114
Ext Btch ID: IML028W
Calib. Ref.: H6B02110

Date Analyzed: 02/02/23 17:52
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	581	100	50.0
Sodium	279000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 08:36
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-94-100-Q422	Date Analyzed: 01/28/23 16:11
Lab Samp ID: L226-14G	Dilution Factor: 5
Lab File ID: H6A21066	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21058	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	8.54	5.00	1.25
Barium	77.9	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	632E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	50000	500	300
Chromium	7.97	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	7070	500	100
Manganese	50.7	50.0	2.50
Molybdenum	21.9	10.0	2.50
Nickel	6.67	5.00	2.50
Potassium	7110	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	289000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	14.3	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: MW-94-100-Q422
Lab Samp ID: L226-14I
Lab File ID: H6B02114
Ext Btch ID: IML028W
Calib. Ref.: H6B02110

Date Collected: 12/14/22 08:36
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 02/02/23 17:52
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	2000	1000
Antimony	ND	10.0	5.00
Arsenic	ND	10.0	2.50
Barium	71.9	10.0	5.00
Beryllium	ND	10.0	2.00
Boron	581	100	50.0
Cadmium	ND	10.0	3.00
Calcium	48100	1000	600
Chromium	ND	10.0	3.00
Cobalt	ND	10.0	2.00
Copper	ND	20.0	10.0
Iron	ND	1000	500
Lead	ND	10.0	2.00
Magnesium	6570	1000	200
Manganese	ND	100	5.00
Molybdenum	ND	20.0	5.00
Nickel	ND	10.0	5.00
Potassium	7440	1000	250
Selenium	ND	10.0	3.00
Silver	ND	10.0	2.00
Sodium	279000	5000	500
Thallium	ND	10.0	2.00
Vanadium	13.9	10.0	5.00
Zinc	ND	200	100

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: MW-94-175-Q422
Lab Samp ID: L226-15G
Lab File ID: H6A21067
Ext Btch ID: IML028W
Calib. Ref.: H6A21058

Date Collected: 12/14/22 09:06
Date Received: 12/15/22
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 16:13
Dilution Factor: 5
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	12.5	5.00	1.25
Barium	97.9	5.00	2.50
Beryllium	ND	5.00	1.00
Cadmium	ND	5.00	1.50
Calcium	24600	500	300
Chromium	15.6	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	1530	500	100
Manganese	ND	50.0	2.50
Molybdenum	10.9	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	5630	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Thallium	ND	5.00	1.00
Vanadium	18.3	5.00	2.50
Zinc	ND	100	50.0

Sample ID: MW-94-175-Q422
Lab Samp ID: L226-15I
Lab File ID: H6B02115
Ext Btch ID: IML028W
Calib. Ref.: H6B02110

Date Analyzed: 02/02/23 17:54
Dilution Factor: 10
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	440	100	50.0
Sodium	181000	5000	500

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 09:06
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-94-175-Q422	Date Analyzed: 01/28/23 16:13
Lab Samp ID: L226-15G	Dilution Factor: 5
Lab File ID: H6A21067	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6A21058	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	1000	500
Antimony	ND	5.00	2.50
Arsenic	12.5	5.00	1.25
Barium	97.9	5.00	2.50
Beryllium	ND	5.00	1.00
Boron	490E	50.0	25.0
Cadmium	ND	5.00	1.50
Calcium	24600	500	300
Chromium	15.6	5.00	1.50
Cobalt	ND	5.00	1.00
Copper	ND	10.0	5.00
Iron	ND	500	250
Lead	ND	5.00	1.00
Magnesium	1530	500	100
Manganese	ND	50.0	2.50
Molybdenum	10.9	10.0	2.50
Nickel	ND	5.00	2.50
Potassium	5630	500	125
Selenium	ND	5.00	1.50
Silver	ND	5.00	1.00
Sodium	188000E	2500	250
Thallium	ND	5.00	1.00
Vanadium	18.3	5.00	2.50
Zinc	ND	100	50.0

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/14/22 09:06
Project : PG&E TOPOCK-GMP	Date Received: 12/15/22
SDG NO. : 22L226	Date Extracted: 12/22/22 16:40
Sample ID: MW-94-175-Q422	Date Analyzed: 02/02/23 17:54
Lab Samp ID: L226-15I	Dilution Factor: 10
Lab File ID: H6B02115	Matrix: WATER
Ext Btch ID: IML028W	% Moisture: NA
Calib. Ref.: H6B02110	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	2000	1000
Antimony	ND	10.0	5.00
Arsenic	10.3	10.0	2.50
Barium	95.0	10.0	5.00
Beryllium	ND	10.0	2.00
Boron	440	100	50.0
Cadmium	ND	10.0	3.00
Calcium	23700	1000	600
Chromium	15.1	10.0	3.00
Cobalt	ND	10.0	2.00
Copper	ND	20.0	10.0
Iron	ND	1000	500
Lead	ND	10.0	2.00
Magnesium	1450	1000	200
Manganese	ND	100	5.00
Molybdenum	ND	20.0	5.00
Nickel	ND	10.0	5.00
Potassium	5290	1000	250
Selenium	ND	10.0	3.00
Silver	ND	10.0	2.00
Sodium	181000	5000	500
Thallium	ND	10.0	2.00
Vanadium	16.8	10.0	5.00
Zinc	ND	200	100

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A (DISSOLVED)
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Sample ID: MBLK1W
Lab Samp ID: IML028WB
Lab File ID: H6A21048
Ext Btch ID: IML028W
Calib. Ref.: H6A21046

Date Collected: NA
Date Received: NA
Date Extracted: 12/22/22 16:40
Date Analyzed: 01/28/23 15:13
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Aluminum	ND	200	100
Antimony	ND	1.00	0.500
Arsenic	ND	1.00	0.250
Barium	ND	1.00	0.500
Beryllium	ND	1.00	0.200
Cadmium	ND	1.00	0.300
Calcium	ND	100	60.0
Chromium	ND	1.00	0.300
Cobalt	ND	1.00	0.200
Copper	ND	2.00	1.00
Iron	ND	100	50.0
Lead	ND	1.00	0.200
Magnesium	ND	100	20.0
Manganese	ND	10.0	0.500
Molybdenum	ND	2.00	0.500
Nickel	ND	1.00	0.500
Potassium	ND	100	25.0
Selenium	ND	1.00	0.300
Silver	ND	1.00	0.200
Sodium	ND	500	50.0
Thallium	ND	1.00	0.200
Vanadium	ND	1.00	0.500
Zinc	ND	20.0	10.0

Sample ID: MBLK1W
Lab Samp ID: IML028WB
Lab File ID: H6B02100
Ext Btch ID: IML028W
Calib. Ref.: H6B02098

Date Analyzed: 02/02/23 17:06
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Boron	ND	10.0	5.00

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML028WB	IML028WL	IML028WC
LAB FILE ID	: H6A21048	H6A21049	H6A21050
DATE PREPARED	: 12/22/22 16:40	12/22/22 16:40	12/22/22 16:40
DATE ANALYZED	: 01/28/23 15:13	01/28/23 15:16	01/28/23 15:19
PREP BATCH	: IML028W	IML028W	IML028W
CALIBRATION REF	: H6A21046	H6A21046	H6A21046

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Aluminum	ND	3000	3050	102	3000	3140	105	3	85-115	20
Antimony	ND	30	29.2	97	30	29.5	98	1	85-115	20
Arsenic	ND	30	30.4	101	30	30.7	102	1	85-115	20
Barium	ND	30	29.8	99	30	29.9	100	0	85-115	20
Beryllium	ND	30	29.0	97	30	29.0	97	0	85-115	20
Cadmium	ND	30	29.8	99	30	30.0	100	1	85-115	20
Calcium	ND	3000	3090	103	3000	3080	103	0	85-115	20
Chromium	ND	30	31.4	105	30	30.8	103	2	85-115	20
Cobalt	ND	30	30.9	103	30	31.8	106	3	85-115	20
Copper	ND	30	32.4	108	30	31.6	105	3	85-115	20
Iron	ND	3000	3180	106	3000	3170	106	0	85-115	20
Lead	ND	30	31.8	106	30	32.0	107	1	85-115	20
Magnesium	ND	3000	3050	102	3000	3140	105	3	85-115	20
Manganese	ND	30	29.8	99	30	30.5	102	2	85-115	20
Molybdenum	ND	30	28.7	96	30	28.8	96	0	85-115	20
Nickel	ND	30	31.7	106	30	31.2	104	2	85-115	20
Potassium	ND	3000	3040	101	3000	3030	101	0	85-115	20
Selenium	ND	30	31.0	103	30	31.3	104	1	85-115	20
Silver	ND	30	30.5	102	30	30.7	102	1	85-115	20
Sodium	ND	3000	3210	107	3000	3220	107	0	85-115	20
Thallium	ND	30	31.6	105	30	32.0	107	1	85-115	20
Vanadium	ND	30	30.8	103	30	30.5	102	1	85-115	20
Zinc	ND	60	61.1	102	60	62.4	104	2	85-115	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : SW6020A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML028WB	IML028WL	IML028WC
LAB FILE ID	: H6B02100	H6B02101	H6B02102
DATE PREPARED	: 12/22/22 16:40	12/22/22 16:40	12/22/22 16:40
DATE ANALYZED	: 02/02/23 17:06	02/02/23 17:09	02/02/23 17:11
PREP BATCH	: IML028W	IML028W	IML028W
CALIBRATION REF	: H6B02098	H6B02098	H6B02098

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Boron	ND	30	28.4	95	30	29.0	97	2	85-115	20

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	3000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	300	25	20	0
B	100	300	50	20	0
Cd	500	300	250	20	0
Ca	50000	3000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	300	25000	100000	100000
Pb	500	300	250	20	0
Mg	50000	3000	25000	100000	100000
Mn	3000	300	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
K	50000	3000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	2000	0
Ag	50	30	25	20	0
Na	50000	3000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0
Li	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/28/23 12:45

End Date: 1/28/23 17:16

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

Micropipette ID: CU2761702
CU270533
B42781098

see analytical sequence

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	1H6A21
Analytical Sequence:	H6A21
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B270302	MRL1	SM6B-269502
S1	0401	MRL2	9601
S2	0402	MRL3	9602
S3	0501	MRL4	N/A
S4	0502	MRL5	↓
S5	0601	MRL6	↓
S6	N/A	Internal Standard	SM6B266701
S7	↓	Post-Spike 1	SM6A23-0203
ICV	SM6B-26-7101	Post-Spike 2	↓ 0204
CCV	SM6B-27-0602	Post-Spike 3	N/A
ICSA	0202	Post-Spike 4	↓
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.	↓		

Analyzed By: TH

Date: 1/28/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6A21
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A21009				H6A21014			H6A21015		
DateAnalyed :		01/28/2313:03				01/28/2313:44			01/28/2313:46		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.28	30	3.7	91	0.57274	0	>0	19.639	20	98
Beryllium	T	29.72	30	2.9	99	0.015365	0	<.2	19.838	20	99
Boron	T	28.63	30	2.8	95	0.34919	0	<5	18.475	20	92
Sodium	T	31730	30000	0.7	106	106790	100000	107	102000	100000	102
Magnesium	T	30060	30000	2.5	100	100580	100000	101	97136	100000	97
Aluminum	T	30600	30000	2.1	102	102780	100000	103	97551	100000	98
Silicon		3209	3000	1.1	107	4.3526	0	<20	219.55	200	110
Phosphorus		291.0	300	1.2	97	100440	100000	100	97449	100000	97
Potassium	T	30540	30000	0.5	102	102630	100000	103	99021	100000	99
Calcium	T	30750	30000	0.7	102	106830	100000	107	102460	100000	102
Titanium		301.3	300	1.5	100	2134.0	2000	107	2054.4	2000	103
Vanadium	T	303.2	300	0.3	101	0.0064986	0	<.5	20.297	20	101
Chromium	T	305.7	300	0.8	102	2.1880	0	>.3	22.683	20	113
Manganese	T	1981	2000	1.2	99	0.0016925	0	<.5	19.595	20	98
Iron	T	30860	30000	0.4	103	105210	100000	105	101490	100000	101
Cobalt	T	303.6	300	1.9	101	0.14339	0	<.2	20.306	20	102
Nickel	T	307.2	300	1.1	102	0.38971	0	<.5	20.885	20	104
Copper	T	322.1	300	1.0	107	0.71712	0	<1	20.153	20	101
Zinc	T	306.6	300	1.6	102	2.4493	0	<10	21.461	20	107
Arsenic	T	300.0	300	0.8	100	0.054114	0	<.25	20.082	20	100
Selenium	T	304.7	300	0.5	102	0.069284	0	<.3	20.822	20	104
Strontium		304.0	300	1.8	101	0.84186	0	<1.0	20.856	20	104
Zirconium		30.36	30	2.3	101	0.26771	0	<2.0	12.768	20	64*
Molybdenum	T	298.1	300	2.7	99	2101.8	2000	105	2013.8	2000	101
Silver	T	30.65	30	1.1	102	0.076149	0	<.2	19.993	20	100
Cadmium	T	302.8	300	1.3	101	0.035571	0	<.3	20.401	20	102
Tin		303.6	300	1.2	101	0.021011	0	<0.2	19.974	20	100
Antimony	T	56.89	60	0.9	95	0.059658	0	<.5	19.851	20	99
Barium	T	301.3	300	1.2	100	0.57623	0	>.5	21.069	20	105
Tungsten		30.40	30	0.7	101	0.13886	0	<1.0	18.649	20	93
Mercury		2.902	3	0.8	97	0.0040580	0	<0.1	1.9167	2	96
Thallium	T	307.5	300	1.1	103	0.032118	0	<.2	20.008	20	100
Lead	T	306.4	300	0.9	102	0.012196	0	<.2	20.069	20	100
Uranium		305.8	300	0.6	1020	0.00081531	0	<0.1	20.384	20	102

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6A21
Instrument ID: H6

		CCV SampleID	CCV4			CCV5			CCV6		
		CCV DataFileID	H6A21046			H6A21058			H6A21069		
		CCV DateTime	01/28/23 15:08			01/28/23 15:50			01/28/23 16:18		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.3	97	2.5	25.1	101	1.8	25.0	100	2.2
Beryllium	T	25	24.0	96	1.8	24.4	98	0.6	24.5	98	0.6
Boron	T	50	120	240*	7.6	67.4	135*	1.9	63.1	126*	1.3
Sodium	T	25000	25600	102	0.2	25700	103	0.6	25600	102	0.7
Magnesium	T	25000	25300	101	1.0	25000	100	0.9	24800	99	2.0
Aluminum	T	25000	24900	100	1.0	24600	98	1.0	24600	98	2.6
Silicon		2500	2540	102	0.3	2560	102	0.7	2550	102	0.7
Phosphorus		250	238	95	0.9	246	98	0.8	245	98	1.2
Potassium	T	25000	24400	97	0.4	24500	98	0.2	24300	97	0.9
Calcium	T	25000	25000	100	0.3	25100	101	0.5	25100	100	0.1
Titanium		250	247	99	1.1	248	99	0.6	247	99	1.0
Vanadium	T	250	247	99	1.2	244	97	0.5	245	98	0.8
Chromium	T	250	248	99	1.0	245	98	0.4	245	98	0.2
Manganese	T	1500	1480	98	1.1	1490	99	0.5	1470	98	1.8
Iron	T	25000	25100	100	0.9	25200	101	0.3	25100	100	0.8
Cobalt	T	250	244	98	1.5	246	99	0.4	244	98	1.6
Nickel	T	250	256	102	0.7	251	100	0.6	251	101	0.4
Copper	T	250	255	102	0.7	247	99	0.2	247	99	0.9
Zinc	T	250	248	99	2.2	251	100	0.4	251	100	0.4
Arsenic	T	250	246	98	0.3	245	98	0.3	246	98	1.0
Selenium	T	250	256	102	0.6	253	101	0.8	252	101	0.5
Strontium		250	252	101	1.6	252	101	0.4	251	100	1.4
Zirconium		25	24.6	99	1.3	24.7	99	0.7	24.6	99	1.0
Molybdenum	T	250	237	95	1.8	241	97	1.5	241	97	0.8
Silver	T	25	24.7	99	2.3	24.7	99	0.8	25.0	100	2.3
Cadmium	T	250	248	99	2.2	247	99	0.5	252	101	0.5
Tin		250	243	97	1.6	244	98	0.4	244	98	1.0
Antimony	T	50	49.3	99	1.2	48.7	97	0.8	49.2	98	1.2
Barium	T	500	499	100	1.4	494	99	1.7	496	99	1.5
Tungsten		25	25.4	102	0.5	24.6	98	1.1	24.9	100	1.4
Mercury		2.5	2.55	102	2.3	2.49	100	0.9	2.48	99	3.2
Thallium	T	250	258	103	1.2	253	101	1.0	253	101	1.9
Lead	T	250	256	102	1.3	251	100	0.4	252	101	0.6
Uranium		250	259	104	1.4	248	99	0.4	248	99	1.6

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A (DISSOLVED)
Sequence : IH6A21
Instrument ID: H6

CB SampleID		: ICB	CCB4	CCB5	CCB6
CB DataFileID		: H6A21010	H6A21047	H6A21059	H6A21070
CB DateTime		: 01/28/2313:11	01/28/2315:11	01/28/2315:52	01/28/2316:21

PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.08	>0	0.09	>0	0.3	>0	0.03	>0
Beryllium	T	.2	0.008	<.2	0.02	<.2	0.04	<.2	0.03	<.2
Boron	T	5	0.4	<5	40	>5	10	>5	10	>5
Sodium	T	50	0.3	<50	30	<50	70	>50	80	>50
Magnesium	T	20	0.2	<20	6	<20	0.4	<20	1	<20
Aluminum	T	100	0.09	<100	0.2	<100	0.08	<100	0.1	<100
Silicon		20	0.5	<20	3	<20	0.6	<20	0.8	<20
Phosphorus		25	0.8	<25	0.9	<25	0.7	<25	2	<25
Potassium	T	25	3	<25	2	<25	8	<25	8	<25
Calcium	T	60	0.5	<60	2	<60	8	<60	6	<60
Titanium		0.5	0.006	<0.5	0.006	<0.5	0.03	<0.5	0.001	<0.5
Vanadium	T	.5	0.008	<.5	0.05	<.5	0.02	<.5	0.03	<.5
Chromium	T	.3	0.003	<.3	0.06	<.3	0.04	<.3	0.05	<.3
Manganese	T	.5	0.007	<.5	0.02	<.5	0.07	<.5	0.07	<.5
Iron	T	50	0.02	<50	0.4	<50	0.7	<50	0.6	<50
Cobalt	T	.2	0.001	<.2	0.005	<.2	0.006	<.2	0.008	<.2
Nickel	T	.5	0.003	<.5	0.02	<.5	0.05	<.5	0.05	<.5
Copper	T	1	0.3	<1	1.0	<1	1	>1	1	>1
Zinc	T	10	0.01	<10	0.2	<10	0.2	<10	0.3	<10
Arsenic	T	.25	0.01	<.25	0.03	<.25	0.02	<.25	0.008	<.25
Selenium	T	.3	0.01	<.3	0.05	<.3	0.03	<.3	0.02	<.3
Strontium		1.0	0.006	<1.0	0.10	<1.0	0.02	<1.0	0.04	<1.0
Zirconium		2.0	0.005	<2.0	0.009	<2.0	0.009	<2.0	0.008	<2.0
Molybdenum	T	.5	0.002	<.5	0.03	<.5	0.03	<.5	0.02	<.5
Silver	T	.2	0.0004	<.2	0.003	<.2	0.002	<.2	0.003	<.2
Cadmium	T	.3	0.009	<.3	0.02	<.3	0.008	<.3	0.01	<.3
Tin		0.2	0.05	<0.2	0.04	<0.2	0.05	<0.2	0.04	<0.2
Antimony	T	.5	0.002	<.5	0.005	<.5	0.008	<.5	0.004	<.5
Barium	T	.5	0.0007	<.5	0.01	<.5	0.008	<.5	0.03	<.5
Tungsten		1.0	0.004	<1.0	0.002	<1.0	0.0010	<1.0	0.001	<1.0
Mercury		0.1	0.008	<0.1	0.010	<0.1	0.01	<0.1	0.007	<0.1
Thallium	T	.2	0.008	<.2	0.04	<.2	0.03	<.2	0.02	<.2
Lead	T	.2	0.005	<.2	0.001	<.2	0.0005	<.2	0.002	<.2
Uranium		0.1	0.003	<0.1	0.01	<0.1	0.01	<0.1	0.01	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A21
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A21009				H6A21014			H6A21015		
DateAnalyed :		01/28/2313:03				01/28/2313:44			01/28/2313:46		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.28	30	3.7	91	0.57274	0	>0	19.639	20	98
Beryllium		29.72	30	2.9	99	0.015365	0	<0.1	19.838	20	99
Boron		28.63	30	2.8	95	0.34919	0	<5.0	18.475	20	92
Sodium		31730	30000	0.7	106	106790	100000	107	102000	100000	102
Magnesium		30060	30000	2.5	100	100580	100000	101	97136	100000	97
Aluminum		30600	30000	2.1	102	102780	100000	103	97551	100000	98
Silicon		3209	3000	1.1	107	4.3526	0	<20	219.55	200	110
Phosphorus		291.0	300	1.2	97	100440	100000	100	97449	100000	97
Potassium		30540	30000	0.5	102	102630	100000	103	99021	100000	99
Calcium		30750	30000	0.7	102	106830	100000	107	102460	100000	102
Titanium		301.3	300	1.5	100	2134.0	2000	107	2054.4	2000	103
Vanadium		303.2	300	0.3	101	0.0064986	0	<0.5	20.297	20	101
Chromium	T	305.7	300	0.8	102	2.1880	0	>0.25	22.683	20	113
Manganese	T	1981	2000	1.2	99	0.0016925	0	<0.5	19.595	20	98
Iron		30860	30000	0.4	103	105210	100000	105	101490	100000	101
Cobalt		303.6	300	1.9	101	0.14339	0	<0.2	20.306	20	102
Nickel		307.2	300	1.1	102	0.38971	0	>0.2	20.885	20	104
Copper		322.1	300	1.0	107	0.71712	0	>0.5	20.153	20	101
Zinc		306.6	300	1.6	102	2.4493	0	<10	21.461	20	107
Arsenic	T	300.0	300	0.8	100	0.054114	0	<0.25	20.082	20	100
Selenium	T	304.7	300	0.5	102	0.069284	0	<0.3	20.822	20	104
Strontium		304.0	300	1.8	101	0.84186	0	<1.0	20.856	20	104
Zirconium		30.36	30	2.3	101	0.26771	0	<2.0	12.768	20	64*
Molybdenum	T	298.1	300	2.7	99	2101.8	2000	105	2013.8	2000	101
Silver		30.65	30	1.1	102	0.076149	0	<0.2	19.993	20	100
Cadmium		302.8	300	1.3	101	0.035571	0	<0.2	20.401	20	102
Tin		303.6	300	1.2	101	0.021011	0	<0.2	19.974	20	100
Antimony		56.89	60	0.9	95	0.059658	0	<0.5	19.851	20	99
Barium		301.3	300	1.2	100	0.57623	0	>0.5	21.069	20	105
Tungsten		30.40	30	0.7	101	0.13886	0	<1.0	18.649	20	93
Mercury		2.902	3	0.8	97	0.0040580	0	<0.1	1.9167	2	96
Thallium		307.5	300	1.1	103	0.032118	0	<0.2	20.008	20	100
Lead		306.4	300	0.9	102	0.012196	0	<0.1	20.069	20	100
Uranium		305.8	300	0.6	1020	0.00081531	0	<0.1	20.384	20	102

| Unit: ug/L
| T: Target analyte
| EV: Expected Value
| Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A
Sequence : IH6A21
Instrument ID: H6

		CCV SampleID	CCV4			CCV5			CCV6		
		CCV DataFileID	H6A21046			H6A21058			H6A21069		
		CCV DateTime	01/28/23 15:08			01/28/23 15:50			01/28/23 16:18		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.3	97	2.5	25.1	101	1.8	25.0	100	2.2
Beryllium		25	24.0	96	1.8	24.4	98	0.6	24.5	98	0.6
Boron		50	120	240*	7.6	67.4	135*	1.9	63.1	126*	1.3
Sodium		25000	25600	102	0.2	25700	103	0.6	25600	102	0.7
Magnesium		25000	25300	101	1.0	25000	100	0.9	24800	99	2.0
Aluminum		25000	24900	100	1.0	24600	98	1.0	24600	98	2.6
Silicon		2500	2540	102	0.3	2560	102	0.7	2550	102	0.7
Phosphorus		250	238	95	0.9	246	98	0.8	245	98	1.2
Potassium		25000	24400	97	0.4	24500	98	0.2	24300	97	0.9
Calcium		25000	25000	100	0.3	25100	101	0.5	25100	100	0.1
Titanium		250	247	99	1.1	248	99	0.6	247	99	1.0
Vanadium		250	247	99	1.2	244	97	0.5	245	98	0.8
Chromium	T	250	248	99	1.0	245	98	0.4	245	98	0.2
Manganese	T	1500	1480	98	1.1	1490	99	0.5	1470	98	1.8
Iron		25000	25100	100	0.9	25200	101	0.3	25100	100	0.8
Cobalt		250	244	98	1.5	246	99	0.4	244	98	1.6
Nickel		250	256	102	0.7	251	100	0.6	251	101	0.4
Copper		250	255	102	0.7	247	99	0.2	247	99	0.9
Zinc		250	248	99	2.2	251	100	0.4	251	100	0.4
Arsenic	T	250	246	98	0.3	245	98	0.3	246	98	1.0
Selenium	T	250	256	102	0.6	253	101	0.8	252	101	0.5
Strontium		250	252	101	1.6	252	101	0.4	251	100	1.4
Zirconium		25	24.6	99	1.3	24.7	99	0.7	24.6	99	1.0
Molybdenum	T	250	237	95	1.8	241	97	1.5	241	97	0.8
Silver		25	24.7	99	2.3	24.7	99	0.8	25.0	100	2.3
Cadmium		250	248	99	2.2	247	99	0.5	252	101	0.5
Tin		250	243	97	1.6	244	98	0.4	244	98	1.0
Antimony		50	49.3	99	1.2	48.7	97	0.8	49.2	98	1.2
Barium		500	499	100	1.4	494	99	1.7	496	99	1.5
Tungsten		25	25.4	102	0.5	24.6	98	1.1	24.9	100	1.4
Mercury		2.5	2.55	102	2.3	2.49	100	0.9	2.48	99	3.2
Thallium		250	258	103	1.2	253	101	1.0	253	101	1.9
Lead		250	256	102	1.3	251	100	0.4	252	101	0.6
Uranium		250	259	104	1.4	248	99	0.4	248	99	1.6

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A
Sequence : IH6A21
Instrument ID: H6

CB SampleID	: ICB	CCB4	CCB5	CCB6
CB DataFileID	: H6A21010	H6A21047	H6A21059	H6A21070
CB DateTime	: 01/28/2313:11	01/28/2315:11	01/28/2315:52	01/28/2316:21

PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.08	>0	0.09	>0	0.3	>0	0.03	>0
Beryllium		0.1	0.008	<0.1	0.02	<0.1	0.04	<0.1	0.03	<0.1
Boron		5.0	0.4	<5.0	40	>5.0	10	>5.0	10	>5.0
Sodium		50	0.3	<50	30	<50	70	>50	80	>50
Magnesium		10	0.2	<10	6	<10	0.4	<10	1	<10
Aluminum		20	0.09	<20	0.2	<20	0.08	<20	0.1	<20
Silicon		20	0.5	<20	3	<20	0.6	<20	0.8	<20
Phosphorus		25	0.8	<25	0.9	<25	0.7	<25	2	<25
Potassium		20	3	<20	2	<20	8	<20	8	<20
Calcium		25	0.5	<25	2	<25	8	<25	6	<25
Titanium		0.5	0.006	<0.5	0.006	<0.5	0.03	<0.5	0.001	<0.5
Vanadium		0.5	0.008	<0.5	0.05	<0.5	0.02	<0.5	0.03	<0.5
Chromium	T	0.25	0.003	<0.25	0.06	<0.25	0.04	<0.25	0.05	<0.25
Manganese	T	0.5	0.007	<0.5	0.02	<0.5	0.07	<0.5	0.07	<0.5
Iron		10	0.02	<10	0.4	<10	0.7	<10	0.6	<10
Cobalt		0.2	0.001	<0.2	0.005	<0.2	0.006	<0.2	0.008	<0.2
Nickel		0.2	0.003	<0.2	0.02	<0.2	0.05	<0.2	0.05	<0.2
Copper		0.5	0.3	<0.5	1.0	>0.5	1	>0.5	1	>0.5
Zinc		10	0.01	<10	0.2	<10	0.2	<10	0.3	<10
Arsenic	T	0.25	0.01	<0.25	0.03	<0.25	0.02	<0.25	0.008	<0.25
Selenium	T	0.3	0.01	<0.3	0.05	<0.3	0.03	<0.3	0.02	<0.3
Strontium		1.0	0.006	<1.0	0.10	<1.0	0.02	<1.0	0.04	<1.0
Zirconium		2.0	0.005	<2.0	0.009	<2.0	0.009	<2.0	0.008	<2.0
Molybdenum	T	0.5	0.002	<0.5	0.03	<0.5	0.03	<0.5	0.02	<0.5
Silver		0.2	0.0004	<0.2	0.003	<0.2	0.002	<0.2	0.003	<0.2
Cadmium		0.2	0.009	<0.2	0.02	<0.2	0.008	<0.2	0.01	<0.2
Tin		0.2	0.05	<0.2	0.04	<0.2	0.05	<0.2	0.04	<0.2
Antimony		0.5	0.002	<0.5	0.005	<0.5	0.008	<0.5	0.004	<0.5
Barium		0.5	0.0007	<0.5	0.01	<0.5	0.008	<0.5	0.03	<0.5
Tungsten		1.0	0.004	<1.0	0.002	<1.0	0.0010	<1.0	0.001	<1.0
Mercury		0.1	0.008	<0.1	0.010	<0.1	0.01	<0.1	0.007	<0.1
Thallium		0.2	0.008	<0.2	0.04	<0.2	0.03	<0.2	0.02	<0.2
Lead		0.1	0.005	<0.1	0.001	<0.1	0.0005	<0.1	0.002	<0.1
Uranium		0.1	0.003	<0.1	0.01	<0.1	0.01	<0.1	0.01	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

CCV is B fail

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		CalBlk	BLANK		1101	H6A21001.d		1
2		CalBlk	BLANK		1101	H6A21002.d		1
3		CalBlk	S0		1102	H6A21003.d		1
4		CalStd	S1		1103	H6A21004.d		2
5		CalStd	S2		1104	H6A21005.d		3
6		CalStd	S3		1105	H6A21006.d		4
7		CalStd	S4		1106	H6A21007.d		5
8		CalStd	S5		1107	H6A21008.d		6
9		ICV	ICV		1204	H6A21009.d	1	
10		ICB	ICB		1102	H6A21010.d	1	
11		LLCCV	MRLA2801	1/100/10 ppb ↓ Mn Cu Tl Zn	1306	H6A21011.d	1	
12		LLCCV2	MRLA2802	0.4/40/4 ppb Be Co Tl ✓	1307	H6A21012.d	1	
13		Sample	MRLA2803	20 ppb Zn ✓	1301	H6A21013.d	1	
14		ICS-A	ICSA		1304	H6A21014.d	1	
15		ICSB	ICSAB		1305	H6A21015.d	1	
16		Sample	MRLA2804	500 ppb CAT	1207	H6A21016.d	1	
17		CCV	CCV1		1206	H6A21017.d	1	
18		CCB	CCB1		1102	H6A21018.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		Blank	IMK033WB		2101	H6A21019.d	1	
2		LCSW	IMK033WL		2102	H6A21020.d	1	
3		LCSW	IMK033WC		2103	H6A21021.d	1	
4		Sample	K240-01	TOT	2104	H6A21022.d	1	
5		Sample	K240-02	TOT	2105	H6A21023.d	1	
6		Sample	K240-03	TOT	2106	H6A21024.d	1	
7		Sample	K240-04	TOT	2107	H6A21025.d	1	
8		Sample	K240-05	TOT	2108	H6A21026.d	1	
9		CCV	CCV2		1206	H6A21027.d	1	
10		CCB	CCB2		1102	H6A21028.d	1	
11		Sample	K240-06A	TOT	2109	H6A21029.d	1	
12		Sample	K240-06	TOT	2110	H6A21030.d	1	
13		Sample	K240-06J	TOT	2111	H6A21031.d	5	
14		Sample	K240-06M	TOT	2112	H6A21032.d	1	
15		Sample	K240-06S	TOT	2201	H6A21033.d	1	
16		Sample	K240-07	TOT	2202	H6A21034.d	1	
17		Sample	K240-08	TOT	2203	H6A21035.d	1	
18		CCV	CCV3		1206	H6A21036.d	1	
19		CCB	CCB3		1102	H6A21037.d	1	
20		Sample	K240-01	DISS	2204	H6A21038.d	1	

2023/01/18 10:17:26

Sample List

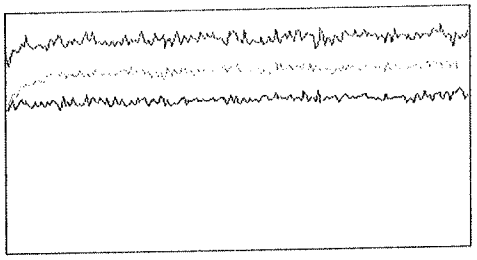
#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
21		Sample	K240-02	DISS	2205	H6A21039.d	1	
22		Sample	K240-03	DISS	2206	H6A21040.d	1	
23		Sample	K240-04	DISS	2207	H6A21041.d	1	
24		Sample	K240-05	DISS	2208	H6A21042.d	1	
25		Sample	K240-06	DISS	2209	H6A21043.d	1	
26		Sample	K240-07	DISS	2210	H6A21044.d	1	
27		Sample	K240-08	DISS	2211	H6A21045.d	1	
28		CCV	CCV4		1206	H6A21046.d	1	
29		CCB	CCB4		1102	H6A21047.d	1	
30		Blank	IML028WB		2212	H6A21048.d	1	
31		LCSW	IML028WL		2301	H6A21049.d	1	
32		LCSW	IML028WC		2302	H6A21050.d	1	
33		Sample	L196-03I	↑Na Ca Mg do 100X, 500X	2303	H6A21051.d	10	
34		Sample	L226-01G	↑B Na Ca	2304	H6A21052.d	5	
35		Sample	L226-02G	↓	2305	H6A21053.d	5	
36		Sample	L226-03G	↑B Na	2306	H6A21054.d	5	
37		Sample	L226-04G	↓	2307	H6A21055.d	5	
38		Sample	L226-06G	↑B Na	2308	H6A21056.d	5	
39		Sample	L226-07G	↓	2309	H6A21057.d	5	
40		CCV	CCV5	↑B	1206	H6A21058.d	1	
41		CCB	CCB5		1102	H6A21059.d	1	
42		Sample	L226-08G	↑Na	2310	H6A21060.d	5	
43		Sample	L226-09G	do 1X?	2311	H6A21061.d	5	
44		Sample	L226-10G	↑Na	2312	H6A21062.d	5	
45		Sample	L226-11G	↑B ↑Na	2401	H6A21063.d	5	
46		Sample	L226-12G		2402	H6A21064.d	5	
47		Sample	L226-13G		2403	H6A21065.d	5	
48		Sample	L226-14G		2404	H6A21066.d	5	
49		Sample	L226-15G	↑B	2405	H6A21067.d	5	
50		Sample	L247-02I	↑Na K Ca do 100X, 500X	2406	H6A21068.d	10	
51		CCV	CCV6	↑B	1206	H6A21069.d	1	
52		CCB	CCB6		1102	H6A21070.d	1	
53		Sample	L232-01		2407	H6A21071.d	1	
54		Sample	L232-02		2408	H6A21072.d	1	
55		Sample	L263-01		2409	H6A21073.d	1	
56		Sample	L263-02A		2410	H6A21074.d	1	
57		Sample	L263-02		2411	H6A21075.d	1	
58		Sample	L263-02J		2412	H6A21076.d	5	
59		Sample	L263-02M		2501	H6A21077.d	1	
60		Sample	L263-02S		2502	H6A21078.d	1	
61		ICS-A	ICSA2		1304	H6A21079.d	1	
62		ICSB	ICSAB2	↑B	1305	H6A21080.d	1	
63		CCV	CCV7		1206	H6A21081.d	1	
64		CCB	CCB7		1102	H6A21082.d	1	
65		Sample	A482-01I		2503	H6A21083.d	10	
66		Sample	A482-01M		2504	H6A21084.d	10	
67		Sample	A482-01S		2505	H6A21085.d	10	
68		Sample	A483-01I		2506	H6A21086.d	10	
69		Sample	A422-01I		2507	H6A21087.d	10	
70		Sample	A900-02I	do 1X	2508	H6A21088.d	10	
71		Sample	A907-01I	↓	2509	H6A21089.d	10	
72		CCV	CCV8		1206	H6A21090.d	1	
73		CCB	CCB8		1102	H6A21091.d	1	

6020D5

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-28 10:36:58
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



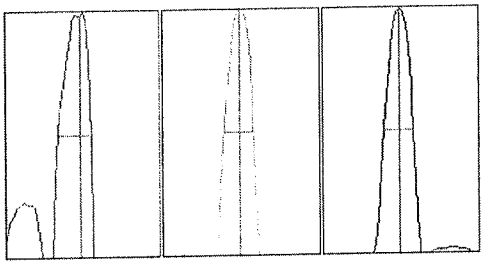
Mass	Range	Count	RSD%	Background
7	5000	4401	2.359	0.200
89	20000	14856	3.192	1.150
205	20000	12485	2.035	2.800

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.147 %
Doubly Charged	70 / 140 1.543 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	4350.11	7.00	0.62	0.76
89	14987.71	89.00	0.57	0.75
205	12516.46	205.00	0.58	0.79

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.6 V	Deflect	13.0 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.4 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.2 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	122	Axis Gain	0.9996		
Mass Offset	125	Axis Offset	-0.06		

EM

Discriminator	3.2 mV	Analog HV	2767 V	Pulse HV	1502 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.00	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.18E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.7	°C
Nebulizer Gas(DP)	5.45E+0	kPa
MU./Dil. Gas(DP)	-2.70E-2	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.68E+2	kPa
MU./Dil. Gas(BP)	-1.93E-2	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.32E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	1.9	°C
Peltier Voltage	2.1	V
IF/BK Press	2.36E+2	Pa
Analyzer Press	7.74E-5	Pa
IG HV	178	V
IG Emission	4.98	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.1	%
TMP Current	2.72	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	203.9	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.2	V
+U Voltage	263.0	V

Name	Value	Unit
-U Voltage	-285.9	V
V Voltage	1511.7	V
QPRF Fader	1.3	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.3	V
-120V	-130.1	V
-720V	-738.3	V
Prefilter Bias	-4.96	V
Pickup Heater I	0.07	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2771	V
Pulse HV	1516	V
EM Gate	-39.1	V
Pulse Gate	318.6	V
EM Entrance	0.2	V
EM HV Gain	-1438.1	V
Inner Pole	-300.3	V
Outer Pole	20.0	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	62.4	V
RF PS +48V	47.8	V
Forward Power	1549	W
Reflected Power	4	W
Plasma Freq.	26.70	MHz
Drain I 1	11.33	A
Drain I 2	10.86	A
Drain I 3	10.67	A
Drain I 4	10.04	A
Temp Sensor	2.8	V
Driver I	5.57	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.45	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	-2.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.57E+0	kPa
ORS AMFC Temp	29.6	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-195.2	V
Omega Bias	-110.1	V
Omega Lens	7.5	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.0	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.0	°C
Internal Temp	33.9	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.42	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

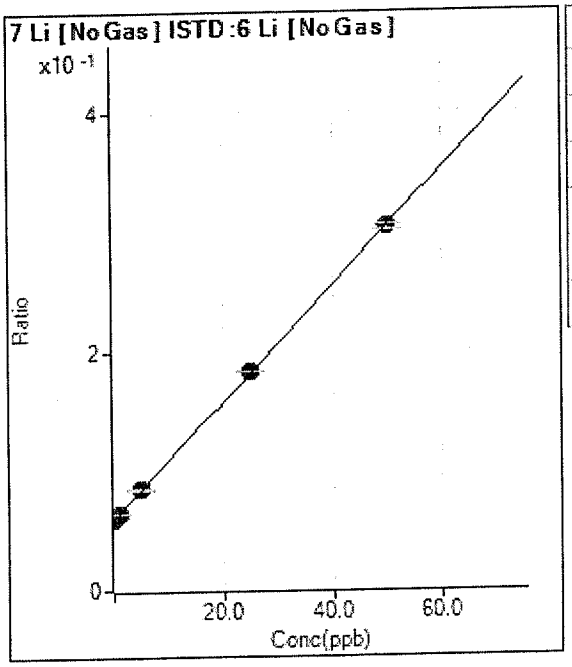
Performance Report History

Sensitivity

Calibration for H6A20009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b\
Analysis File: IH6A21.batch.bin
DA Date-Time: 2023-01-28 13:04:55
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

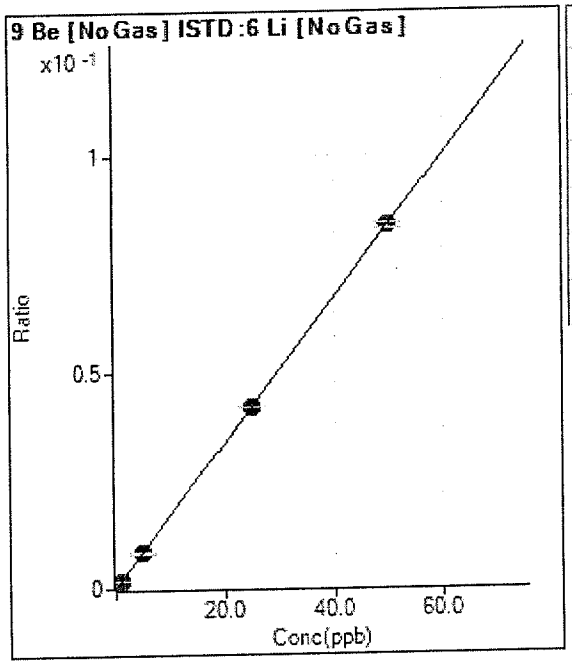
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A20003.d	S0	2023-01-28 12:45:58
2	H6A20004.d	S1	2023-01-28 12:48:49
3	H6A20005.d	S2	2023-01-28 12:51:40
4	H6A20006.d	S3	2023-01-28 12:54:31
5	H6A20007.d	S4	2023-01-28 12:57:34
6	H6A20008.d	S5	2023-01-28 13:00:25



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74663.01	0.0596	P	0.6
2	☐	0.500	0.529	77699.95	0.0622	P	1.3
3	☐	1.000	0.911	79195.92	0.0641	P	1.2
4	☐	5.000	5.132	101724.02	0.0848	P	2.1
5	☐	25.000	25.255	219157.08	0.1834	P	0.3
6	☐	50.000	49.861	357488.69	0.3041	P	1.3

y = 0.0049 * x + 0.0596
R = 1.0000
DL = 0.2233
BEC = 12.15

Weight: <None>
Min Conc: 0

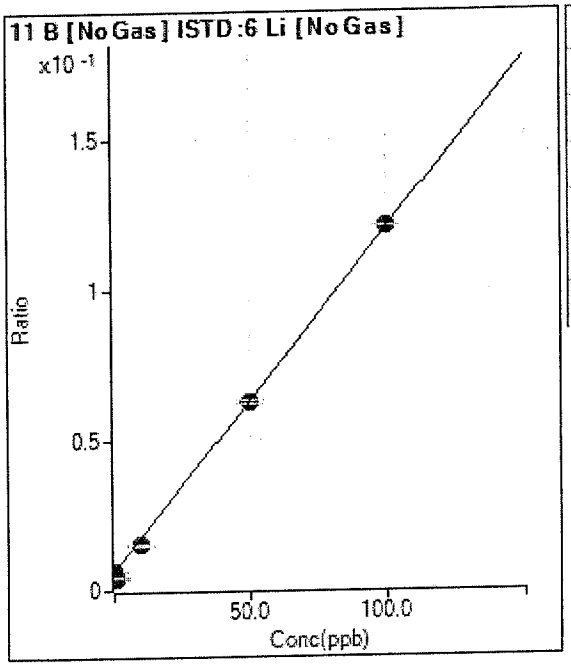


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	107.78	0.0001	P	2.7
2	☐	0.500	0.453	1055.60	0.0008	P	6.3
3	☐	1.000	0.958	2087.94	0.0017	P	5.1
4	☐	5.000	4.914	9967.97	0.0083	P	5.6
5	☐	25.000	24.914	49923.78	0.0418	P	0.4
6	☐	50.000	50.053	98577.89	0.0839	P	1.7

y = 0.0017 * x + 8.6062E-005
R = 1.0000
DL = 0.004092
BEC = 0.05142

Weight: <None>
Min Conc: 0

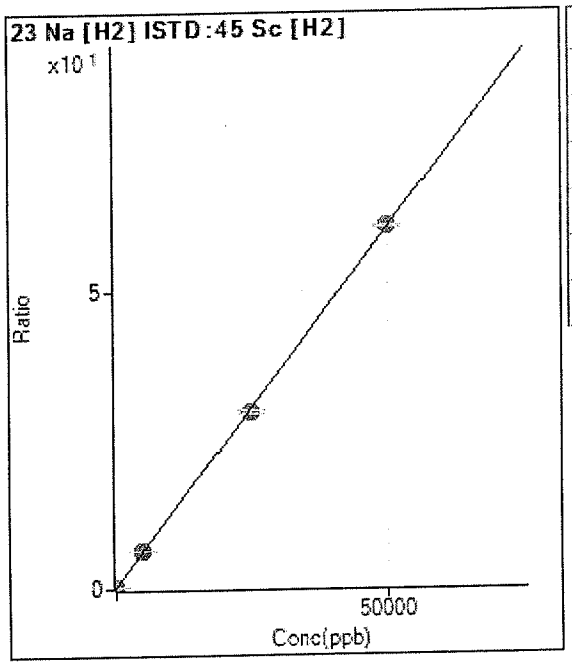
Calibration for H6A20009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7784.38	0.0062	P	3.5
2	☐	0.500	-1.942	4997.56	0.0040	P	1.4
3	☐	1.000	-1.365	5757.85	0.0047	P	3.6
4	☐	10.000	7.758	18090.52	0.0151	P	1.6
5	☐	50.000	49.607	75075.23	0.0628	P	2.2
6	☐	100.000	100.456	142123.87	0.1209	P	0.1

y = 0.0011 * x + 0.0062
R = 0.9997
DL = 0.5664
BEC = 5.446

Weight: <None>
Min Conc: 0

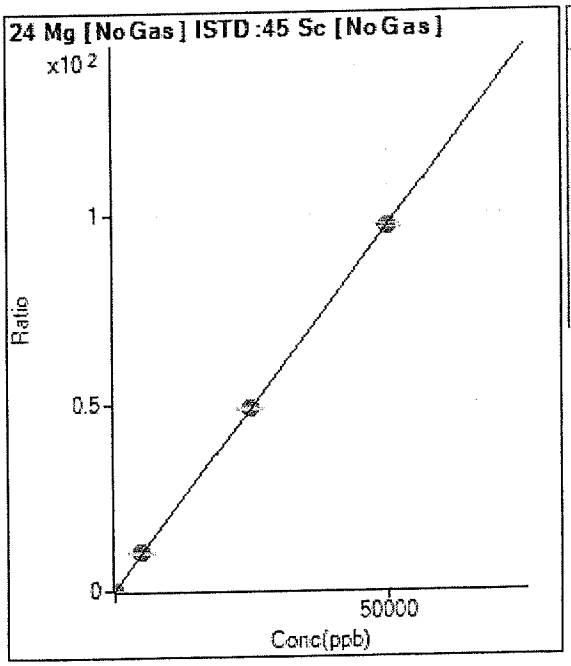


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	729725.79	0.2195	P	1.0
2	☐	50.000	42.982	909074.71	0.2713	A	0.8
3	☐	100.000	91.459	1100150.04	0.3297	A	0.5
4	☐	5000.000	5136.308	21377832.00	6.4080	A	0.9
5	☐	25000.000	24424.370	104573789.33	29.6472	A	2.8
6	☐	50000.000	50274.208	203927082.67	60.7923	A	0.8

y = 0.0012 * x + 0.2195
R = 0.9999
DL = 5.244
BEC = 182.2

Weight: <None>
Min Conc: 0

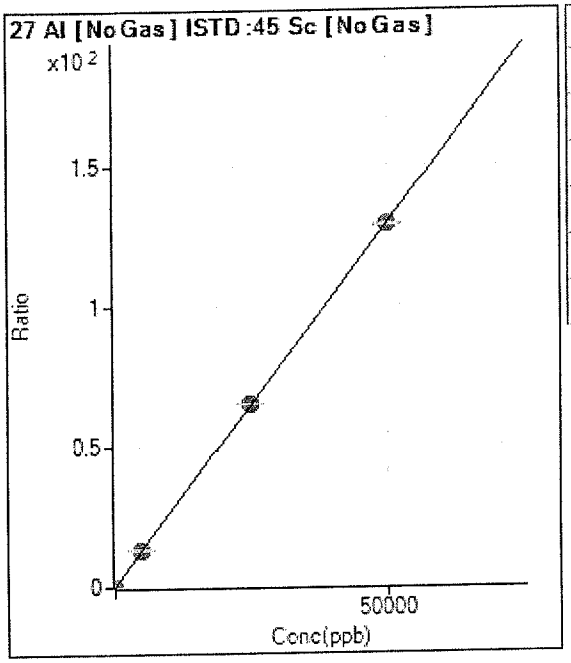
Calibration for H6A20009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	75581.92	0.0167	P	3.6
2	☐	50.000	48.386	503463.56	0.1105	P	0.2
3	☐	100.000	95.684	913621.81	0.2022	A	0.7
4	☐	5000.000	5182.538	44296997.33	10.0642	A	3.3
5	☐	25000.000	25067.305	221546026.67	48.6155	A	0.9
6	☐	50000.000	49948.104	435616288.00	96.8527	A	1.1

y = 0.0019 * x + 0.0167
R = 1.0000
DL = 0.9267
BEC = 8.595

Weight: <None>
Min Conc: 0

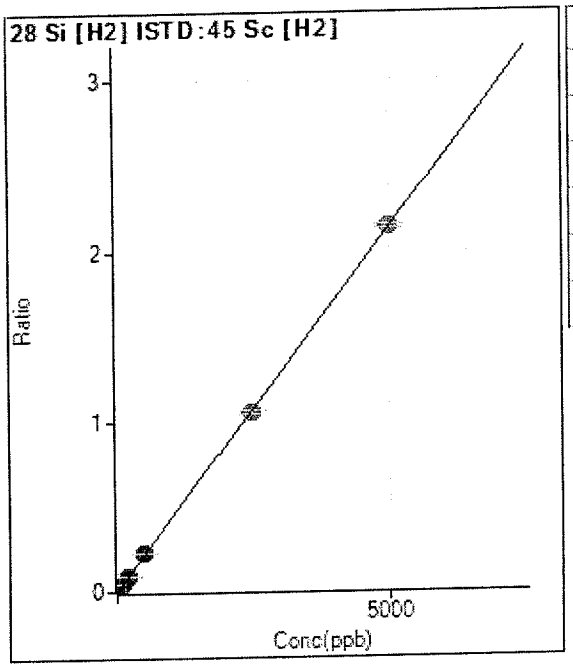


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45042.83	0.0099	P	1.9
2	☐	50.000	48.261	614798.34	0.1349	P	1.0
3	☐	100.000	95.962	1167881.39	0.2584	A	0.7
4	☐	5000.000	5122.264	58433099.13	13.2747	A	2.9
5	☐	25000.000	25121.722	296515468.91	65.0660	A	0.3
6	☐	50000.000	49926.922	581631524.67	129.3025	A	0.7

y = 0.0026 * x + 0.0099
R = 1.0000
DL = 0.2165
BEC = 3.832

Weight: <None>
Min Conc: 0

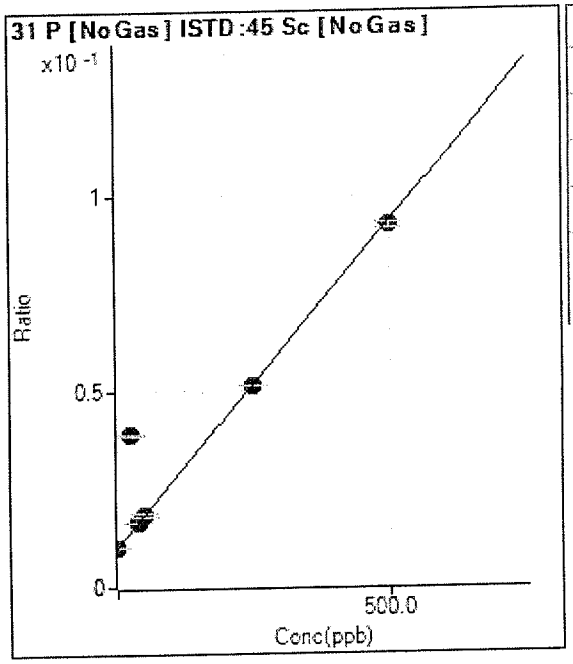
Calibration for H6A20009.d 1 7H 1/20/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5946.61	0.0018	P	1.9
2	☐	100.000	101.523	150943.38	0.0451	P	0.6
3	☐	200.000	198.734	288524.59	0.0865	P	1.2
4	☐	500.000	524.257	751278.06	0.2252	P	1.0
5	☐	2500.000	2462.088	3707684.08	1.0510	A	1.8
6	☐	5000.000	5016.550	7177028.33	2.1395	A	0.9

y = 4.2614E-004 * x + 0.0018
R = 0.9999
DL = 0.2439
BEC = 4.198

Weight: <None>
Min Conc: 0

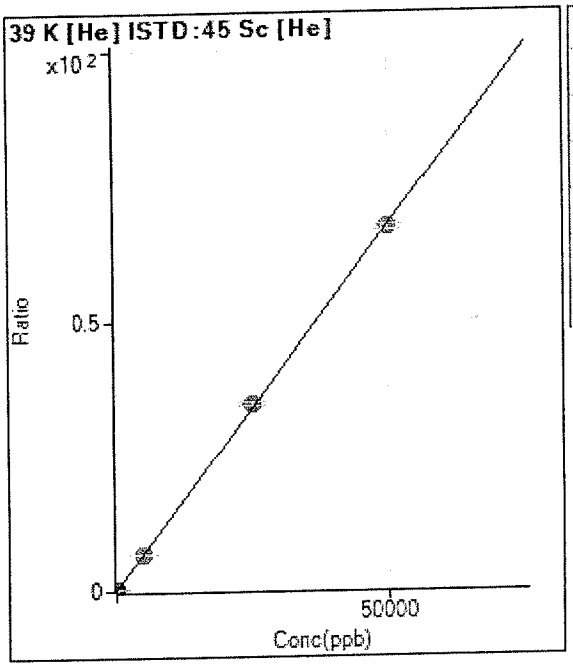


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46838.96	0.0103	P	1.9
2	☐	25.000	172.663	178007.80	0.0391	P	0.3
3	☐	40.000	37.160	74596.85	0.0165	P	0.1
4	☐	50.000	49.937	81993.02	0.0186	P	4.3
5	☐	250.000	247.289	234591.29	0.0515	P	0.3
6	☐	500.000	494.206	416330.63	0.0926	P	1.6

y = 1.6643E-004 * x + 0.0103
R = 0.9500
DL = 3.584
BEC = 62.02

Weight: <None>
Min Conc: 0

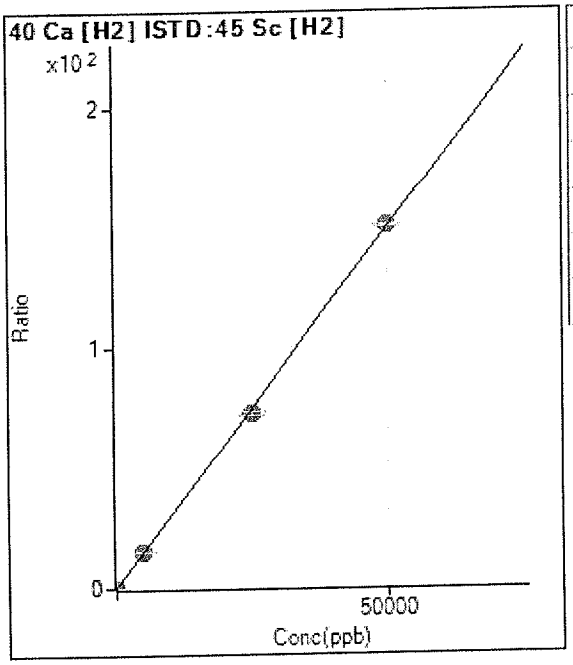
Calibration for H6A20009 d 24 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103937.32	0.1842	P	4.4
2	☐	50.000	47.375	140494.65	0.2483	P	3.2
3	☐	100.000	95.447	177898.53	0.3133	P	2.3
4	☐	5000.000	5004.342	3890059.00	6.9506	A	0.4
5	☐	25000.000	25468.583	19077898.67	34.6203	A	1.7
6	☐	50000.000	49765.286	37513804.00	67.4719	A	1.4

y = 0.0014 * x + 0.1842
R = 0.9999
DL = 17.84
BEC = 136.3

Weight: <None>
Min Conc: 0

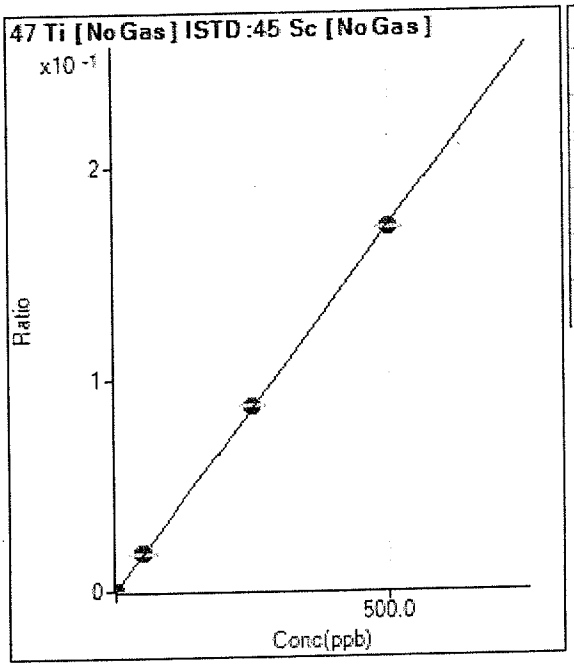


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	479634.41	0.1443	P	0.9
2	☐	50.000	20.469	688495.52	0.2055	P	0.3
3	☐	100.000	66.707	1146815.08	0.3437	A	0.5
4	☐	5000.000	5057.321	50919788.00	15.2632	A	0.5
5	☐	25000.000	24272.602	256465509.33	72.7073	A	2.4
6	☐	50000.000	50358.063	505486410.67	150.6899	A	0.7

y = 0.0030 * x + 0.1443
R = 0.9998
DL = 1.242
BEC = 48.27

Weight: <None>
Min Conc: 0

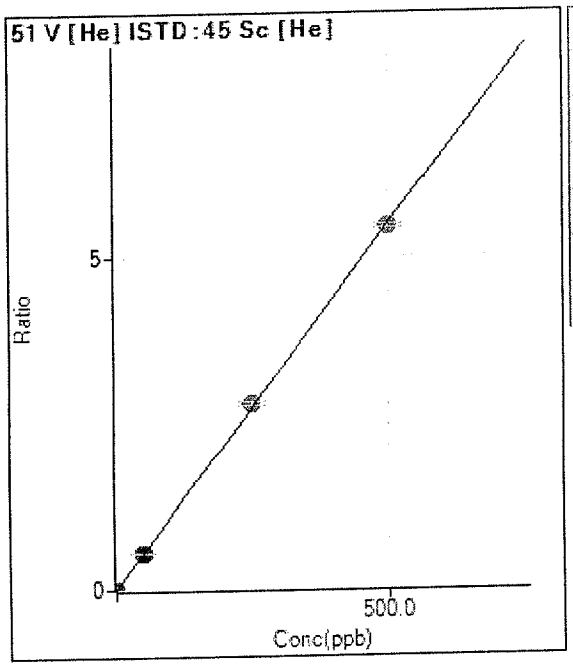
Calibration for H6A20009.d TH 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	280.67	0.0001	P	5.0
2	☐	0.500	0.557	1156.72	0.0003	P	4.5
3	☐	1.000	0.951	1760.78	0.0004	P	3.2
4	☐	50.000	51.752	78778.12	0.0179	P	3.5
5	☐	250.000	253.920	399110.40	0.0876	P	0.9
6	☐	500.000	497.865	772206.06	0.1717	P	0.4

y = 3.4467E-004 * x + 6.1759E-005
R = 1.0000
DL = 0.02695
BEC = 0.1792

Weight: <None>
Min Conc: 0

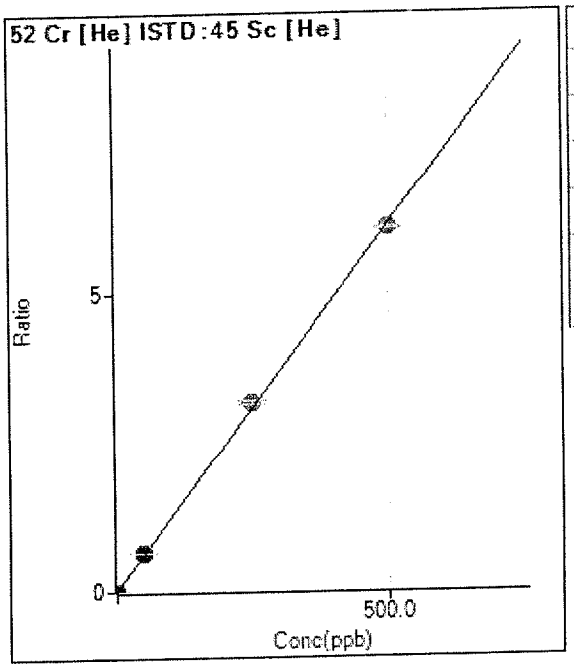


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1528.09	0.0027	P	5.5
2	☐	0.500	0.475	4472.73	0.0079	P	1.4
3	☐	1.000	0.919	7250.58	0.0128	P	2.1
4	☐	50.000	50.858	313122.37	0.5595	P	0.5
5	☐	250.000	255.491	1542733.50	2.7996	A	2.1
6	☐	500.000	497.169	3027598.83	5.4453	A	1.0

y = 0.0109 * x + 0.0027
R = 0.9999
DL = 0.04061
BEC = 0.2474

Weight: <None>
Min Conc: 0

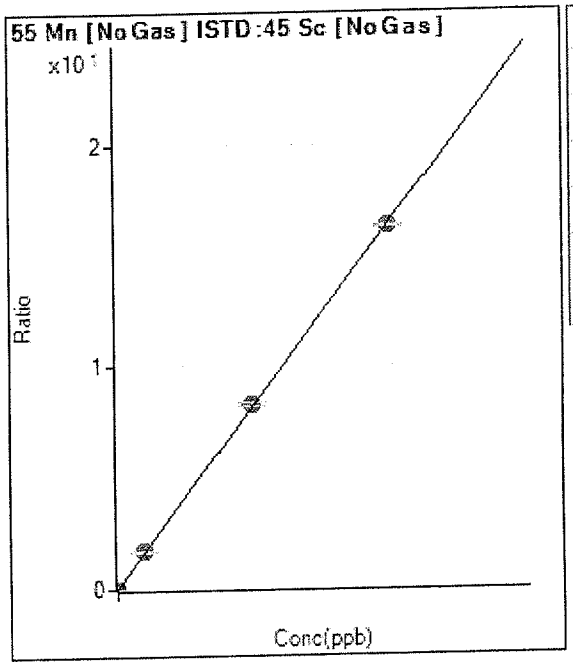
Calibration for H6A20009.d TH 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1968.81	0.0035	P	1.9
2	☐	0.500	0.455	5125.63	0.0091	P	2.1
3	☐	1.000	0.953	8600.70	0.0151	P	0.6
4	☐	50.000	51.629	355558.26	0.6353	P	0.5
5	☐	250.000	256.981	1734931.08	3.1484	A	1.6
6	☐	500.000	496.347	3379195.67	6.0777	A	0.8

y = 0.0122 * x + 0.0035
R = 0.9999
DL = 0.01648
BEC = 0.2852

Weight: <None>
Min Conc: 0

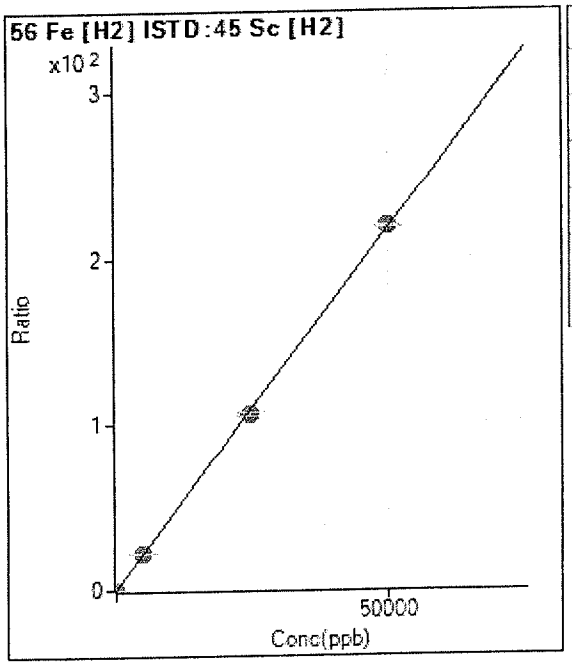


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17093.33	0.0038	P	4.9
2	☐	0.500	0.214	22513.17	0.0049	P	1.0
3	☐	1.000	0.690	34069.01	0.0075	P	0.8
4	☐	300.000	313.676	7556583.83	1.7174	A	4.6
5	☐	1500.000	1519.625	37848348.00	8.3056	A	1.2
6	☐	3000.000	2988.820	73459416.00	16.3318	A	0.7

y = 0.0055 * x + 0.0038
R = 1.0000
DL = 0.1013
BEC = 0.69

Weight: <None>
Min Conc: 0

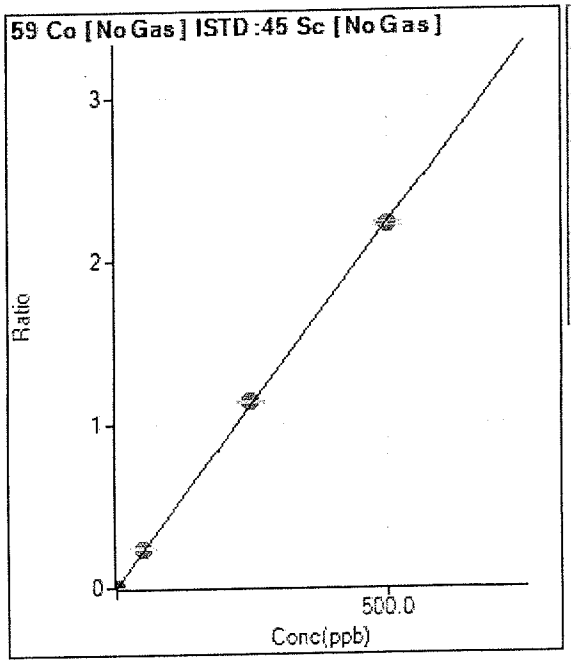
Calibration for H6A20009.d TH 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	78387.17	0.0236	P	0.4
2	☐	50.000	49.237	796155.42	0.2376	P	0.3
3	☐	100.000	97.871	1498232.46	0.4490	A	0.6
4	☐	5000.000	5127.236	74438312.00	22.3128	A	0.3
5	☐	25000.000	24251.272	371966314.67	105.4491	A	2.4
6	☐	50000.000	50361.645	734500736.00	218.9565	A	0.5

y = 0.0043 * x + 0.0236
R = 0.9998
DL = 0.07003
BEC = 5.424

Weight: <None>
Min Conc: 0

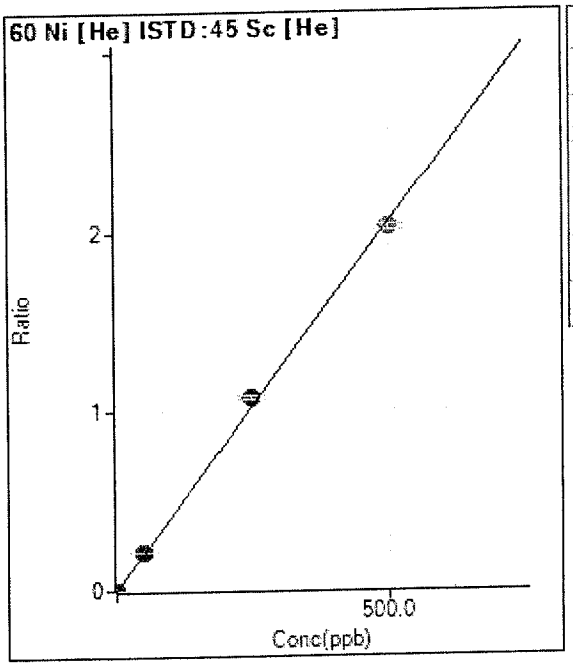


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1094.71	0.0002	P	7.7
2	☐	0.500	0.505	11362.07	0.0025	P	2.7
3	☐	1.000	1.039	22033.10	0.0049	P	1.5
4	☐	50.000	52.950	1040475.62	0.2365	A	4.4
5	☐	250.000	254.926	5183732.17	1.1375	A	0.5
6	☐	500.000	497.242	9978602.00	2.2185	A	1.0

y = 0.0045 * x + 2.4138E-004
R = 0.9999
DL = 0.01244
BEC = 0.05411

Weight: <None>
Min Conc: 0

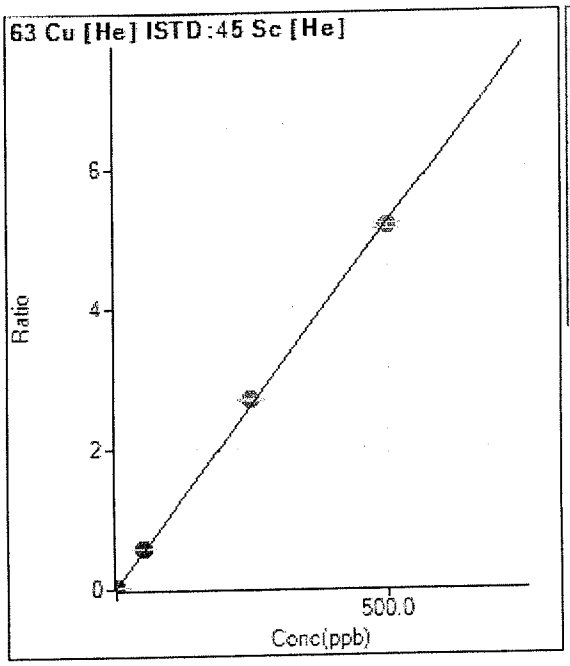
Calibration for H6A20009.d 1 7/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	304.00	0.0005	P	11.3
2	☐	0.500	0.490	1442.08	0.0025	P	7.0
3	☐	1.000	0.982	2592.25	0.0046	P	2.3
4	☐	50.000	52.377	120494.04	0.2153	P	0.8
5	☐	250.000	260.940	589890.35	1.0705	P	1.8
6	☐	500.000	494.292	1127151.58	2.0273	A	1.3

y = 0.0041 * x + 5.3887E-004
R = 0.9997
DL = 0.04468
BEC = 0.1314

Weight: <None>
Min Conc: 0

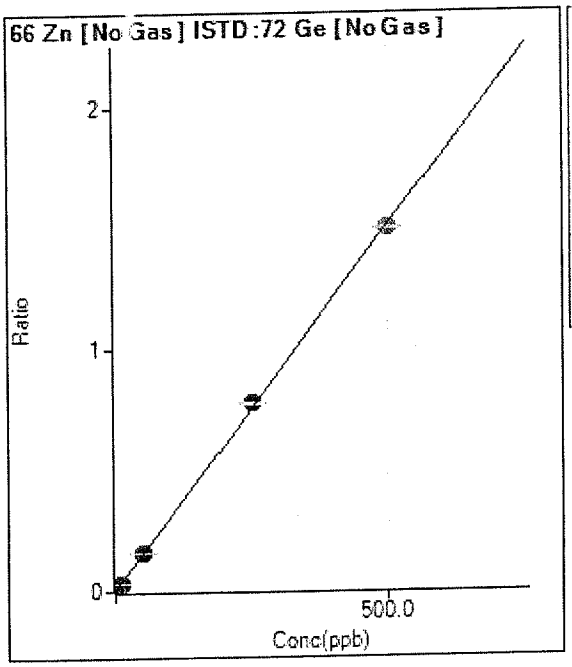


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10005.01	0.0177	P	0.5
2	☐	0.500	0.467	12786.00	0.0226	P	1.4
3	☐	1.000	0.914	15473.45	0.0273	P	2.3
4	☐	50.000	54.030	324890.16	0.5805	P	0.3
5	☐	250.000	258.559	1493882.84	2.7109	A	1.4
6	☐	500.000	495.318	2878369.67	5.1770	A	1.3

y = 0.0104 * x + 0.0177
R = 0.9998
DL = 0.0234
BEC = 1.703

Weight: <None>
Min Conc: 0

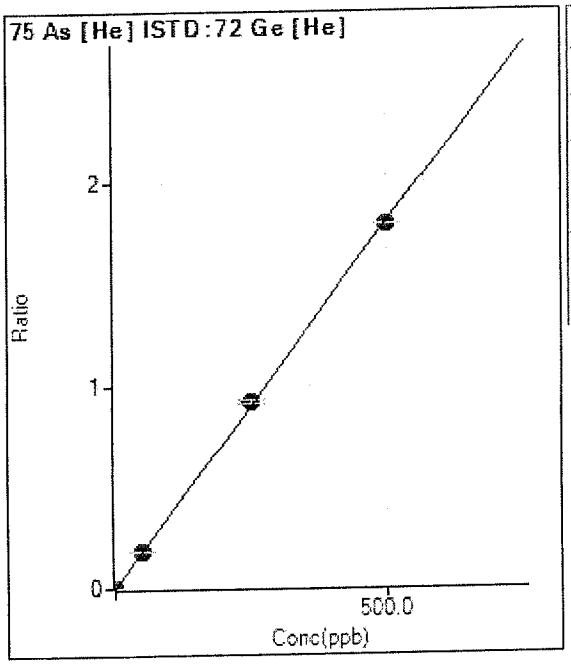
Calibration for H6A20009.d 7/1/2023



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6939.77	0.0071	P	2.0
2	☐	1.000	-0.411	5973.98	0.0059	P	1.3
3	☐	10.000	8.142	31853.27	0.0316	P	1.6
4	☐	50.000	50.635	160306.52	0.1593	P	2.8
5	☐	250.000	255.777	788438.88	0.7759	P	0.4
6	☐	500.000	497.088	1508446.38	1.5013	A	0.3

y = 0.0030 * x + 0.0071
R = 0.9999
DL = 0.1433
BEC = 2.371

Weight: <None>
Min Conc: 0

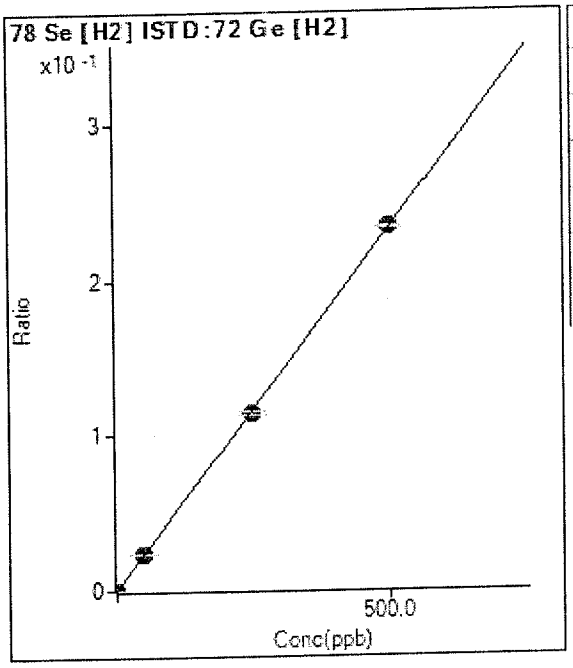


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	145.67	0.0005	P	6.8
2	☐	0.500	0.473	689.69	0.0022	P	3.1
3	☐	1.000	0.965	1255.06	0.0040	P	3.3
4	☐	50.000	50.005	57187.00	0.1807	P	0.6
5	☐	250.000	255.691	284069.37	0.9218	P	1.3
6	☐	500.000	497.154	551954.50	1.7918	P	0.1

y = 0.0036 * x + 4.7830E-004
R = 0.9999
DL = 0.02697
BEC = 0.1327

Weight: <None>
Min Conc: 0

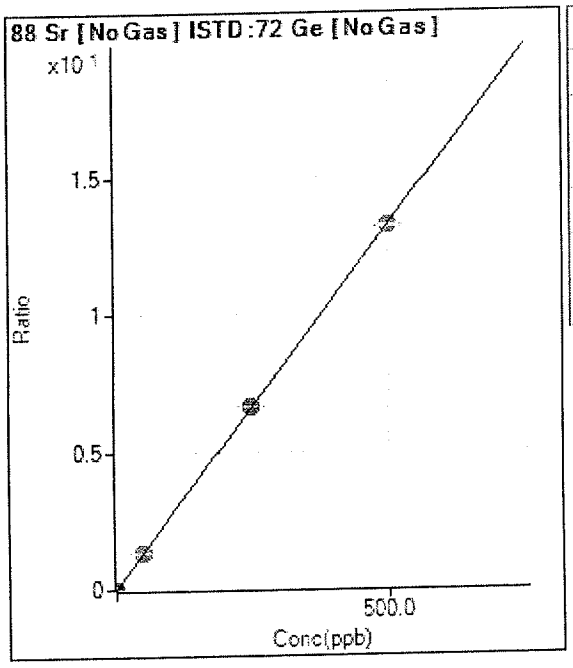
Calibration for H6A20009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37.67	0.0000	P	18.2
2	☐	0.500	0.493	242.00	0.0003	P	10.0
3	☐	1.000	0.962	433.01	0.0005	P	5.6
4	☐	50.000	51.149	21101.81	0.0239	P	0.9
5	☐	250.000	244.577	104006.44	0.1140	P	2.2
6	☐	500.000	502.596	203526.52	0.2343	P	0.9

y = 4.6604E-004 * x + 4.4359E-005
R = 0.9999
DL = 0.05208
BEC = 0.09518

Weight: <None>
Min Conc: 0

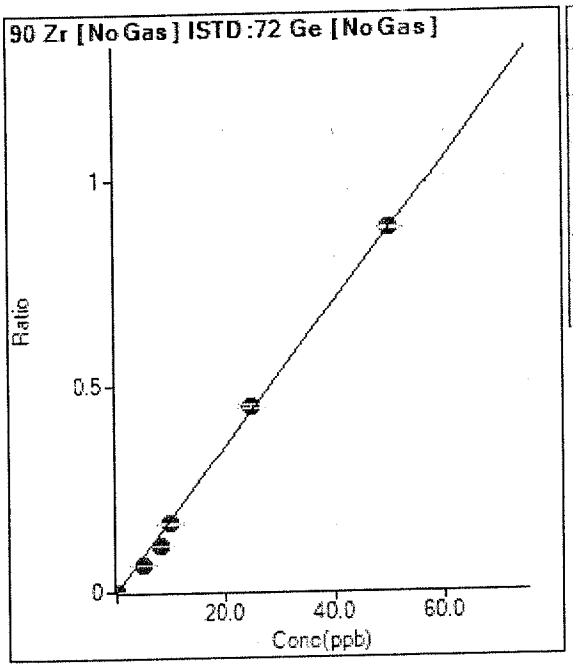


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2091.28	0.0021	P	3.2
2	☐	0.500	0.455	14394.39	0.0142	P	2.0
3	☐	1.000	0.954	27651.85	0.0274	P	1.9
4	☐	50.000	50.613	1351716.26	1.3434	A	2.7
5	☐	250.000	251.600	6777285.15	6.6698	A	0.6
6	☐	500.000	499.139	13293229.19	13.2298	A	0.8

y = 0.0265 * x + 0.0021
R = 1.0000
DL = 0.007671
BEC = 0.08104

Weight: <None>
Min Conc: 0

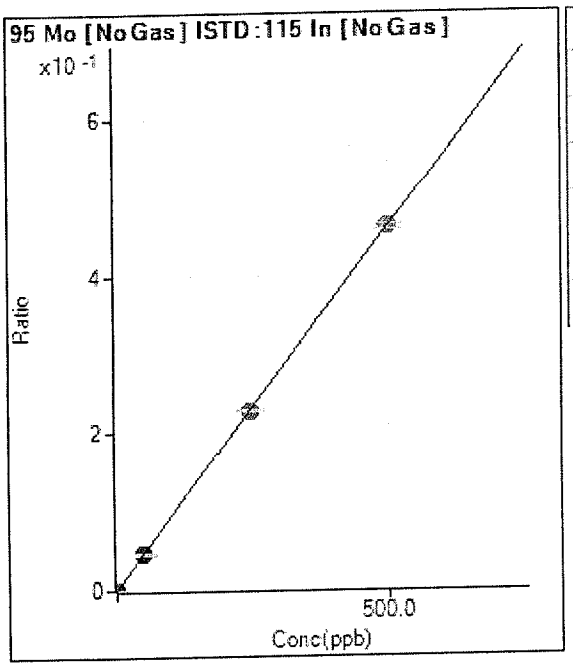
Calibration for H6A20009.d TH 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	343.34	0.0004	P	16.3
2	☐	5.000	3.695	66129.68	0.0652	P	2.2
3	☐	8.000	6.404	113657.36	0.1128	P	0.2
4	☐	10.000	9.470	167639.51	0.1666	P	1.8
5	☐	25.000	25.516	455476.78	0.4483	P	1.3
6	☐	50.000	50.234	886343.58	0.8821	P	0.2

y = 0.0176 * x + 3.5264E-004
R = 0.9993
DL = 0.009806
BEC = 0.02009

Weight: <None>
Min Conc: 0

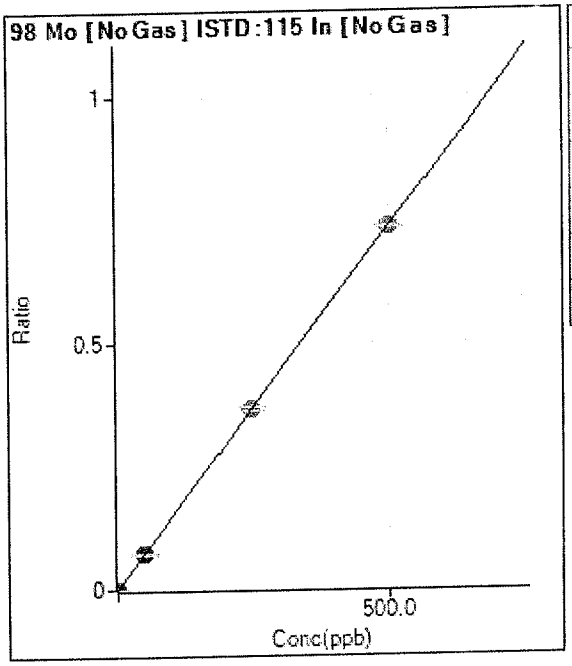


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	204.45	0.0000	P	14.6
2	☐	0.500	0.430	2531.36	0.0004	P	2.4
3	☐	1.000	0.920	5129.88	0.0009	P	1.7
4	☐	50.000	49.519	257098.91	0.0458	P	3.2
5	☐	250.000	247.826	1289375.43	0.2288	A	1.7
6	☐	500.000	501.135	2531691.84	0.4627	A	1.7

y = 9.2326E-004 * x + 3.5181E-005
R = 1.0000
DL = 0.01664
BEC = 0.03811

Weight: <None>
Min Conc: 0

Calibration for H6A20009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	614.46	0.0001	P	3.4
2	☐	0.500	0.420	4235.13	0.0007	P	2.8
3	☐	1.000	0.872	8049.10	0.0014	P	2.6
4	☐	50.000	49.645	410856.05	0.0731	P	3.4
5	☐	250.000	248.456	2059402.56	0.3655	A	2.0
6	☐	500.000	500.808	4030996.23	0.7367	A	0.5

y = 0.0015 * x + 1.0554E-004

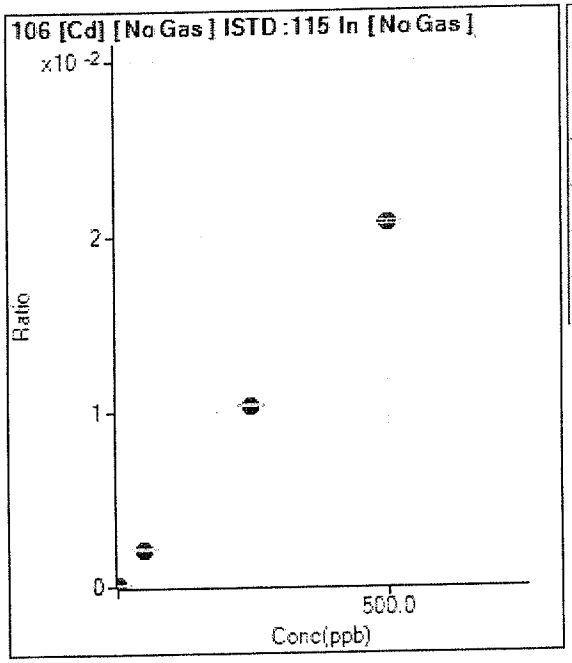
R = 1.0000

DL = 0.007239

BEC = 0.07176

Weight: <None>

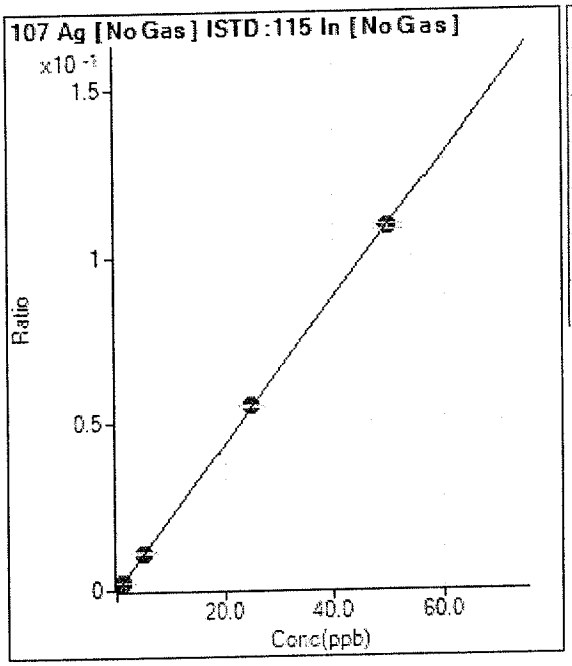
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		16.67	0.0000	P	29.6
2	☐	0.500		365.67	0.0001	P	3.9
3	☐	1.000		588.68	0.0001	P	3.5
4	☐	50.000		11860.30	0.0021	P	5.3
5	☐	250.000		58207.73	0.0103	P	1.4
6	☐	500.000		113167.92	0.0207	P	0.9

Excluded

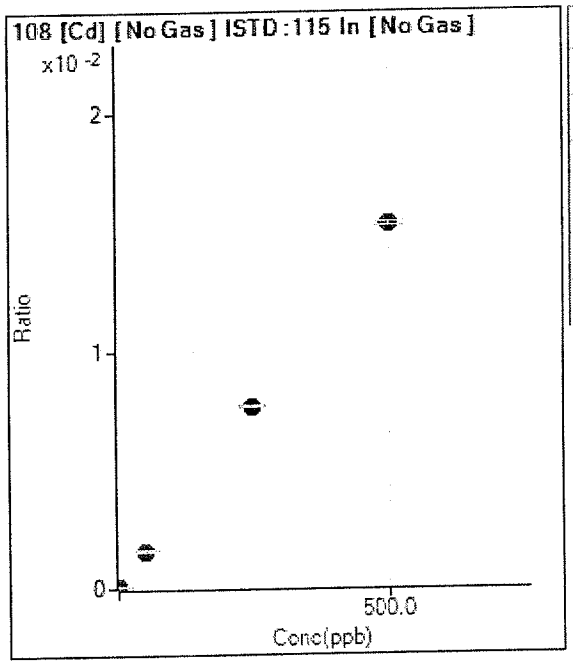
Calibration for H6A20009.d 1 7H130123



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	127.78	0.0000	P	2.2
2	☐	0.500	0.562	7317.59	0.0012	P	3.8
3	☐	1.000	1.074	13731.57	0.0024	P	1.2
4	☐	5.000	5.119	62919.03	0.0112	P	3.2
5	☐	25.000	25.288	311198.58	0.0552	P	0.8
6	☐	50.000	49.842	595455.45	0.1088	P	1.4

y = 0.0022 * x + 2.1936E-005
R = 1.0000
DL = 0.0006743
BEC = 0.01005

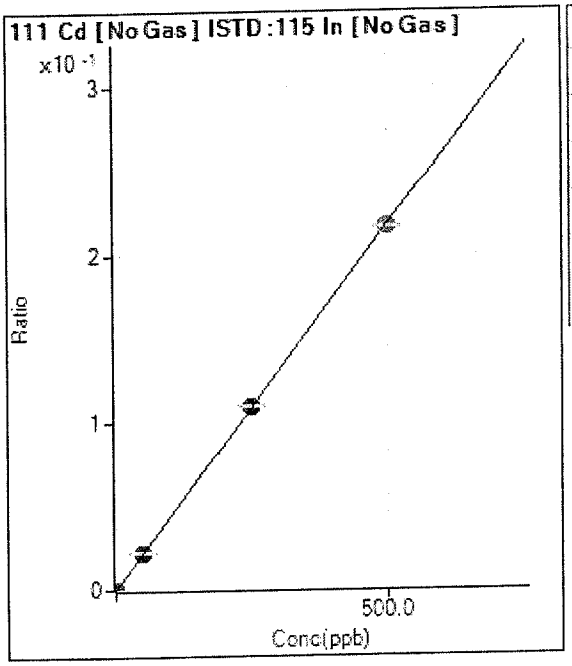
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		15.67	0.0000	P	21.2
2	☐	0.500		217.67	0.0000	P	6.0
3	☐	1.000		332.33	0.0001	P	3.1
4	☐	50.000		8744.55	0.0016	P	3.8
5	☐	250.000		42988.61	0.0076	P	0.8
6	☐	500.000		83617.05	0.0153	P	1.2

Excluded

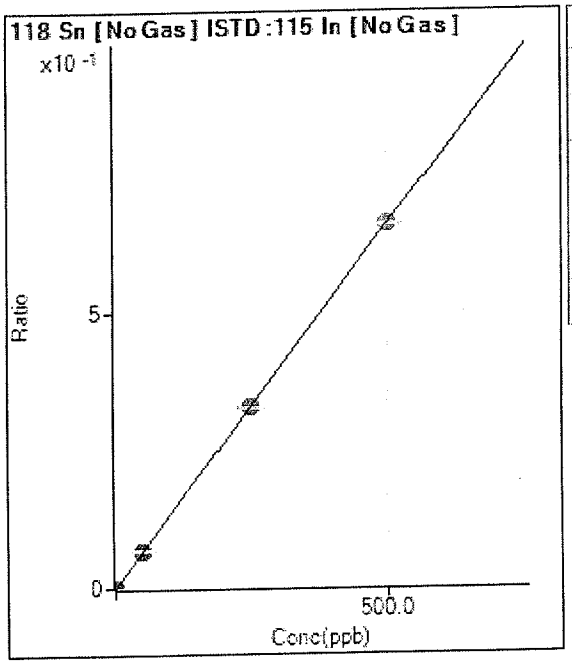
Calibration for H6A20009.d (1H 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	121.25	0.0000	P	8.8
2	☐	0.500	0.516	1438.55	0.0002	P	7.4
3	☐	1.000	0.993	2629.73	0.0005	P	3.3
4	☐	50.000	51.167	125248.13	0.0223	P	4.1
5	☐	250.000	252.133	618537.53	0.1098	P	1.3
6	☐	500.000	498.817	1188210.40	0.2172	A	0.6

y = 4.3530E-004 * x + 2.0838E-005
R = 1.0000
DL = 0.01268
BEC = 0.04787

Weight: <None>
Min Conc: 0

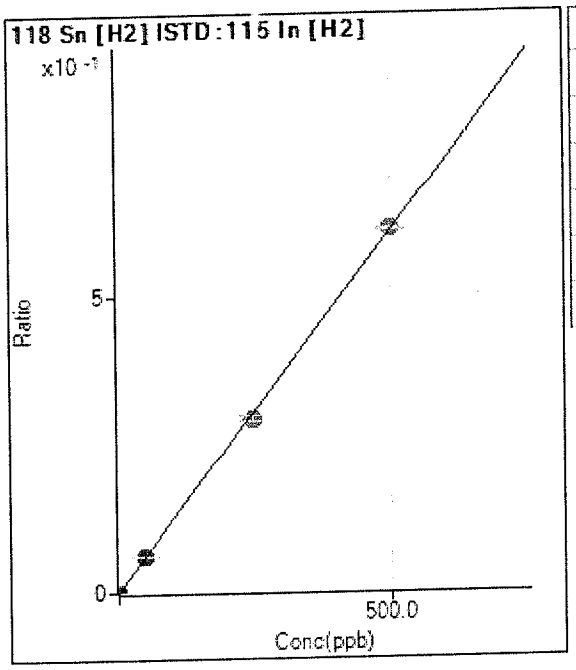


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1686.78	0.0003	P	6.6
2	☐	0.500	0.488	5462.25	0.0009	P	0.9
3	☐	1.000	0.928	8764.04	0.0015	P	0.7
4	☐	50.000	51.478	382074.77	0.0680	P	3.8
5	☐	250.000	249.033	1847467.08	0.3279	A	1.0
6	☐	500.000	500.336	3602969.16	0.6584	A	0.8

y = 0.0013 * x + 2.8985E-004
R = 1.0000
DL = 0.04366
BEC = 0.2203

Weight: <None>
Min Conc: 0

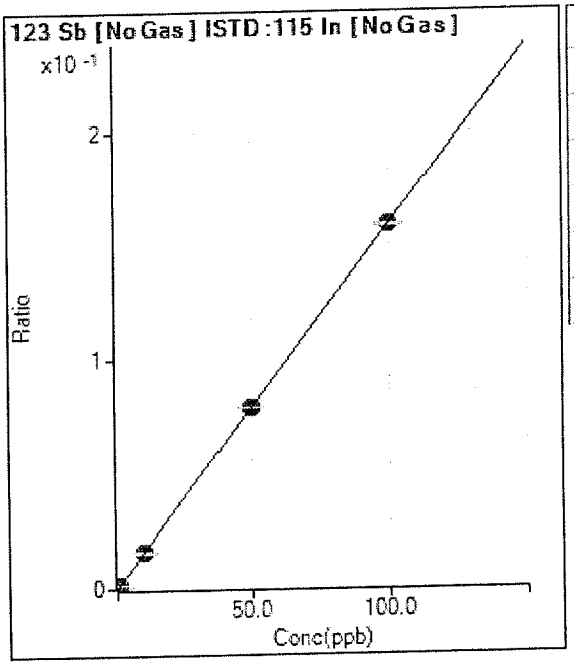
Calibration for H6A20009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1824.57	0.0003	P	6.8
2	☐	0.500	0.458	5374.44	0.0008	P	4.5
3	☐	1.000	0.911	8883.01	0.0014	P	0.[illegible]
4	☐	50.000	51.410	395308.90	0.0625	P	0.5
5	☐	250.000	241.487	1890338.19	0.2927	A	3.3
6	☐	500.000	504.116	3745534.02	0.6107	A	0.6

y = 0.0012 * x + 2.8833E-004
R = 0.9998
DL = 0.04826
BEC = 0.2381

Weight: <None>
Min Conc: 0

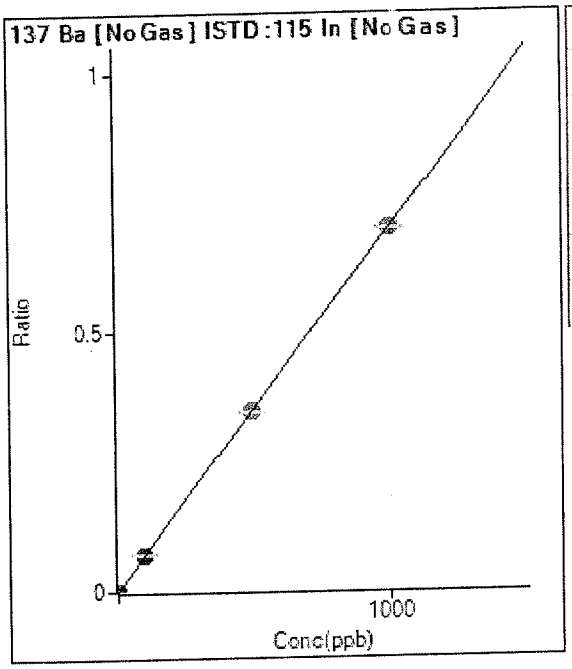


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	181.11	0.0000	P	19.0
2	☐	0.500	0.468	4538.57	0.0008	P	1.4
3	☐	1.000	0.934	8785.17	0.0015	P	1.4
4	☐	10.000	9.982	89248.02	0.0159	P	4.0
5	☐	50.000	49.841	446199.18	0.0792	P	0.7
6	☐	100.000	100.082	869889.24	0.1590	P	0.6

y = 0.0016 * x + 3.1054E-005
R = 1.0000
DL = 0.01114
BEC = 0.01955

Weight: <None>
Min Conc: 0

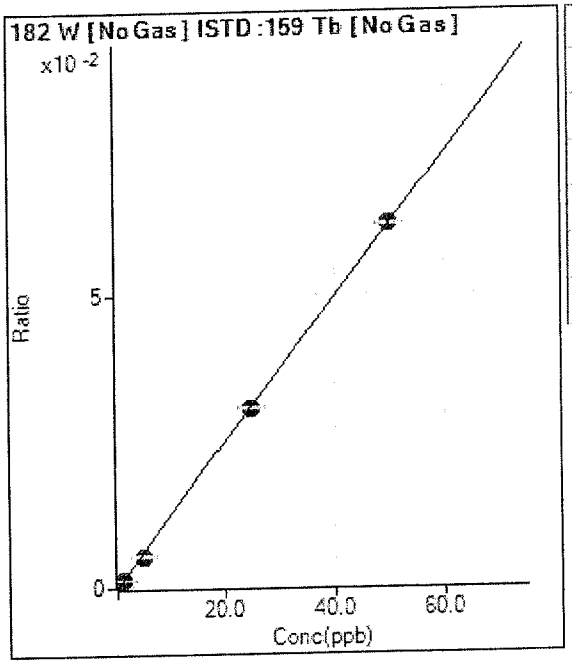
Calibration for H6A20009.d 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	541.12	0.0001	P	13.7
2	☐	0.500	0.427	2296.87	0.0004	P	5.0
3	☐	1.000	0.901	4197.34	0.0007	P	1.7
4	☐	100.000	101.830	400802.17	0.0713	P	4.7
5	☐	500.000	497.252	1961017.84	0.3480	A	1.1
6	☐	1000.000	1001.191	3833572.91	0.7006	A	0.7

y = 6.9968E-004 * x + 9.3134E-005
R = 1.0000
DL = 0.0548
BEC = 0.1331

Weight: <None>
Min Conc: 0



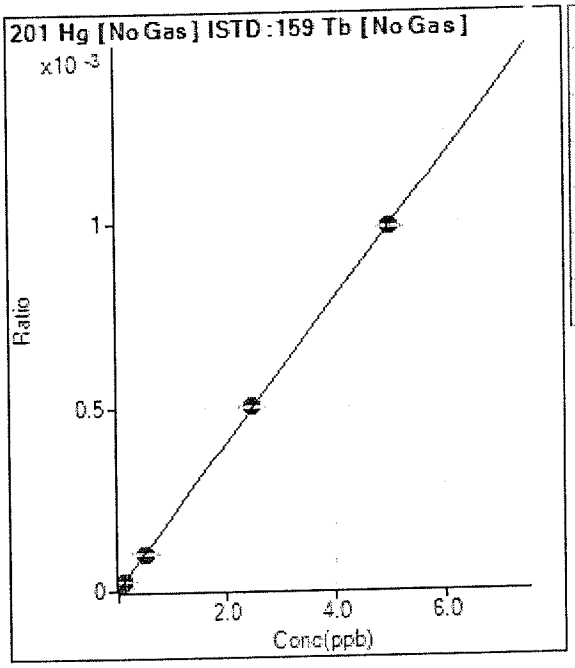
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	106.67	0.0000	P	55.7
2	☐	0.500	0.237	2463.58	0.0003	P	6.7
3	☐	1.000	0.975	9733.79	0.0012	P	6.3
4	☐	5.000	4.334	42410.96	0.0054	P	3.8
5	☐	25.000	24.794	246686.48	0.0307	P	0.8
6	☐	50.000	50.173	494631.33	0.0622	P	0.2

y = 0.0012 * x + 1.3197E-005
R = 0.9999
DL = 0.01779
BEC = 0.01065

Weight: <None>
Min Conc: 0

Calibration for H6A20009.d

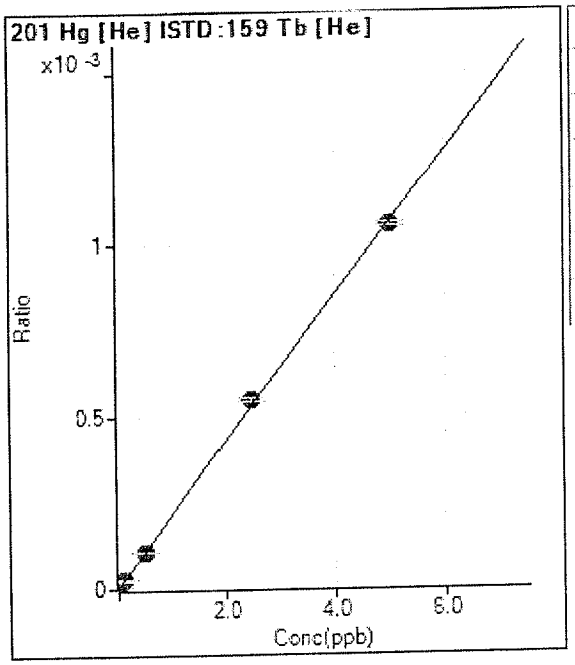
TH 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35.33	0.0000	P	17.7
2	☐	0.050	0.044	105.33	0.0000	P	6.3
3	☐	0.100	0.108	204.33	0.0000	P	5.5
4	☐	0.500	0.486	791.19	0.0001	P	4.[illegible]
5	☐	2.500	2.524	4035.48	0.0005	P	0.9
6	☐	5.000	4.989	7873.81	0.0010	P	0.4

y = 1.9761E-004 * x + 4.3500E-006
R = 1.0000
DL = 0.0117
BEC = 0.02201

Weight: <None>
Min Conc: 0

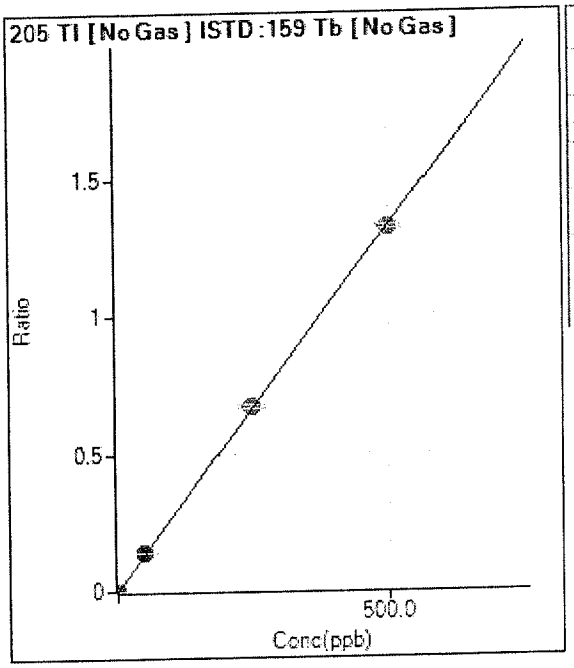


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19.33	0.0000	P	10.0
2	☐	0.050	0.061	95.17	0.0000	P	3.1
3	☐	0.100	0.106	149.67	0.0000	P	8.0
4	☐	0.500	0.481	611.68	0.0001	P	1.9
5	☐	2.500	2.570	3120.22	0.0005	P	2.3
6	☐	5.000	4.967	6072.14	0.0011	P	1.0

y = 2.1163E-004 * x + 3.3333E-006
R = 0.9998
DL = 0.004742
BEC = 0.01575

Weight: <None>
Min Conc: 0

Calibratic ı for H6A2~~0~~1009.d TH 1/30/23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1602.33	0.0002	P	3.1
2	☐	0.500	0.486	11906.79	0.0015	P	2.[illegible]
3	☐	1.000	0.991	22494.67	0.0028	P	0.9
4	☐	50.000	52.440	1095380.27	0.1391	P	3.5
5	☐	250.000	252.972	5376528.40	0.6703	A	2.0
6	☐	500.000	498.270	10494397.08	1.3200	A	1.0

y = 0.0026 * x + 1.9697E-004

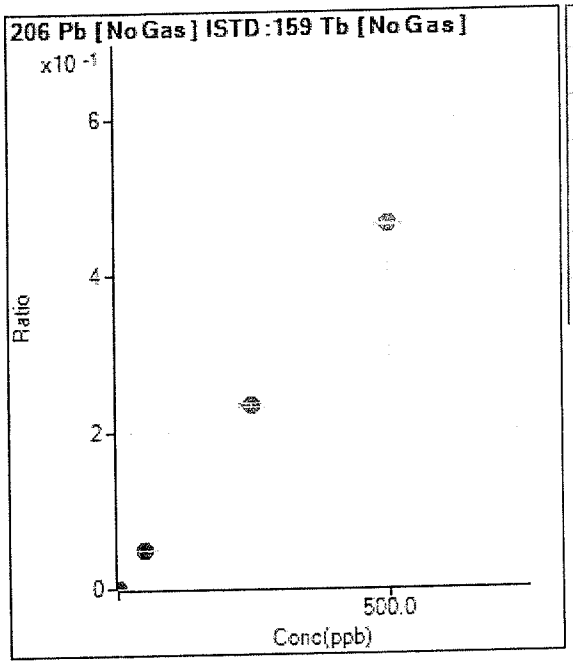
R = 1.0000

DL = 0.006869

BEC = 0.07436

Weight: <None>

Min Conc: 0

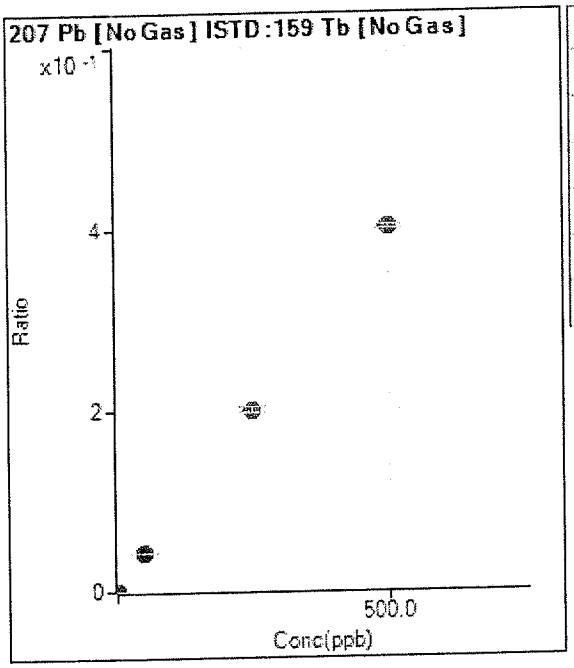


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		583.35	0.0001	P	14.4
2	☐	0.500		4290.75	0.0005	P	6.1
3	☐	1.000		8022.60	0.0010	P	2.2
4	☐	50.000		388076.79	0.0493	P	2.7
5	☐	250.000		1877070.49	0.2340	A	1.8
6	☐	500.000		3687670.78	0.4638	A	0.3

Excluded

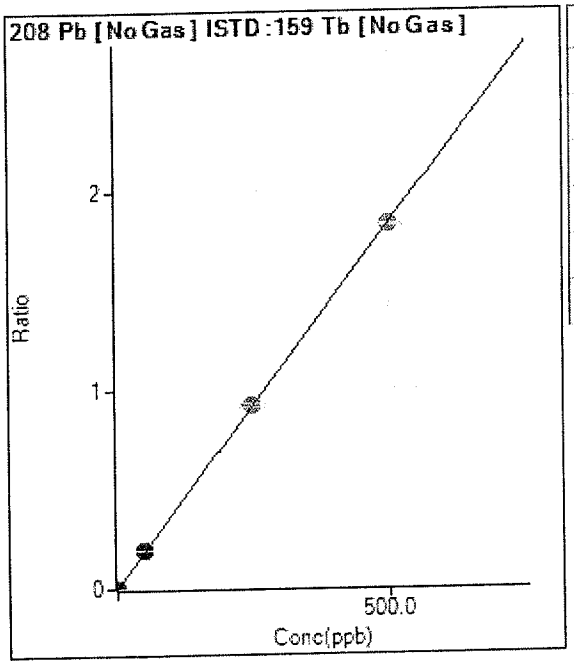
1 TH 1/30/23

Calibration for H6A200 09.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		433.34	0.0001	P	26.9
2	☐	0.500		3760.58	0.0005	P	4.5
3	☐	1.000		7122.05	0.0009	P	3.6
4	☐	50.000		337175.10	0.0428	P	3.2
5	☐	250.000		1612853.20	0.2011	A	2.6
6	☐	500.000		3194426.62	0.4018	A	1.7

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2224.53	0.0003	P	1.3
2	☐	0.500	0.503	17027.90	0.0021	P	0.4
3	☐	1.000	1.011	31799.11	0.0040	P	0.9
4	☐	50.000	53.058	1538432.99	0.1954	P	3.4
5	☐	250.000	251.281	7412979.65	0.9242	A	2.4
6	☐	500.000	499.054	14591287.37	1.8352	A	0.5

y = 0.0037 * x + 2.7325E-004

R = 1.0000

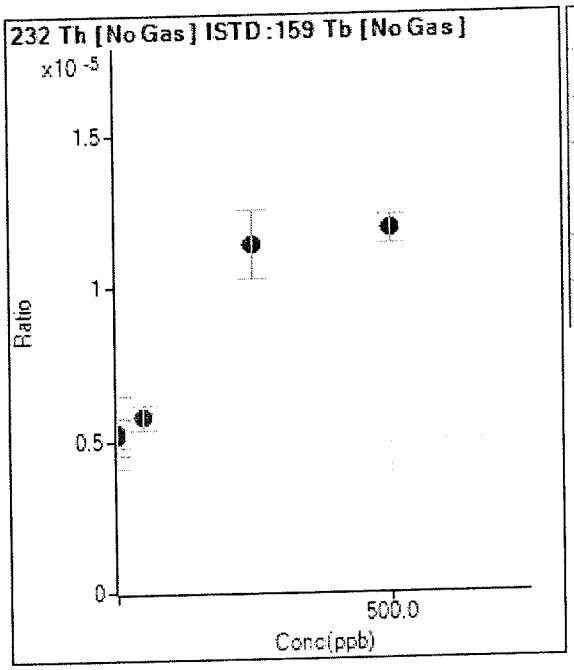
DL = 0.0028

BEC = 0.07432

Weight: <None>

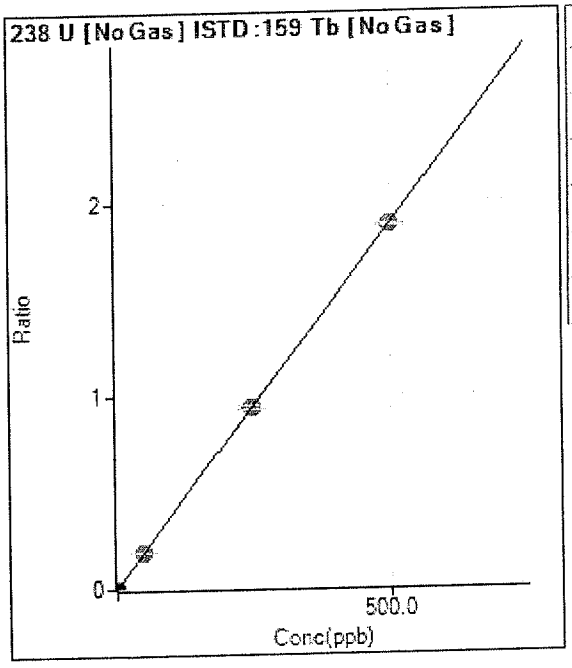
Min Conc: 0

Calibration for H6A20009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		42.22	0.0000	P	23.9
2	☐	0.500		42.22	0.0000	P	18.7
3	☐	1.000		42.22	0.0000	P	46.1
4	☐	50.000		45.55	0.0000	P	14.2
5	☐	250.000		91.11	0.0000	P	19.8
6	☐	500.000		94.45	0.0000	P	7.7

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	802.25	0.0001	P	4.1
2	☐	0.500	0.477	15233.91	0.0019	P	0.6
3	☐	1.000	0.959	29651.38	0.0037	P	2.1
4	☐	50.000	50.277	1496283.14	0.1900	A	3.1
5	☐	250.000	249.470	7558105.81	0.9423	A	2.1
6	☐	500.000	500.237	15024438.85	1.8895	A	0.6

y = 0.0038 * x + 9.8506E-005
R = 1.0000
DL = 0.00321
BEC = 0.02608

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq. Date-Time	2023-01-28 11:04:36
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

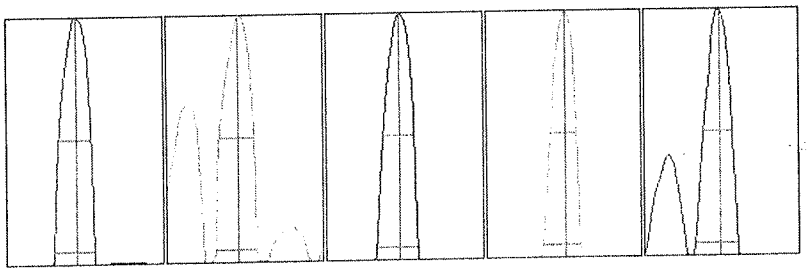
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	19545	195453.01			0.793	5.000
24	10.00	92248	922481.28			0.495	5.000
59	10.00	207237	2072372.41			0.343	5.000
115	10.00	265917	2659166.08			1.313	5.000
208	10.00	172855	1728547.45			0.904	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	19415	19348	19622	19634	19708
24	91908	92930	92008	91890	92505
59	206300	207177	207553	208212	206944
115	261880	265699	263397	268050	270556
208	170352	173119	173038	173082	174683

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	35042.21	8.90	8.90 - 9.10	
24	161540.58	23.90	23.90 - 24.10	
59	371443.73	58.95	58.90 - 59.10	
115	532680.36	115.05	114.90 - 115.10	
208	321839.25	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.60	0.780	0.900	
24	0.64	0.789	0.900	
59	0.59	0.782	0.900	
115	0.52	0.726	0.900	
208	0.56	0.816	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.5 V	Deflect	14.4 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.4 mm	Torch V	-0.2 mm		

EM

Discriminator	3.2 mV	Analog HV	2767 V	Pulse HV	1502 V

Calibration Blank Report

Sample Name	S0 1 TH 1/30/23
File Name	H6A20003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH0A21.b
Acq Time	2023-01-28 12:45:58
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	74663.01	3.0
Be	9	6	No Gas	107.78	1.8
B	11	6	No Gas	7784.38	2.1
Na	23	45	H2	729725.79	0.5
Mg	24	45	No Gas	75581.92	1.4
Al	27	45	No Gas	45042.83	3.2
Sl	28	45	H2	5946.61	2.0
P	31	45	No Gas	46838.96	2.0
K	39	45	He	103937.32	4.0
Ca	40	45	H2	479634.41	0.7
Ti	47	45	No Gas	280.67	8.5
V	51	45	He	1528.09	5.1
Cr	52	45	He	1968.81	1.9
Mn	55	45	No Gas	17093.33	2.0
Fe	56	45	H2	78387.17	1.7
Co	59	45	No Gas	1094.71	6.6
Ni	60	45	He	304.00	11.2
Cu	63	45	He	10005.01	0.2
Zn	66	72	No Gas	6939.77	0.9
As	75	72	He	145.67	6.8
Se	78	72	H2	37.67	19.2
Sr	88	72	No Gas	2091.28	2.4
Zr	90	72	No Gas	343.34	16.0
Mo	95	115	No Gas	204.45	12.2
Mo	98	115	No Gas	614.46	2.5
[Cd]	106	115	No Gas	16.67	28.4
Ag	107	115	No Gas	127.78	4.0
[Cd]	108	115	No Gas	15.67	19.5
Cd	111	115	No Gas	121.25	7.6
Sn	118	115	No Gas	1686.78	5.0
Sn	118	115	H2	1824.57	6.7
Sb	123	115	No Gas	181.11	20.2
Ba	137	115	No Gas	541.12	11.4
W	182	159	No Gas	106.67	53.3
Hg	201	159	No Gas	35.33	16.4

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	19.33	10.5
Tl	205	159	No Gas	1602.33	1.3
Pb	206	159	No Gas	583.35	12.9
Pb	207	159	No Gas	433.34	28.9
Pb	208	159	No Gas	2224.53	4.0
Th	232	159	No Gas	42.22	25.4
U	238	159	No Gas	802.25	6.5

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1252755.61	2.4
Sc	45	No Gas	4539977.33	3.9
Sc	45	H2	3324102.25	1.4
Sc	45	He	564191.60	0.4
Ge	72	No Gas	973954.71	1.1
Ge	72	H2	848233.79	1.1
Ge	72	He	304552.26	0.1
In	115	No Gas	5824478.20	3.0
Tb	159	No Gas	8139265.23	2.9
Tb	159	He	5798575.00	0.7

Calibration Standard Report

Sample Name	S1 1 TH 1/30/23
File Name	H6A20004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 12:48:49
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	77699.95	0.6
Be	9	6	No Gas	1055.60	5.6
B	11	6	No Gas	4997.56	0.9
Na	23	45	H2	909074.71	0.5
Mg	24	45	No Gas	503463.56	0.2
Al	27	45	No Gas	614798.34	0.7
Si	28	45	H2	150943.38	0.2
P	31	45	No Gas	178007.80	0.7
K	39	45	He	140494.65	2.6
Ca	40	45	H2	688495.52	0.6
Ti	47	45	No Gas	1156.72	4.3
V	51	45	He	4472.73	1.9
Cr	52	45	He	5125.63	2.5
Mn	55	45	No Gas	22513.17	0.6
Fe	56	45	H2	796155.42	0.6
Co	59	45	No Gas	11362.07	3.1
Ni	60	45	He	1442.08	6.6
Cu	63	45	He	12786.00	1.6
Zn	66	72	No Gas	5973.98	0.7
As	75	72	He	689.69	2.5
Se	78	72	H2	242.00	10.5
Sr	88	72	No Gas	14394.39	1.9
Zr	90	72	No Gas	66129.68	1.8
Mo	95	115	No Gas	2531.36	1.8
Ag	107	115	No Gas	7317.59	3.2
Cd	111	115	No Gas	1438.55	7.3
Sn	118	115	No Gas	5462.25	1.3
Sb	123	115	No Gas	4538.57	2.0
Ba	137	115	No Gas	2296.87	5.1
W	182	159	No Gas	2463.58	7.3
Hg	201	159	He	95.17	4.3
Tl	205	159	No Gas	11906.79	1.2
Pb	208	159	No Gas	17027.90	1.0
U	238	159	No Gas	15233.91	1.4

Calibration Standard Repc rt

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1249552.46	0.9	1252755.61	99.74	70	120	
Sc	45	No Gas	4557481.00	0.4	4539977.33	100.39	70	120	
Sc	45	H2	3350475.08	0.5	3324102.25	100.79	70	120	
Sc	45	He	565901.58	0.6	564191.6	100.3	70	120	
Ge	72	No Gas	1014179.77	0.8	973954.71	104.13	70	120	
Ge	72	H2	882206.08	0.8	848233.79	104.01	70	120	
Ge	72	He	315966.68	1.0	304552.26	103.75	70	120	
In	115	No Gas	5861309.87	0.6	5824478.2	100.63	70	120	
Tb	159	No Gas	8020935.51	0.9	8139265.23	98.55	70	120	
Tb	159	He	5858407.50	1.2	5798575	101.03	70	120	

Calibration Standard Report

Sample Name	S2 TH 1/30/23
File Name	H6A20005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 12:51:40
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	79195.92	0.3
Be	9	6	No Gas	2087.94	5.0
B	11	6	No Gas	5757.85	2.5
Na	23	45	H2	1100150.04	0.2
Mg	24	45	No Gas	913621.81	0.3
Al	27	45	No Gas	1167881.39	0.3
Si	28	45	H2	288524.59	1.1
P	31	45	No Gas	74596.85	0.5
K	39	45	He	177898.53	2.4
Ca	40	45	H2	1146815.08	0.6
Ti	47	45	No Gas	1760.78	3.0
V	51	45	He	7250.58	1.0
Cr	52	45	He	8600.70	0.6
Mn	55	45	No Gas	34069.01	1.2
Fe	56	45	H2	1498232.46	0.8
Co	59	45	No Gas	22033.10	1.1
Ni	60	45	He	2592.25	2.2
Cu	63	45	He	15473.45	1.1
Zn	66	72	No Gas	31853.27	1.9
As	75	72	He	1255.06	3.2
Se	78	72	H2	433.01	5.7
Sr	88	72	No Gas	27651.85	1.5
Zr	90	72	No Gas	113657.36	0.6
Mo	95	115	No Gas	5129.88	1.6
Ag	107	115	No Gas	13731.57	1.6
Cd	111	115	No Gas	2629.73	3.4
Sn	118	115	No Gas	8764.04	0.4
Sb	123	115	No Gas	8785.17	1.8
Ba	137	115	No Gas	4197.34	1.4
W	182	159	No Gas	9733.79	6.0
Hg	201	159	He	149.67	8.3
Tl	205	159	No Gas	22494.67	1.2
Pb	208	159	No Gas	31799.11	0.8
U	238	159	No Gas	29651.38	2.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1236378.55	1.1	1252755.61	98.69	70	120	
Sc	45	No Gas	4519216.17	0.4	4539977.33	99.54	70	120	
Sc	45	H2	3336455.17	0.3	3324102.25	100.37	70	120	
Sc	45	He	567847.67	1.2	564191.6	100.65	70	120	
Ge	72	No Gas	1007968.00	0.4	973954.71	103.49	70	120	
Ge	72	H2	879192.42	0.5	848233.79	103.65	70	120	
Ge	72	He	317169.76	0.3	304552.26	104.14	70	120	
In	115	No Gas	5801623.43	0.4	5824478.2	99.61	70	120	
Tb	159	No Gas	7970006.63	0.4	8139265.23	97.92	70	120	
Tb	159	He	5812844.00	0.4	5798575	100.25	70	120	

Calibration Standard Report

Sample Name	S3 1 TH 1/30/23
File Name	H6A20006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A21.b
Acq Time	2023-01-28 12:54:31
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	101724.02	1.4
Be	9	6	No Gas	9967.97	3.2
B	11	6	No Gas	18090.52	2.1
Na	23	45	H2	21377832.00	0.7
Mg	24	45	No Gas	44296997.33	0.4
Al	27	45	No Gas	58433099.13	0.8
Si	28	45	H2	751278.06	0.9
P	31	45	No Gas	81993.02	0.6
K	39	45	He	3890059.00	0.8
Ca	40	45	H2	50919788.00	0.4
Ti	47	45	No Gas	78778.12	0.2
V	51	45	He	313122.37	1.1
Cr	52	45	He	355558.26	0.4
Mn	55	45	No Gas	7556583.83	1.0
Fe	56	45	H2	74438312.00	0.3
Co	59	45	No Gas	1040475.62	0.8
Ni	60	45	He	120494.04	0.3
Cu	63	45	He	324890.16	0.4
Zn	66	72	No Gas	160306.52	1.1
As	75	72	He	57187.00	0.5
Se	78	72	H2	21101.81	1.1
Sr	88	72	No Gas	1351716.26	0.7
Zr	90	72	No Gas	167639.51	1.0
Mo	95	115	No Gas	257098.91	0.3
Ag	107	115	No Gas	62919.03	1.2
Cd	111	115	No Gas	125248.13	0.6
Sn	118	115	No Gas	382074.77	0.7
Sb	123	115	No Gas	89248.02	2.3
Ba	137	115	No Gas	400802.17	0.8
W	182	159	No Gas	42410.96	1.9
Hg	201	159	He	611.68	2.3
Tl	205	159	No Gas	1095380.27	0.6
Pb	208	159	No Gas	1538432.99	0.1
U	238	159	No Gas	1496283.14	0.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1200449.72	2.4	1252755.61	95.82	70	120	
Sc	45	No Gas	4404933.00	3.6	4539977.33	97.03	70	120	
Sc	45	H2	3336137.25	0.2	3324102.25	100.36	70	120	
Sc	45	He	559671.56	0.7	564191.6	99.2	70	120	
Ge	72	No Gas	1006580.00	2.3	973954.71	103.35	70	120	
Ge	72	H2	883573.60	0.2	848233.79	104.17	70	120	
Ge	72	He	316557.54	0.7	304552.26	103.94	70	120	
In	115	No Gas	5623219.22	3.4	5824478.2	96.54	70	120	
Tb	159	No Gas	7880889.97	3.3	8139265.23	96.83	70	120	
Tb	159	He	5816219.50	0.7	5798575	100.3	70	120	

Calibration Standard Report

Sample Name	S4 1/ TH 1/30/23
File Name	H6A20007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 12:57:34
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	219157.08	0.3
Be	9	6	No Gas	49923.78	0.2
B	11	6	No Gas	75075.23	2.1
Na	23	45	H2	104573789.33	1.1
Mg	24	45	No Gas	221546026.67	0.8
Al	27	45	No Gas	296515468.91	0.4
Si	28	45	H2	3707684.08	1.2
P	31	45	No Gas	234591.29	0.4
K	39	45	He	19077898.67	0.8
Ca	40	45	H2	256465509.33	0.4
Ti	47	45	No Gas	399110.40	0.4
V	51	45	He	1542733.50	1.4
Cr	52	45	He	1734931.08	0.7
Mn	55	45	No Gas	37848348.00	0.7
Fe	56	45	H2	371966314.67	0.8
Co	59	45	No Gas	5183732.17	0.5
Ni	60	45	He	589890.35	0.8
Cu	63	45	He	1493882.84	0.5
Zn	66	72	No Gas	788438.88	0.7
As	75	72	He	284069.37	0.2
Se	78	72	H2	104006.44	0.6
Sr	88	72	No Gas	6777285.15	0.8
Zr	90	72	No Gas	455476.78	1.4
Mo	95	115	No Gas	1289375.43	0.3
Ag	107	115	No Gas	311198.58	0.6
Cd	111	115	No Gas	618537.53	0.8
Sn	118	115	No Gas	1847467.08	0.6
Sb	123	115	No Gas	446199.18	0.8
Ba	137	115	No Gas	1961017.84	1.3
W	182	159	No Gas	246686.48	2.4
Hg	201	159	He	3120.22	2.0
Tl	205	159	No Gas	5376528.40	2.1
Pb	208	159	No Gas	7412979.65	2.0
U	238	159	No Gas	7558105.81	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1194688.24	0.5	1252755.61	95.36	70	120	
Sc	45	No Gas	4557173.00	0.5	4539977.33	100.38	70	120	
Sc	45	H2	3528604.92	2.2	3324102.25	106.15	70	120	
Sc	45	He	551114.87	1.0	564191.6	97.68	70	120	
Ge	72	No Gas	1016107.27	0.3	973954.71	104.33	70	120	
Ge	72	H2	912351.29	1.7	848233.79	107.56	70	120	
Ge	72	He	308204.40	1.2	304552.26	101.2	70	120	
In	115	No Gas	5635206.13	1.4	5824478.2	96.75	70	120	
Tb	159	No Gas	8022454.68	1.8	8139265.23	98.56	70	120	
Tb	159	He	5702937.00	2.0	5798575	98.35	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A20008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH8A21.b
Acq Time	2023-01-28 13:00:25
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

1 7H1/30/23

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	357488.69	2.2
Be	9	6	No Gas	98577.89	1.8
B	11	6	No Gas	142123.87	2.8
Na	23	45	H2	203927082.67	0.5
Mg	24	45	No Gas	435616288.00	1.1
Al	27	45	No Gas	581631524.67	2.0
Si	28	45	H2	7177028.33	0.7
P	31	45	No Gas	416330.63	0.7
K	39	45	He	37513804.00	0.9
Ca	40	45	H2	505486410.67	0.4
Ti	47	45	No Gas	772206.06	2.2
V	51	45	He	3027598.83	0.5
Cr	52	45	He	3379195.67	0.1
Mn	55	45	No Gas	73459416.00	1.4
Fe	56	45	H2	734500736.00	0.7
Co	59	45	No Gas	9978602.00	1.5
Ni	60	45	He	1127151.58	0.6
Cu	63	45	He	2878369.67	0.8
Zn	66	72	No Gas	1508446.38	1.0
As	75	72	He	551954.50	0.6
Se	78	72	H2	203526.52	0.7
Sr	88	72	No Gas	13293229.19	1.3
Zr	90	72	No Gas	886343.58	0.8
Mo	95	115	No Gas	2531691.84	1.4
Ag	107	115	No Gas	595455.45	0.6
Cd	111	115	No Gas	1188210.40	1.0
Sn	118	115	No Gas	3602969.16	1.7
Sb	123	115	No Gas	869889.24	1.3
Ba	137	115	No Gas	3833572.91	1.3
W	182	159	No Gas	494631.33	1.9
Hg	201	159	He	6072.14	0.5
Tl	205	159	No Gas	10494397.08	1.2
Pb	208	159	No Gas	14591287.37	1.5
U	238	159	No Gas	15024438.85	2.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1175701.99	2.9	1252755.61	93.85	70	120	
Sc	45	No Gas	4498361.83	2.1	4539977.33	99.08	70	120	
Sc	45	H2	3354528.17	0.3	3324102.25	100.92	70	120	
Sc	45	He	556023.77	0.7	564191.6	98.55	70	120	
Ge	72	No Gas	1004773.73	0.7	973954.71	103.16	70	120	
Ge	72	H2	868769.33	0.6	848233.79	102.42	70	120	
Ge	72	He	308041.99	0.5	304552.26	101.15	70	120	
In	115	No Gas	5471839.22	1.2	5824478.2	93.95	70	120	
Tb	159	No Gas	7951139.41	1.9	8139265.23	97.69	70	120	
Tb	159	He	5759045.83	0.6	5798575	99.32	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV (TH 1/28/23
File Name	H6A20009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:03:11
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.278	ppb	3.7	232298.13	30	90.93	90	110	
Be	9	6	No Gas	29.723	ppb	2.9	59870.70	30	99.08	90	110	
B	11	6	No Gas	28.634	ppb	2.8	46732.09	30	95.45	90	110	
Na	23	45	H2	31728.419	ppb	0.7	127776896.00	30000	105.76	90	110	
Mg	24	45	No Gas	30060.598	ppb	2.5	262364496.00	30000	100.2	90	110	
Al	27	45	No Gas	30603.532	ppb	2.1	356705941.35	30000	102.01	90	110	
Si	28	45	H2	3209.543	ppb	1.1	4551215.00	3000	106.98	90	110	
P	31	45	No Gas	291.045	ppb	1.2	264415.90	300	97.02	90	110	
K	39	45	He	30540.702	ppb	0.5	22835882.00	30000	101.8	90	110	
Ca	40	45	H2	30749.457	ppb	0.7	305975178.67	30000	102.5	90	110	
Ti	47	45	No Gas	301.299	ppb	1.5	467602.61	300	100.43	90	110	
V	51	45	He	303.244	ppb	0.3	1829159.84	300	101.08	90	110	
Cr	52	45	He	305.743	ppb	0.8	2061825.58	300	101.91	90	110	
Mn	55	45	No Gas	1981.223	ppb	1.2	48722822.67	2000	99.06	90	110	
Fe	56	45	H2	30863.889	ppb	0.4	445974101.33	30000	102.88	90	110	
Co	59	45	No Gas	303.646	ppb	1.9	6097241.33	300	101.22	90	110	
Ni	60	45	He	307.216	ppb	1.1	693807.65	300	102.41	90	110	
Cu	63	45	He	322.121	ppb	1.0	1856945.04	300	107.37	90	110	
Zn	66	72	No Gas	306.593	ppb	1.6	926220.00	300	102.2	90	110	
As	75	72	He	299.963	ppb	0.8	332055.00	300	99.99	90	110	
Se	78	72	H2	304.726	ppb	0.5	121842.36	300	101.58	90	110	
Sr	88	72	No Gas	303.986	ppb	1.8	8036723.57	300	101.33	90	110	
Zr	90	72	No Gas	30.363	ppb	2.3	531977.78	30	101.21	90	110	
Mo	95	115	No Gas	298.130	ppb	2.7	1515450.08	300	99.38	90	110	
Ag	107	115	No Gas	30.654	ppb	1.1	368463.59	30	102.18	90	110	
Cd	111	115	No Gas	302.819	ppb	1.3	725652.15	300	100.94	90	110	
Sn	118	115	No Gas	303.567	ppb	1.2	2199496.86	300	101.19	90	110	
Sb	123	115	No Gas	56.886	ppb	0.9	497411.23	60	94.81	90	110	
Ba	137	115	No Gas	301.313	ppb	1.2	1160904.64	300	100.44	90	110	
W	182	159	No Gas	30.405	ppb	0.7	299508.22	30	101.35	90	110	
Hg	201	159	No Gas	2.902	ppb	0.8	4589.34	3	96.73	90	110	
Hg	201	159	He	2.880	ppb	1.5	3544.17	3	96	90	110	
Tl	205	159	No Gas	307.515	ppb	1.1	6472250.99	300	102.5	90	110	
Pb	208	159	No Gas	306.423	ppb	0.9	8952004.21	300	102.14	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	305.762	ppb	0.6	9173420.75	300	101.92	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1201192.10	0.8	1252755.61	95.88	70	120	
Sc	45	No Gas	4499497.00	1.4	4539977.33	99.11	70	120	
Sc	45	H2	3323353.00	0.4	3324102.25	99.98	70	120	
Sc	45	He	550565.25	0.8	564191.6	97.58	70	120	
Ge	72	No Gas	997207.19	1.9	973954.71	102.39	70	120	
Ge	72	H2	857712.60	1.1	848233.79	101.12	70	120	
Ge	72	He	307100.16	0.7	304552.26	100.84	70	120	
In	115	No Gas	5503441.16	1.6	5824478.2	94.49	70	120	
Tb	159	No Gas	7942774.13	2.4	8139265.23	97.59	70	120	
Tb	159	He	5784072.17	0.5	5798575	99.75	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A20010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:11:44
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	70869.17	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	86.67	0.08	
B	11	6	No Gas	0.411	ppb	65.9	7992.28	4	
Na	23	45	H2	<0.000	ppb	N/A	733099.21	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	70990.09	10	
Al	27	45	No Gas	<0.000	ppb	N/A	42478.36	15	
Si	28	45	H2	0.509	ppb	19.1	6710.96	8	
P	31	45	No Gas	0.770	ppb	274.8	45808.67	10	
K	39	45	He	3.355	ppb	216.6	106092.54	20	
Ca	40	45	H2	<0.000	ppb	N/A	478152.41	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	260.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1476.08	0.5	
Cr	52	45	He	0.003	ppb	324.3	1983.48	0.2	
Mn	55	45	No Gas	0.007	ppb	190.0	16690.18	0.2	
Fe	56	45	H2	0.018	ppb	359.2	79145.49	10	
Co	59	45	No Gas	<0.000	ppb	N/A	1032.71	0.15	
Ni	60	45	He	<0.000	ppb	N/A	295.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	8133.10	0.4	
Zn	66	72	No Gas	0.014	ppb	305.0	6801.04	2	
As	75	72	He	0.011	ppb	54.7	158.67	0.2	
Se	78	72	H2	0.013	ppb	18.1	43.00	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1879.02	0.2	
Zr	90	72	No Gas	0.005	ppb	74.0	426.68	2	
Mo	95	115	No Gas	0.002	ppb	273.0	205.56	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	117.78	0.08	
Cd	111	115	No Gas	0.009	ppb	84.5	139.68	0.2	
Sn	118	115	No Gas	0.053	ppb	40.6	2016.82	0.2	
Sb	123	115	No Gas	0.002	ppb	18.1	195.56	0.4	
Ba	137	115	No Gas	0.001	ppb	1417.1	523.34	0.2	
W	182	159	No Gas	0.004	ppb	98.8	136.67	0.3	
Hg	201	159	No Gas	0.008	ppb	39.6	45.50	0.1	
Hg	201	159	He	0.009	ppb	8.0	31.17	0.1	
Tl	205	159	No Gas	0.008	ppb	133.1	1697.89	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1988.96	0.1	

Continuing C alibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.003	ppb	36.2	842.25	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1196761.45	4.0	1252755.61	95.53	70	120	
Sc	45	No Gas	4386414.17	3.0	4539977.33	96.62	70	120	
Sc	45	H2	3345348.00	0.6	3324102.25	100.64	70	120	
Sc	45	He	562115.42	0.7	564191.6	99.63	70	120	
Ge	72	No Gas	948643.90	3.0	973954.71	97.4	70	120	
Ge	72	H2	850090.87	0.1	848233.79	100.22	70	120	
Ge	72	He	305678.29	0.7	304552.26	100.37	70	120	
In	115	No Gas	5598617.79	3.8	5824478.2	96.12	70	120	
Tb	159	No Gas	7788364.69	3.8	8139265.23	95.69	70	120	
Tb	159	He	5853067.00	1.0	5798575	100.94	70	120	

Low Level Continuing Calibr ıtion Verification (LLCCV) Report

Sample Name	MRLA2801
File Name	H6A20011.d 1 TH 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:36:15
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.781	ppb	20.5	77318.06	1	78.1	80	120	> +/- 20%
Be	9	6	No Gas	0.977	ppb	4.8	2097.94	1	97.7	80	120	
B	11	6	No Gas	7.686	ppb	1.1	18273.01	10	76.86	80	120	> +/- 20%
Na	23	45	H2	95.362	ppb	2.2	1126624.55	100	95.36	80	120	
Mg	24	45	No Gas	97.804	ppb	1.2	920476.46	100	97.8	80	120	
Al	27	45	No Gas	97.673	ppb	0.6	1173073.63	100	97.67	80	120	
Si	28	45	H2	101.178	ppb	1.0	151268.15	100	101.18	80	120	
P	31	45	No Gas	46.407	ppb	1.5	80526.69	50	92.81	80	120	
K	39	45	He	93.577	ppb	25.0	182929.92	100	93.58	80	120	
Ca	40	45	H2	84.060	ppb	0.3	1332694.75	100	84.06	80	120	
Ti	47	45	No Gas	1.013	ppb	3.5	1832.12	1	101.3	80	120	
V	51	45	He	0.921	ppb	14.3	7524.74	1	92.1	80	120	
Cr	52	45	He	0.966	ppb	14.4	9005.63	1	96.6	80	120	
Mn	55	45	No Gas	0.769	ppb	6.1	35554.11	1	76.9	80	120	> +/- 20%
Fe	56	45	H2	100.240	ppb	1.0	1547372.25	100	100.24	80	120	
Co	59	45	No Gas	1.042	ppb	2.4	21813.44	1	104.2	80	120	
Ni	60	45	He	1.000	ppb	13.2	2728.27	1	100	80	120	
Cu	63	45	He	0.450	ppb	40.6	13209.07	1	45	80	120	> +/- 20%
Zn	66	72	No Gas	12.620	ppb	2.2	45250.55	10	126.2	80	120	> +/- 20%
As	75	72	He	0.915	ppb	8.2	1237.06	1	91.5	80	120	
Se	78	72	H2	0.959	ppb	3.1	433.01	1	95.9	80	120	
Sr	88	72	No Gas	2.161	ppb	1.3	59667.00	2	108.05	80	120	
Zr	90	72	No Gas	4.005	ppb	1.0	70984.91	5	80.1	80	120	
Mo	95	115	No Gas	0.924	ppb	1.6	5077.64	1	92.4	80	120	
Ag	107	115	No Gas	1.031	ppb	3.4	12970.81	1	103.1	80	120	
Cd	111	115	No Gas	1.015	ppb	1.5	2643.80	1	101.5	80	120	
Sn	118	115	No Gas	0.993	ppb	3.8	9115.38	1	99.3	80	120	
Sb	123	115	No Gas	0.984	ppb	3.1	9103.17	1	98.4	80	120	
Ba	137	115	No Gas	1.119	ppb	3.9	5002.08	1	111.9	80	120	
W	182	159	No Gas	1.701	ppb	4.3	16831.27	2	85.05	80	120	
Hg	201	159	No Gas	0.105	ppb	9.1	198.67	0.1	105	80	120	
Hg	201	159	He	0.102	ppb	8.1	149.50	0.1	102	80	120	
Tl	205	159	No Gas	0.974	ppb	0.7	22028.32	1	97.4	80	120	
Pb	208	159	No Gas	1.002	ppb	0.3	31391.15	1	100.2	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	0.981	ppb	2.5	30155.93	1	98.1	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1219083.72	3.5	1252755.61	97.31	70	120	
Sc	45	No Gas	4463096.17	3.6	4539977.33	98.31	70	120	
Sc	45	H2	3368782.92	0.8	3324102.25	101.34	70	120	
Sc	45	He	592040.65	8.6	564191.6	104.94	70	120	
Ge	72	No Gas	1004533.29	2.5	973954.71	103.14	70	120	
Ge	72	H2	881111.58	0.2	848233.79	103.88	70	120	
Ge	72	He	328460.38	5.6	304552.26	107.85	70	120	
In	115	No Gas	5713358.79	3.4	5824478.2	98.09	70	120	
Tb	159	No Gas	7929923.02	3.0	8139265.23	97.43	70	120	
Tb	159	He	6021437.17	7.3	5798575	103.84	70	120	

Low Level Continuing Calibration Verification (LCCV) Report

Sample Name	MRLA2802
File Name	H6A20012.d TH 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:38:51
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.382	ppb	39.0	72833.48	0.4	95.5	80	120	
Be	9	6	No Gas	0.362	ppb	10.9	822.25	0.4	90.5	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	7045.10	0.4	-57.5	80	120	> +/- 20%
Na	23	45	H2	38.268	ppb	2.4	889250.11	40	95.67	80	120	
Mg	24	45	No Gas	41.432	ppb	5.5	416083.47	40	103.58	80	120	
Al	27	45	No Gas	41.457	ppb	4.0	503313.28	40	103.64	80	120	
K	39	45	He	45.830	ppb	12.6	138870.65	40	114.58	80	120	
Ca	40	45	H2	41.830	ppb	0.6	901649.10	40	104.57	80	120	
Ti	47	45	No Gas	0.434	ppb	10.1	905.36	0.4	108.5	80	120	
V	51	45	He	0.414	ppb	3.3	4083.27	0.4	103.5	80	120	
Cr	52	45	He	0.469	ppb	3.1	5208.32	0.4	117.25	80	120	
Mn	55	45	No Gas	0.295	ppb	17.0	23079.46	0.4	73.75	80	120	> +/- 20%
Fe	56	45	H2	41.217	ppb	0.6	678723.19	40	103.04	80	120	
Co	59	45	No Gas	0.420	ppb	3.0	9072.36	0.4	105	80	120	
Ni	60	45	He	0.441	ppb	3.0	1322.73	0.4	110.25	80	120	
Cu	63	45	He	0.070	ppb	26.0	10415.99	0.4	17.5	80	120	> +/- 20%
Zn	66	72	No Gas	5.874	ppb	3.5	23271.95	4	146.85	80	120	> +/- 20%
As	75	72	He	0.399	ppb	3.3	584.01	0.4	99.75	80	120	
Se	78	72	H2	0.375	ppb	2.3	185.00	0.4	93.75	80	120	
Sr	88	72	No Gas	0.426	ppb	2.4	12620.41	0.4	106.5	80	120	
Mo	95	115	No Gas	0.378	ppb	3.0	2131.28	0.4	94.5	80	120	
Ag	107	115	No Gas	0.421	ppb	5.6	5216.59	0.4	105.25	80	120	
Cd	111	115	No Gas	0.387	ppb	8.7	1048.03	0.4	96.75	80	120	
Sn	118	115	No Gas	0.429	ppb	4.0	4743.08	0.4	107.25	80	120	
Sb	123	115	No Gas	0.398	ppb	2.9	3674.97	0.4	99.5	80	120	
Ba	137	115	No Gas	0.423	ppb	9.1	2154.62	0.4	105.75	80	120	
Tl	205	159	No Gas	0.375	ppb	7.6	9201.18	0.4	93.75	80	120	
Pb	208	159	No Gas	0.404	ppb	4.4	13609.59	0.4	101	80	120	
U	238	159	No Gas	0.395	ppb	3.7	12290.62	0.4	98.75	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1184848.28	4.1	1252755.61	94.58	70	120	
Sc	45	No Gas	4297640.67	5.9	4539977.33	94.66	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3347441.75	0.4	3324102.25	100.7	70	120	
Sc	45	He	564029.94	0.2	564191.6	99.97	70	120	
Ge	72	No Gas	939715.25	5.0	973954.71	96.48	70	120	
Ge	72	H2	843789.12	0.3	848233.79	99.48	70	120	
Ge	72	He	304998.16	1.2	304552.26	100.15	70	120	
In	115	No Gas	5554146.81	6.3	5824478.2	95.36	70	120	
Tb	159	No Gas	7745540.24	5.4	8139265.23	95.16	70	120	
Tb	159	He	5789414.67	0.5	5798575	99.84	70	120	

Sample Report

Sample Name	MRLA2803
File Name	H6A20013.d 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A21.b
Acq Time	2023-01-28 13:41:27
Sample Type	Sample
Total Dilution	1.0000
Comment	20 ppb Zn
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	0.054	0.054	ppb	338.1	72539.28	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	74.45	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4050.59	100	
Na	23	45	H2	1.778	1.778	ppb	197.0	742019.50	50000	
Mg	24	45	No Gas	9.059	9.059	ppb	2.3	152795.55	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	36942.78	50000	
Si	28	45	H2	4.949	4.949	ppb	5.1	13046.78	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	45041.52	500	
K	39	45	He	1.966	1.966	ppb	308.6	105956.15	50000	
Ca	40	45	H2	239.367	239.367	ppb	1.2	2878323.75	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	271.33	500	
V	51	45	He	0.026	0.026	ppb	43.3	1698.78	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1627.43	500	
Mn	55	45	No Gas	0.511	0.511	ppb	2.9	29300.03	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	56719.39	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	614.01	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	218.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	7495.40	500	
Zn	66	72	No Gas	20.803	20.803	ppb	2.0	67012.43	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	139.67	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	31.33	500	
Sr	88	72	No Gas	0.101	0.101	ppb	4.3	4649.70	500	
Zr	90	72	No Gas	0.001	0.001	ppb	200.3	363.34	50	
Mo	95	115	No Gas	<0.000	<0.000	ppb	N/A	81.11	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	90.00	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	56.05	500	
Sn	118	115	No Gas	0.016	0.016	ppb	95.4	1803.46	500	
Sb	123	115	No Gas	0.000	0.000	ppb	3406.6	181.11	100	
Ba	137	115	No Gas	<0.000	<0.000	ppb	N/A	368.89	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	93.33	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	19.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	14.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	953.37	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1555.60	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	178.89	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1211971.71	1.6	1252755.61	96.74	70	120	
Sc	45	No Gas	4464997.17	2.2	4539977.33	98.35	70	120	
Sc	45	H2	3347643.00	1.5	3324102.25	100.71	70	120	
Sc	45	He	566884.94	0.3	564191.6	100.48	70	120	
Ge	72	No Gas	961997.46	0.8	973954.71	98.77	70	120	
Ge	72	H2	848009.96	0.7	848233.79	99.97	70	120	
Ge	72	He	304531.24	1.0	304552.26	99.99	70	120	
In	115	No Gas	5809749.94	0.9	5824478.2	99.75	70	120	
Tb	159	No Gas	7968806.07	1.6	8139265.23	97.91	70	120	
Tb	159	He	5864090.33	0.9	5798575	101.13	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA 1 TH 1/30/23
File Name	H6A20014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:44:03
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.573	ppb	23.8	71535.31	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	68.89	0.4	-50	50	
B	11	6	No Gas	0.349	ppb	70.3	7579.83	10	-50	50	
Na	23	45	H2	106789.527	ppb	0.6	426269717.33	100000	80	120	
Mg	24	45	No Gas	100580.057	ppb	0.8	869964117.33	100000	80	120	
Al	27	45	No Gas	102780.963	ppb	0.6	1187566835.64	100000	80	120	
Si	28	45	H2	4.353	ppb	5.7	12051.90	50	-50	50	
P	31	45	No Gas	100436.142	ppb	0.1	74627165.33	100000	80	120	
K	39	45	He	102629.466	ppb	0.7	75886056.00	100000	80	120	
Ca	40	45	H2	106830.603	ppb	1.2	1056748608.00	100000	80	120	
Ti	47	45	No Gas	2133.990	ppb	1.2	3282365.58	2000	80	120	
V	51	45	He	0.006	ppb	78.4	1518.09	1	-50	50	
Cr	52	45	He	2.188	ppb	3.1	16529.97	1	-50	50	> +/- 20%
Mn	55	45	No Gas	<0.000	ppb	N/A	16764.27	1	-50	50	
Fe	56	45	H2	105212.564	ppb	0.7	1512808832.00	100000	80	120	
Co	59	45	No Gas	0.143	ppb	3.8	3929.23	0.75	-50	50	
Ni	60	45	He	0.390	ppb	10.3	1166.72	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	5605.82	2	-50	50	
Zn	66	72	No Gas	2.449	ppb	3.4	14400.98	20	-50	50	
As	75	72	He	0.054	ppb	10.5	205.33	1	-50	50	
Se	78	72	H2	0.069	ppb	14.6	65.33	1	-50	50	
Sr	88	72	No Gas	0.842	ppb	2.0	24309.87	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.268	ppb	7.6	5024.31	10	-50	50	
Mo	95	115	No Gas	2101.812	ppb	0.1	10417224.31	2000	80	120	
Ag	107	115	No Gas	0.076	ppb	2.0	1010.04	0.4	-50	50	
Cd	111	115	No Gas	0.036	ppb	87.8	194.16	1	-50	50	
Sn	118	115	No Gas	0.021	ppb	13.8	1704.56	1	-50	50	
Sb	123	115	No Gas	0.060	ppb	4.2	675.58	1	-50	50	
Ba	137	115	No Gas	0.576	ppb	1.9	2664.72	1	-50	50	> +/- 20%
W	182	159	No Gas	0.139	ppb	7.4	1453.42	1	-50	50	
Hg	201	159	No Gas	<0.000	ppb	N/A	27.83	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	17.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	875.59	0.5	-50	50	
Pb	208	159	No Gas	0.012	ppb	50.4	2492.32	0.5	-50	50	

TH 1/25/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	748.91	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1146463.75	2.7	1252755.61	91.52	70	120	
Sc	45	No Gas	4461831.50	3.6	4539977.33	98.28	70	120	
Sc	45	H2	3307383.83	0.1	3324102.25	99.5	70	120	
Sc	45	He	546133.02	0.7	564191.6	96.8	70	120	
Ge	72	No Gas	993931.31	1.4	973954.71	102.05	70	120	
Ge	72	H2	852364.88	0.2	848233.79	100.49	70	120	
Ge	72	He	304966.29	0.7	304552.26	100.14	70	120	
In	115	No Gas	5368098.62	2.2	5824478.2	92.16	70	120	
Tb	159	No Gas	7833360.24	2.5	8139265.23	96.24	70	120	
Tb	159	He	5698634.67	0.3	5798575	98.28	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB 1 1/30/23
File Name	H6A20015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:46:40
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.639	ppb	1.6	182779.78	20	80	120	
Be	9	6	No Gas	19.838	ppb	1.2	39019.66	20	80	120	
B	11	6	No Gas	18.475	ppb	1.9	32008.66	20	80	120	
Na	23	45	H2	102003.838	ppb	0.8	404498240.00	100000	80	120	
Mg	24	45	No Gas	97135.873	ppb	2.2	833246976.00	100000	80	120	
Al	27	45	No Gas	97551.136	ppb	1.9	1117616916.68	100000	80	120	
Si	28	45	H2	219.553	ppb	1.1	313262.95	200	80	120	
P	31	45	No Gas	97449.021	ppb	0.5	71772520.00	100000	80	120	
K	39	45	He	99020.586	ppb	0.5	71484562.67	100000	80	120	
Ca	40	45	H2	102463.971	ppb	0.8	1006839872.00	100000	80	120	
Ti	47	45	No Gas	2054.441	ppb	1.0	3132424.33	2000	80	120	
V	51	45	He	20.297	ppb	0.5	119916.76	20	80	120	
Cr	52	45	He	22.683	ppb	0.5	149865.33	20	80	120	
Mn	55	45	No Gas	19.595	ppb	0.8	490143.39	20	80	120	
Fe	56	45	H2	101491.643	ppb	0.5	1449632085.33	100000	80	120	
Co	59	45	No Gas	20.306	ppb	0.2	401706.77	20	80	120	
Ni	60	45	He	20.885	ppb	0.4	45947.88	20	80	120	
Cu	63	45	He	20.153	ppb	0.5	121384.32	20	80	120	
Zn	66	72	No Gas	21.461	ppb	0.9	70206.38	20	80	120	
As	75	72	He	20.082	ppb	0.9	21913.74	20	80	120	
Se	78	72	H2	20.822	ppb	1.9	8203.50	20	80	120	
Sr	88	72	No Gas	20.856	ppb	2.1	543932.41	20	80	120	
Zr	90	72	No Gas	12.768	ppb	1.8	220046.27	20	80	120	> +/- 20%
Mo	95	115	No Gas	2013.751	ppb	1.8	10006759.60	2000	80	120	
Ag	107	115	No Gas	19.993	ppb	2.7	234932.86	20	80	120	
Cd	111	115	No Gas	20.401	ppb	2.8	47898.11	20	80	120	
Sn	118	115	No Gas	19.974	ppb	3.1	142923.19	20	80	120	
Sb	123	115	No Gas	19.851	ppb	2.1	169824.34	20	80	120	
Ba	137	115	No Gas	21.069	ppb	2.5	79825.79	20	80	120	
W	182	159	No Gas	18.649	ppb	2.8	182280.11	20	80	120	
Hg	201	159	No Gas	1.917	ppb	2.2	3019.20	2	80	120	
Hg	201	159	He	1.974	ppb	1.2	2413.73	2	80	120	
Tl	205	159	No Gas	20.008	ppb	2.2	419142.51	20	80	120	
Pb	208	159	No Gas	20.069	ppb	2.7	583653.50	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.384	ppb	2.8	607293.81	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1172219.30	3.8	1252755.61	93.57	70	120	
Sc	45	No Gas	4422490.00	2.7	4539977.33	97.41	70	120	
Sc	45	H2	3285514.33	0.8	3324102.25	98.84	70	120	
Sc	45	He	533189.56	0.7	564191.6	94.51	70	120	
Ge	72	No Gas	980086.14	2.4	973954.71	100.63	70	120	
Ge	72	H2	841644.00	1.0	848233.79	99.22	70	120	
Ge	72	He	300869.01	0.9	304552.26	98.79	70	120	
In	115	No Gas	5382564.96	4.1	5824478.2	92.41	70	120	
Tb	159	No Gas	7881898.85	3.9	8139265.23	96.84	70	120	
Tb	159	He	5731075.17	0.5	5798575	98.84	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1 TH 1/30/23
File Name	H6A20017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:51:54
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.998	ppb	0.2	192709.53	25	99.99	90	110	
Be	9	6	No Gas	26.189	ppb	3.2	46461.27	25	104.76	90	110	
B	11	6	No Gas	49.525	ppb	2.5	66387.00	50	99.05	90	110	
Na	23	45	H2	25492.387	ppb	1.3	103233226.67	25000	101.97	90	110	
Mg	24	45	No Gas	24580.760	ppb	1.3	196999418.67	25000	98.32	90	110	
Al	27	45	No Gas	24362.729	ppb	1.8	260770202.78	25000	97.45	90	110	
Si	28	45	H2	2551.098	ppb	1.6	3633935.58	2500	102.04	90	110	
P	31	45	No Gas	264.658	ppb	2.3	224559.15	250	105.86	90	110	
K	39	45	He	24870.596	ppb	0.2	18642150.67	25000	99.48	90	110	
Ca	40	45	H2	25341.501	ppb	1.2	253308389.33	25000	101.37	90	110	
Ti	47	45	No Gas	251.501	ppb	1.1	358461.87	250	100.6	90	110	
V	51	45	He	252.148	ppb	0.3	1523390.21	250	100.86	90	110	
Cr	52	45	He	254.139	ppb	0.6	1716661.83	250	101.66	90	110	
Mn	55	45	No Gas	1501.532	ppb	0.9	33909534.67	1500	100.1	90	110	
Fe	56	45	H2	25402.819	ppb	0.5	368626954.67	25000	101.61	90	110	
Co	59	45	No Gas	254.085	ppb	1.6	4685295.83	250	101.63	90	110	
Ni	60	45	He	259.425	ppb	0.7	586787.58	250	103.77	90	110	
Cu	63	45	He	258.048	ppb	0.4	1491734.25	250	103.22	90	110	
Zn	66	72	No Gas	261.383	ppb	1.3	735264.79	250	104.55	90	110	
As	75	72	He	248.948	ppb	0.7	279059.58	250	99.58	90	110	
Se	78	72	H2	255.318	ppb	0.3	103627.13	250	102.13	90	110	
Sr	88	72	No Gas	249.989	ppb	0.7	6146250.03	250	100	90	110	
Zr	90	72	No Gas	24.622	ppb	1.4	401161.21	25	98.49	90	110	
Mo	95	115	No Gas	246.402	ppb	1.4	1163002.42	250	98.56	90	110	
Ag	107	115	No Gas	25.394	ppb	1.2	283469.97	25	101.58	90	110	
Cd	111	115	No Gas	256.350	ppb	1.5	570491.32	250	102.54	90	110	
Sn	118	115	No Gas	247.833	ppb	1.7	1667851.39	250	99.13	90	110	
Sb	123	115	No Gas	50.800	ppb	0.7	412468.91	50	101.6	90	110	
Ba	137	115	No Gas	506.182	ppb	1.0	1810698.47	500	101.24	90	110	
W	182	159	No Gas	24.550	ppb	1.6	224721.09	25	98.2	90	110	
Hg	201	159	No Gas	2.527	ppb	2.3	3717.22	2.5	101.08	90	110	
Hg	201	159	He	2.569	ppb	1.3	3197.41	2.5	102.76	90	110	
Tl	205	159	No Gas	247.992	ppb	0.6	4851359.53	250	99.2	90	110	
Pb	208	159	No Gas	247.061	ppb	1.0	6708100.00	250	98.82	90	110	

Continuing Calibration Verifi :ation (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	240.872	ppb	2.2	6719958.21	250	96.35	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1057779.44	4.1	1252755.61	84.44	70	120	
Sc	45	No Gas	4131379.58	2.8	4539977.33	91	70	120	
Sc	45	H2	3337462.42	1.0	3324102.25	100.4	70	120	
Sc	45	He	551355.23	0.8	564191.6	97.72	70	120	
Ge	72	No Gas	927348.77	2.8	973954.71	95.21	70	120	
Ge	72	H2	870585.48	0.5	848233.79	102.64	70	120	
Ge	72	He	310934.18	0.4	304552.26	102.1	70	120	
In	115	No Gas	5110526.95	2.0	5824478.2	87.74	70	120	
Tb	159	No Gas	7382089.43	4.3	8139265.23	90.7	70	120	
Tb	159	He	5844680.00	0.3	5798575	100.8	70	120	

Continuing Calibration Blank (CCB) Repo t

Sample Name	CCB1 TH 1/20/23
File Name	H6A20018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 13:54:31
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.033	ppb	236.7	75834.92	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	72.22	0.08	
B	11	6	No Gas	0.334	ppb	142.9	8353.61	4	
Na	23	45	H2	<0.000	ppb	N/A	729690.06	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	73243.75	10	
Al	27	45	No Gas	<0.000	ppb	N/A	35231.73	15	
Si	28	45	H2	0.427	ppb	98.7	6550.95	8	
P	31	45	No Gas	<0.000	ppb	N/A	44776.08	10	
K	39	45	He	<0.000	ppb	N/A	102648.78	20	
Ca	40	45	H2	<0.000	ppb	N/A	336035.33	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	274.00	0.5	
V	51	45	He	<0.000	ppb	N/A	1408.07	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1828.79	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	13671.51	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	69412.30	10	
Co	59	45	No Gas	<0.000	ppb	N/A	880.03	0.15	
Ni	60	45	He	<0.000	ppb	N/A	236.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	5242.34	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	5585.82	2	
As	75	72	He	<0.000	ppb	N/A	132.67	0.2	
Se	78	72	H2	0.030	ppb	93.9	49.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1492.31	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	193.33	2	
Mo	95	115	No Gas	0.043	ppb	26.3	444.46	0.2	
Ag	107	115	No Gas	0.000	ppb	26533.5	130.00	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	114.74	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1637.88	0.2	
Sb	123	115	No Gas	0.005	ppb	84.7	232.22	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	395.56	0.2	
W	182	159	No Gas	0.003	ppb	271.9	143.33	0.3	
Hg	201	159	No Gas	0.008	ppb	49.5	49.67	0.1	
Hg	201	159	He	0.007	ppb	35.7	29.17	0.1	
Tl	205	159	No Gas	0.018	ppb	83.1	2016.83	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1885.62	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.002	ppb	122.6	894.48	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1269384.81	4.8	1252755.61	101.33	70	120	
Sc	45	No Gas	4659291.50	5.0	4539977.33	102.63	70	120	
Sc	45	H2	3326338.58	1.3	3324102.25	100.07	70	120	
Sc	45	He	562645.83	0.3	564191.6	99.73	70	120	
Ge	72	No Gas	987988.33	3.2	973954.71	101.44	70	120	
Ge	72	H2	849640.15	0.8	848233.79	100.17	70	120	
Ge	72	He	303727.98	0.8	304552.26	99.73	70	120	
In	115	No Gas	5929858.42	4.5	5824478.2	101.81	70	120	
Tb	159	No Gas	8333076.34	5.6	8139265.23	102.38	70	120	
Tb	159	He	5947350.67	0.7	5798575	102.57	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV4 1 1/30/23
File Name	H6A20046.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A21.b
Acq Time	2023-01-28 15:08:43
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.253	ppb	2.5	233227.76	25	97.01	90	110	
Be	9	6	No Gas	24.019	ppb	1.8	52631.49	25	96.08	90	110	
B	11	6	No Gas	120.011	ppb	7.6	186951.97	50	240.02	90	110	> +/- 10%
Na	23	45	H2	25580.191	ppb	0.2	102169698.67	25000	102.32	90	110	
Mg	24	45	No Gas	25309.941	ppb	1.0	228473594.67	25000	101.24	90	110	
Al	27	45	No Gas	24921.271	ppb	1.0	300444442.19	25000	99.69	90	110	
Si	28	45	H2	2544.645	ppb	0.3	3575229.00	2500	101.79	90	110	
P	31	45	No Gas	238.353	ppb	0.9	232684.84	250	95.34	90	110	
K	39	45	He	24366.478	ppb	0.4	17862349.33	25000	97.47	90	110	
Ca	40	45	H2	25030.117	ppb	0.3	246775733.33	25000	100.12	90	110	
Ti	47	45	No Gas	246.518	ppb	1.1	395787.95	250	98.61	90	110	
V	51	45	He	247.377	ppb	1.2	1461519.83	250	98.95	90	110	
Cr	52	45	He	248.484	ppb	1.0	1641385.83	250	99.39	90	110	
Mn	55	45	No Gas	1475.648	ppb	1.1	37541409.33	1500	98.38	90	110	
Fe	56	45	H2	25058.297	ppb	0.9	358636085.33	25000	100.23	90	110	
Co	59	45	No Gas	244.480	ppb	1.5	5077920.00	250	97.79	90	110	
Ni	60	45	He	256.234	ppb	0.7	566748.23	250	102.49	90	110	
Cu	63	45	He	255.222	ppb	0.7	1442856.16	250	102.09	90	110	
Zn	66	72	No Gas	247.585	ppb	2.2	765063.50	250	99.03	90	110	
As	75	72	He	245.984	ppb	0.3	270987.52	250	98.39	90	110	
Se	78	72	H2	255.642	ppb	0.6	102957.42	250	102.26	90	110	
Sr	88	72	No Gas	251.637	ppb	1.6	6793292.51	250	100.65	90	110	
Zr	90	72	No Gas	24.642	ppb	1.3	440838.05	25	98.57	90	110	
Mo	95	115	No Gas	237.177	ppb	1.8	1276445.47	250	94.87	90	110	
Ag	107	115	No Gas	24.697	ppb	2.3	314371.80	25	98.79	90	110	
Cd	111	115	No Gas	248.068	ppb	2.2	629491.04	250	99.23	90	110	
Sn	118	115	No Gas	242.634	ppb	1.6	1861896.59	250	97.05	90	110	
Sb	123	115	No Gas	49.319	ppb	1.2	456682.74	50	98.64	90	110	
Ba	137	115	No Gas	499.253	ppb	1.4	2036465.75	500	99.85	90	110	
W	182	159	No Gas	25.448	ppb	0.5	271899.79	25	101.79	90	110	
Hg	201	159	No Gas	2.549	ppb	2.3	4378.60	2.5	101.96	90	110	
Hg	201	159	He	2.605	ppb	1.1	3333.61	2.5	104.2	90	110	
Tl	205	159	No Gas	258.012	ppb	1.2	5890309.76	250	103.2	90	110	
Pb	208	159	No Gas	255.506	ppb	1.3	8097067.35	250	102.2	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	258.897	ppb	1.4	8426265.78	250	103.56	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1306381.83	1.5	1252755.61	104.28	70	120	
Sc	45	No Gas	4654381.17	0.9	4539977.33	102.52	70	120	
Sc	45	H2	3291588.00	0.3	3324102.25	99.02	70	120	
Sc	45	He	539164.88	0.6	564191.6	95.56	70	120	
Ge	72	No Gas	1018362.44	1.2	973954.71	104.56	70	120	
Ge	72	H2	863862.21	0.4	848233.79	101.84	70	120	
Ge	72	He	305579.88	0.3	304552.26	100.34	70	120	
In	115	No Gas	5828200.67	0.3	5824478.2	100.06	70	120	
Tb	159	No Gas	8615861.88	1.3	8139265.23	105.86	70	120	
Tb	159	He	6011793.50	0.4	5798575	103.68	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB4 TH 1/30/23
File Name	H6A20047.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:11:20
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.089	ppb	295.6	77696.21	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	60.00	0.08	
B	11	6	No Gas	38.539	ppb	8.2	64793.33	4	>LOD
Na	23	45	H2	30.195	ppb	8.4	870305.67	40	
Mg	24	45	No Gas	6.282	ppb	22.9	133410.86	10	
Al	27	45	No Gas	0.188	ppb	249.1	48136.85	15	
Si	28	45	H2	2.562	ppb	21.3	9794.23	8	
P	31	45	No Gas	<0.000	ppb	N/A	47139.12	10	
K	39	45	He	1.816	ppb	432.0	106377.47	20	
Ca	40	45	H2	<0.000	ppb	N/A	469813.52	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	276.67	0.5	
V	51	45	He	0.050	ppb	37.1	1855.46	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1550.75	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	16924.47	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	73595.39	10	
Co	59	45	No Gas	<0.000	ppb	N/A	1017.37	0.15	
Ni	60	45	He	<0.000	ppb	N/A	252.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	4356.70	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	6531.57	2	
As	75	72	He	0.033	ppb	92.8	182.67	0.2	
Se	78	72	H2	0.051	ppb	77.1	58.33	0.2	
Sr	88	72	No Gas	0.097	ppb	24.8	4663.04	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	186.67	2	
Mo	95	115	No Gas	0.027	ppb	21.0	354.45	0.2	
Ag	107	115	No Gas	0.003	ppb	48.6	168.89	0.08	
Cd	111	115	No Gas	0.023	ppb	47.5	180.61	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1365.63	0.2	
Sb	123	115	No Gas	0.005	ppb	93.2	230.00	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	490.01	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	86.67	0.3	
Hg	201	159	No Gas	0.010	ppb	39.3	51.50	0.1	
Hg	201	159	He	0.007	ppb	31.9	30.00	0.1	
Tl	205	159	No Gas	0.044	ppb	42.1	2584.72	0.1	
Pb	208	159	No Gas	0.001	ppb	388.0	2302.31	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.012	ppb	7.3	1191.17	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1295142.17	7.9	1252755.61	103.38	70	120	
Sc	45	No Gas	4641331.67	5.5	4539977.33	102.23	70	120	
Sc	45	H2	3400731.67	0.5	3324102.25	102.31	70	120	
Sc	45	He	569845.38	0.5	564191.6	101	70	120	
Ge	72	No Gas	993792.29	3.3	973954.71	102.04	70	120	
Ge	72	H2	859268.83	0.9	848233.79	101.3	70	120	
Ge	72	He	305674.98	1.0	304552.26	100.37	70	120	
In	115	No Gas	5911638.61	6.1	5824478.2	101.5	70	120	
Tb	159	No Gas	8285623.00	5.9	8139265.23	101.8	70	120	
Tb	159	He	6132933.33	0.4	5798575	105.77	70	120	

Blank Report

Sample Name	IML028WB
File Name	H6A20048.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:13:56
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.088	ppb	64.6	77962.66	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	48.89	0.08	
B	11	6	No Gas	26.474	ppb	6.4	47297.17	4	>1/2LOQ
Na	23	45	H2	39.954	ppb	5.2	901419.27	40	
Mg	24	45	No Gas	5.012	ppb	9.5	122311.84	10	
Al	27	45	No Gas	<0.000	ppb	N/A	40803.22	15	
Si	28	45	H2	3.245	ppb	4.3	10682.10	8	
P	31	45	No Gas	<0.000	ppb	N/A	47719.12	10	
K	39	45	He	1.160	ppb	469.5	105614.16	20	
Ca	40	45	H2	<0.000	ppb	N/A	306013.92	25	
Ti	47	45	No Gas	0.041	ppb	44.0	352.67	0.5	
V	51	45	He	0.035	ppb	39.1	1760.11	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1505.42	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	13008.18	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	53055.99	10	
Co	59	45	No Gas	<0.000	ppb	N/A	430.68	0.15	
Ni	60	45	He	<0.000	ppb	N/A	288.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	5079.62	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	3443.78	2	
As	75	72	He	<0.000	ppb	N/A	134.67	0.2	
Se	78	72	H2	0.004	ppb	487.3	39.67	0.2	
Sr	88	72	No Gas	0.045	ppb	18.8	3335.98	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	166.67	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	123.33	0.2	
Ag	107	115	No Gas	0.008	ppb	26.3	240.00	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	59.50	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1135.61	0.2	
Sb	123	115	No Gas	0.091	ppb	1.8	1051.16	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	306.67	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	76.67	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	30.67	0.1	
Hg	201	159	He	0.003	ppb	49.1	24.67	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	1021.16	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1272.25	0.1	

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	244.45	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1298871.69	1.9	1252755.61	103.68	70	120	
Sc	45	No Gas	4640496.83	3.7	4539977.33	102.21	70	120	
Sc	45	H2	3367590.67	0.7	3324102.25	101.31	70	120	
Sc	45	He	568417.25	0.2	564191.6	100.75	70	120	
Ge	72	No Gas	1000020.87	1.5	973954.71	102.68	70	120	
Ge	72	H2	862546.85	1.0	848233.79	101.69	70	120	
Ge	72	He	312264.19	1.1	304552.26	102.53	70	120	
In	115	No Gas	5987096.87	2.3	5824478.2	102.79	70	120	
Tb	159	No Gas	8335542.17	2.7	8139265.23	102.41	70	120	
Tb	159	He	6086408.33	0.7	5798575	104.96	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML028WL TH 1/30/23
File Name	H6A20049.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:16:31
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	30.285	ppb	2.0	273813.29	30	100.95	85	115	
Be	9	6	No Gas	29.007	ppb	2.6	64002.19	30	96.69	83	121	
B	11	6	No Gas	46.455	ppb	1.4	77947.60	30	154.85	85	115	FAIL
Na	23	45	H2	3205.615	ppb	0.5	13729376.67	3000	106.85	85	117	
Mg	24	45	No Gas	3049.742	ppb	3.4	28272421.33	3000	101.66	83	118	
Al	27	45	No Gas	3047.810	ppb	3.5	37682033.61	3000	101.59	84	117	
Si	28	45	H2	4.267	ppb	1.8	12133.29	3000	0.14	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	49002.23	300	-0.09	85	115	FAIL
K	39	45	He	3035.943	ppb	1.2	2427038.92	3000	101.2	87	115	
Ca	40	45	H2	3087.609	ppb	0.5	31532240.67	3000	102.92	87	118	
Ti	47	45	No Gas	30.014	ppb	3.3	49618.82	30	100.05	85	115	
V	51	45	He	30.825	ppb	1.3	192484.60	30	102.75	86	115	
Cr	52	45	He	31.367	ppb	0.8	219189.17	30	104.56	85	116	
Mn	55	45	No Gas	29.824	ppb	2.4	794835.12	30	99.41	87	115	
Fe	56	45	H2	3176.138	ppb	0.4	46522220.00	3000	105.87	87	118	
Co	59	45	No Gas	30.946	ppb	3.0	659421.96	30	103.15	86	115	
Ni	60	45	He	31.734	ppb	0.3	73937.72	30	105.78	85	117	
Cu	63	45	He	32.415	ppb	0.9	201090.65	30	108.05	85	118	
Zn	66	72	No Gas	61.096	ppb	3.2	196310.95	60	101.83	83	119	
As	75	72	He	30.375	ppb	1.1	34539.71	30	101.25	84	116	
Se	78	72	H2	30.984	ppb	0.9	12784.39	30	103.28	80	120	
Sr	88	72	No Gas	31.090	ppb	3.2	850059.98	30	103.63	85	115	
Zr	90	72	No Gas	0.004	ppb	82.6	436.68	30	0.01	85	115	FAIL
Mo	95	115	No Gas	28.693	ppb	1.5	159735.63	30	95.64	85	115	
Ag	107	115	No Gas	30.499	ppb	2.4	401108.83	30	101.66	85	117	
Cd	111	115	No Gas	29.805	ppb	1.2	78250.09	30	99.35	87	115	
Sn	118	115	No Gas	30.320	ppb	1.4	241916.71	30	101.07	85	115	
Sb	123	115	No Gas	29.213	ppb	1.6	279581.93	30	97.38	85	117	
Ba	137	115	No Gas	29.761	ppb	1.5	125956.77	30	99.2	86	114	
W	182	159	No Gas	0.006	ppb	27.2	176.67	30	0.02	85	115	FAIL
Hg	201	159	No Gas	<0.000	ppb	N/A	29.67	2.5	-0.16	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	18.17	2.5	-0.08	82	119	FAIL
Tl	205	159	No Gas	31.588	ppb	2.1	710376.90	30	105.29	82	116	
Pb	208	159	No Gas	31.778	ppb	3.2	992015.83	30	105.93	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	30.924	ppb	1.8	990019.30	30	103.08	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1315562.23	1.9	1252755.61	105.01	70	120	
Sc	45	No Gas	4767604.67	0.6	4539977.33	105.01	70	120	
Sc	45	H2	3363589.08	0.5	3324102.25	101.19	70	120	
Sc	45	He	565901.33	1.2	564191.6	100.3	70	120	
Ge	72	No Gas	1029016.42	0.5	973954.71	105.65	70	120	
Ge	72	H2	882686.69	0.9	848233.79	104.06	70	120	
Ge	72	He	314235.82	1.2	304552.26	103.18	70	120	
In	115	No Gas	6021440.48	1.2	5824478.2	103.38	70	120	
Tb	159	No Gas	8469261.89	1.8	8139265.23	104.05	70	120	
Tb	159	He	6078454.83	0.3	5798575	104.83	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML028WC 1/31/2023
File Name	H6A20050.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:19:05
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	30.024	ppb	0.6	273285.47	30	100.08	85	115	
Be	9	6	No Gas	29.046	ppb	1.8	64370.50	30	96.82	83	121	
B	11	6	No Gas	43.955	ppb	2.6	74477.69	30	146.52	85	115	FAIL
Na	23	45	H2	3222.982	ppb	0.7	13923464.33	3000	107.43	85	117	
Mg	24	45	No Gas	3139.861	ppb	0.4	28517381.33	3000	104.66	83	118	
Al	27	45	No Gas	3138.462	ppb	0.9	38010586.93	3000	104.62	84	117	
Si	28	45	H2	3.665	ppb	1.3	11372.65	3000	0.12	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	47850.23	300	-0.15	85	115	FAIL
K	39	45	He	3032.994	ppb	1.3	2447161.50	3000	101.1	87	115	
Ca	40	45	H2	3076.678	ppb	0.6	31704090.00	3000	102.56	87	118	
Ti	47	45	No Gas	30.584	ppb	0.8	49529.22	30	101.95	85	115	
V	51	45	He	30.512	ppb	1.0	192300.66	30	101.71	86	115	
Cr	52	45	He	30.831	ppb	0.8	217466.96	30	102.77	85	116	
Mn	55	45	No Gas	30.473	ppb	0.4	795391.67	30	101.58	87	115	
Fe	56	45	H2	3167.737	ppb	0.1	46815046.67	3000	105.59	87	118	
Co	59	45	No Gas	31.792	ppb	1.1	663583.65	30	105.97	86	115	
Ni	60	45	He	31.200	ppb	1.3	73365.30	30	104	85	117	
Cu	63	45	He	31.620	ppb	1.4	198211.03	30	105.4	85	118	
Zn	66	72	No Gas	62.358	ppb	2.2	198146.52	60	103.93	83	119	
As	75	72	He	30.665	ppb	0.6	34897.63	30	102.22	84	116	
Se	78	72	H2	31.255	ppb	0.7	12890.82	30	104.18	80	120	
Sr	88	72	No Gas	31.318	ppb	1.7	847407.45	30	104.39	85	115	
Zr	90	72	No Gas	0.001	ppb	641.2	370.01	30	0	85	115	FAIL
Mo	95	115	No Gas	28.821	ppb	1.4	159994.98	30	96.07	85	115	
Ag	107	115	No Gas	30.663	ppb	1.8	402050.04	30	102.21	85	117	
Cd	111	115	No Gas	29.961	ppb	2.1	78422.71	30	99.87	87	115	
Sn	118	115	No Gas	30.696	ppb	1.5	244174.79	30	102.32	85	115	
Sb	123	115	No Gas	29.494	ppb	1.7	281404.14	30	98.31	85	117	
Ba	137	115	No Gas	29.852	ppb	1.2	125974.48	30	99.51	86	114	
W	182	159	No Gas	<0.000	ppb	N/A	100.00	30	0	85	115	FAIL
Hg	201	159	No Gas	<0.000	ppb	N/A	29.00	2.5	-0.2	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	16.83	2.5	-0.12	82	119	FAIL
Tl	205	159	No Gas	32.013	ppb	0.4	718891.57	30	106.71	82	116	
Pb	208	159	No Gas	31.967	ppb	1.3	996135.55	30	106.56	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	31.125	ppb	2.7	994395.20	30	103.75	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1321285.24	2.7	1252755.61	105.47	70	120	
Sc	45	No Gas	4672099.17	3.8	4539977.33	102.91	70	120	
Sc	45	H2	3393773.58	0.6	3324102.25	102.1	70	120	
Sc	45	He	571099.58	0.5	564191.6	101.22	70	120	
Ge	72	No Gas	1018323.58	0.8	973954.71	104.56	70	120	
Ge	72	H2	882324.58	0.3	848233.79	104.02	70	120	
Ge	72	He	314471.04	0.5	304552.26	103.26	70	120	
In	115	No Gas	6006369.22	3.9	5824478.2	103.12	70	120	
Tb	159	No Gas	8458609.94	4.4	8139265.23	103.92	70	120	
Tb	159	He	6089536.33	0.3	5798575	105.02	70	120	

Sample Report

Sample Name	L226-01G
File Name	H6A20052.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:32:29
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1000.451	200.090	ppb	1.8	1076634.78	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	53.33	50	
B	11	6	No Gas	2710.509	542.102	ppb	4.3	646641.69	100	>LDR
Na	23	45	H2	4647351.457	929470.291	ppb	1.5	3609273856.00	50000	>LDR
Mg	24	45	No Gas	82131.455	16426.291	ppb	4.0	135079520.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	27721.26	50000	
Si	28	45	H2	13533.972	2706.794	ppb	1.4	3722462.17	5000	
P	31	45	No Gas	72.281	14.456	ppb	9.8	53924.46	500	
K	39	45	He	37269.154	7453.831	ppb	1.4	5783135.83	50000	
Ca	40	45	H2	413564.945	82712.989	ppb	1.3	797223872.00	50000	>LDR
Ti	47	45	No Gas	0.617	0.123	ppb	24.0	441.34	500	
V	51	45	He	0.271	0.054	ppb	31.2	1860.13	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1871.46	500	
Mn	55	45	No Gas	749.238	149.848	ppb	2.3	3486739.42	3000	
Fe	56	45	H2	1057.184	211.437	ppb	0.6	3037903.42	50000	
Co	59	45	No Gas	0.151	0.030	ppb	9.8	1592.76	500	
Ni	60	45	He	0.032	0.006	ppb	240.8	318.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2182.84	500	
Zn	66	72	No Gas	0.400	0.080	ppb	58.9	6930.44	500	
As	75	72	He	3.914	0.783	ppb	5.2	1024.04	500	
Se	78	72	H2	0.031	0.006	ppb	113.9	39.33	500	
Sr	88	72	No Gas	10672.537	2134.507	ppb	0.4	53202963.44	500	>LDR
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	236.67	50	
Mo	95	115	No Gas	41.018	8.204	ppb	2.9	38820.93	500	
Ag	107	115	No Gas	0.004	0.001	ppb	343.5	121.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	47.07	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	873.37	500	
Sb	123	115	No Gas	0.101	0.020	ppb	27.5	322.23	100	
Ba	137	115	No Gas	41.508	8.302	ppb	1.9	30102.62	1000	
W	182	159	No Gas	0.848	0.170	ppb	2.4	1593.44	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	18.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	424.45	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1031.13	500	
U	238	159	No Gas	0.932	0.186	ppb	5.5	5719.13	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1034191.81	2.2	1252755.61	82.55	70	120	
Sc	45	No Gas	4238109.08	3.0	4539977.33	93.35	70	120	
Sc	45	H2	3222324.25	0.7	3324102.25	96.94	70	120	
Sc	45	He	563639.10	2.3	564191.6	99.9	70	120	
Ge	72	No Gas	940563.60	2.9	973954.71	96.57	70	120	
Ge	72	H2	832722.35	0.9	848233.79	98.17	70	120	
Ge	72	He	310530.28	2.1	304552.26	101.96	70	120	
In	115	No Gas	5101029.58	1.9	5824478.2	87.58	70	120	
Tb	159	No Gas	7133284.58	2.6	8139265.23	87.64	70	120	
Tb	159	He	5367029.83	2.2	5798575	92.56	70	120	

Sample Report

Sample Name	L226-02G
File Name	H6A20053.d 1H1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:37:19
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	653.237	130.647	ppb	3.6	800671.46	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	44.44	50	
B	11	6	No Gas	1782.136	356.427	ppb	1.9	471612.63	100	>LDR
Na	23	45	H2	2993614.135	598722.827	ppb	1.0	2537081941.33	50000	>LDR
Mg	24	45	No Gas	100663.433	20132.687	ppb	0.6	179971109.33	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	27213.48	50000	
Si	28	45	H2	14688.326	2937.665	ppb	1.5	4407770.33	5000	
P	31	45	No Gas	54.723	10.945	ppb	48.5	55742.10	500	
K	39	45	He	19438.042	3887.608	ppb	1.5	3237306.00	50000	
Ca	40	45	H2	389666.947	77933.389	ppb	0.6	819660501.33	50000	>LDR
Ti	47	45	No Gas	0.415	0.083	ppb	34.5	414.01	500	
V	51	45	He	0.103	0.021	ppb	96.3	1746.78	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1638.10	500	
Mn	55	45	No Gas	787.363	157.473	ppb	2.2	3978541.33	3000	
Fe	56	45	H2	2539.746	507.949	ppb	0.3	7846734.83	50000	
Co	59	45	No Gas	0.131	0.026	ppb	31.9	1642.77	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	285.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2380.21	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6707.66	500	
As	75	72	He	0.850	0.170	ppb	5.2	353.33	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	38.00	500	
Sr	88	72	No Gas	9064.338	1812.868	ppb	0.7	47910805.87	500	>LDR
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	270.00	50	
Mo	95	115	No Gas	10.014	2.003	ppb	4.2	10107.19	500	
Ag	107	115	No Gas	0.000	0.000	ppb	7849.5	117.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	42.36	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	773.36	500	
Sb	123	115	No Gas	0.071	0.014	ppb	35.7	286.67	100	
Ba	137	115	No Gas	54.716	10.943	ppb	3.7	41605.65	1000	
W	182	159	No Gas	0.150	0.030	ppb	38.0	380.01	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	23.17	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	408.90	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	851.12	500	
U	238	159	No Gas	1.221	0.244	ppb	8.0	7802.51	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1142271.16	8.1	1252755.61	91.18	70	120	
Sc	45	No Gas	4610374.42	9.1	4539977.33	101.55	70	120	
Sc	45	H2	3515975.08	0.2	3324102.25	105.77	70	120	
Sc	45	He	595054.46	0.7	564191.6	105.47	70	120	
Ge	72	No Gas	997314.79	6.4	973954.71	102.4	70	120	
Ge	72	H2	893321.58	1.7	848233.79	105.32	70	120	
Ge	72	He	324002.11	0.6	304552.26	106.39	70	120	
In	115	No Gas	5371288.11	7.0	5824478.2	92.22	70	120	
Tb	159	No Gas	7635197.48	7.4	8139265.23	93.81	70	120	
Tb	159	He	5859881.33	1.0	5798575	101.06	70	120	

Sample Report

Sample Name	L226-03G
File Name	H6A20054.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:39:56
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	391.251	78.250	ppb	0.3	554897.93	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	56.67	50	
B	11	6	No Gas	1903.968	380.794	ppb	1.3	551947.55	100	>LDR
Na	23	45	H2	1201247.698	240249.540	ppb	0.2	1021180224.00	50000	>LDR
Mg	24	45	No Gas	60773.430	12154.686	ppb	0.8	113501122.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	33817.95	50000	
Si	28	45	H2	14042.338	2808.468	ppb	0.3	4225228.33	5000	
P	31	45	No Gas	60.017	12.003	ppb	13.8	59272.08	500	
K	39	45	He	11957.651	2391.530	ppb	0.8	2028343.04	50000	
Ca	40	45	H2	155573.197	31114.639	ppb	0.4	328409312.00	50000	
Ti	47	45	No Gas	0.585	0.117	ppb	20.3	492.01	500	
V	51	45	He	0.419	0.084	ppb	6.3	2151.50	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1912.80	500	
Mn	55	45	No Gas	745.671	149.134	ppb	1.7	3939799.00	3000	
Fe	56	45	H2	4026.873	805.375	ppb	0.9	12424527.00	50000	
Co	59	45	No Gas	0.396	0.079	ppb	4.3	2862.97	500	
Ni	60	45	He	0.735	0.147	ppb	9.2	677.35	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3281.06	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6910.43	500	
As	75	72	He	4.269	0.854	ppb	5.2	1166.72	500	
Se	78	72	H2	0.087	0.017	ppb	48.4	48.00	500	
Sr	88	72	No Gas	2737.169	547.434	ppb	1.1	15105617.74	500	>LDR
Zr	90	72	No Gas	0.183	0.037	ppb	17.3	1033.38	50	
Mo	95	115	No Gas	30.982	6.196	ppb	0.9	33244.83	500	
Ag	107	115	No Gas	0.001	0.000	ppb	855.2	130.00	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	22.02	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	621.13	500	
Sb	123	115	No Gas	0.130	0.026	ppb	2.9	417.78	100	
Ba	137	115	No Gas	73.576	14.715	ppb	0.5	60000.44	1000	
W	182	159	No Gas	0.100	0.020	ppb	30.4	310.00	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	21.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	371.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1055.57	500	
U	238	159	No Gas	16.050	3.210	ppb	0.8	99853.30	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1251707.44	3.1	1252755.61	99.92	70	120	
Sc	45	No Gas	4812612.67	2.2	4539977.33	106.01	70	120	
Sc	45	H2	3525119.42	0.8	3324102.25	106.05	70	120	
Sc	45	He	593451.71	0.5	564191.6	105.19	70	120	
Ge	72	No Gas	1041032.29	1.8	973954.71	106.89	70	120	
Ge	72	H2	915202.40	0.6	848233.79	107.9	70	120	
Ge	72	He	328273.60	1.1	304552.26	107.79	70	120	
In	115	No Gas	5775492.33	2.8	5824478.2	99.16	70	120	
Tb	159	No Gas	8169266.90	2.4	8139265.23	100.37	70	120	
Tb	159	He	5991576.00	0.3	5798575	103.33	70	120	

Sample Report

Sample Name	L226-04G
File Name	H6A20055.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A21.b
Acq Time	2023-01-28 15:42:32
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	397.589	79.518	ppb	3.0	555337.43	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	54.44	50	
B	11	6	No Gas	1949.548	389.910	ppb	4.3	557499.09	100	>LDR
Na	23	45	H2	1228616.032	245723.206	ppb	1.0	1038707221.33	50000	>LDR
Mg	24	45	No Gas	59811.738	11962.348	ppb	2.8	110665824.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	34999.22	50000	
Si	28	45	H2	14146.207	2829.241	ppb	1.1	4233057.08	5000	
P	31	45	No Gas	59.191	11.838	ppb	4.5	58610.14	500	
K	39	45	He	11207.298	2241.460	ppb	0.8	1897597.17	50000	
Ca	40	45	H2	153027.225	30605.445	ppb	0.7	321267925.33	50000	
Ti	47	45	No Gas	0.600	0.120	ppb	13.7	491.34	500	
V	51	45	He	0.366	0.073	ppb	5.5	2071.49	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1916.14	500	
Mn	55	45	No Gas	801.875	160.375	ppb	1.8	4195550.92	3000	
Fe	56	45	H2	4549.128	909.826	ppb	0.4	13948993.33	50000	
Co	59	45	No Gas	0.096	0.019	ppb	44.2	1559.43	500	
Ni	60	45	He	0.419	0.084	ppb	19.7	520.68	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2962.32	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6602.95	500	
As	75	72	He	4.760	0.952	ppb	2.2	1280.39	500	
Se	78	72	H2	0.015	0.003	ppb	360.9	41.33	500	
Sr	88	72	No Gas	2683.666	536.733	ppb	1.6	14844431.08	500	>LDR
Zr	90	72	No Gas	0.170	0.034	ppb	9.9	990.04	50	
Mo	95	115	No Gas	30.591	6.118	ppb	3.1	32369.32	500	
Ag	107	115	No Gas	0.005	0.001	ppb	205.3	137.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	20.87	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	625.57	500	
Sb	123	115	No Gas	0.087	0.017	ppb	30.6	334.45	100	
Ba	137	115	No Gas	74.684	14.937	ppb	3.0	60061.80	1000	
W	182	159	No Gas	0.103	0.021	ppb	18.6	310.01	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	21.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	12.33	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	402.23	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	945.56	500	
U	238	159	No Gas	16.538	3.308	ppb	3.4	100501.44	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1235184.63	1.0	1252755.61	98.6	70	120	
Sc	45	No Gas	4768396.00	1.7	4539977.33	105.03	70	120	
Sc	45	H2	3505819.42	0.2	3324102.25	105.47	70	120	
Sc	45	He	590238.23	0.5	564191.6	104.62	70	120	
Ge	72	No Gas	1043336.08	1.3	973954.71	107.12	70	120	
Ge	72	H2	902979.38	0.6	848233.79	106.45	70	120	
Ge	72	He	327649.98	1.0	304552.26	107.58	70	120	
In	115	No Gas	5695979.21	2.0	5824478.2	97.79	70	120	
Tb	159	No Gas	7985147.18	2.3	8139265.23	98.11	70	120	
Tb	159	He	6007785.00	0.3	5798575	103.61	70	120	

Sample Report

Sample Name	L226-06G
File Name	H6A20056.d TH 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:45:08
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	366.218	73.244	ppb	1.3	512849.18	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	31.11	50	
B	11	6	No Gas	2222.495	444.499	ppb	2.5	629070.60	100	>LDR
Na	23	45	H2	1589328.720	317865.744	ppb	0.1	1292925866.67	50000	>LDR
Mg	24	45	No Gas	58037.113	11607.423	ppb	1.2	108129426.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	24945.78	50000	
Si	28	45	H2	11129.258	2225.852	ppb	1.3	3205466.42	5000	
P	31	45	No Gas	106.787	21.357	ppb	14.8	66591.70	500	
K	39	45	He	8979.967	1795.993	ppb	0.7	1464492.92	50000	
Ca	40	45	H2	106683.839	21336.768	ppb	1.1	215645824.00	50000	
Ti	47	45	No Gas	0.523	0.105	ppb	21.7	469.34	500	
V	51	45	He	0.670	0.134	ppb	8.7	2339.54	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1791.45	500	
Mn	55	45	No Gas	455.919	91.184	ppb	1.3	2409721.92	3000	
Fe	56	45	H2	5931.008	1186.202	ppb	1.4	17471372.67	50000	
Co	59	45	No Gas	0.032	0.006	ppb	71.1	1295.39	500	
Ni	60	45	He	0.188	0.038	ppb	24.7	388.68	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3001.67	500	
Zn	66	72	No Gas	13.819	2.764	ppb	2.9	15991.42	500	
As	75	72	He	22.834	4.567	ppb	2.0	5321.05	500	
Se	78	72	H2	0.163	0.033	ppb	16.8	52.67	500	
Sr	88	72	No Gas	2899.800	579.960	ppb	1.0	15926231.59	500	>LDR
Zr	90	72	No Gas	0.145	0.029	ppb	6.2	893.37	50	
Mo	95	115	No Gas	54.978	10.996	ppb	1.5	58328.36	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	113.33	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	27.51	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	638.91	500	
Sb	123	115	No Gas	0.055	0.011	ppb	10.0	277.78	100	
Ba	137	115	No Gas	63.219	12.644	ppb	1.1	51187.19	1000	
W	182	159	No Gas	0.382	0.076	ppb	11.8	883.37	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	10.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	318.89	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	908.90	500	
U	238	159	No Gas	2.578	0.516	ppb	0.1	16758.13	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1224466.73	1.8	1252755.61	97.74	70	120	
Sc	45	No Gas	4801342.00	2.2	4539977.33	105.76	70	120	
Sc	45	H2	3374128.08	4.6	3324102.25	101.5	70	120	
Sc	45	He	560514.93	2.0	564191.6	99.35	70	120	
Ge	72	No Gas	1035935.98	2.1	973954.71	106.36	70	120	
Ge	72	H2	883849.36	2.5	848233.79	104.2	70	120	
Ge	72	He	314287.69	1.6	304552.26	103.2	70	120	
In	115	No Gas	5726773.30	2.7	5824478.2	98.32	70	120	
Tb	159	No Gas	8192243.01	2.3	8139265.23	100.65	70	120	
Tb	159	He	5503455.00	2.1	5798575	94.91	70	120	

Sample Report

Sample Name	L226-07G
File Name	H6A20057.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:47:45
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	432.284	86.457	ppb	0.7	574085.01	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	26.67	50	
B	11	6	No Gas	2108.651	421.730	ppb	2.5	578902.58	100	>LDR
Na	23	45	H2	2258285.937	451657.187	ppb	0.7	1868527744.00	50000	>LDR
Mg	24	45	No Gas	92855.436	18571.087	ppb	1.8	166753744.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	24575.06	50000	
Si	28	45	H2	1279.555	255.911	ppb	1.5	380403.24	5000	
P	31	45	No Gas	25.935	5.187	ppb	16.6	51774.91	500	
K	39	45	He	15123.334	3024.667	ppb	1.0	2570840.67	50000	
Ca	40	45	H2	27200.867	5440.173	ppb	1.4	56307577.33	50000	
Ti	47	45	No Gas	0.250	0.050	ppb	22.9	365.34	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1570.76	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1684.77	500	
Mn	55	45	No Gas	42.870	8.574	ppb	2.0	234289.54	3000	
Fe	56	45	H2	3.379	0.676	ppb	4.7	91017.78	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	691.35	500	
Ni	60	45	He	0.036	0.007	ppb	34.6	342.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2412.88	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6721.66	500	
As	75	72	He	0.604	0.121	ppb	8.3	298.67	500	
Se	78	72	H2	0.000	0.000	ppb	27274.7	39.33	500	
Sr	88	72	No Gas	1991.840	398.368	ppb	1.5	10672635.69	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	230.00	50	
Mo	95	115	No Gas	26.303	5.261	ppb	2.9	26831.50	500	
Ag	107	115	No Gas	0.015	0.003	ppb	41.2	156.67	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	26.27	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	645.57	500	
Sb	123	115	No Gas	0.159	0.032	ppb	6.5	446.68	100	
Ba	137	115	No Gas	3.877	0.775	ppb	3.7	3484.92	1000	
W	182	159	No Gas	0.284	0.057	ppb	16.4	646.69	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	18.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	10.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	316.67	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	746.67	500	
U	238	159	No Gas	0.619	0.124	ppb	1.0	4393.01	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1187099.51	1.1	1252755.61	94.76	70	120	
Sc	45	No Gas	4628673.00	1.2	4539977.33	101.95	70	120	
Sc	45	H2	3432062.50	1.5	3324102.25	103.25	70	120	
Sc	45	He	601530.19	0.3	564191.6	106.62	70	120	
Ge	72	No Gas	1010683.64	2.5	973954.71	103.77	70	120	
Ge	72	H2	884833.17	1.9	848233.79	104.31	70	120	
Ge	72	He	326822.31	0.3	304552.26	107.31	70	120	
In	115	No Gas	5483396.26	2.5	5824478.2	94.14	70	120	
Tb	159	No Gas	7755725.52	3.1	8139265.23	95.29	70	120	
Tb	159	He	5862508.83	0.5	5798575	101.1	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV5 1H 1/30/23
File Name	H6A20058.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:50:21
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.139	ppb	1.8	238436.54	25	100.56	90	110	
Be	9	6	No Gas	24.426	ppb	0.6	53416.73	25	97.7	90	110	
B	11	6	No Gas	67.401	ppb	1.9	108390.14	50	134.8	90	110	> +/- 10%
Na	23	45	H2	25714.262	ppb	0.6	105386208.00	25000	102.86	90	110	
Mg	24	45	No Gas	24951.782	ppb	0.9	230567861.33	25000	99.81	90	110	
Al	27	45	No Gas	24588.131	ppb	1.0	303392988.81	25000	98.35	90	110	
Si	28	45	H2	2558.907	ppb	0.7	3689251.75	2500	102.36	90	110	
P	31	45	No Gas	246.095	ppb	0.8	244295.99	250	98.44	90	110	
K	39	45	He	24451.794	ppb	0.2	18925991.33	25000	97.81	90	110	
Ca	40	45	H2	25129.056	ppb	0.5	254231392.00	25000	100.52	90	110	
Ti	47	45	No Gas	248.292	ppb	0.6	408018.60	250	99.32	90	110	
V	51	45	He	243.601	ppb	0.5	1519658.75	250	97.44	90	110	
Cr	52	45	He	244.598	ppb	0.4	1706041.54	250	97.84	90	110	
Mn	55	45	No Gas	1486.333	ppb	0.5	38704462.67	1500	99.09	90	110	
Fe	56	45	H2	25183.591	ppb	0.3	369855456.00	25000	100.73	90	110	
Co	59	45	No Gas	246.432	ppb	0.4	5239007.17	250	98.57	90	110	
Ni	60	45	He	250.535	ppb	0.6	585120.29	250	100.21	90	110	
Cu	63	45	He	247.257	ppb	0.2	1476247.29	250	98.9	90	110	
Zn	66	72	No Gas	250.802	ppb	0.4	787613.81	250	100.32	90	110	
As	75	72	He	244.870	ppb	0.3	281288.47	250	97.95	90	110	
Se	78	72	H2	252.757	ppb	0.8	104095.35	250	101.1	90	110	
Sr	88	72	No Gas	251.739	ppb	0.4	6907069.73	250	100.7	90	110	
Zr	90	72	No Gas	24.659	ppb	0.7	448362.06	25	98.64	90	110	
Mo	95	115	No Gas	241.349	ppb	1.5	1303425.02	250	96.54	90	110	
Ag	107	115	No Gas	24.672	ppb	0.8	315118.20	25	98.69	90	110	
Cd	111	115	No Gas	246.724	ppb	0.5	628214.92	250	98.69	90	110	
Sn	118	115	No Gas	244.062	ppb	0.4	1879296.31	250	97.62	90	110	
Sb	123	115	No Gas	48.747	ppb	0.8	452949.18	50	97.49	90	110	
Ba	137	115	No Gas	493.526	ppb	1.7	2020006.86	500	98.71	90	110	
W	182	159	No Gas	24.619	ppb	1.1	255387.01	25	98.48	90	110	
Hg	201	159	No Gas	2.491	ppb	0.9	4156.02	2.5	99.64	90	110	
Hg	201	159	He	2.489	ppb	1.5	3203.91	2.5	99.56	90	110	
Tl	205	159	No Gas	252.974	ppb	1.0	5607867.83	250	101.19	90	110	
Pb	208	159	No Gas	251.234	ppb	0.4	7730807.45	250	100.49	90	110	

Continuing Calibration Verifica :ion (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	247.683	ppb	0.4	7826789.97	250	99.07	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1303664.40	1.3	1252755.61	104.06	70	120	
Sc	45	No Gas	4764275.00	1.3	4539977.33	104.94	70	120	
Sc	45	H2	3377646.58	0.5	3324102.25	101.61	70	120	
Sc	45	He	569281.27	0.3	564191.6	100.9	70	120	
Ge	72	No Gas	1034969.46	1.2	973954.71	106.26	70	120	
Ge	72	H2	883417.91	1.1	848233.79	104.15	70	120	
Ge	72	He	318639.34	0.6	304552.26	104.63	70	120	
In	115	No Gas	5848313.94	1.6	5824478.2	100.41	70	120	
Tb	159	No Gas	8366302.17	2.6	8139265.23	102.79	70	120	
Tb	159	He	6043086.33	0.8	5798575	104.22	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB5 THUANG
File Name	H6A20059.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:52:59
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.264	ppb	51.8	81083.51	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	33.33	0.08	
B	11	6	No Gas	13.862	ppb	7.9	29331.67	4	>LOD
Na	23	45	H2	70.174	ppb	2.0	1055918.00	40	>LOD
Mg	24	45	No Gas	0.380	ppb	142.5	83737.91	10	
Al	27	45	No Gas	0.077	ppb	526.2	48688.80	15	
Si	28	45	H2	0.554	ppb	35.2	7029.78	8	
P	31	45	No Gas	0.706	ppb	263.3	50266.72	10	
K	39	45	He	7.600	ppb	95.9	115943.37	20	
Ca	40	45	H2	<0.000	ppb	N/A	414380.06	25	
Ti	47	45	No Gas	0.033	ppb	254.3	350.01	0.5	
V	51	45	He	0.020	ppb	47.9	1748.11	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1758.12	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	16170.22	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	70732.34	10	
Co	59	45	No Gas	<0.000	ppb	N/A	1040.71	0.15	
Ni	60	45	He	<0.000	ppb	N/A	208.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	3890.56	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	6509.56	2	
As	75	72	He	0.017	ppb	21.9	171.00	0.2	
Se	78	72	H2	0.031	ppb	44.1	51.33	0.2	
Sr	88	72	No Gas	0.022	ppb	52.9	2766.96	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	203.33	2	
Mo	95	115	No Gas	0.025	ppb	32.8	352.23	0.2	
Ag	107	115	No Gas	0.002	ppb	141.9	160.00	0.08	
Cd	111	115	No Gas	0.008	ppb	36.5	146.22	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1350.07	0.2	
Sb	123	115	No Gas	0.008	ppb	56.0	264.45	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	527.79	0.2	
W	182	159	No Gas	0.001	ppb	372.6	120.00	0.3	
Hg	201	159	No Gas	0.011	ppb	61.5	54.17	0.1	
Hg	201	159	He	0.004	ppb	53.9	26.00	0.1	
Tl	205	159	No Gas	0.028	ppb	66.0	2252.43	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	2262.30	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.014	ppb	14.8	1268.95	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1331848.49	2.1	1252755.61	106.31	70	120	
Sc	45	No Gas	4817430.17	2.6	4539977.33	106.11	70	120	
Sc	45	H2	3472474.75	1.1	3324102.25	104.46	70	120	
Sc	45	He	596054.33	0.3	564191.6	105.65	70	120	
Ge	72	No Gas	1017729.73	2.5	973954.71	104.49	70	120	
Ge	72	H2	875801.58	0.0	848233.79	103.25	70	120	
Ge	72	He	316387.39	0.6	304552.26	103.89	70	120	
In	115	No Gas	6050079.83	2.4	5824478.2	103.87	70	120	
Tb	159	No Gas	8350215.78	2.3	8139265.23	102.59	70	120	
Tb	159	He	6110795.17	0.5	5798575	105.38	70	120	

Sample Report

Sample Name	L226-08G
File Name	H6A20060.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A21.b
Acq Time	2023-01-28 15:55:34
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	106.742	21.348	ppb	3.8	210947.40	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	31.11	50	
B	11	6	No Gas	381.058	76.212	ppb	3.0	119700.43	100	
Na	23	45	H2	227954.289	45590.858	ppb	1.1	192105786.67	50000	>LDR
Mg	24	45	No Gas	6802.568	1360.514	ppb	1.4	12642591.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	41140.94	50000	
Si	28	45	H2	11689.233	2337.847	ppb	0.5	3476489.00	5000	
P	31	45	No Gas	15.230	3.046	ppb	54.4	51561.00	500	
K	39	45	He	5425.248	1085.050	ppb	1.5	974532.19	50000	
Ca	40	45	H2	34917.557	6983.511	ppb	0.6	73224458.67	50000	
Ti	47	45	No Gas	0.719	0.144	ppb	18.3	530.01	500	
V	51	45	He	17.170	3.434	ppb	1.9	23782.59	500	
Cr	52	45	He	35.986	7.197	ppb	1.1	54038.20	500	
Mn	55	45	No Gas	1.339	0.268	ppb	2.7	24921.35	3000	
Fe	56	45	H2	6.565	1.313	ppb	7.9	102022.96	50000	
Co	59	45	No Gas	0.187	0.037	ppb	7.9	1945.47	500	
Ni	60	45	He	22.476	4.495	ppb	1.9	11195.27	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3768.52	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6177.41	500	
As	75	72	He	16.819	3.364	ppb	1.7	4191.65	500	
Se	78	72	H2	1.018	0.204	ppb	13.0	127.33	500	
Sr	88	72	No Gas	518.679	103.736	ppb	0.6	2852365.93	500	
Zr	90	72	No Gas	0.037	0.007	ppb	60.2	500.01	50	
Mo	95	115	No Gas	11.579	2.316	ppb	1.8	12899.58	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	124.44	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	48.78	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	740.02	500	
Sb	123	115	No Gas	0.064	0.013	ppb	61.8	304.45	100	
Ba	137	115	No Gas	119.840	23.968	ppb	2.6	100092.72	1000	
W	182	159	No Gas	5.053	1.011	ppb	3.1	10494.41	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	31.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	19.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	712.24	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1037.79	500	
U	238	159	No Gas	4.642	0.928	ppb	3.4	29878.66	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1283905.27	1.7	1252755.61	102.49	70	120	
Sc	45	No Gas	4762648.83	1.8	4539977.33	104.9	70	120	
Sc	45	H2	3483280.92	0.3	3324102.25	104.79	70	120	
Sc	45	He	590161.56	0.5	564191.6	104.6	70	120	
Ge	72	No Gas	1036703.29	1.6	973954.71	106.44	70	120	
Ge	72	H2	914535.94	0.5	848233.79	107.82	70	120	
Ge	72	He	332735.73	0.7	304552.26	109.25	70	120	
In	115	No Gas	5935691.26	0.8	5824478.2	101.91	70	120	
Tb	159	No Gas	8286776.06	1.8	8139265.23	101.81	70	120	
Tb	159	He	6065515.67	0.3	5798575	104.6	70	120	

Sample Report

Sample Name	L226-09G
File Name	H6A20061.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 15:58:10
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	105.774	21.155	ppb	3.8	211018.29	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	28.89	50	
B	11	6	No Gas	379.481	75.896	ppb	3.7	119951.49	100	
Na	23	45	H2	224819.305	44963.861	ppb	0.7	176481722.67	50000	
Mg	24	45	No Gas	6736.706	1347.341	ppb	3.8	12597522.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	36865.70	50000	
Si	28	45	H2	11728.050	2345.610	ppb	1.7	3248565.08	5000	
P	31	45	No Gas	11.525	2.305	ppb	34.1	51317.89	500	
K	39	45	He	5472.916	1094.583	ppb	1.7	949003.04	50000	
Ca	40	45	H2	34234.077	6846.815	ppb	0.9	66876872.00	50000	
Ti	47	45	No Gas	0.436	0.087	ppb	14.9	440.01	500	
V	51	45	He	16.937	3.387	ppb	0.9	22691.43	500	
Cr	52	45	He	35.042	7.008	ppb	2.0	50914.42	500	
Mn	55	45	No Gas	1.138	0.228	ppb	18.0	24020.40	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	72089.42	50000	
Co	59	45	No Gas	0.181	0.036	ppb	20.4	1930.14	500	
Ni	60	45	He	21.868	4.374	ppb	2.1	10537.41	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3973.25	500	
Zn	66	72	No Gas	2.075	0.415	ppb	8.6	8805.52	500	
As	75	72	He	17.798	3.560	ppb	3.1	4249.00	500	
Se	78	72	H2	1.060	0.212	ppb	9.1	124.67	500	
Sr	88	72	No Gas	514.194	102.839	ppb	2.8	2868050.79	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	250.00	50	
Mo	95	115	No Gas	11.951	2.390	ppb	2.6	13385.62	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	128.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	38.16	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	703.35	500	
Sb	123	115	No Gas	0.033	0.007	ppb	36.2	247.78	100	
Ba	137	115	No Gas	117.926	23.585	ppb	1.8	99098.51	1000	
W	182	159	No Gas	4.897	0.979	ppb	3.7	10304.23	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	26.50	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	15.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	634.46	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1014.46	500	
U	238	159	No Gas	4.576	0.915	ppb	2.3	29857.46	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1291899.58	0.8	1252755.61	103.12	70	120	
Sc	45	No Gas	4794358.33	2.3	4539977.33	105.6	70	120	
Sc	45	H2	3244717.42	1.5	3324102.25	97.61	70	120	
Sc	45	He	570324.29	1.7	564191.6	101.09	70	120	
Ge	72	No Gas	1051602.21	0.7	973954.71	107.97	70	120	
Ge	72	H2	871020.23	0.5	848233.79	102.69	70	120	
Ge	72	He	319543.99	2.6	304552.26	104.92	70	120	
In	115	No Gas	5970998.23	1.0	5824478.2	102.52	70	120	
Tb	159	No Gas	8398365.78	0.8	8139265.23	103.18	70	120	
Tb	159	He	5700711.00	4.0	5798575	98.31	70	120	

Sample Report

Sample Name	L226-10G
File Name	H6A20062.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:00:46
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	110.960	22.192	ppb	0.7	213507.01	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	43.33	50	
B	11	6	No Gas	394.198	78.840	ppb	1.9	121983.94	100	
Na	23	45	H2	232524.744	46504.949	ppb	0.7	196117226.67	50000	>LDR
Mg	24	45	No Gas	6849.270	1369.854	ppb	1.7	12760854.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	40188.11	50000	
Si	28	45	H2	11844.891	2368.978	ppb	1.0	3525886.58	5000	
P	31	45	No Gas	12.363	2.473	ppb	4.4	51243.62	500	
K	39	45	He	5539.225	1107.845	ppb	1.4	996252.04	50000	
Ca	40	45	H2	35300.440	7060.088	ppb	0.1	74090613.33	50000	
Ti	47	45	No Gas	0.417	0.083	ppb	25.4	432.01	500	
V	51	45	He	17.299	3.460	ppb	0.8	24036.36	500	
Cr	52	45	He	36.021	7.204	ppb	0.7	54281.17	500	
Mn	55	45	No Gas	1.213	0.243	ppb	6.6	24318.25	3000	
Fe	56	45	H2	8.232	1.646	ppb	4.1	107172.77	50000	
Co	59	45	No Gas	0.185	0.037	ppb	7.6	1940.81	500	
Ni	60	45	He	22.359	4.472	ppb	2.5	11177.25	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3771.19	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6907.10	500	
As	75	72	He	17.080	3.416	ppb	0.9	4254.67	500	
Se	78	72	H2	0.960	0.192	ppb	11.2	123.33	500	
Sr	88	72	No Gas	524.049	104.810	ppb	1.3	2904513.01	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	270.00	50	
Mo	95	115	No Gas	12.032	2.406	ppb	1.7	13302.19	500	
Ag	107	115	No Gas	0.008	0.002	ppb	117.4	148.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	44.20	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	643.35	500	
Sb	123	115	No Gas	0.036	0.007	ppb	35.1	251.11	100	
Ba	137	115	No Gas	121.722	24.344	ppb	1.9	100938.04	1000	
W	182	159	No Gas	5.194	1.039	ppb	2.8	10744.60	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	27.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	16.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	521.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	948.90	500	
U	238	159	No Gas	4.668	0.934	ppb	2.7	29942.09	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1267595.72	2.1	1252755.61	101.18	70	120	
Sc	45	No Gas	4773991.00	2.0	4539977.33	105.15	70	120	
Sc	45	H2	3486559.42	0.6	3324102.25	104.89	70	120	
Sc	45	He	592256.65	0.8	564191.6	104.97	70	120	
Ge	72	No Gas	1044842.40	0.9	973954.71	107.28	70	120	
Ge	72	H2	921781.44	0.3	848233.79	108.67	70	120	
Ge	72	He	332748.92	0.8	304552.26	109.26	70	120	
In	115	No Gas	5895236.83	2.1	5824478.2	101.21	70	120	
Tb	159	No Gas	8260582.17	1.3	8139265.23	101.49	70	120	
Tb	159	He	6052952.50	0.4	5798575	104.39	70	120	

Sample Report

Sample Name	L226-11G
File Name	H6A20063.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:03:22
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	223.156	44.631	ppb	1.7	347329.98	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	45.56	50	
B	11	6	No Gas	599.668	119.934	ppb	4.0	178570.04	100	>LDR
Na	23	45	H2	420148.317	84029.663	ppb	0.7	353808437.33	50000	>LDR
Mg	24	45	No Gas	2000.864	400.173	ppb	2.8	3779417.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	36334.40	50000	
Si	28	45	H2	12516.926	2503.385	ppb	0.9	3726205.42	5000	
P	31	45	No Gas	11.916	2.383	ppb	33.1	51091.72	500	
K	39	45	He	6738.227	1347.645	ppb	1.3	1184310.21	50000	
Ca	40	45	H2	29235.383	5847.077	ppb	0.3	61456842.67	50000	
Ti	47	45	No Gas	0.422	0.084	ppb	18.5	433.34	500	
V	51	45	He	17.468	3.494	ppb	0.8	24173.93	500	
Cr	52	45	He	16.890	3.378	ppb	0.9	26462.85	500	
Mn	55	45	No Gas	1.015	0.203	ppb	3.4	23256.41	3000	
Fe	56	45	H2	5.646	1.129	ppb	7.3	99347.95	50000	
Co	59	45	No Gas	0.129	0.026	ppb	3.0	1697.44	500	
Ni	60	45	He	18.756	3.751	ppb	0.6	9397.24	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3427.10	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6689.65	500	
As	75	72	He	13.908	2.782	ppb	0.7	3480.45	500	
Se	78	72	H2	0.603	0.121	ppb	29.8	92.00	500	
Sr	88	72	No Gas	667.532	133.506	ppb	1.1	3678847.08	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	213.33	50	
Mo	95	115	No Gas	15.419	3.084	ppb	0.5	17116.55	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	128.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	41.38	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	690.02	500	
Sb	123	115	No Gas	0.030	0.006	ppb	44.4	241.11	100	
Ba	137	115	No Gas	108.226	21.645	ppb	0.3	90499.85	1000	
W	182	159	No Gas	5.383	1.077	ppb	2.4	11078.23	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	21.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	16.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	483.34	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	995.57	500	
U	238	159	No Gas	2.353	0.471	ppb	2.8	15420.83	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1247083.48	2.2	1252755.61	99.55	70	120	
Sc	45	No Gas	4767309.83	2.0	4539977.33	105.01	70	120	
Sc	45	H2	3487090.92	0.2	3324102.25	104.9	70	120	
Sc	45	He	590285.33	0.5	564191.6	104.62	70	120	
Ge	72	No Gas	1039075.10	1.2	973954.71	106.69	70	120	
Ge	72	H2	914478.90	0.3	848233.79	107.81	70	120	
Ge	72	He	331446.19	0.3	304552.26	108.83	70	120	
In	115	No Gas	5938823.03	2.7	5824478.2	101.96	70	120	
Tb	159	No Gas	8219115.51	1.1	8139265.23	100.98	70	120	
Tb	159	He	5993477.67	0.5	5798575	103.36	70	120	

Sample Report

Sample Name	L226-12G
File Name	H6A20064.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:05:57
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	210.707	42.141	ppb	2.6	304116.51	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	34.44	50	
B	11	6	No Gas	631.617	126.323	ppb	6.2	171656.59	100	>LDR
Na	23	45	H2	401723.207	80344.641	ppb	2.3	329233984.00	50000	>LDR
Mg	24	45	No Gas	2106.306	421.261	ppb	0.8	3643500.08	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	34198.84	50000	
Si	28	45	H2	12510.206	2502.041	ppb	1.0	3622739.83	5000	
P	31	45	No Gas	45.976	9.195	ppb	25.2	51798.39	500	
K	39	45	He	6526.266	1305.253	ppb	1.1	1159135.92	50000	
Ca	40	45	H2	28725.122	5745.024	ppb	1.1	58749893.33	50000	
Ti	47	45	No Gas	0.529	0.106	ppb	16.7	430.01	500	
V	51	45	He	18.028	3.606	ppb	1.2	25084.92	500	
Cr	52	45	He	17.406	3.481	ppb	0.6	27410.69	500	
Mn	55	45	No Gas	0.849	0.170	ppb	6.9	20531.40	3000	
Fe	56	45	H2	7.305	1.461	ppb	5.5	101531.35	50000	
Co	59	45	No Gas	0.128	0.026	ppb	6.2	1556.76	500	
Ni	60	45	He	14.970	2.994	ppb	2.3	7621.47	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3519.13	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	6166.74	500	
As	75	72	He	13.961	2.792	ppb	1.3	3496.79	500	
Se	78	72	H2	0.642	0.128	ppb	12.4	93.00	500	
Sr	88	72	No Gas	648.197	129.639	ppb	0.5	3395758.55	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	213.33	50	
Mo	95	115	No Gas	15.607	3.121	ppb	5.1	16066.36	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	101.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	33.66	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	582.24	500	
Sb	123	115	No Gas	0.044	0.009	ppb	25.9	247.78	100	
Ba	137	115	No Gas	103.378	20.676	ppb	2.5	80217.94	1000	
W	182	159	No Gas	5.516	1.103	ppb	4.0	10384.28	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	407.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	834.45	500	
U	238	159	No Gas	2.764	0.553	ppb	2.8	16454.42	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1142676.08	3.2	1252755.61	91.21	70	120	
Sc	45	No Gas	4372435.33	2.3	4539977.33	96.31	70	120	
Sc	45	H2	3392673.83	3.3	3324102.25	102.06	70	120	
Sc	45	He	594703.79	0.2	564191.6	105.41	70	120	
Ge	72	No Gas	987814.89	0.7	973954.71	101.42	70	120	
Ge	72	H2	892712.21	2.3	848233.79	105.24	70	120	
Ge	72	He	331802.02	0.7	304552.26	108.95	70	120	
In	115	No Gas	5511618.94	2.7	5824478.2	94.63	70	120	
Tb	159	No Gas	7524547.48	3.3	8139265.23	92.45	70	120	
Tb	159	He	5982314.67	0.8	5798575	103.17	70	120	

Sample Report

Sample Name	L226-13G TH 1/30/23
File Name	H6A20065.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:08:32
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	110.755	22.151	ppb	1.2	190478.29	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	35.56	50	
B	11	6	No Gas	673.700	134.740	ppb	2.0	181218.16	100	>LDR
Na	23	45	H2	249913.284	49982.657	ppb	15.6	175158048.00	50000	>LDR
Mg	24	45	No Gas	12374.152	2474.830	ppb	1.4	20946945.33	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	37931.93	50000	
Si	28	45	H2	19113.741	3822.748	ppb	16.3	4722871.67	5000	
P	31	45	No Gas	51.974	10.395	ppb	12.9	52416.69	500	
K	39	45	He	6526.507	1305.301	ppb	1.3	1110007.34	50000	
Ca	40	45	H2	64009.149	12801.830	ppb	16.5	111237085.33	50000	
Ti	47	45	No Gas	0.525	0.105	ppb	33.8	426.67	500	
V	51	45	He	15.608	3.122	ppb	1.5	21006.75	500	
Cr	52	45	He	20.862	4.172	ppb	1.3	31074.53	500	
Mn	55	45	No Gas	12.348	2.470	ppb	1.8	75095.14	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	42665.15	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	506.68	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	194.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3695.17	500	
Zn	66	72	No Gas	149.120	29.824	ppb	0.7	95434.76	500	
As	75	72	He	4.961	0.992	ppb	5.5	1300.06	500	
Se	78	72	H2	4.773	0.955	ppb	17.7	385.34	500	
Sr	88	72	No Gas	737.182	147.436	ppb	1.5	3855795.54	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	206.67	50	
Mo	95	115	No Gas	13.642	2.728	ppb	1.5	13832.73	500	
Ag	107	115	No Gas	0.003	0.001	ppb	228.6	125.56	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	32.13	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	552.24	500	
Sb	123	115	No Gas	0.105	0.021	ppb	16.6	350.00	100	
Ba	137	115	No Gas	70.999	14.200	ppb	1.3	54317.82	1000	
W	182	159	No Gas	2.457	0.491	ppb	1.6	4660.87	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	19.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	367.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	883.35	500	
U	238	159	No Gas	4.610	0.922	ppb	0.7	26809.31	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1132162.71	2.3	1252755.61	90.37	70	120	
Sc	45	No Gas	4349814.17	2.0	4539977.33	95.81	70	120	
Sc	45	H2	2941849.50	14.4	3324102.25	88.5	70	120	
Sc	45	He	569632.48	3.2	564191.6	100.96	70	120	
Ge	72	No Gas	986099.08	2.4	973954.71	101.25	70	120	
Ge	72	H2	798978.56	13.3	848233.79	94.19	70	120	
Ge	72	He	320992.53	2.6	304552.26	105.4	70	120	
In	115	No Gas	5415700.11	2.7	5824478.2	92.98	70	120	
Tb	159	No Gas	7486968.04	1.5	8139265.23	91.99	70	120	
Tb	159	He	5704951.00	5.7	5798575	98.39	70	120	

Sample Report

Sample Name	L226-14G
File Name	H6A20066.d 1H 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:11:07
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	148.043	29.609	ppb	3.9	248593.38	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	30.00	50	
B	11	6	No Gas	632.169	126.434	ppb	2.6	182790.18	100	>LDR
Na	23	45	H2	288701.822	57740.364	ppb	1.3	241011408.00	50000	>LDR
Mg	24	45	No Gas	7069.647	1413.929	ppb	5.8	12552129.33	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	36979.35	50000	
Si	28	45	H2	12413.981	2482.796	ppb	0.3	3660077.50	5000	
P	31	45	No Gas	23.930	4.786	ppb	82.3	50604.71	500	
K	39	45	He	7111.799	1422.360	ppb	0.4	1232543.04	50000	
Ca	40	45	H2	50047.766	10009.553	ppb	0.9	103839813.33	50000	
Ti	47	45	No Gas	0.511	0.102	ppb	17.1	441.34	500	
V	51	45	He	14.256	2.851	ppb	0.5	19839.00	500	
Cr	52	45	He	7.970	1.594	ppb	1.2	13450.60	500	
Mn	55	45	No Gas	50.665	10.133	ppb	6.1	269110.78	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	41125.04	50000	
Co	59	45	No Gas	0.009	0.002	ppb	352.2	1132.05	500	
Ni	60	45	He	6.673	1.335	ppb	1.8	3515.79	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3221.05	500	
Zn	66	72	No Gas	0.435	0.087	ppb	128.3	7458.73	500	
As	75	72	He	8.541	1.708	ppb	1.3	2171.84	500	
Se	78	72	H2	0.619	0.124	ppb	12.6	93.00	500	
Sr	88	72	No Gas	1004.308	200.862	ppb	3.6	5378302.98	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	243.33	50	
Mo	95	115	No Gas	21.917	4.383	ppb	4.0	23039.90	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	111.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	21.00	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	608.91	500	
Sb	123	115	No Gas	0.063	0.013	ppb	28.6	288.89	100	
Ba	137	115	No Gas	77.905	15.581	ppb	6.2	61987.40	1000	
W	182	159	No Gas	3.590	0.718	ppb	4.8	7198.74	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	22.50	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	17.00	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	403.34	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1097.80	500	
U	238	159	No Gas	6.339	1.268	ppb	6.0	38922.86	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1215083.30	5.8	1252755.61	96.99	70	120	
Sc	45	No Gas	4565212.75	7.9	4539977.33	100.56	70	120	
Sc	45	H2	3453500.67	0.4	3324102.25	103.89	70	120	
Sc	45	He	584860.25	0.3	564191.6	103.66	70	120	
Ge	72	No Gas	1011632.44	6.8	973954.71	103.87	70	120	
Ge	72	H2	910733.56	0.4	848233.79	107.37	70	120	
Ge	72	He	327392.39	0.3	304552.26	107.5	70	120	
In	115	No Gas	5654590.03	7.2	5824478.2	97.08	70	120	
Tb	159	No Gas	7988182.46	7.6	8139265.23	98.14	70	120	
Tb	159	He	6025343.17	0.1	5798575	103.91	70	120	

Sample Report

Sample Name	L226-15G TH 1/30/23
File Name	H6A20067.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:13:42
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	146.260	29.252	ppb	3.4	244776.84	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	38.89	50	
B	11	6	No Gas	489.849	97.970	ppb	7.4	142054.54	100	>LDR
Na	23	45	H2	188105.370	37621.074	ppb	0.5	145077557.33	50000	
Mg	24	45	No Gas	1526.393	305.279	ppb	2.2	2778579.25	50000	
Al	27	45	No Gas	2.299	0.460	ppb	434.0	50921.58	50000	
Si	28	45	H2	13271.853	2654.371	ppb	1.7	3608811.92	5000	
P	31	45	No Gas	27.972	5.594	ppb	49.8	51337.95	500	
K	39	45	He	5633.840	1126.768	ppb	1.5	931397.86	50000	
Ca	40	45	H2	24645.408	4929.082	ppb	0.6	47395074.67	50000	
Ti	47	45	No Gas	0.388	0.078	ppb	24.9	403.34	500	
V	51	45	He	18.267	3.653	ppb	1.7	23292.45	500	
Cr	52	45	He	15.563	3.113	ppb	0.5	22679.42	500	
Mn	55	45	No Gas	2.696	0.539	ppb	0.8	30671.09	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	41880.66	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	540.01	500	
Ni	60	45	He	2.322	0.464	ppb	4.2	1332.73	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3443.10	500	
Zn	66	72	No Gas	0.176	0.035	ppb	228.0	7425.37	500	
As	75	72	He	12.460	2.492	ppb	1.3	2946.99	500	
Se	78	72	H2	0.673	0.135	ppb	19.1	92.67	500	
Sr	88	72	No Gas	531.677	106.335	ppb	1.7	2895446.90	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	156.67	50	
Mo	95	115	No Gas	10.898	2.180	ppb	3.3	11807.47	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	116.67	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	23.46	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	575.57	500	
Sb	123	115	No Gas	0.048	0.010	ppb	47.8	267.78	100	
Ba	137	115	No Gas	97.907	19.581	ppb	3.4	79507.28	1000	
W	182	159	No Gas	5.046	1.009	ppb	2.5	10037.36	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	19.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	474.45	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1033.35	500	
U	238	159	No Gas	4.523	0.905	ppb	1.5	27930.76	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1206427.58	5.8	1252755.61	96.3	70	120	
Sc	45	No Gas	4567542.67	4.4	4539977.33	100.61	70	120	
Sc	45	H2	3185181.17	0.6	3324102.25	95.82	70	120	
Sc	45	He	545426.71	0.6	564191.6	96.67	70	120	
Ge	72	No Gas	1026443.23	2.6	973954.71	105.39	70	120	
Ge	72	H2	865090.27	1.6	848233.79	101.99	70	120	
Ge	72	He	311615.71	0.9	304552.26	102.32	70	120	
In	115	No Gas	5766706.40	3.5	5824478.2	99.01	70	120	
Tb	159	No Gas	7943468.02	3.2	8139265.23	97.59	70	120	
Tb	159	He	5489022.17	1.8	5798575	94.66	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV6
File Name	H6A20069.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:18:54
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.017	ppb	2.2	236464.94	25	100.07	90	110	
Be	9	6	No Gas	24.488	ppb	0.6	53279.64	25	97.95	90	110	
B	11	6	No Gas	63.083	ppb	1.3	101447.70	50	126.17	90	110	> +/- 10%
Na	23	45	H2	25570.918	ppb	0.7	105624253.33	25000	102.28	90	110	
Mg	24	45	No Gas	24790.193	ppb	2.0	230170917.33	25000	99.16	90	110	
Al	27	45	No Gas	24580.625	ppb	2.6	304796542.12	25000	98.32	90	110	
Si	28	45	H2	2545.862	ppb	0.7	3699138.33	2500	101.83	90	110	
P	31	45	No Gas	245.272	ppb	1.2	244829.77	250	98.11	90	110	
K	39	45	He	24322.475	ppb	0.9	18842726.00	25000	97.29	90	110	
Ca	40	45	H2	25054.035	ppb	0.1	255458864.00	25000	100.22	90	110	
Ti	47	45	No Gas	246.817	ppb	1.0	407551.86	250	98.73	90	110	
V	51	45	He	244.613	ppb	0.8	1527284.16	250	97.85	90	110	
Cr	52	45	He	245.387	ppb	0.2	1713004.79	250	98.15	90	110	
Mn	55	45	No Gas	1469.369	ppb	1.8	38447474.67	1500	97.96	90	110	
Fe	56	45	H2	25055.263	ppb	0.8	370865888.00	25000	100.22	90	110	
Co	59	45	No Gas	244.272	ppb	1.6	5218105.67	250	97.71	90	110	
Ni	60	45	He	251.468	ppb	0.4	587794.02	250	100.59	90	110	
Cu	63	45	He	247.249	ppb	0.9	1477445.17	250	98.9	90	110	
Zn	66	72	No Gas	250.748	ppb	0.4	787925.35	250	100.3	90	110	
As	75	72	He	245.574	ppb	1.0	281953.36	250	98.23	90	110	
Se	78	72	H2	251.983	ppb	0.5	104892.53	250	100.79	90	110	
Sr	88	72	No Gas	250.670	ppb	1.4	6882559.17	250	100.27	90	110	
Zr	90	72	No Gas	24.648	ppb	1.0	448459.51	25	98.59	90	110	
Mo	95	115	No Gas	241.493	ppb	0.8	1298315.19	250	96.6	90	110	
Ag	107	115	No Gas	25.049	ppb	2.3	318497.63	25	100.2	90	110	
Cd	111	115	No Gas	251.553	ppb	0.5	637636.99	250	100.62	90	110	
Sn	118	115	No Gas	243.756	ppb	1.0	1868534.30	250	97.5	90	110	
Sb	123	115	No Gas	49.162	ppb	1.2	454732.71	50	98.32	90	110	
Ba	137	115	No Gas	495.723	ppb	1.5	2020044.57	500	99.14	90	110	
W	182	159	No Gas	24.928	ppb	1.4	256129.74	25	99.71	90	110	
Hg	201	159	No Gas	2.481	ppb	3.2	4099.34	2.5	99.24	90	110	
Hg	201	159	He	2.507	ppb	1.3	3228.25	2.5	100.28	90	110	
Tl	205	159	No Gas	252.703	ppb	1.9	5547403.81	250	101.08	90	110	
Pb	208	159	No Gas	251.919	ppb	0.6	7676066.49	250	100.77	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	247.915	ppb	1.6	7759024.97	250	99.17	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1297048.89	1.7	1252755.61	103.54	70	120	
Sc	45	No Gas	4787084.33	0.5	4539977.33	105.44	70	120	
Sc	45	H2	3404153.58	0.6	3324102.25	102.41	70	120	
Sc	45	He	569776.37	0.5	564191.6	100.99	70	120	
Ge	72	No Gas	1035599.52	1.4	973954.71	106.33	70	120	
Ge	72	H2	892880.64	0.6	848233.79	105.26	70	120	
Ge	72	He	318489.50	0.8	304552.26	104.58	70	120	
In	115	No Gas	5821785.99	1.2	5824478.2	99.95	70	120	
Tb	159	No Gas	8284382.45	1.5	8139265.23	101.78	70	120	
Tb	159	He	6046246.00	0.6	5798575	104.27	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB6 1 1H1/01/23
File Name	H6A20070.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:21:32
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.030	ppb	186.1	79974.82	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	38.89	0.08	
B	11	6	No Gas	10.372	ppb	5.4	24167.42	4	>LOD
Na	23	45	H2	83.586	ppb	1.1	1110584.63	40	>LOD
Mg	24	45	No Gas	1.117	ppb	56.1	89658.79	10	
Al	27	45	No Gas	0.114	ppb	252.2	48655.22	15	
Si	28	45	H2	0.847	ppb	10.5	7456.67	8	
P	31	45	No Gas	1.679	ppb	6.3	50508.91	10	
K	39	45	He	8.396	ppb	68.7	116400.96	20	
Ca	40	45	H2	<0.000	ppb	N/A	443273.21	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	292.00	0.5	
V	51	45	He	0.029	ppb	67.2	1802.79	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1679.44	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	16048.75	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	72741.00	10	
Co	59	45	No Gas	<0.000	ppb	N/A	982.70	0.15	
Ni	60	45	He	<0.000	ppb	N/A	188.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2990.33	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	6428.19	2	
As	75	72	He	0.008	ppb	147.7	161.00	0.2	
Se	78	72	H2	0.021	ppb	65.5	47.33	0.2	
Sr	88	72	No Gas	0.044	ppb	16.1	3367.09	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	220.00	2	
Mo	95	115	No Gas	0.019	ppb	5.6	320.01	0.2	
Ag	107	115	No Gas	0.003	ppb	56.2	180.00	0.08	
Cd	111	115	No Gas	0.011	ppb	62.3	156.61	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1420.08	0.2	
Sb	123	115	No Gas	0.004	ppb	89.9	230.00	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	450.01	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	96.67	0.3	
Hg	201	159	No Gas	0.007	ppb	38.8	48.67	0.1	
Hg	201	159	He	0.007	ppb	37.7	29.50	0.1	
Tl	205	159	No Gas	0.023	ppb	62.8	2182.42	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	2228.97	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.011	ppb	16.7	1192.28	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1338764.48	1.3	1252755.61	106.87	70	120	
Sc	45	No Gas	4764183.83	1.2	4539977.33	104.94	70	120	
Sc	45	H2	3467829.00	0.3	3324102.25	104.32	70	120	
Sc	45	He	595046.13	0.6	564191.6	105.47	70	120	
Ge	72	No Gas	1012290.71	0.8	973954.71	103.94	70	120	
Ge	72	H2	872083.15	0.4	848233.79	102.81	70	120	
Ge	72	He	317274.91	0.5	304552.26	104.18	70	120	
In	115	No Gas	6110687.59	0.7	5824478.2	104.91	70	120	
Tb	159	No Gas	8443615.50	0.7	8139265.23	103.74	70	120	
Tb	159	He	6114012.83	0.6	5798575	105.44	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A20079.d TH 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A21.b
Acq Time	2023-01-28 16:44:53
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.576	ppb	19.1	75448.97	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	61.11	0.4	-50	50	
B	11	6	No Gas	9.868	ppb	9.6	21124.78	10	-50	50	> +/- 20%
Na	23	45	H2	108447.861	ppb	1.2	418258624.00	100000	80	120	
Mg	24	45	No Gas	102109.247	ppb	1.5	889813376.00	100000	80	120	
Al	27	45	No Gas	102401.481	ppb	1.6	1191831208.91	100000	80	120	
Si	28	45	H2	4.169	ppb	3.6	11394.68	50	-50	50	
P	31	45	No Gas	100003.937	ppb	0.9	74852842.67	100000	80	120	
K	39	45	He	101713.477	ppb	1.1	71702226.67	100000	80	120	
Ca	40	45	H2	106626.370	ppb	0.6	1019139477.33	100000	80	120	
Ti	47	45	No Gas	2112.752	ppb	2.1	3273459.33	2000	80	120	
V	51	45	He	0.011	ppb	23.3	1474.75	1	-50	50	
Cr	52	45	He	2.174	ppb	1.0	15670.96	1	-50	50	> +/- 20%
Mn	55	45	No Gas	<0.000	ppb	N/A	16659.47	1	-50	50	
Fe	56	45	H2	104927.183	ppb	0.6	1457782698.67	100000	80	120	
Co	59	45	No Gas	0.132	ppb	2.7	3727.85	0.75	-50	50	
Ni	60	45	He	0.383	ppb	6.7	1097.38	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	3243.72	2	-50	50	> +/- 20%
Zn	66	72	No Gas	2.682	ppb	1.6	15036.32	20	-50	50	
As	75	72	He	0.069	ppb	15.8	212.33	1	-50	50	
Se	78	72	H2	0.053	ppb	8.4	57.00	1	-50	50	
Sr	88	72	No Gas	0.875	ppb	2.0	25091.25	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.116	ppb	6.0	2373.55	10	-50	50	
Mo	95	115	No Gas	2063.224	ppb	1.5	10519232.36	2000	80	120	
Ag	107	115	No Gas	0.087	ppb	12.2	1171.17	0.4	-50	50	
Cd	111	115	No Gas	0.018	ppb	374.7	157.16	1	-50	50	
Sn	118	115	No Gas	0.182	ppb	4.4	2922.55	1	-50	50	
Sb	123	115	No Gas	0.076	ppb	7.1	842.25	1	-50	50	
Ba	137	115	No Gas	0.593	ppb	4.7	2805.87	1	-50	50	> +/- 20%
W	182	159	No Gas	0.163	ppb	4.8	1786.80	1	-50	50	
Hg	201	159	No Gas	<0.000	ppb	N/A	22.17	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	10.83	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	816.69	0.5	-50	50	
Pb	208	159	No Gas	0.007	ppb	28.0	2494.55	0.5	-50	50	

TH 1/30/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.000	ppb	503.1	825.58	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1208796.75	1.2	1252755.61	96.49	70	120	
Sc	45	No Gas	4494518.33	1.6	4539977.33	99	70	120	
Sc	45	H2	3195784.08	0.4	3324102.25	96.14	70	120	
Sc	45	He	520678.03	0.2	564191.6	92.29	70	120	
Ge	72	No Gas	989967.09	0.1	973954.71	101.64	70	120	
Ge	72	H2	826346.27	0.5	848233.79	97.42	70	120	
Ge	72	He	292310.36	0.3	304552.26	95.98	70	120	
In	115	No Gas	5521783.71	1.1	5824478.2	94.8	70	120	
Tb	159	No Gas	8312642.45	0.8	8139265.23	102.13	70	120	
Tb	159	He	5826952.33	0.2	5798575	100.49	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A20080.d TH 1/30/23
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A21.b
Acq Time	2023-01-28 16:47:31
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A20003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	21.029	ppb	1.3	193778.65	20	80	120	
Be	9	6	No Gas	20.303	ppb	0.8	40581.74	20	80	120	
B	11	6	No Gas	26.188	ppb	1.3	42998.95	20	80	120	> +/- 20%
Na	23	45	H2	102871.839	ppb	0.9	395676394.67	100000	80	120	
Mg	24	45	No Gas	99873.166	ppb	0.8	848684778.67	100000	80	120	
Al	27	45	No Gas	100627.506	ppb	1.3	1142180329.65	100000	80	120	
Si	28	45	H2	218.269	ppb	0.7	302127.53	200	80	120	
P	31	45	No Gas	97603.433	ppb	1.4	71240096.00	100000	80	120	
K	39	45	He	94954.283	ppb	2.1	68032896.00	100000	80	120	
Ca	40	45	H2	102011.423	ppb	0.6	972317120.00	100000	80	120	
Ti	47	45	No Gas	2078.612	ppb	0.7	3140237.00	2000	80	120	
V	51	45	He	20.121	ppb	1.6	117990.11	20	80	120	
Cr	52	45	He	22.217	ppb	1.4	145720.93	20	80	120	
Mn	55	45	No Gas	20.291	ppb	0.9	502244.99	20	80	120	
Fe	56	45	H2	102170.354	ppb	0.3	1415527552.00	100000	80	120	
Co	59	45	No Gas	20.664	ppb	0.8	405024.94	20	80	120	
Ni	60	45	He	20.572	ppb	0.7	44928.50	20	80	120	
Cu	63	45	He	19.649	ppb	1.7	117683.33	20	80	120	
Zn	66	72	No Gas	21.828	ppb	0.8	71629.57	20	80	120	
As	75	72	He	19.850	ppb	2.1	21254.36	20	80	120	
Se	78	72	H2	21.036	ppb	1.1	8146.46	20	80	120	
Sr	88	72	No Gas	21.385	ppb	1.5	560239.22	20	80	120	
Zr	90	72	No Gas	12.638	ppb	0.9	218787.26	20	80	120	> +/- 20%
Mo	95	115	No Gas	2041.867	ppb	1.0	10187888.21	2000	80	120	
Ag	107	115	No Gas	20.340	ppb	1.3	240081.44	20	80	120	
Cd	111	115	No Gas	20.974	ppb	0.4	49447.82	20	80	120	
Sn	118	115	No Gas	20.905	ppb	0.8	150154.31	20	80	120	
Sb	123	115	No Gas	20.583	ppb	0.6	176812.84	20	80	120	
Ba	137	115	No Gas	22.072	ppb	1.2	83950.12	20	80	120	
W	182	159	No Gas	20.017	ppb	0.7	203203.85	20	80	120	
Hg	201	159	No Gas	1.989	ppb	2.1	3251.92	2	80	120	
Hg	201	159	He	1.911	ppb	1.4	2415.07	2	80	120	
Tl	205	159	No Gas	21.063	ppb	1.6	458214.20	20	80	120	
Pb	208	159	No Gas	21.254	ppb	0.7	641765.49	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	21.707	ppb	1.9	671853.10	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1190984.81	2.3	1252755.61	95.07	70	120	
Sc	45	No Gas	4382312.50	2.1	4539977.33	96.53	70	120	
Sc	45	H2	3186847.25	0.7	3324102.25	95.87	70	120	
Sc	45	He	529219.03	1.1	564191.6	93.8	70	120	
Ge	72	No Gas	984747.27	1.2	973954.71	101.11	70	120	
Ge	72	H2	827214.35	0.3	848233.79	97.52	70	120	
Ge	72	He	295229.68	1.0	304552.26	96.94	70	120	
In	115	No Gas	5403764.54	1.6	5824478.2	92.78	70	120	
Tb	159	No Gas	8184443.29	1.9	8139265.23	100.56	70	120	
Tb	159	He	5922915.67	1.2	5798575	102.14	70	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 2/2/23 11:34

End Date: 2/2/23 19:23

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

See analytical sequence

Micropipette ID: CU2761702
CU2711033
BU2781098

Book #: AH6-013

Instrument No.: H6

Analytical Batch: 1H6B02

Analytical Sequence: H6B02

Method File: E6020

Micropipette ID: ☐ 142781004

Micropipette ID: ☐ ICP-06

Micropipette ID: ☐ A42761607

Micropipette ID: ☑ GFAA-07

Micropipette ID: ☐ 339342032

Micropipette ID: ☐ A42780077

Micropipette ID: ☐ 542761827

Micropipette ID: ☐

SOP #	Rev. #
☐ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-26-8701	MRL1 (1)	SM6B-269502
S1	8702	MRL2 (10)	9601
S2	8801	MRL3 (CAT)	9602
S3	8802	MRL4	N/A
S4	8901	MRL5	
S5	8902	MRL6	
S6	N/A	Internal Standard	SM6B-266701
S7		Post-Spike 1	SM6A23-0203
ICV	SM6B-26-7101	Post-Spike 2	0204
CCV	9001	Post-Spike 3	N/A
ICSA	SM6B-270202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.			

Analyzed By: TH

Date: 2/4/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6B02
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6B02009				H6B02014			H6B02015		
DateAnalyed :		02/02/2311:58				02/02/2312:36			02/02/2312:59		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.94	30	2.8	93	0.23360	0	>0	18.820	20	94
Beryllium	T	29.14	30	0.7	97	0.019910	0	<.2	18.628	20	93
Boron	T	28.88	30	1.7	96	0.43910	0	<5	17.010	20	85
Sodium	T	30850	30000	1.0	103	103810	100000	104	91787	100000	92
Magnesium	T	30250	30000	3.6	101	102630	100000	103	90036	100000	90
Aluminum	T	30810	30000	3.5	103	104140	100000	104	92338	100000	92
Silicon		3112	3000	0.8	104	4.6224	0	<20	182.97	200	91
Phosphorus		272.3	300	2.3	91	100100	100000	100	86392	100000	86
Potassium	T	30950	30000	0.8	103	104900	100000	105	93647	100000	94
Calcium	T	30580	30000	0.7	102	105500	100000	105	93346	100000	93
Titanium		300.8	300	2.5	100	2177.2	2000	109	1938.9	2000	97
Vanadium	T	302.9	300	0.8	101	0.017133	0	<.5	19.578	20	98
Chromium	T	303.8	300	0.8	101	2.1781	0	>.3	21.861	20	109
Manganese	T	1983	2000	1.9	99	0.082945	0	<.5	18.844	20	94
Iron	T	30820	30000	0.3	103	104590	100000	105	94647	100000	95
Cobalt	T	300.8	300	2.3	100	0.094710	0	<.2	18.982	20	95
Nickel	T	302.3	300	1.5	101	0.43546	0	<.5	20.137	20	101
Copper	T	317.5	300	0.7	106	0.10773	0	<1	20.140	20	101
Zinc	T	311.3	300	2.0	104	4.7186	0	<10	22.713	20	114
Arsenic	T	302.4	300	1.2	101	0.081650	0	<.25	18.927	20	95
Selenium	T	296.9	300	0.6	99	0.043032	0	<.3	19.231	20	96
Strontium		302.8	300	3.0	101	0.82871	0	<1.0	19.773	20	99
Zirconium		30.80	30	2.5	103	0.18382	0	<2.0	11.930	20	60*
Molybdenum	T	296.8	300	2.4	99	2135.3	2000	107	1940.4	2000	97
Silver	T	30.38	30	0.9	101	0.072571	0	<.2	19.196	20	96
Cadmium	T	299.8	300	0.9	100	0.012639	0	<.3	19.651	20	98
Tin		304.0	300	0.6	101	0.061321	0	<0.2	19.728	20	99
Antimony	T	56.29	60	1.1	94	0.050548	0	<.5	19.194	20	96
Barium	T	296.4	300	1.8	99	0.53876	0	>.5	20.138	20	101
Tungsten		30.49	30	1.7	102	0.15715	0	<1.0	18.082	20	90
Mercury		2.846	3	1.7	95	0.0038811	0	<0.1	1.8209	2	91
Thallium	T	305.2	300	0.4	102	0.052332	0	<.2	19.163	20	96
Lead	T	304.9	300	0.1	102	0.00010845	0	<.2	19.068	20	95
Uranium		306.7	300	0.5	102	0.037751	0	<0.1	19.554	20	98

| Unit: ug/L
| T: Target analyte
| EV: Expected Value
| Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6B02
Instrument ID: H6

CCV SampleID			CCV10			CCV11			CCV12		
CCV DataFileID			H6B02098			H6B02110			H6B02120		
CCV DateTime			02/02/23 17:01			02/02/23 17:41			02/02/23 18:07		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	23.6	94	4.5	22.8	91	4.7	23.4	93	2.3
Beryllium	T	25	22.9	92	5.4	22.3	89*	3.2	23.2	93	1.9
Boron	T	50	50.0	100	4.5	48.3	97	4.0	48.8	98	3.9
Sodium	T	25000	24100	96	0.8	24300	97	2.2	24100	97	0.8
Magnesium	T	25000	23900	96	1.0	23600	94	3.2	23500	94	3.2
Aluminum	T	25000	24300	97	2.0	23800	95	2.0	23800	95	3.0
Silicon		2500	2240	90	1.0	2270	91	1.9	2240	90	1.3
Phosphorus		250	208	83*	1.0	206	82*	1.2	203	81*	0.9
Potassium	T	25000	24400	97	1.2	24100	96	1.4	24000	96	0.6
Calcium	T	25000	23900	96	0.9	24000	96	2.6	23900	96	0.7
Titanium		250	231	92	1.0	233	93	2.8	232	93	2.5
Vanadium	T	250	243	97	0.3	244	98	0.8	241	96	0.1
Chromium	T	250	242	97	1.3	241	97	0.4	241	96	0.7
Manganese	T	1500	1470	98	1.5	1470	98	1.8	1470	98	2.6
Iron	T	25000	24500	98	0.4	24500	98	1.6	24100	97	0.5
Cobalt	T	250	230	92	0.8	228	91	2.3	229	92	3.5
Nickel	T	250	240	96	0.5	240	96	0.4	239	96	1.0
Copper	T	250	243	97	0.6	242	97	1.1	239	96	0.9
Zinc	T	250	247	99	0.4	246	98	1.8	247	99	1.4
Arsenic	T	250	234	94	0.6	236	94	0.6	235	94	1.0
Selenium	T	250	245	98	1.3	245	98	0.3	247	99	1.3
Strontium		250	249	100	1.1	252	101	2.7	252	101	1.4
Zirconium		25	24.6	98	0.8	24.7	99	2.5	24.9	100	1.7
Molybdenum	T	250	230	92	1.8	229	92	2.1	229	91	2.2
Silver	T	25	23.4	93	1.7	23.1	92	1.1	23.3	93	2.0
Cadmium	T	250	239	96	1.5	238	95	1.4	238	95	2.2
Tin		250	237	95	1.5	238	95	1.6	236	94	2.3
Antimony	T	50	46.3	93	2.0	46.0	92	2.0	45.1	90	1.5
Barium	T	500	486	97	1.0	482	96	1.9	482	96	1.9
Tungsten		25	24.3	97	1.6	24.7	99	1.7	24.4	97	2.3
Mercury		2.5	2.39	95	4.1	2.39	96	3.7	2.38	95	2.3
Thallium	T	250	243	97	1.8	245	98	2.7	239	96	2.4
Lead	T	250	243	97	1.0	242	97	2.2	239	96	3.0
Uranium		250	245	98	0.2	242	97	1.0	243	97	2.2

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A (DISSOLVED)
Sequence : IH6B02
Instrument ID: H6

CB SampleID		: ICB		CCB10		CCB11		CCB12	
CB DataFileID		: H6B02010		H6B02099		H6B02111		H6B02121	
CB DateTime		: 02/02/2312:00		02/02/2317:04		02/02/2317:44		02/02/2318:10	
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.1	>0	0.1	>0	0.07	>0	0.03	>0
Beryllium	T	.2	0.003	<.2	0.02	<.2	0.02	<.2	0.02	<.2
Boron	T	5	1	<5	4	<5	3	<5	3	<5
Sodium	T	50	5	<50	2	<50	40	<50	40	<50
Magnesium	T	20	4	<20	5	<20	5	<20	4	<20
Aluminum	T	100	4	<100	6	<100	5	<100	4	<100
Silicon		20	4	<20	1	<20	0.6	<20	0.4	<20
Phosphorus		25	6	<25	10	<25	10	<25	20	<25
Potassium	T	25	4	<25	20	<25	10	<25	10	<25
Calcium	T	60	3	<60	6	<60	6	<60	5	<60
Titanium		0.5	0.02	<0.5	0.1	<0.5	0.1	<0.5	0.06	<0.5
Vanadium	T	.5	0.007	<.5	0.04	<.5	0.07	<.5	0.08	<.5
Chromium	T	.3	0.02	<.3	0.1	<.3	0.2	<.3	0.2	<.3
Manganese	T	.5	0.3	<.5	0.1	<.5	0.1	<.5	0.1	<.5
Iron	T	50	3	<50	7	<50	7	<50	5	<50
Cobalt	T	.2	0.01	<.2	0.06	<.2	0.05	<.2	0.05	<.2
Nickel	T	.5	0.010	<.5	0.05	<.5	0.05	<.5	0.05	<.5
Copper	T	1	0.05	<1	0.1	<1	0.1	<1	0.1	<1
Zinc	T	10	0.04	<10	0.02	<10	0.008	<10	0.01	<10
Arsenic	T	.25	0.05	<.25	0.03	<.25	0.04	<.25	0.04	<.25
Selenium	T	.3	0.07	<.3	0.03	<.3	0.01	<.3	0.02	<.3
Strontium		1.0	0.04	<1.0	0.02	<1.0	0.02	<1.0	0.02	<1.0
Zirconium		2.0	0.01	<2.0	0.002	<2.0	0.0007	<2.0	0.0004	<2.0
Molybdenum	T	.5	0.07	<.5	0.07	<.5	0.07	<.5	0.010	<.5
Silver	T	.2	0.002	<.2	0.005	<.2	0.004	<.2	0.003	<.2
Cadmium	T	.3	0.07	<.3	0.02	<.3	0.01	<.3	0.008	<.3
Tin		0.2	0.2	<0.2	0.03	<0.2	0.02	<0.2	0.03	<0.2
Antimony	T	.5	0.01	<.5	0.05	<.5	0.05	<.5	0.04	<.5
Barium	T	.5	0.04	<.5	0.07	<.5	0.08	<.5	0.07	<.5
Tungsten		1.0	0.01	<1.0	0.003	<1.0	0.0001	<1.0	0.005	<1.0
Mercury		0.1	0.04	<0.1	0.03	<0.1	0.02	<0.1	0.03	<0.1
Thallium	T	.2	0.1	<.2	0.007	<.2	0.006	<.2	0.01	<.2
Lead	T	.2	0.05	<.2	0.04	<.2	0.03	<.2	0.03	<.2
Uranium		0.1	0.05	<0.1	0.02	<0.1	0.02	<0.1	0.01	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b

WB, WL, WC TH 2/8/23

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Boron, Sodium dilutions (Cavil Bed)

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		CalBlk	BLANK		1101	H6B02001.d		1
2		CalBlk	BLANK		1101	H6B02002.d		1
3		CalBlk	S0		1102	H6B02003.d		1
4		CalStd	S1		1103	H6B02004.d		2
5		CalStd	S2		1104	H6B02005.d		3
6		CalStd	S3		1105	H6B02006.d		4
7		CalStd	S4		1106	H6B02007.d		5
8		CalStd	S5		1107	H6B02008.d		6
9		ICV	ICV		1204	H6B02009.d	1	
10		ICB	ICB		1102	H6B02010.d	1	
11		LLCCV	MRLB0201	1/100/10 ppb Mn	1306	H6B02011.d	1	
12		LLCCV2	MRLB0202	0.4/40/4 ppb Be Co Tl ✓	1307	H6B02012.d	1	
13		Sample	MRLB0203	20 ppb Zn ✓	1301	H6B02013.d	1	
14		ICS-A	ICSA		1304	H6B02014.d	1	
15		ICSB	ICSAB		1305	H6B02015.d	1	
16		Sample	MRLB0204	500 ppb CAT	1207	H6B02016.d	1	
17		CCV	CCV1		1206	H6B02017.d	1	
18		CCB	CCB1		1102	H6B02018.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		LCSW	IMA010WL		2102	H6B02019.d	1	
2		LCSW	IMA010WC		2103	H6B02020.d	1	
3		Sample	A091-01A		2104	H6B02021.d	1	
4		Sample	A091-01		2105	H6B02022.d	1	
5		Sample	A091-01J		2106	H6B02023.d	5	
6		Sample	A091-01M		2107	H6B02024.d	1	
7		Sample	A091-01S		2108	H6B02025.d	1	
8		Sample	A091-02		2109	H6B02026.d	1	
9		CCV	CCV2		1206	H6B02027.d	1	
10		CCB	CCB2		1102	H6B02028.d	1	
11		Blank	IMA010WB		2101	H6B02029.d	1	
12		Sample	A060-01		2110	H6B02030.d	1	
13		Sample	A076-01		2111	H6B02031.d	1	
14		Sample	A097-01		2112	H6B02032.d	1	
15		Sample	A097-02		2201	H6B02033.d	1	
16		Sample	A097-03		2202	H6B02034.d	1	
17		CCV	CCV3		1206	H6B02035.d	1	
18		CCB	CCB3		1102	H6B02036.d	1	
19		Blank	IMA014WB		2203	H6B02037.d	1	
20		LCSW	IMA014WL		2204	H6B02038.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
21		LCSW	IMA014WC		2205	H6B02039.d	1	
22		Sample	A114-01		2206	H6B02040.d	1	
23		Sample	A132-01A		2207	H6B02041.d	1	
24		Sample	A132-01		2208	H6B02042.d	1	
25		Sample	A132-01J		2209	H6B02043.d	5	
26		Sample	A132-01M		2210	H6B02044.d	1	
27		Sample	A132-01S		2211	H6B02045.d	1	
28		Sample	A132-03		2212	H6B02046.d	1	
29		CCV	CCV4		1206	H6B02047.d	1	
30		CCB	CCB4		1102	H6B02048.d	1	
31		Blank	IMA014WB	REPREP	2203	H6B02049.d	1	
32		LCSW	IMA014WC	REPREP	2205	H6B02050.d	1	
33		Sample	A135-01		2301	H6B02051.d	1	
34		Sample	A135-03		2302	H6B02052.d	1	
35		Sample	A139-02		2303	H6B02053.d	1	
36		CCV	CCV5		1206	H6B02054.d	1	
37		CCB	CCB5		1102	H6B02055.d	1	
38		Blank	IML021WB		2304	H6B02056.d	1	
39		LCSW	IML021WL		2305	H6B02057.d	1	
40		LCSW	IML021WC		2306	H6B02058.d	1	
41		Sample	L143-05		2307	H6B02059.d	1	
42		CCV	CCV6		1206	H6B02060.d	1	
43		CCB	CCB6		1102	H6B02061.d	1	
44		Sample	L194-02A		2308	H6B02062.d	1	
45		Sample	L194-02		2309	H6B02063.d	1	
46		Sample	L194-02J		2310	H6B02064.d	5	
47		Sample	L194-02M		2311	H6B02065.d	1	
48		Sample	L194-02S		2312	H6B02066.d	1	
49		Sample	L194-03		2401	H6B02067.d	1	
50		Sample	L194-04		2402	H6B02068.d	1	
51		Sample	L194-05		2403	H6B02069.d	1	
52		Sample	L194-06		2404	H6B02070.d	1	
53		CCV	CCV7		1206	H6B02071.d	1	
54		CCB	CCB7		1102	H6B02072.d	1	
55		Sample	L195-06		2405	H6B02073.d	1	
56		Sample	L195-07		2406	H6B02074.d	1	
57		Sample	L195-08		2407	H6B02075.d	1	
58		Sample	L195-09		2408	H6B02076.d	1	
59		Sample	L181-01		2409	H6B02077.d	1	
60		Sample	L181-02		2410	H6B02078.d	1	
61		CCV	CCV8		1206	H6B02079.d	1	
62		CCB	CCB8		1102	H6B02080.d	1	
63		Blank	IMA031WB		2411	H6B02081.d	1	
64		LCSW	IMA031WL		2412	H6B02082.d	1	
65		LCSW	IMA031WC		2501	H6B02083.d	1	
66		Sample	A331-03A	TOT ↑RSD injector	2502	H6B02084.d	1	
67		Sample	A331-03	TOT	2503	H6B02085.d	1	
68		Sample	A331-03J	TOT	2504	H6B02086.d	5	
69		Sample	A331-03M	TOT	2505	H6B02087.d	1	
70		Sample	A331-03S	TOT	2506	H6B02088.d	1	
71		Sample	A331-04	TOT	2507	H6B02089.d	1	
72		CCV	CCV9		1206	H6B02090.d	1	
73		CCB	CCB9		1102	H6B02091.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
74		Sample	A331-03	DISS	2508	H6B02092.d	1	
75		Sample	A331-04	DISS	2509	H6B02093.d	1	
76		Sample	A193-01		2510	H6B02094.d	1	
77		Sample	A316-01		2511	H6B02095.d	1	
78		Sample	A281-01		2512	H6B02096.d	1	
79		Sample	A281-02		3101	H6B02097.d	1	
80		CCV	CCV10		1206	H6B02098.d	1	
81		CCB	CCB10		1102	H6B02099.d	1	
82		Blank	IML028WB		3102	H6B02100.d	1	
83		LCSW	IML028WL		3103	H6B02101.d	1	
84		LCSW	IML028WC		3104	H6B02102.d	1	
85		Sample	L226-06T		3105	H6B02103.d	50	
86		Sample	L226-07T	TNA	3106	H6B02104.d	50	
87		Sample	L226-08T		3107	H6B02105.d	50	
88		Sample	L226-09G	TNA	3108	H6B02106.d	5	
89		Sample	L226-10T		3109	H6B02107.d	50	
90		Sample	L226-11I		3110	H6B02108.d	10	
91		Sample	L226-12I		3111	H6B02109.d	10	
92		CCV	CCV11	↓Be	1206	H6B02110.d	1	
93		CCB	CCB11		1102	H6B02111.d	1	
94		Sample	A331-03A	REPREP	2502	H6B02112.d	1	
95		Sample	L226-13I		3112	H6B02113.d	10	
96		Sample	L226-14I		3201	H6B02114.d	10	
97		Sample	L226-15I		3202	H6B02115.d	10	
98		Sample	L180-05T		3203	H6B02116.d	500	
99		Sample	L228-10N		3204	H6B02117.d	1	
100		ICS-A	ICSA2		1304	H6B02118.d	1	
101		ICSB	ICSAB2		1305	H6B02119.d	1	
102		CCV	CCV12		1206	H6B02120.d	1	
103		CCB	CCB12		1102	H6B02121.d	1	
104		Blank	IMA025WB	CaT	3205	H6B02122.d	1	
105		LCSW	IMA025WL		3206	H6B02123.d	1	
106		LCSW	IMA025WC		3207	H6B02124.d	1	
107		Sample	A204-01N	TOT	3208	H6B02125.d	1	
108		Sample	A204-02A	TOT Na Ca2n ↑	3209	H6B02126.d	1	
109		Sample	A204-02N	TOT	3210	H6B02127.d	1	
110		Sample	A204-02J	TOT	3211	H6B02128.d	5	
111		Sample	A204-02M	TOT	3212	H6B02129.d	1	
112		Sample	A204-02S	TOT	3301	H6B02130.d	1	
113		CCV	CCV13		1206	H6B02131.d	1	
114		CCB	CCB13		1102	H6B02132.d	1	
115		Sample	A204-01N	DISS	3302	H6B02133.d	1	
116		Sample	A204-02N	DISS CaT	3303	H6B02134.d	1	
117		CCV	CCV14		1206	H6B02135.d	1	
118		CCB	CCB14		1102	H6B02136.d	1	
119		Sample	A204-02A	TOT	3304	H6B02137.d	5	
120		Sample	A204-02G	TOT	3305	H6B02138.d	5	
121		Sample	A204-02J	TOT	3306	H6B02139.d	25	
122		Sample	A204-02M	TOT	3307	H6B02140.d	5	
123		Sample	A204-02S	TOT	3308	H6B02141.d	5	
124		Sample	A204-02G	DISS	3309	H6B02142.d	5	
125		LLCCV	MRLB0205	1/100/10 ppb ↑Zn ↓NA	1306	H6B02143.d	1	
126		LLCCV2	MRLB0206	0.4/40/4 ppb	1307	H6B02144.d	1	

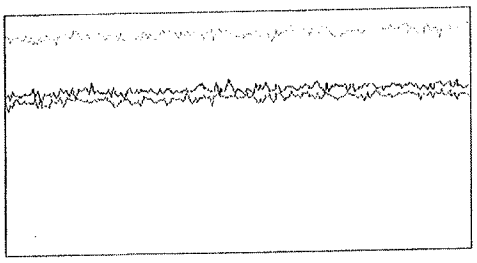
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
127		Sample	MRLB0207	20 ppB Zn	1301	H6B02145.d	1	
128		CCV	CCV15		1206	H6B02146.d	1	
129		CCB	CCB15		1102	H6B02147.d	1	
130		LLCCV	MRLB0208	1/100/10 ppb	1306	H6B02148.d	1	
131		LLCCV2	MRLB0209	0.4/40/4 ppb	1307	H6B02149.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-02-02 10:08:18
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



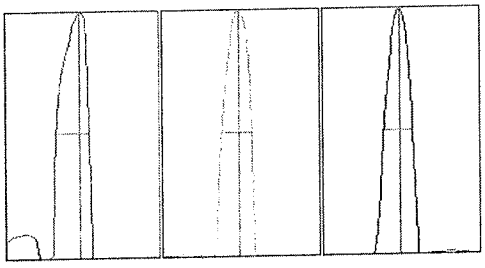
Mass	Range	Count	RSD%	Background
7	10000	6409	1.932	0.100
89	20000	18233	1.610	1.300
205	20000	13565	1.903	4.000

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.964 %
Doubly Charged	70 / 140 1.807 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	6391.47	7.00	0.64	0.77
89	18426.00	89.00	0.58	0.72
205	13662.69	205.00	0.56	0.77

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.8 V	Deflect	14.0 V
Extract 2	-190.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-100 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.3 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.3 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9997
Mass Offset	124	Axis Offset	-0.08

EM

Discriminator	3.3 mV	Analog HV	2808 V	Pulse HV	1533 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.98	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.20E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.9	°C
Nebulizer Gas(DP)	5.44E+0	kPa
MU./Dil. Gas(DP)	-1.04E-1	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.70E+2	kPa
MU./Dil. Gas(BP)	-3.28E-1	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.31E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.2	V
IF/BK Press	2.46E+2	Pa
Analyzer Press	7.51E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.3	%
TMP Current	2.79	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	205.5	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	3.8	V
+U Voltage	11.9	V

Name	Value	Unit
-U Voltage	-18.1	V
V Voltage	56.2	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	608.7	V
-120V	-129.8	V
-720V	-738.4	V
Prefilter Bias	-4.98	V
Pickup Heater I	0.07	A
QP PS +48V	47.6	V
QP PS +48V I	0.00	A
Analog HV	-2812	V
Pulse HV	1548	V
EM Gate	-30.6	V
Pulse Gate	346.3	V
EM Entrance	0.2	V
EM HV Gain	-1482.1	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.1	V
RF PS +48V	48.0	V
Forward Power	1552	W
Reflected Power	4	W
Plasma Freq.	26.69	MHz
Drain I 1	11.36	A
Drain I 2	10.89	A
Drain I 3	10.80	A
Drain I 4	10.09	A
Temp Sensor	2.8	V
Driver I	5.51	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	2.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.71E+2	kPa
He Gas Press	1.48E+0	kPa
ORS AMFC Temp	31.3	°C
Atmospheric Press	1.02E+2	kPa
Extract 1	-0.1	V
Extract 2	-190.4	V
Omega Bias	-100.1	V
Omega Lens	7.7	V
Cell Entrance	-30.0	V
Cell Exit	-50.2	V
Deflect	13.9	V
Plate Bias	-35.1	V
HV+530V	524	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.0	°C
Internal Temp	33.6	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.41	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

Performance Report History

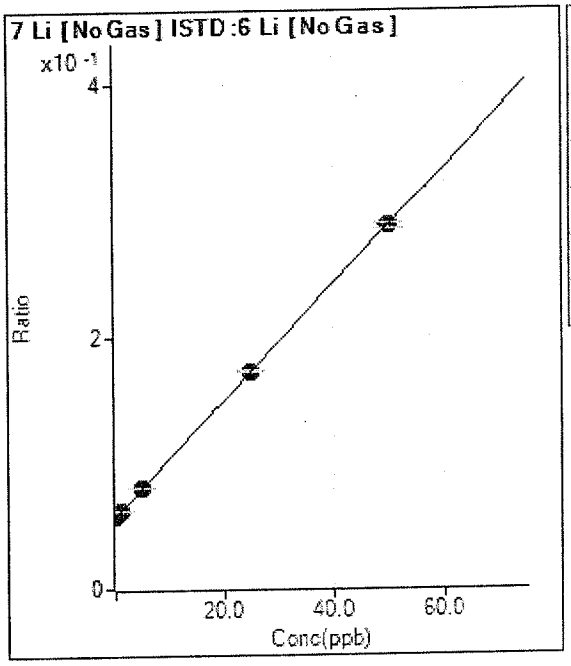
Sensitivity

Calibration for H6B02009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b\
Analysis File: IH6B02.batch.bin
DA Date-Time: 2023-02-02 11:59:47
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6B02003.d	S0	2023-02-02 11:34:07
2	H6B02004.d	S1	2023-02-02 11:36:58
3	H6B02005.d	S2	2023-02-02 11:39:50
4	H6B02006.d	S3	2023-02-02 11:42:41
5	H6B02007.d	S4	2023-02-02 11:52:28
6	H6B02008.d	S5	2023-02-02 11:55:18

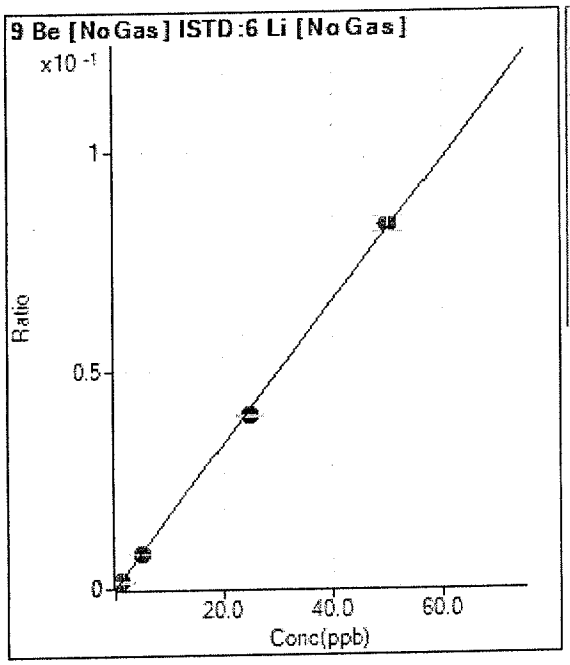
Calibration for H6B02009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	77652.24	0.0574	P	1.1
2	☐	0.500	0.658	73668.01	0.0605	P	1.3
3	☐	1.000	1.093	87252.20	0.0625	P	0.3
4	☐	5.000	5.097	110293.72	0.0809	P	1.5
5	☐	25.000	25.055	236586.95	0.1729	P	1.4
6	☐	50.000	49.959	345233.87	0.2878	P	1.4

y = 0.0046 * x + 0.0574
R = 1.0000
DL = 0.3966
BEC = 12.46

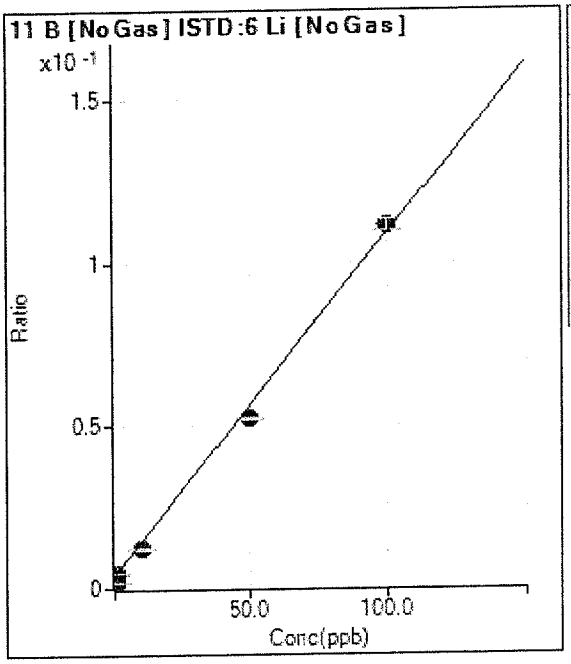
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0000	P	3.7
2	☐	0.500	0.501	1061.15	0.0009	P	3.6
3	☐	1.000	0.937	2215.74	0.0016	P	6.2
4	☐	5.000	4.847	10933.14	0.0080	P	0.4
5	☐	25.000	23.981	54050.16	0.0395	P	1.4
6	☐	50.000	50.526	99616.81	0.0832	P	4.2

y = 0.0016 * x + 4.4353E-005
R = 0.9997
DL = 0.002987
BEC = 0.02695

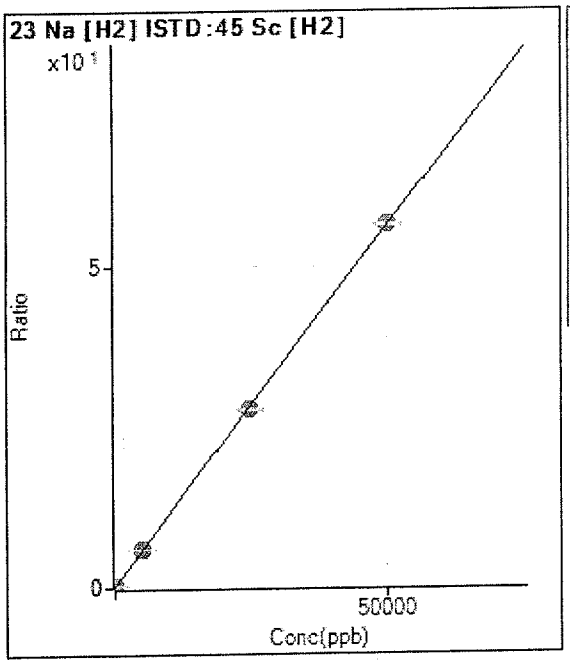
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5675.60	0.0042	P	1.3
2	☐	0.500	-2.462	1970.14	0.0016	P	5.3
3	☐	1.000	0.284	6276.96	0.0045	P	1.4
4	☐	10.000	7.547	16507.46	0.0121	P	0.6
5	☐	50.000	46.045	71816.11	0.0525	P	1.1
6	☐	100.000	102.245	133457.22	0.1114	P	3.2

y = 0.0010 * x + 0.0042
R = 0.9988
DL = 0.1584
BEC = 4.001

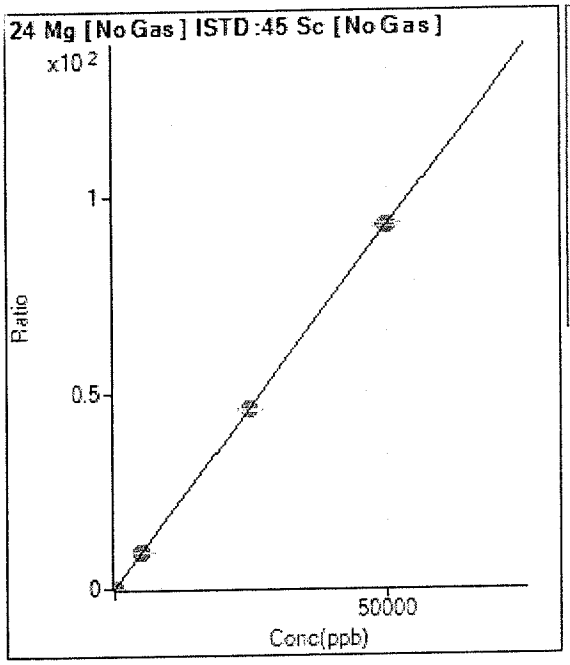
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	834107.75	0.2407	A	0.8
2	☐	50.000	100.421	1028999.32	0.3530	A	0.5
3	☐	100.000	94.103	1203143.62	0.3459	A	2.2
4	☐	5000.000	5068.875	20687842.67	5.9061	A	0.1
5	☐	25000.000	24551.274	98879210.67	27.6810	A	0.6
6	☐	50000.000	50217.437	204897781.33	56.3673	A	0.7

y = 0.0011 * x + 0.2407
R = 0.9999
DL = 5.023
BEC = 215.4

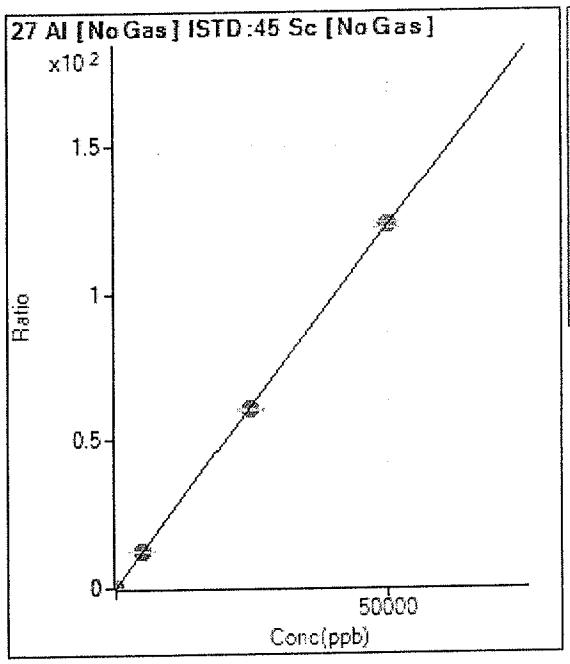
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74787.58	0.0177	P	0.3
2	☐	50.000	42.624	375286.79	0.0966	P	4.3
3	☐	100.000	93.886	843646.21	0.1915	A	0.8
4	☐	5000.000	5115.138	41195718.67	9.4866	A	0.3
5	☐	25000.000	24838.873	207109397.33	45.9982	A	1.7
6	☐	50000.000	50069.069	376794506.67	92.7030	A	1.1

y = 0.0019 * x + 0.0177
R = 1.0000
DL = 0.08733
BEC = 9.562

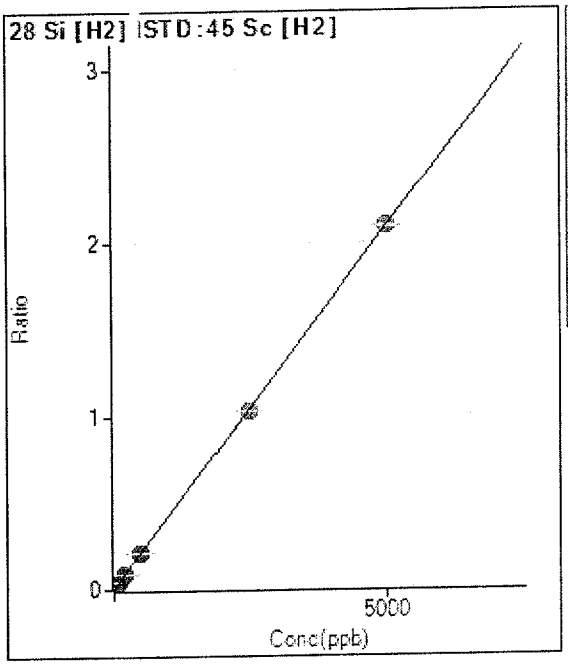
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	96205.67	0.0228	P	2.6
2	☐	50.000	43.019	499011.83	0.1284	P	4.5
3	☐	100.000	94.646	1124054.93	0.2552	A	1.0
4	☐	5000.000	5115.498	54639840.85	12.5825	A	0.7
5	☐	25000.000	24683.434	272980189.27	60.6262	A	1.2
6	☐	50000.000	50146.751	500815339.20	123.1444	A	1.7

y = 0.0025 * x + 0.0228
R = 1.0000
DL = 0.7146
BEC = 9.276

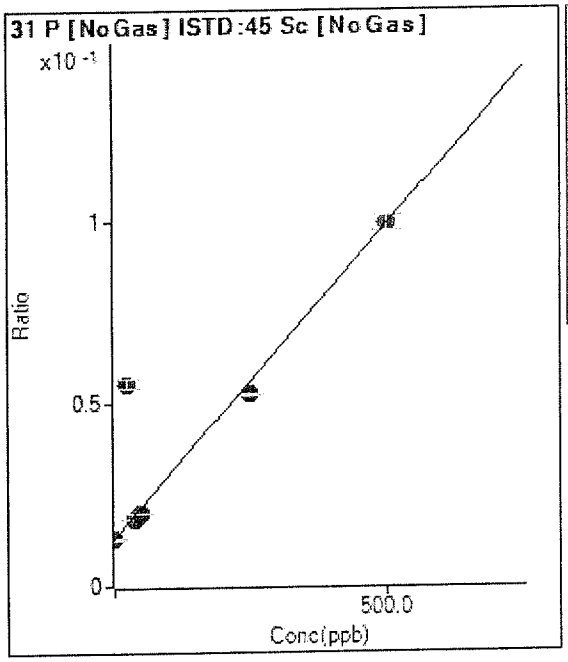
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5455.07	0.0016	P	1.5
2	☐	100.000	99.451	125534.61	0.0431	P	0.8
3	☐	200.000	205.713	304027.53	0.0874	P	1.4
4	☐	500.000	512.778	754789.81	0.2155	P	0.5
5	☐	2500.000	2468.826	3684449.58	1.0314	A	0.5
6	☐	5000.000	5014.091	7608840.67	2.0932	A	0.6

y = 4.1715E-004 * x + 0.0016
R = 1.0000
DL = 0.1712
BEC = 3.774

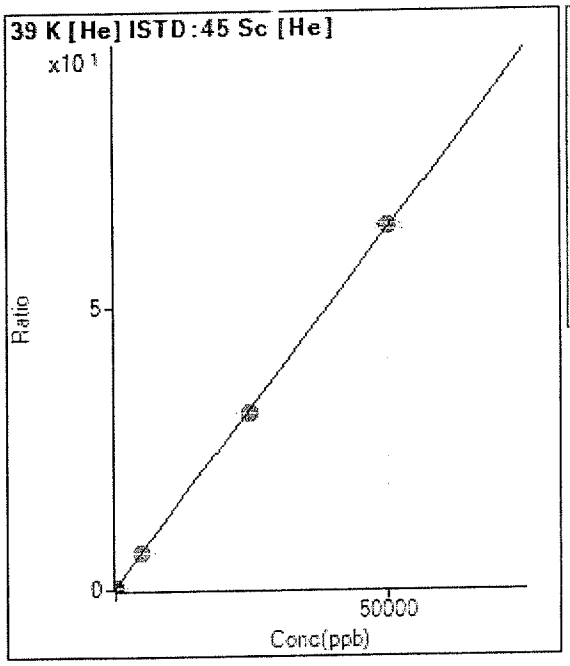
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54736.95	0.0130	P	2.6
2	☐	25.000	246.927	215113.46	0.0554	P	3.8
3	☐	40.000	31.536	80999.91	0.0184	P	0.3
4	☐	50.000	41.528	87304.60	0.0201	P	1.1
5	☐	250.000	228.913	235704.35	0.0523	P	0.7
6	☐	500.000	500.971	401779.77	0.0992	P	4.1

y = 1.7206E-004 * x + 0.0130
R = 0.8828
DL = 5.82
BEC = 75.32

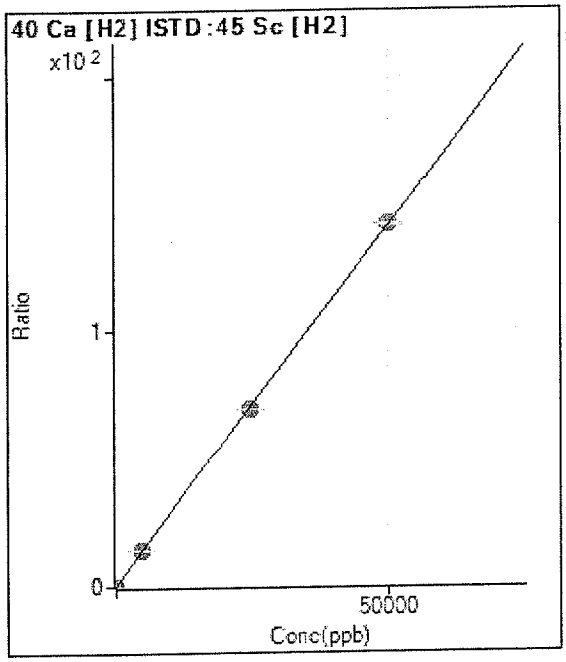
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	112511.62	0.1939	P	3.9
2	☐	50.000	73.369	141028.90	0.2875	P	2.7
3	☐	100.000	94.346	185195.34	0.3143	P	2.9
4	☐	5000.000	4934.611	3795536.08	6.4904	A	1.1
5	☐	25000.000	24438.573	18703572.67	31.3773	A	0.5
6	☐	50000.000	50287.240	37951742.67	64.3600	A	1.3

y = 0.0013 * x + 0.1939
R = 0.9999
DL = 17.97
BEC = 152

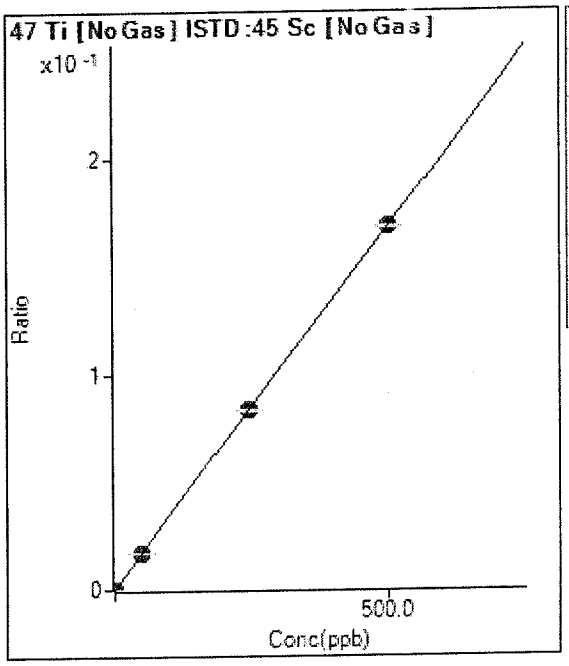
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	266590.20	0.0769	P	0.4
2	☐	50.000	43.956	586552.52	0.2012	P	0.7
3	☐	100.000	93.271	1184833.29	0.3406	A	1.4
4	☐	5000.000	4999.371	49772624.00	14.2093	A	0.7
5	☐	25000.000	24437.824	247045733.33	69.1585	A	0.0
6	☐	50000.000	50281.170	516964725.33	142.2132	A	0.3

y = 0.0028 * x + 0.0769
R = 0.9999
DL = 0.3437
BEC = 27.22

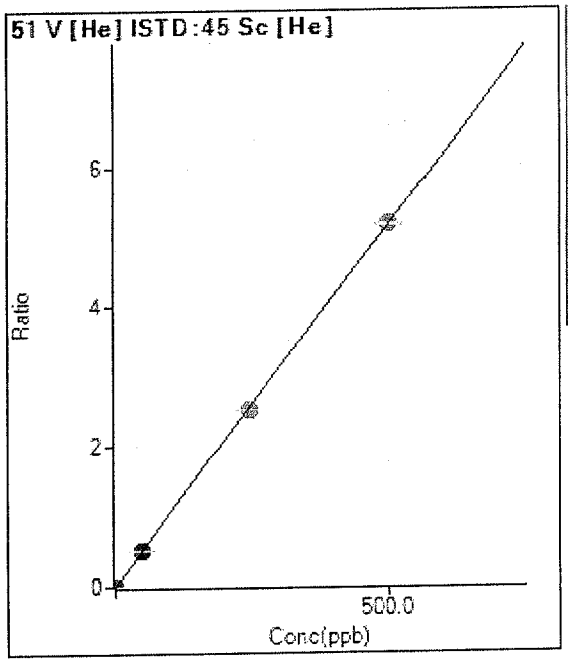
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	391.34	0.0001	P	6.0
2	☐	0.500	0.507	1020.71	0.0003	P	2.5
3	☐	1.000	0.907	1748.11	0.0004	P	2.4
4	☐	50.000	50.027	73299.34	0.0169	P	0.4
5	☐	250.000	248.630	376082.98	0.0835	P	0.8
6	☐	500.000	500.682	682751.65	0.1681	P	0.9

y = 3.3554E-004 * x + 9.2640E-005
R = 1.0000
DL = 0.04992
BEC = 0.2761

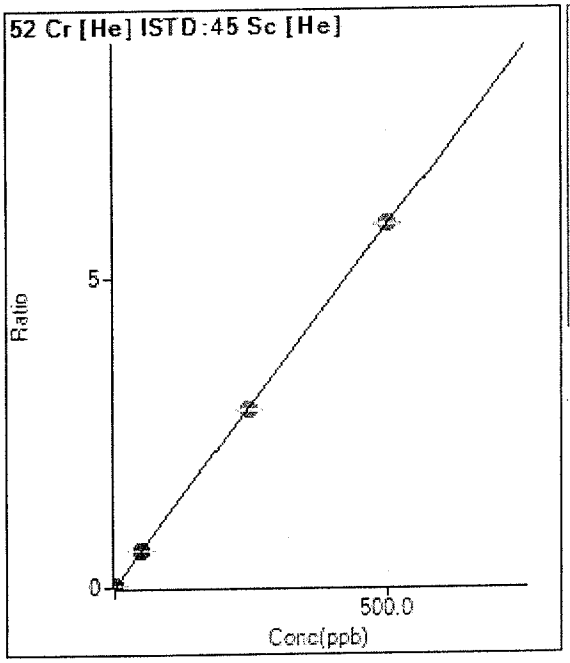
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1426.74	0.0025	P	1.2
2	☐	0.500	0.450	3479.11	0.0071	P	2.6
3	☐	1.000	0.914	6999.12	0.0119	P	2.1
4	☐	50.000	50.337	304963.02	0.5215	P	0.8
5	☐	250.000	245.057	1507625.04	2.5292	A	0.7
6	☐	500.000	502.438	3056381.08	5.1831	A	0.3

y = 0.0103 * x + 0.0025
R = 0.9999
DL = 0.00869
BEC = 0.2385

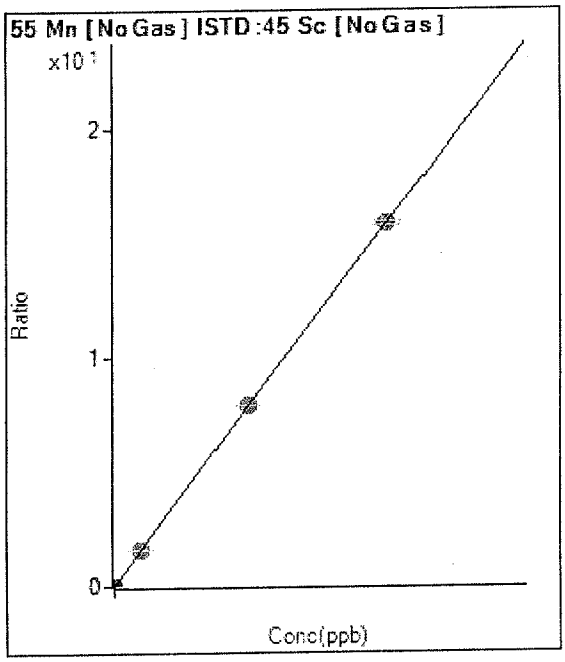
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2608.92	0.0045	P	4.1
2	☐	0.500	0.580	5523.78	0.0113	P	2.6
3	☐	1.000	0.968	9305.16	0.0158	P	2.8
4	☐	50.000	51.083	351285.93	0.6007	P	1.2
5	☐	250.000	246.010	1714167.17	2.8758	A	1.5
6	☐	500.000	501.887	3456483.00	5.8623	A	0.7

y = 0.0117 * x + 0.0045
R = 1.0000
DL = 0.0472
BEC = 0.3853

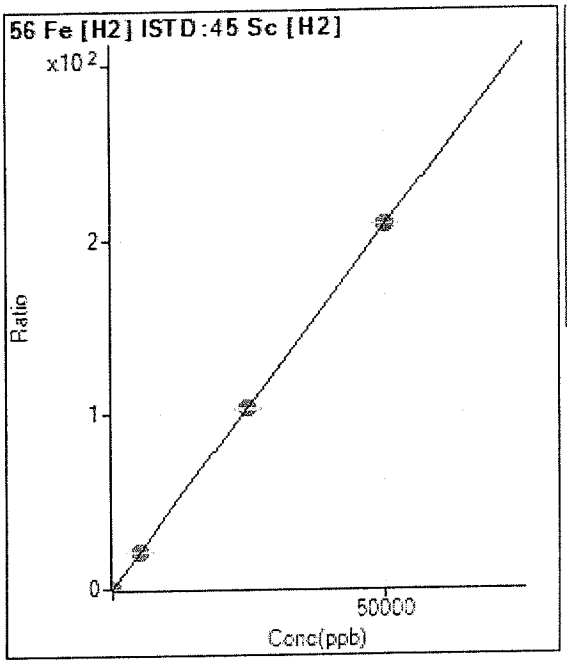
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13786.28	0.0033	P	2.3
2	☐	0.500	0.169	16140.89	0.0042	P	4.0
3	☐	1.000	0.767	32234.59	0.0073	P	1.0
4	☐	300.000	306.993	7061025.00	1.6260	A	1.2
5	☐	1500.000	1495.149	35603486.67	7.9067	A	0.8
6	☐	3000.000	3001.726	64503401.33	15.8706	A	0.9

y = 0.0053 * x + 0.0033
R = 1.0000
DL = 0.04232
BEC = 0.6175

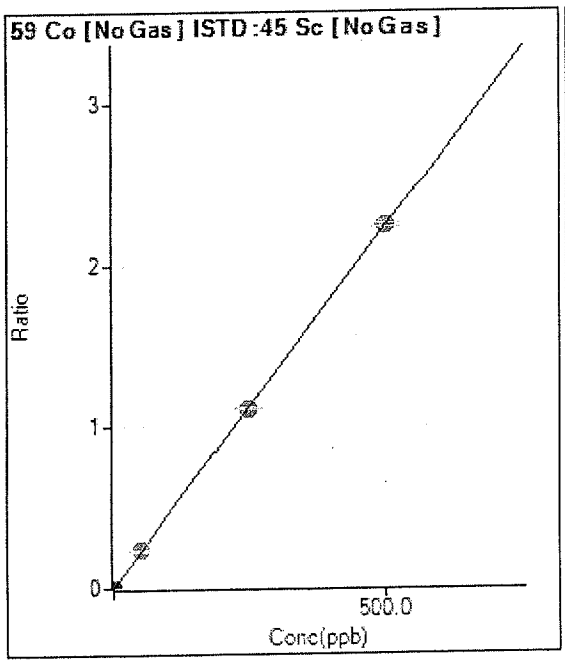
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	143841.99	0.0415	P	1.1
2	☐	50.000	44.087	654575.00	0.2245	P	0.5
3	☐	100.000	94.597	1510794.75	0.4342	A	0.5
4	☐	5000.000	5115.304	74527861.33	21.2767	A	0.5
5	☐	25000.000	24825.890	368282528.00	103.1013	A	1.0
6	☐	50000.000	50075.541	755810112.00	207.9203	A	0.1

y = 0.0042 * x + 0.0415
R = 1.0000
DL = 0.3261
BEC = 10

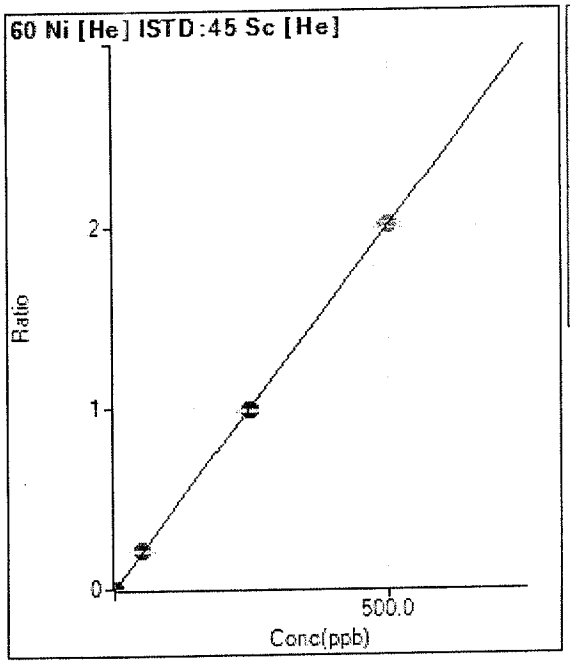
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1842.79	0.0004	P	2.4
2	☐	0.500	0.481	10053.06	0.0026	P	5.2
3	☐	1.000	1.014	21925.59	0.0050	P	1.4
4	☐	50.000	51.799	1008840.42	0.2323	A	1.6
5	☐	250.000	247.460	4990094.83	1.1082	A	1.0
6	☐	500.000	501.090	9112675.67	2.2437	A	0.9

y = 0.0045 * x + 4.3616E-004
R = 1.0000
DL = 0.006872
BEC = 0.09743

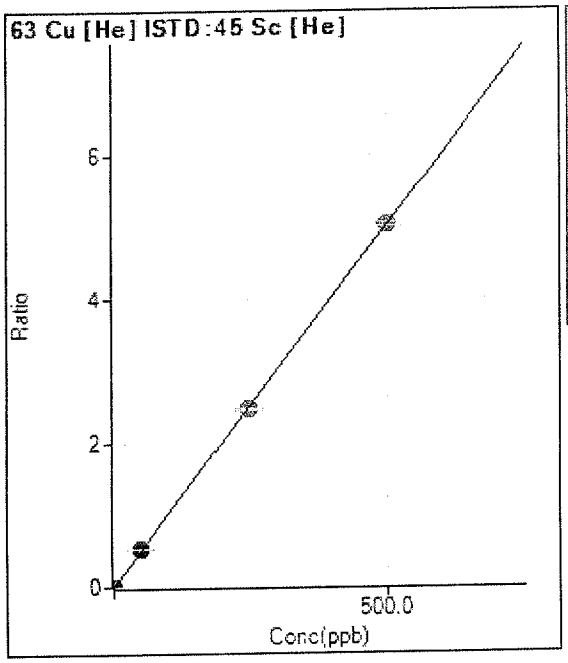
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	253.33	0.0004	P	11.7
2	☐	0.500	0.502	1196.72	0.0024	P	1.9
3	☐	1.000	1.033	2688.27	0.0046	P	6.0
4	☐	50.000	51.826	121320.64	0.2075	P	1.3
5	☐	250.000	246.839	587998.35	0.9865	P	1.1
6	☐	500.000	501.398	1181045.42	2.0033	A	1.5

y = 0.0040 * x + 4.3682E-004
R = 1.0000
DL = 0.03827
BEC = 0.1094

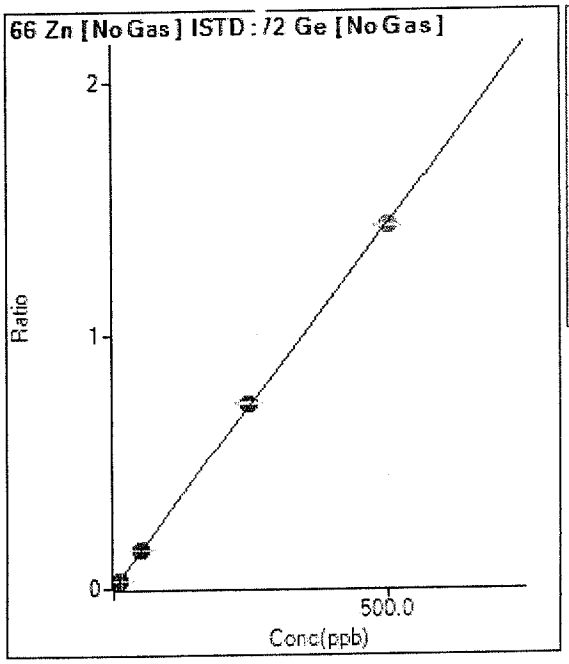
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1420.07	0.0024	P	3.2
2	☐	0.500	0.523	3775.19	0.0077	P	1.0
3	☐	1.000	1.033	7546.10	0.0128	P	0.6
4	☐	50.000	52.727	310732.08	0.5314	P	1.7
5	☐	250.000	246.578	1475832.25	2.4759	A	1.3
6	☐	500.000	501.438	2967193.25	5.0325	A	1.1

y = 0.0100 * x + 0.0024
R = 0.9999
DL = 0.02308
BEC = 0.244

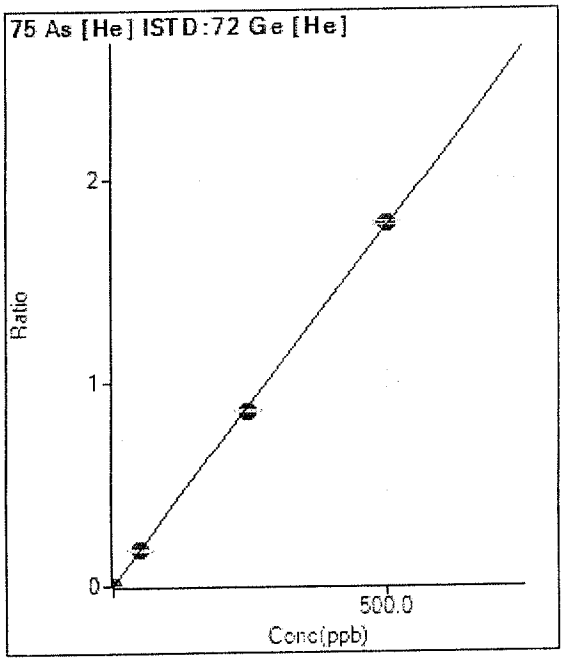
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2958.99	0.0031	P	4.3
2	☐	1.000	1.222	5947.31	0.0066	P	1.4
3	☐	10.000	10.646	34137.46	0.0337	P	1.[illegible]
4	☐	50.000	51.112	151177.07	0.1500	P	0.1
5	☐	250.000	253.943	735909.67	0.7332	P	1.2
6	☐	500.000	497.904	1350133.66	1.4347	A	0.4

y = 0.0029 * x + 0.0031
R = 1.0000
DL = 0.1386
BEC = 1.073

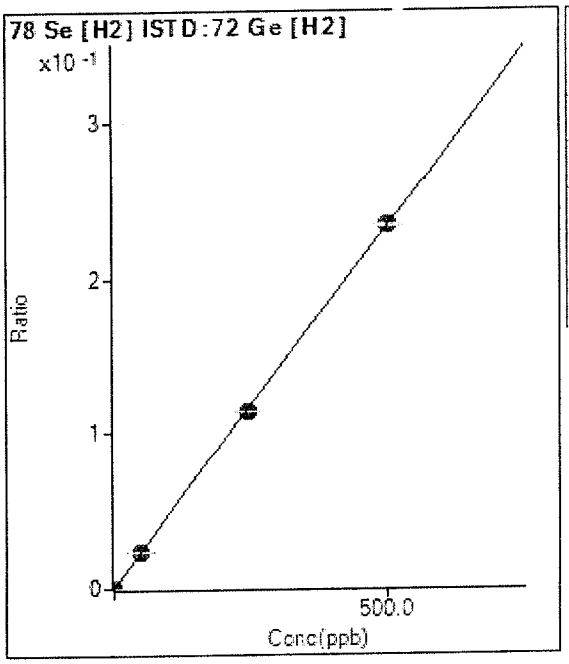
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	159.33	0.0005	P	8.4
2	☐	0.500	0.468	614.35	0.0021	P	4.4
3	☐	1.000	0.897	1223.72	0.0037	P	1.2
4	☐	50.000	49.424	58249.51	0.1751	P	1.3
5	☐	250.000	243.075	289797.14	0.8593	P	0.9
6	☐	500.000	503.521	597378.38	1.7794	P	1.0

y = 0.0035 * x + 4.8987E-004
R = 0.9999
DL = 0.03482
BEC = 0.1387

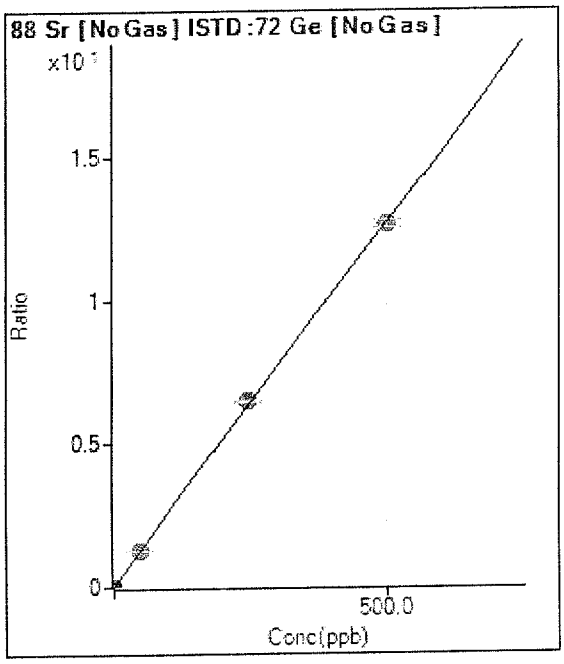
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45.33	0.0000	P	11.4
2	☐	0.500	0.450	210.33	0.0003	P	8.3
3	☐	1.000	0.897	442.68	0.0005	P	6.7
4	☐	50.000	50.263	22508.42	0.0235	P	0.5
5	☐	250.000	245.736	110677.46	0.1147	P	0.2
6	☐	500.000	502.106	226206.73	0.2343	P	0.5

y = 4.6647E-004 * x + 4.9137E-005
R = 0.9999
DL = 0.03615
BEC = 0.1053

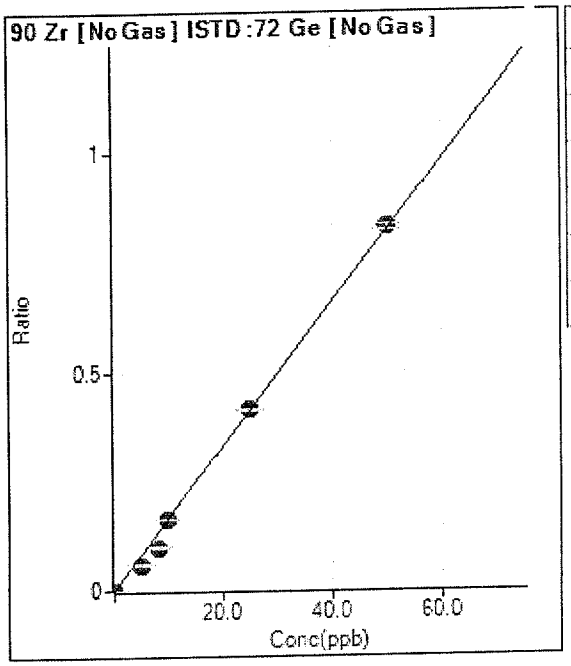
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2179.07	0.0023	P	3.0
2	☐	0.500	0.439	12092.16	0.0134	P	3.4
3	☐	1.000	0.966	27165.29	0.0268	P	0.6
4	☐	50.000	49.564	1270405.75	1.2609	A	0.7
5	☐	250.000	255.024	6502084.05	6.4782	A	0.5
6	☐	500.000	497.532	11900254.81	12.6363	A	2.0

y = 0.0254 * x + 0.0023
R = 0.9999
DL = 0.008105
BEC = 0.08947

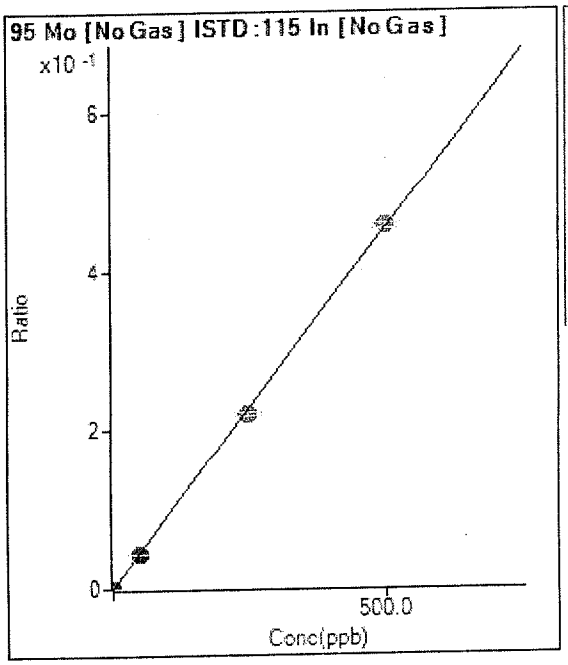
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	166.67	0.0002	P	49.2
2	☐	5.000	3.528	52563.72	0.0583	P	4.5
3	☐	8.000	5.999	100291.30	0.0990	P	1.2
4	☐	10.000	9.914	164700.29	0.1635	P	0.8
5	☐	25.000	25.050	414276.01	0.4128	P	1.2
6	☐	50.000	50.460	782912.44	0.8313	P	1.9

y = 0.0165 * x + 1.7403E-004
R = 0.9991
DL = 0.0156
BEC = 0.01057

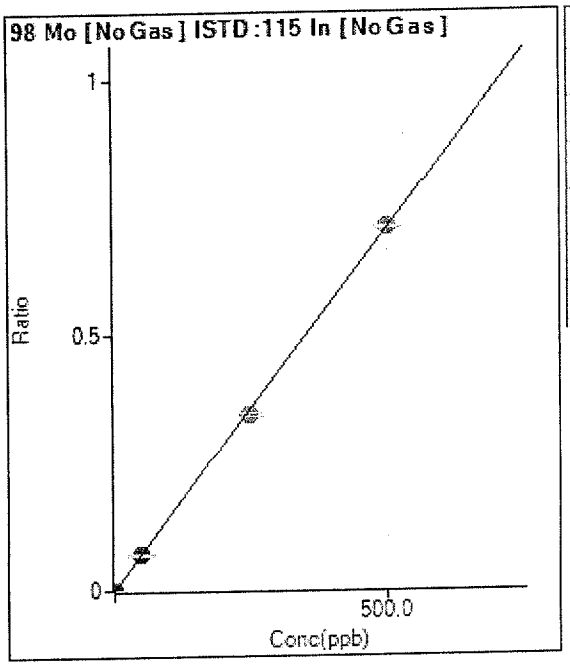
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	621.13	0.0001	P	2.4
2	☐	0.500	0.350	2205.74	0.0004	P	6.0
3	☐	1.000	0.814	4863.12	0.0008	P	4.6
4	☐	50.000	48.892	247985.58	0.0444	P	1.2
5	☐	250.000	242.964	1255229.57	0.2203	A	2.0
6	☐	500.000	503.629	2305048.80	0.4565	A	1.8

y = 9.0615E-004 * x + 1.1180E-004
R = 0.9999
DL = 0.008868
BEC = 0.1234

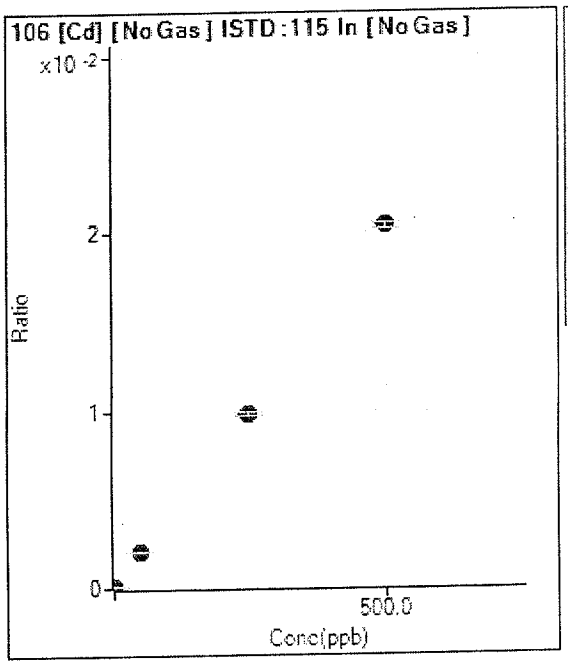
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	R SD
1	☐	0.000	0.000	914.48	0.0002	P	13.1
2	☐	0.500	0.353	3412.66	0.0007	P	1.7
3	☐	1.000	0.847	7791.18	0.0014	P	2.1
4	☐	50.000	49.380	390079.92	0.0699	P	1.7
5	☐	250.000	243.429	1959030.13	0.3438	A	1.9
6	☐	500.000	503.348	3593334.99	0.7107	A	0.2

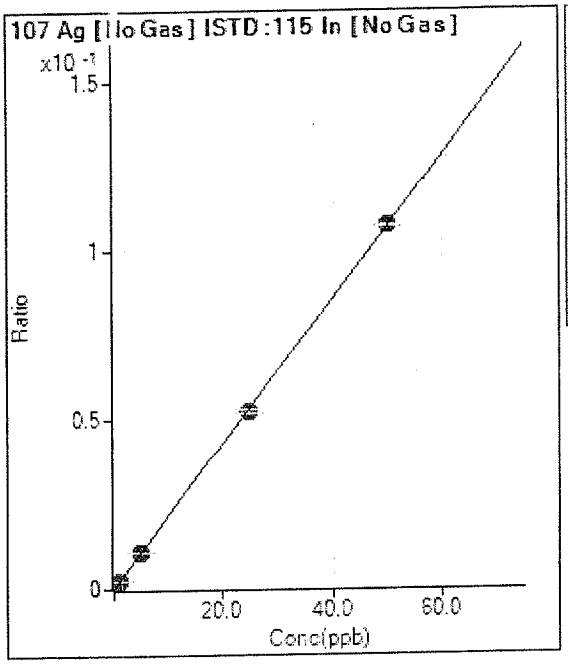
y = 0.0014 * x + 1.6475E-004
R = 0.9999
DL = 0.04579
BEC = 0.1167

Weight: <None>
Min Conc: 0



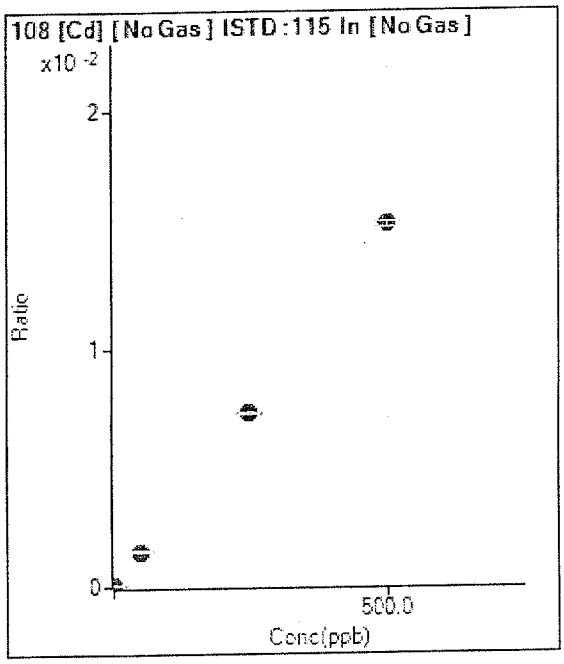
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		19.00	0.0000	P	6.4
2	☐	0.500		268.00	0.0001	P	6.1
3	☐	1.000		507.34	0.0001	P	5.9
4	☐	50.000		41375.21	0.0020	P	1.8
5	☐	250.000		56292.15	0.0099	P	1.8
6	☐	500.000		103107.98	0.0204	P	1.5

Excluded



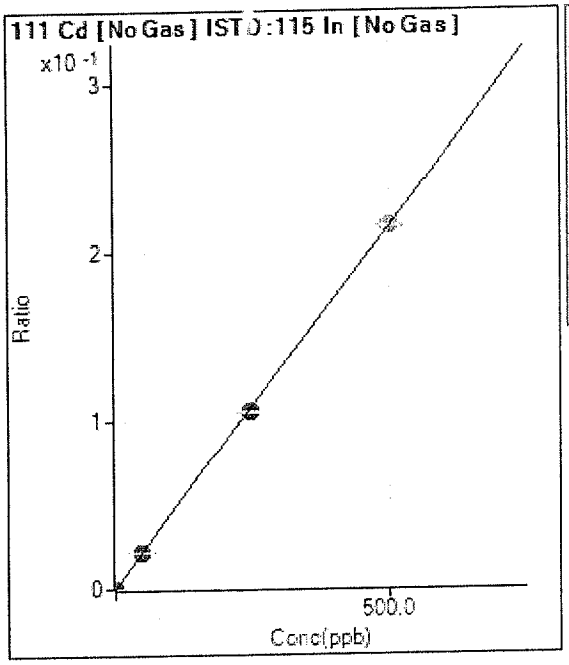
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0000	P	16.0
2	☐	0.500	0.575	6433.79	0.0013	P	3.6
3	☐	1.000	1.097	13556.94	0.0024	P	0.5
4	☐	5.000	5.039	60292.45	0.0108	P	0.9
5	☐	25.000	24.538	299195.30	0.0525	P	2.3
6	☐	50.000	50.224	543309.67	0.1075	P	0.3

y = 0.0021 * x + 2.0965E-005
R = 0.9999
DL = 0.004694
BEC = 0.009801
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		16.00	0.0000	P	19.0
2	☐	0.500		163.33	0.0000	P	6.3
3	☐	1.000		305.67	0.0001	P	8.1
4	☐	50.000		8297.60	0.0015	P	0.9
5	☐	250.000		41541.69	0.0073	P	0.8
6	☐	500.000		76714.42	0.0152	P	1.7

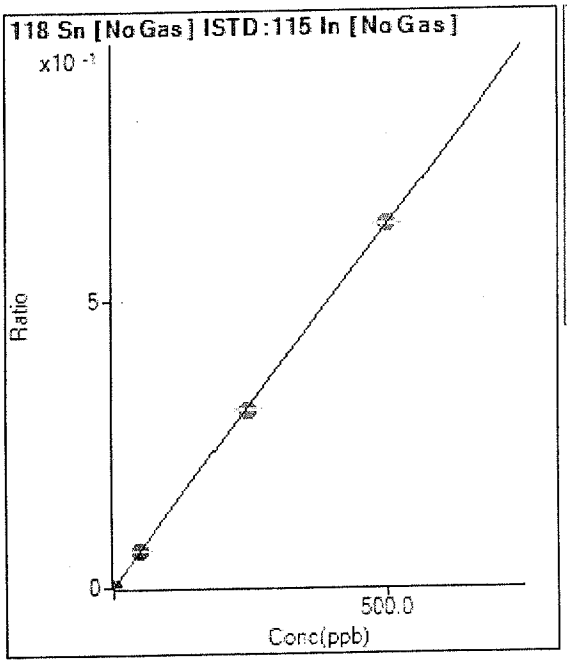
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	154.01	0.0000	P	11.8
2	☐	0.500	0.464	1169.22	0.0002	P	3.8
3	☐	1.000	0.969	2541.20	0.0004	P	0.5
4	☐	50.000	49.992	120020.94	0.0215	P	0.8
5	☐	250.000	244.146	597663.00	0.1049	P	1.1
6	☐	500.000	502.928	1091474.26	0.2160	M	0.8

y = 4.2944E-004 * x + 2.7696E-005
R = 0.9999
DL = 0.02278
BEC = 0.06449

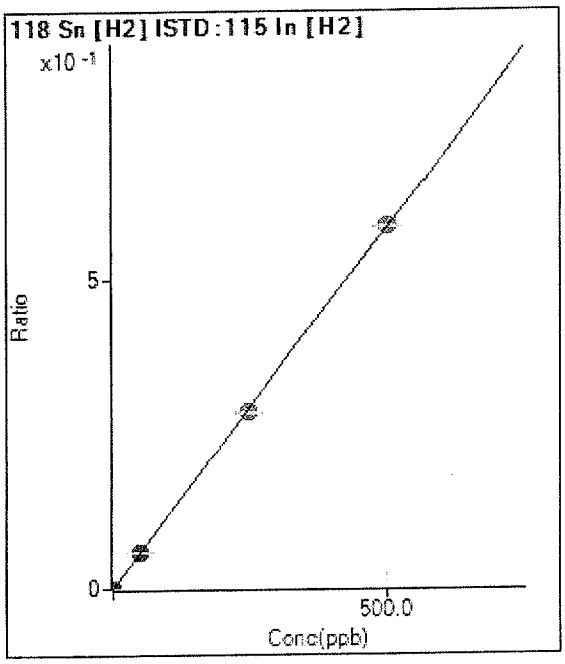
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	808.92	0.0001	P	5.9
2	☐	0.500	0.404	3359.32	0.0007	P	6.4
3	☐	1.000	0.942	7615.54	0.0013	P	3.7
4	☐	50.000	50.492	355518.95	0.0637	P	0.8
5	☐	250.000	246.024	1764992.95	0.3097	A	0.6
6	☐	500.000	501.939	3193897.72	0.6317	A	0.4

y = 0.0013 * x + 1.4564E-004
R = 1.0000
DL = 0.02054
BEC = 0.1158

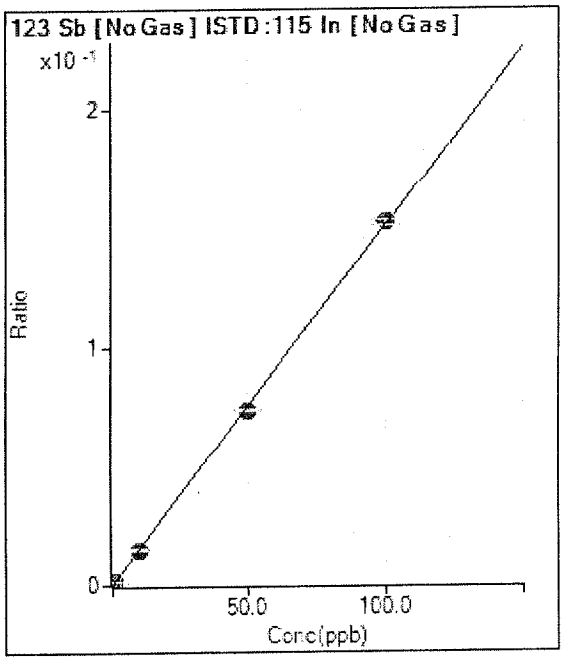
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	915.59	0.0001	P	5.4
2	☐	0.500	0.409	3540.48	0.0006	P	1.9
3	☐	1.000	0.934	8270.38	0.0012	P	1.4
4	☐	50.000	50.614	393567.88	0.0592	P	0.2
5	☐	250.000	243.951	1899976.73	0.2850	A	1.3
6	☐	500.000	502.963	3897699.29	0.5875	A	0.3

y = 0.0012 * x + 1.3646E-004
R = 0.9999
DL = 0.0189
BEC = 0.1169

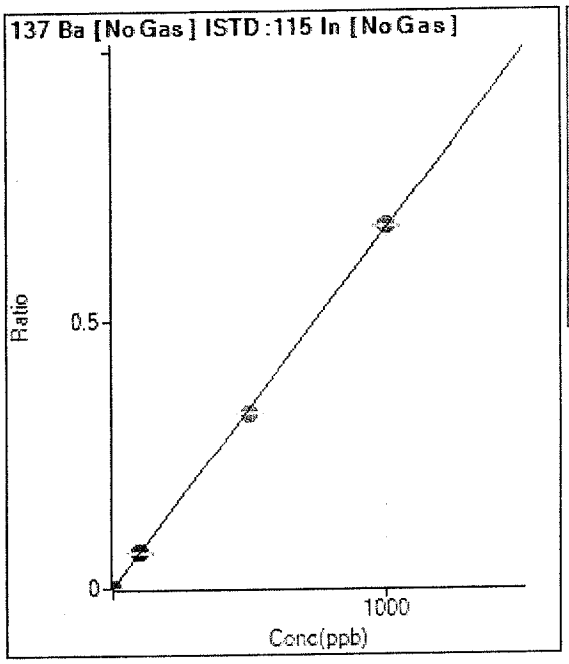
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	301.11	0.0001	P	7.0
2	☐	0.500	0.459	3847.24	0.0007	P	3.3
3	☐	1.000	0.878	7899.05	0.0014	P	2.2
4	☐	10.000	9.792	82845.08	0.0148	P	1.9
5	☐	50.000	48.653	418957.07	0.0735	P	1.3
6	☐	100.000	100.696	768346.98	0.1521	P	1.3

y = 0.0015 * x + 5.4153E-005
R = 0.9999
DL = 0.007572
BEC = 0.03586

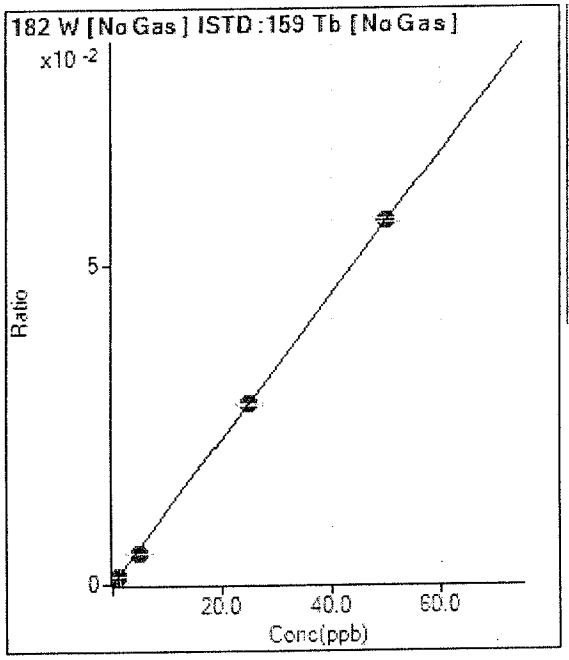
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	660.02	0.0001	P	4.8
2	☐	0.500	0.372	1896.81	0.0004	P	4.4
3	☐	1.000	0.898	4138.44	0.0007	P	2.7
4	☐	100.000	98.966	372176.37	0.0667	P	0.9
5	☐	500.000	486.123	1863354.44	0.3270	A	0.9
6	☐	1000.000	1007.042	3424207.64	0.6772	A	0.8

y = 6.7235E-004 * x + 1.1877E-004
R = 0.9999
DL = 0.02528
BEC = 0.1766

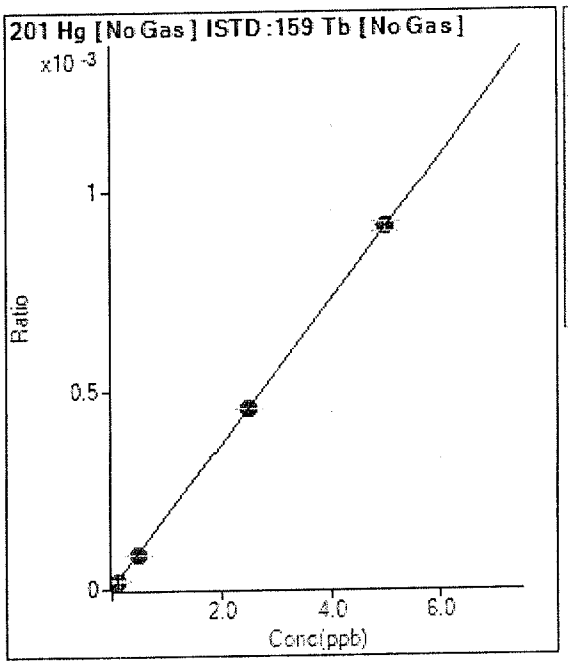
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	90.00	0.0000	P	59.4
2	☐	0.500	0.239	1900.15	0.0003	P	6.2
3	☐	1.000	1.166	9920.59	0.0013	P	2.0
4	☐	5.000	4.272	36322.09	0.0049	P	1.9
5	☐	25.000	24.922	217655.25	0.0283	P	1.3
6	☐	50.000	50.111	389024.01	0.0569	P	1.1

y = 0.0011 * x + 1.2257E-005
R = 0.9999
DL = 0.01923
BEC = 0.01079

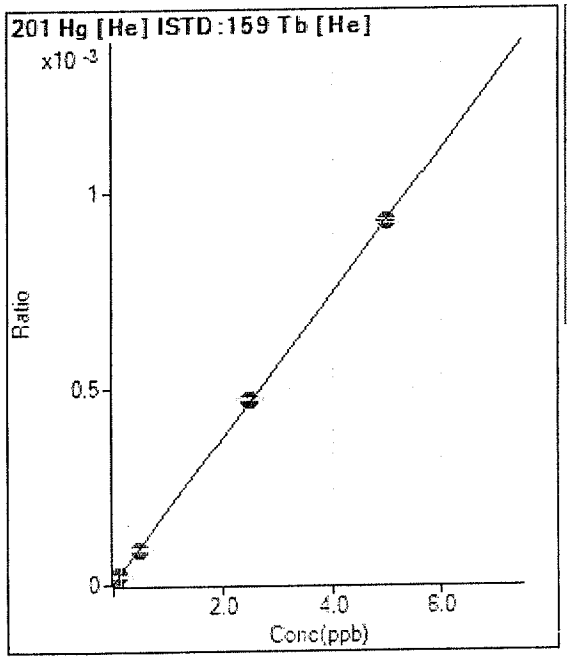
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.67	0.0000	P	19.3
2	☐	0.050	0.053	74.50	0.0000	P	12.2
3	☐	0.100	0.111	160.67	0.0000	P	7.3
4	☐	0.500	0.477	658.19	0.0001	P	1.0
5	☐	2.500	2.486	3482.49	0.0005	P	0.1
6	☐	5.000	5.009	6223.22	0.0009	P	2.6

y = 1.8173E-004 * x + 1.4508E-006
R = 1.0000
DL = 0.004628
BEC = 0.007983

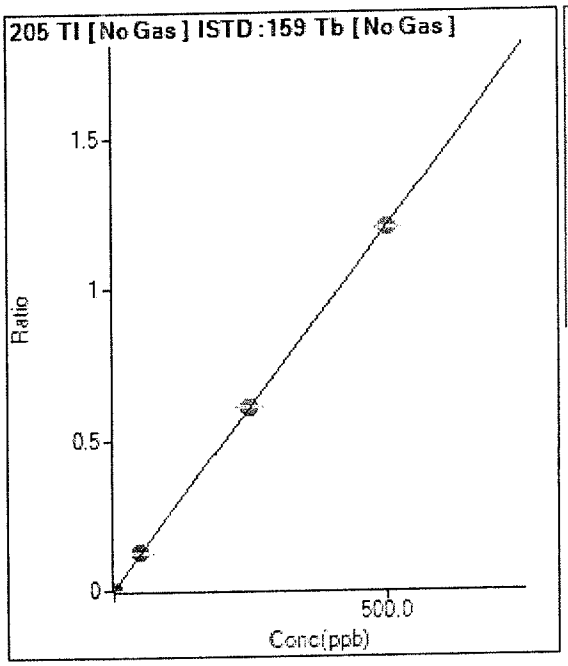
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7.00	0.0000	P	7.1
2	☐	0.050	0.053	57.33	0.0000	P	5.5
3	☐	0.100	0.113	135.17	0.0000	P	3.9
4	☐	0.500	0.480	545.84	0.0001	P	4.0
5	☐	2.500	2.543	2907.00	0.0005	P	1.8
6	☐	5.000	4.980	5621.60	0.0009	P	1.1

y = 1.8531E-004 * x + 1.1410E-006
R = 0.9999
DL = 0.00132
BEC = 0.006158

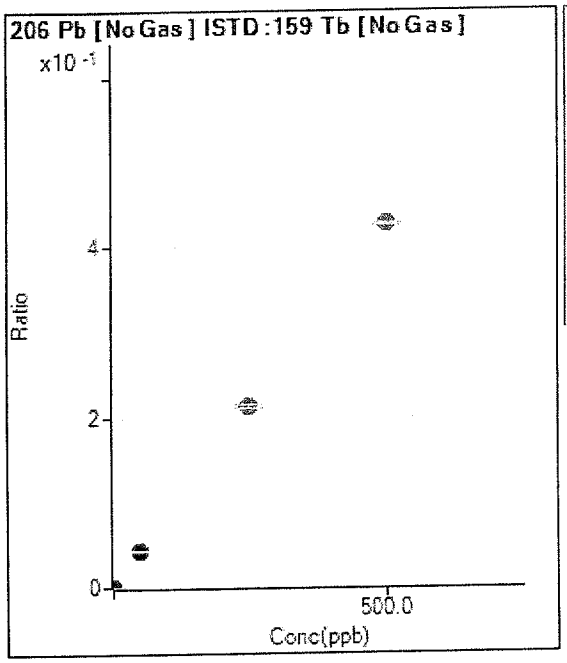
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1258.95	0.0002	P	1.9
2	☐	0.500	0.448	8387.28	0.0013	P	2.5
3	☐	1.000	0.988	18981.08	0.0026	P	0.8
4	☐	50.000	51.766	934793.40	0.1252	P	1.1
5	☐	250.000	252.172	4682569.53	0.6094	A	0.7
6	☐	500.000	498.737	8241705.50	1.2050	A	0.8

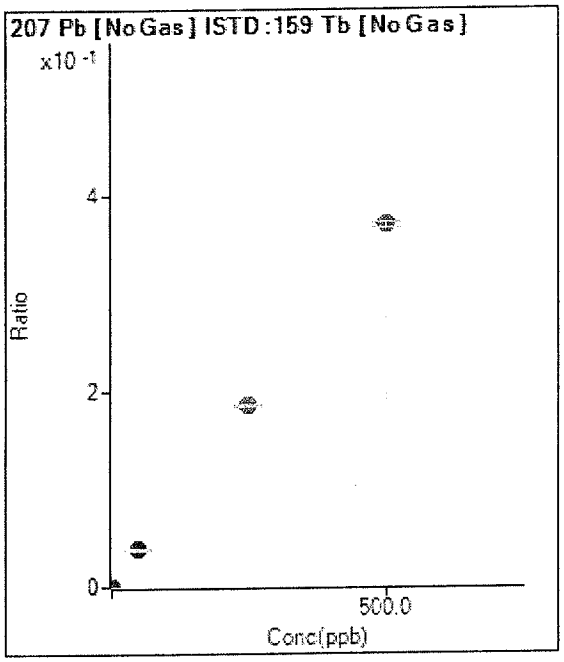
y = 0.0024 * x + 1.7085E-004
R = 1.0000
DL = 0.004071
BEC = 0.07072

Weight: <None>
Min Conc: 0



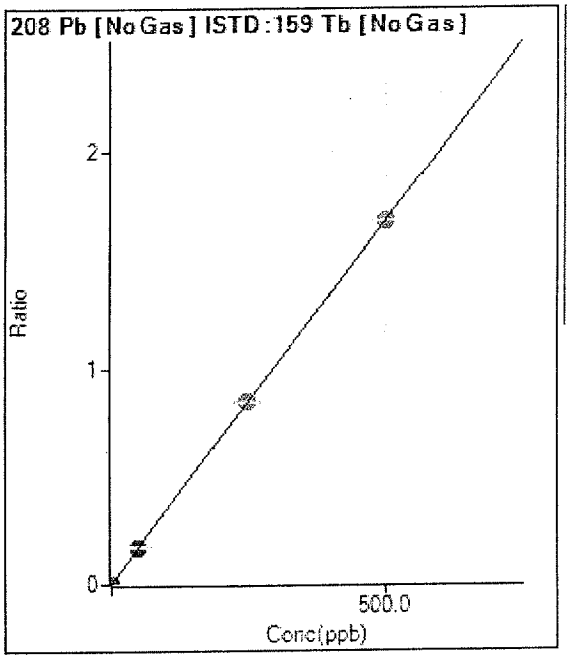
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		543.35	0.0001	P	17.1
2	☐	0.500		3340.46	0.0005	P	5.3
3	☐	1.000		7088.70	0.0010	P	6.6
4	☐	50.000		324482.36	0.0435	P	1.2
5	☐	250.000		1637900.03	0.2131	A	1.6
6	☐	500.000		2922434.02	0.4275	A	0.4

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		500.01	0.0001	P	9.4
2	☐	0.500		2760.32	0.0004	P	4.3
3	☐	1.000		6144.88	0.0008	P	4.8
4	☐	50.000		285306.77	0.0382	P	1.0
5	☐	250.000		1422326.18	0.1851	A	1.8
6	☐	500.000		2529555.22	0.3695	A	1.8

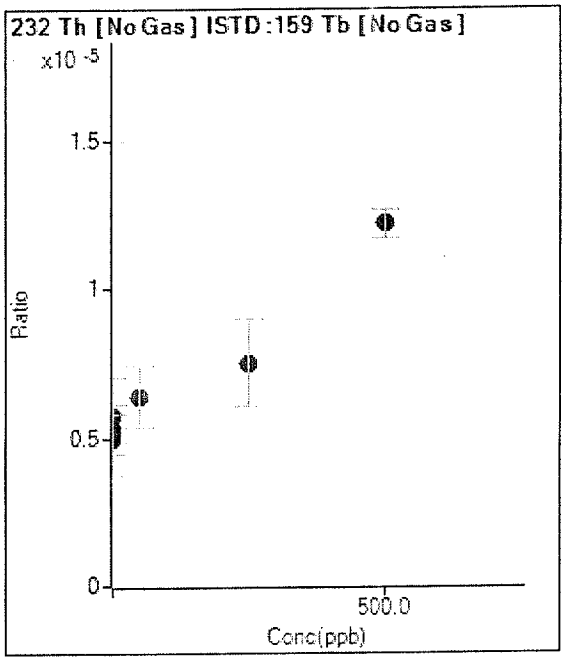
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2263.42	0.0003	P	6.8
2	☐	0.500	0.474	12720.33	0.0019	P	3.3
3	☐	1.000	1.023	27784.30	0.0037	P	2.5
4	☐	50.000	51.421	1292340.61	0.1731	P	0.6
5	☐	250.000	250.449	6470384.47	0.8420	A	0.5
6	☐	500.000	499.633	11483720.11	1.6794	A	0.1

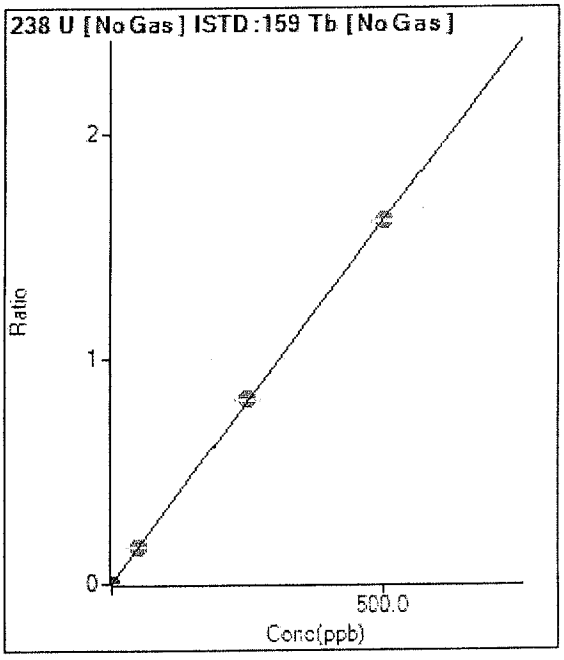
y = 0.0034 * x + 3.0719E-004
R = 1.0000
DL = 0.01873
BEC = 0.09141

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		42.22	0.0000	P	44.9
2	☐	0.500		35.55	0.0000	P	18.4
3	☐	1.000		36.67	0.0000	P	48.1
4	☐	50.000		47.78	0.0000	P	32.0
5	☐	250.000		57.78	0.0000	P	38.0
6	☐	500.000		83.33	0.0000	P	7.8

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1397.86	0.0002	P	4.7
2	☐	0.500	0.447	10940.47	0.0016	P	4.3
3	☐	1.000	0.993	25194.75	0.0034	P	1.4
4	☐	50.000	50.215	1211314.67	0.1623	A	0.9
5	☐	250.000	252.792	6271143.36	0.8161	A	0.9
6	☐	500.000	498.583	11009431.23	1.6094	A	0.6

y = 0.0032 * x + 1.8967E-004
R = 1.0000
DL = 0.008277
BEC = 0.05877

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq. Date-Time	2023-02-02 11:03:16
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

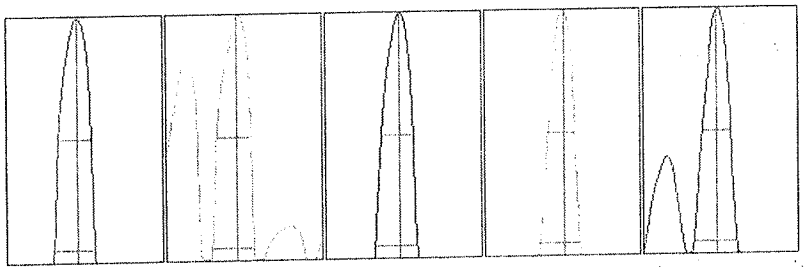
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	24977	249765.09			0.917	5.000
24	10.00	100546	1005464.74			0.777	5.000
59	10.00	239007	2390068.74			1.038	5.000
115	10.00	290132	2901324.68			0.592	5.000
208	10.00	165211	1652113.86			1.823	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	24658	25043	25281	25020	24880
24	99569	100078	101022	101565	100499
59	235554	237944	240734	241931	238871
115	287955	290698	290938	292236	288834
208	161925	164439	163860	165864	169970

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	44963.88	8.90	8.90 - 9.10	
24	178051.68	23.90	23.90 - 24.10	
59	427708.65	58.95	58.90 - 59.10	
115	577330.30	115.05	114.90 - 115.10	
208	313685.66	207.95	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.778	0.900	
24	0.64	0.786	0.900	
59	0.60	0.818	0.900	
115	0.51	0.759	0.900	
208	0.55	0.817	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.1 V	Deflect	14.8 V
Extract 2	-195.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-110 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	180 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9997	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.08		

Hardware Settings

Torch

Torch H	0.3 mm	Torch V	-0.3 mm		

EM

Discriminator	3.3 mV	Analog HV	2808 V	Pulse HV	1533 V

Calibration Blank Report

Sample Name	S0
File Name	H6B02003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 11:34:07
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	77652.24	2.5
Be	9	6	No Gas	60.00	5.5
B	11	6	No Gas	5675.60	3.7
Na	23	45	H2	834107.75	0.2
Mg	24	45	No Gas	74787.58	2.8
Al	27	45	No Gas	96205.67	2.7
Si	28	45	H2	5455.07	1.6
P	31	45	No Gas	54736.95	2.1
K	39	45	He	112511.62	4.3
Ca	40	45	H2	266590.20	0.3
Ti	47	45	No Gas	391.34	6.2
V	51	45	He	1426.74	1.5
Cr	52	45	He	2608.92	4.5
Mn	55	45	No Gas	13786.28	1.5
Fe	56	45	H2	143841.99	0.6
Co	59	45	No Gas	1842.79	3.6
Ni	60	45	He	253.33	11.3
Cu	63	45	He	1420.07	3.2
Zn	66	72	No Gas	2958.99	4.4
As	75	72	He	159.33	9.0
Se	78	72	H2	45.33	11.3
Sr	88	72	No Gas	2179.07	2.0
Zr	90	72	No Gas	166.67	48.1
Mo	95	115	No Gas	621.13	1.1
Mo	98	115	No Gas	914.48	11.9
[Cd]	106	115	No Gas	19.00	5.3
Ag	107	115	No Gas	116.67	17.4
[Cd]	108	115	No Gas	16.00	18.8
Cd	111	115	No Gas	154.01	12.7
Sn	118	115	No Gas	808.92	4.7
Sn	118	115	H2	915.59	6.2
Sb	123	115	No Gas	301.11	8.4
Ba	137	115	No Gas	660.02	5.0
W	182	159	No Gas	90.00	58.8
Hg	201	159	No Gas	10.67	17.7

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	7.00	7.1
Tl	205	159	No Gas	1258.95	1.8
Pb	206	159	No Gas	543.35	16.1
Pb	207	159	No Gas	500.01	11.1
Pb	208	159	No Gas	2263.42	6.5
Th	232	159	No Gas	42.22	43.5
U	238	159	No Gas	1397.86	5.1

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1352295.01	2.6
Sc	45	No Gas	4225054.58	2.9
Sc	45	H2	3464992.83	0.6
Sc	45	He	580131.85	0.4
Ge	72	No Gas	959448.21	2.4
Ge	72	H2	922659.73	0.2
Ge	72	He	325132.83	0.8
In	115	No Gas	5557053.09	1.3
Tb	159	No Gas	7369853.60	2.0
Tb	159	He	6134888.00	0.4

Calibration Standard Report

Sample Name	S1
File Name	H6B02004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 11:36:58
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	73668.01	6.7
Be	9	6	No Gas	1061.15	10.9
B	11	6	No Gas	1970.14	11.3
Na	23	45	H2	1028999.32	0.2
Mg	24	45	No Gas	375286.79	7.5
Al	27	45	No Gas	499011.83	8.5
Si	28	45	H2	125534.61	1.0
P	31	45	No Gas	215113.46	3.6
K	39	45	He	141028.90	3.3
Ca	40	45	H2	586552.52	1.0
Ti	47	45	No Gas	1020.71	7.7
V	51	45	He	3479.11	2.6
Cr	52	45	He	5523.78	1.0
Mn	55	45	No Gas	16140.89	6.0
Fe	56	45	H2	654575.00	0.5
Co	59	45	No Gas	10053.06	5.8
Ni	60	45	He	1196.72	1.6
Cu	63	45	He	3775.19	3.9
Zn	66	72	No Gas	5947.31	5.9
As	75	72	He	614.35	5.5
Se	78	72	H2	210.33	8.1
Sr	88	72	No Gas	12092.16	5.8
Zr	90	72	No Gas	52563.72	7.9
Mo	95	115	No Gas	2205.74	8.4
Ag	107	115	No Gas	6433.79	3.1
Cd	111	115	No Gas	1169.22	7.3
Sn	118	115	No Gas	3359.32	6.2
Sb	123	115	No Gas	3847.24	6.3
Ba	137	115	No Gas	1896.81	4.2
W	182	159	No Gas	1900.15	10.2
Hg	201	159	He	57.33	4.1
Tl	205	159	No Gas	8387.28	6.3
Pb	208	159	No Gas	12720.33	5.7
U	238	159	No Gas	10940.47	6.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1219085.33	7.6	1352295.01	90.15	70	120	
Sc	45	No Gas	3885868.00	6.7	4225054.58	91.97	70	120	
Sc	45	H2	2915327.08	0.6	3464992.83	84.14	70	120	
Sc	45	He	490603.44	3.5	580131.85	84.57	70	120	
Ge	72	No Gas	901444.14	5.3	959448.21	93.95	70	120	
Ge	72	H2	812633.23	0.6	922659.73	88.08	70	120	
Ge	72	He	286802.04	3.1	325132.83	88.21	70	120	
In	115	No Gas	5147669.52	5.8	5557053.09	92.63	70	120	
Tb	159	No Gas	6701981.82	6.6	7369853.6	90.94	70	120	
Tb	159	He	5215009.00	2.5	6134888	85.01	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6B02005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 11:39:50
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	87252.20	0.7
Be	9	6	No Gas	2215.74	5.3
B	11	6	No Gas	6276.96	0.7
Na	23	45	H2	1203143.62	0.2
Mg	24	45	No Gas	843646.21	1.0
Al	27	45	No Gas	1124054.93	0.8
Si	28	45	H2	304027.53	2.2
P	31	45	No Gas	80999.91	0.8
K	39	45	He	185195.34	3.3
Ca	40	45	H2	1184833.29	1.0
Ti	47	45	No Gas	1748.11	2.3
V	51	45	He	6999.12	2.2
Cr	52	45	He	9305.16	3.0
Mn	55	45	No Gas	32234.59	0.7
Fe	56	45	H2	1510794.75	2.4
Co	59	45	No Gas	21925.59	1.0
Ni	60	45	He	2688.27	6.0
Cu	63	45	He	7546.10	1.0
Zn	66	72	No Gas	34137.46	1.1
As	75	72	He	1223.72	1.4
Se	78	72	H2	442.68	7.6
Sr	88	72	No Gas	27165.29	1.1
Zr	90	72	No Gas	100291.30	1.7
Mo	95	115	No Gas	4863.12	4.9
Ag	107	115	No Gas	13556.94	0.9
Cd	111	115	No Gas	2541.20	1.3
Sn	118	115	No Gas	7615.54	3.2
Sb	123	115	No Gas	7899.05	3.1
Ba	137	115	No Gas	4138.44	3.6
W	182	159	No Gas	9920.59	1.6
Hg	201	159	He	135.17	4.0
Tl	205	159	No Gas	18981.08	1.4
Pb	208	159	No Gas	27784.30	1.6
U	238	159	No Gas	25194.75	2.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1396822.49	0.9	1352295.01	103.29	70	120	
Sc	45	No Gas	4405503.17	0.5	4225054.58	104.27	70	120	
Sc	45	H2	3479217.42	2.0	3464992.83	100.41	70	120	
Sc	45	He	589172.33	0.4	580131.85	101.56	70	120	
Ge	72	No Gas	1013151.04	0.7	959448.21	105.6	70	120	
Ge	72	H2	946047.79	1.9	922659.73	102.53	70	120	
Ge	72	He	334398.81	0.3	325132.83	102.85	70	120	
In	115	No Gas	5725123.48	1.0	5557053.09	103.02	70	120	
Tb	159	No Gas	7421162.48	0.9	7369853.6	100.7	70	120	
Tb	159	He	6120986.33	0.4	6134888	99.77	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6B02006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 11:42:41
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	110293.72	1.7
Be	9	6	No Gas	10933.14	0.7
B	11	6	No Gas	16507.46	0.8
Na	23	45	H2	20687842.67	0.4
Mg	24	45	No Gas	41195718.67	0.4
Al	27	45	No Gas	54639840.85	0.8
Si	28	45	H2	754789.81	0.8
P	31	45	No Gas	87304.60	0.8
K	39	45	He	3795536.08	0.8
Ca	40	45	H2	49772624.00	0.8
Ti	47	45	No Gas	73299.34	1.1
V	51	45	He	304963.02	0.5
Cr	52	45	He	351285.93	0.8
Mn	55	45	No Gas	7061025.00	1.0
Fe	56	45	H2	74527861.33	0.5
Co	59	45	No Gas	1008840.42	1.1
Ni	60	45	He	121320.64	1.0
Cu	63	45	He	310732.08	1.4
Zn	66	72	No Gas	151177.07	0.3
As	75	72	He	58249.51	1.7
Se	78	72	H2	22508.42	0.8
Sr	88	72	No Gas	1270405.75	0.4
Zr	90	72	No Gas	164700.29	1.0
Mo	95	115	No Gas	247985.58	0.9
Ag	107	115	No Gas	60292.45	0.8
Cd	111	115	No Gas	120020.94	0.5
Sn	118	115	No Gas	355518.95	0.5
Sb	123	115	No Gas	82845.08	0.7
Ba	137	115	No Gas	372176.37	0.5
W	182	159	No Gas	36322.09	2.2
Hg	201	159	He	545.84	4.1
Tl	205	159	No Gas	934793.40	0.5
Pb	208	159	No Gas	1292340.61	0.4
U	238	159	No Gas	1211314.67	0.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1362896.02	0.4	1352295.01	100.78	70	120	
Sc	45	No Gas	4342579.50	0.7	4225054.58	102.78	70	120	
Sc	45	H2	3502807.92	0.3	3464992.83	101.09	70	120	
Sc	45	He	584803.81	0.4	580131.85	100.81	70	120	
Ge	72	No Gas	1007573.56	0.4	959448.21	105.02	70	120	
Ge	72	H2	958003.56	0.4	922659.73	103.83	70	120	
Ge	72	He	332648.57	0.5	325132.83	102.31	70	120	
In	115	No Gas	5583727.59	1.3	5557053.09	100.48	70	120	
Tb	159	No Gas	7465411.09	0.9	7369853.6	101.3	70	120	
Tb	159	He	6060057.00	0.4	6134888	98.78	70	120	

Ca ibration Standard Report

Sample Name	S4
File Name	H6B02007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 11:52:28
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	236586.95	0.9
Be	9	6	No Gas	54050.16	0.6
B	11	6	No Gas	71816.11	2.0
Na	23	45	H2	98879210.67	0.3
Mg	24	45	No Gas	207109397.33	1.0
Al	27	45	No Gas	272980189.27	0.6
Si	28	45	H2	3684449.58	0.5
P	31	45	No Gas	235704.35	0.6
K	39	45	He	18703572.67	0.5
Ca	40	45	H2	247045733.33	0.5
Ti	47	45	No Gas	376082.98	1.2
V	51	45	He	1507625.04	0.4
Cr	52	45	He	1714167.17	1.2
Mn	55	45	No Gas	35603486.67	1.1
Fe	56	45	H2	368282528.00	0.5
Co	59	45	No Gas	4990094.83	0.3
Ni	60	45	He	587998.35	0.7
Cu	63	45	He	1475832.25	0.9
Zn	66	72	No Gas	735909.67	0.8
As	75	72	He	289797.14	0.3
Se	78	72	H2	110677.46	0.7
Sr	88	72	No Gas	6502084.05	0.1
Zr	90	72	No Gas	414276.01	0.8
Mo	95	115	No Gas	1255229.57	1.3
Ag	107	115	No Gas	299195.30	0.6
Cd	111	115	No Gas	597663.00	0.8
Sn	118	115	No Gas	1764992.95	1.1
Sb	123	115	No Gas	418957.07	1.0
Ba	137	115	No Gas	1863354.44	0.9
W	182	159	No Gas	217655.25	1.0
Hg	201	159	He	2907.00	1.4
Tl	205	159	No Gas	4682569.53	0.4
Pb	208	159	No Gas	6470384.47	0.8
U	238	159	No Gas	6271143.36	0.1

Calibratio ı Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1368102.48	0.9	1352295.01	101.17	70	120	
Sc	45	No Gas	4502958.67	0.8	4225054.58	106.58	70	120	
Sc	45	H2	3572172.33	0.6	3464992.83	103.09	70	120	
Sc	45	He	596088.40	0.4	580131.85	102.75	70	120	
Ge	72	No Gas	1003700.21	0.4	959448.21	104.61	70	120	
Ge	72	H2	965119.37	0.6	922659.73	104.6	70	120	
Ge	72	He	337277.20	0.7	325132.83	103.74	70	120	
In	115	No Gas	5699556.14	1.7	5557053.09	102.56	70	120	
Tb	159	No Gas	7684843.58	1.0	7369853.6	104.27	70	120	
Tb	159	He	6154682.83	0.4	6134888	100.32	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6B02008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 11:55:18
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	345233.87	10.8
Be	9	6	No Gas	99616.81	8.4
B	11	6	No Gas	133457.22	8.3
Na	23	45	H2	204897781.33	0.6
Mg	24	45	No Gas	376794506.67	11.0
Al	27	45	No Gas	500815339.20	11.8
Si	28	45	H2	7608840.67	0.6
P	31	45	No Gas	401779.77	6.3
K	39	45	He	37951742.67	2.8
Ca	40	45	H2	516964725.33	0.8
Ti	47	45	No Gas	682751.65	9.9
V	51	45	He	3056381.08	2.5
Cr	52	45	He	3456483.00	1.9
Mn	55	45	No Gas	64503401.33	10.9
Fe	56	45	H2	755810112.00	0.5
Co	59	45	No Gas	9112675.67	9.8
Ni	60	45	He	1181045.42	1.3
Cu	63	45	He	2967193.25	1.9
Zn	66	72	No Gas	1350133.66	8.1
As	75	72	He	597378.38	0.9
Se	78	72	H2	226206.73	0.5
Sr	88	72	No Gas	11900254.81	9.6
Zr	90	72	No Gas	782912.44	9.7
Mo	95	115	No Gas	2305048.80	8.1
Ag	107	115	No Gas	543309.67	10.1
Cd	111	115	No Gas	1091474.26	9.1
Sn	118	115	No Gas	3193897.72	10.1
Sb	123	115	No Gas	768346.98	8.7
Ba	137	115	No Gas	3424207.64	10.2
W	182	159	No Gas	389024.01	9.9
Hg	201	159	He	5621.60	2.4
Tl	205	159	No Gas	8241705.50	11.5
Pb	208	159	No Gas	11483720.11	11.1
U	238	159	No Gas	11009431.23	11.7

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1200487.51	11.6	1352295.01	88.77	70	120	
Sc	45	No Gas	4063340.58	10.4	4225054.58	96.17	70	120	
Sc	45	H2	3635119.00	0.6	3464992.83	104.91	70	120	
Sc	45	He	589674.44	2.4	580131.85	101.64	70	120	
Ge	72	No Gas	940926.98	7.8	959448.21	98.07	70	120	
Ge	72	H2	965603.12	0.4	922659.73	104.65	70	120	
Ge	72	He	335761.39	1.9	325132.83	103.27	70	120	
In	115	No Gas	5055743.40	9.9	5557053.09	90.98	70	120	
Tb	159	No Gas	6837693.62	11.1	7369853.6	92.78	70	120	
Tb	159	He	6083484.00	1.8	6134888	99.16	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6B02009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 11:58:04
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.936	ppb	2.8	254338.52	30	93.12	90	110	
Be	9	6	No Gas	29.137	ppb	0.7	65543.55	30	97.12	90	110	
B	11	6	No Gas	28.878	ppb	1.7	47092.18	30	96.26	90	110	
Na	23	45	H2	30850.031	ppb	1.0	127532437.33	30000	102.83	90	110	
Mg	24	45	No Gas	30254.378	ppb	3.6	256655114.67	30000	100.85	90	110	
Al	27	45	No Gas	30807.080	ppb	3.5	346634194.84	30000	102.69	90	110	
Si	28	45	H2	3111.853	ppb	0.8	4773814.67	3000	103.73	90	110	
P	31	45	No Gas	272.315	ppb	2.3	274016.49	300	90.77	90	110	
K	39	45	He	30948.218	ppb	0.8	24322944.67	30000	103.16	90	110	
Ca	40	45	H2	30579.101	ppb	0.7	317788800.00	30000	101.93	90	110	
Ti	47	45	No Gas	300.782	ppb	2.5	462804.00	300	100.26	90	110	
V	51	45	He	302.950	ppb	0.8	1916010.29	300	100.98	90	110	
Cr	52	45	He	303.814	ppb	0.8	2176049.42	300	101.27	90	110	
Mn	55	45	No Gas	1983.152	ppb	1.9	48041069.33	2000	99.16	90	110	
Fe	56	45	H2	30817.732	ppb	0.3	470061376.00	30000	102.73	90	110	
Co	59	45	No Gas	300.795	ppb	2.3	6171050.67	300	100.26	90	110	
Ni	60	45	He	302.274	ppb	1.5	740289.31	300	100.76	90	110	
Cu	63	45	He	317.484	ppb	0.7	1953432.00	300	105.83	90	110	
Zn	66	72	No Gas	311.329	ppb	2.0	916412.67	300	103.78	90	110	
As	75	72	He	302.352	ppb	1.2	364177.72	300	100.78	90	110	
Se	78	72	H2	296.941	ppb	0.6	136991.52	300	98.98	90	110	
Sr	88	72	No Gas	302.766	ppb	3.0	7845922.19	300	100.92	90	110	
Zr	90	72	No Gas	30.799	ppb	2.5	517709.12	30	102.66	90	110	
Mo	95	115	No Gas	296.794	ppb	2.4	1509960.94	300	98.93	90	110	
Ag	107	115	No Gas	30.380	ppb	0.9	364801.66	30	101.27	90	110	
Cd	111	115	No Gas	299.840	ppb	0.9	722784.69	300	99.95	90	110	
Sn	118	115	No Gas	303.999	ppb	0.6	2147347.07	300	101.33	90	110	
Sb	123	115	No Gas	56.291	ppb	1.1	477293.75	60	93.82	90	110	
Ba	137	115	No Gas	296.403	ppb	1.8	1119142.28	300	98.8	90	110	
W	182	159	No Gas	30.490	ppb	1.7	259738.45	30	101.63	90	110	
Hg	201	159	No Gas	2.846	ppb	1.7	3887.77	3	94.87	90	110	
Hg	201	159	He	2.871	ppb	0.4	3306.60	3	95.7	90	110	
Tl	205	159	No Gas	305.208	ppb	0.4	5527905.61	300	101.74	90	110	
Pb	208	159	No Gas	304.942	ppb	0.1	7683638.17	300	101.65	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	306.731	ppb	0.5	7422226.93	300	102.24	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1365515.35	1.5	1352295.01	100.98	70	120	
Sc	45	No Gas	4581651.33	1.3	4225054.58	108.44	70	120	
Sc	45	H2	3673064.50	0.1	3464992.83	106	70	120	
Sc	45	He	612918.31	0.8	580131.85	105.65	70	120	
Ge	72	No Gas	1020340.42	0.8	959448.21	106.35	70	120	
Ge	72	H2	988678.42	0.6	922659.73	107.16	70	120	
Ge	72	He	340781.42	0.5	325132.83	104.81	70	120	
In	115	No Gas	5611843.19	0.8	5557053.09	100.99	70	120	
Tb	159	No Gas	7495474.70	1.4	7369853.6	101.7	70	120	
Tb	159	He	6202618.50	0.5	6134888	101.1	70	120	

Continuing Calibratior Blank (CCB) Report

Sample Name	ICB
File Name	H6B02010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 12:00:40
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.109	ppb	201.6	81430.09	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	55.56	0.08	
B	11	6	No Gas	1.239	ppb	10.9	7723.24	4	
Na	23	45	H2	<0.000	ppb	N/A	858015.52	40	
Mg	24	45	No Gas	3.726	ppb	29.1	108305.83	10	
Al	27	45	No Gas	3.822	ppb	27.7	141594.16	15	
Si	28	45	H2	4.390	ppb	8.5	12400.52	8	
P	31	45	No Gas	<0.000	ppb	N/A	52800.12	10	
K	39	45	He	4.291	ppb	170.0	119387.45	20	
Ca	40	45	H2	2.569	ppb	16.7	306564.95	25	
Ti	47	45	No Gas	0.021	ppb	22.8	439.34	0.5	
V	51	45	He	0.007	ppb	45.6	1518.09	0.5	
Cr	52	45	He	<0.000	ppb	N/A	2561.58	0.2	
Mn	55	45	No Gas	0.287	ppb	27.8	21054.22	0.2	>LOD
Fe	56	45	H2	2.794	ppb	6.1	193379.38	10	
Co	59	45	No Gas	0.014	ppb	98.6	2201.51	0.15	
Ni	60	45	He	0.010	ppb	18.4	285.33	0.2	
Cu	63	45	He	0.054	ppb	19.1	1788.79	0.4	
Zn	66	72	No Gas	0.042	ppb	101.8	3161.70	2	
As	75	72	He	0.052	ppb	20.0	223.33	0.2	
Se	78	72	H2	0.065	ppb	7.7	76.67	0.2	
Sr	88	72	No Gas	0.040	ppb	39.3	3238.18	0.2	
Zr	90	72	No Gas	0.011	ppb	17.9	343.34	2	
Mo	95	115	No Gas	0.069	ppb	2.3	993.37	0.2	
Ag	107	115	No Gas	0.002	ppb	37.5	147.78	0.08	
Cd	111	115	No Gas	0.067	ppb	30.0	321.80	0.2	
Sn	118	115	No Gas	0.184	ppb	6.9	2149.07	0.2	
Sb	123	115	No Gas	0.010	ppb	45.2	398.90	0.4	
Ba	137	115	No Gas	0.041	ppb	26.1	834.47	0.2	
W	182	159	No Gas	0.012	ppb	31.9	196.67	0.3	
Hg	201	159	No Gas	0.040	ppb	8.5	65.83	0.1	
Hg	201	159	He	0.030	ppb	19.6	41.33	0.1	
Tl	205	159	No Gas	0.129	ppb	21.4	3624.98	0.1	>LOD
Pb	208	159	No Gas	0.050	ppb	21.7	3563.54	0.1	

TH 2/3/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.047	ppb	16.1	2553.60	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1406420.79	4.6	1352295.01	104	70	120	
Sc	45	No Gas	4411835.83	4.4	4225054.58	104.42	70	120	
Sc	45	H2	3640901.33	0.2	3464992.83	105.08	70	120	
Sc	45	He	598699.31	2.4	580131.85	103.2	70	120	
Ge	72	No Gas	987579.23	4.3	959448.21	102.93	70	120	
Ge	72	H2	964696.44	0.5	922659.73	104.56	70	120	
Ge	72	He	331896.93	2.3	325132.83	102.08	70	120	
In	115	No Gas	5701562.61	2.1	5557053.09	102.6	70	120	
Tb	159	No Gas	7519766.09	2.3	7369853.6	102.03	70	120	
Tb	159	He	6140643.83	1.1	6134888	100.09	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6B02014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 12:36:55
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.234	ppb	77.7	77954.94	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	15.56	0.4	-50	50	
B	11	6	No Gas	0.439	ppb	57.7	6202.49	10	-50	50	
Na	23	45	H2	103807.094	ppb	0.6	425022026.67	100000	80	120	
Mg	24	45	No Gas	102627.524	ppb	2.1	840468757.33	100000	80	120	
Al	27	45	No Gas	104140.426	ppb	2.4	1131073929.81	100000	80	120	
Si	28	45	H2	4.622	ppb	5.6	12802.60	50	-50	50	
P	31	45	No Gas	100102.874	ppb	3.0	76228888.00	100000	80	120	
K	39	45	He	104898.146	ppb	0.6	79310864.00	100000	80	120	
Ca	40	45	H2	105496.280	ppb	0.7	1090477354.67	100000	80	120	
Ti	47	45	No Gas	2177.217	ppb	1.6	3232456.17	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1350.73	1	-50	50	
Cr	52	45	He	2.178	ppb	1.2	17701.42	1	-50	50	> +/-20%
Mn	55	45	No Gas	0.083	ppb	30.9	16373.12	1	-50	50	
Fe	56	45	H2	104593.254	ppb	0.2	1587480661.33	100000	80	120	
Co	59	45	No Gas	0.095	ppb	9.2	3802.53	0.75	-50	50	
Ni	60	45	He	0.435	ppb	6.6	1287.40	1	-50	50	
Cu	63	45	He	0.108	ppb	12.0	2088.16	2	-50	50	
Zn	66	72	No Gas	4.719	ppb	1.8	16617.51	20	-50	50	
As	75	72	He	0.082	ppb	20.4	260.33	1	-50	50	
Se	78	72	H2	0.043	ppb	76.1	66.33	1	-50	50	
Sr	88	72	No Gas	0.829	ppb	1.0	23271.33	1	-50	50	> +/-20%
Zr	90	72	No Gas	0.184	ppb	3.7	3193.73	10	-50	50	
Mo	95	115	No Gas	2135.277	ppb	1.9	10326473.20	2000	80	120	
Ag	107	115	No Gas	0.073	ppb	6.2	941.14	0.4	-50	50	
Cd	111	115	No Gas	0.013	ppb	38.6	177.03	1	-50	50	
Sn	118	115	No Gas	0.061	ppb	9.6	1190.05	1	-50	50	
Sb	123	115	No Gas	0.051	ppb	14.5	695.57	1	-50	50	
Ba	137	115	No Gas	0.539	ppb	1.0	2566.92	1	-50	50	> +/-20%
W	182	159	No Gas	0.157	ppb	14.6	1393.42	1	-50	50	
Hg	201	159	No Gas	0.004	ppb	59.3	15.83	0.5	-50	50	
Hg	201	159	He	0.003	ppb	65.6	10.67	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	324.45	0.5	-50	50	
Pb	208	159	No Gas	<0.000	ppb	N/A	2235.64	0.5	-50	50	

TH 2/3/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	494.45	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1332805.48	2.3	1352295.01	98.56	70	120	
Sc	45	No Gas	4425925.83	3.9	4225054.58	104.75	70	120	
Sc	45	H2	3655800.42	0.8	3464992.83	105.51	70	120	
Sc	45	He	591702.19	1.1	580131.85	101.99	70	120	
Ge	72	No Gas	997989.31	2.7	959448.21	104.02	70	120	
Ge	72	H2	958383.33	0.3	922659.73	103.87	70	120	
Ge	72	He	334429.74	0.4	325132.83	102.86	70	120	
In	115	No Gas	5337577.14	3.7	5557053.09	96.05	70	120	
Tb	159	No Gas	7300235.12	5.1	7369853.6	99.06	70	120	
Tb	159	He	5986367.83	0.4	6134888	97.58	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6B02015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 12:59:18
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	18.820	ppb	1.1	174920.64	20	80	120	
Be	9	6	No Gas	18.628	ppb	1.1	37242.60	20	80	120	
B	11	6	No Gas	17.010	ppb	1.5	26739.87	20	80	120	
Na	23	45	H2	91787.020	ppb	0.9	380494144.00	100000	80	120	
Mg	24	45	No Gas	90035.845	ppb	0.8	740121706.67	100000	80	120	
Al	27	45	No Gas	92338.128	ppb	1.2	1007032198.33	100000	80	120	
Si	28	45	H2	182.966	ppb	1.0	288246.89	200	80	120	
P	31	45	No Gas	86392.067	ppb	0.1	66064102.67	100000	80	120	
K	39	45	He	93646.877	ppb	0.7	69452208.00	100000	80	120	
Ca	40	45	H2	93345.643	ppb	0.2	976703637.33	100000	80	120	
Ti	47	45	No Gas	1938.868	ppb	1.0	2889787.92	2000	80	120	
V	51	45	He	19.578	ppb	0.5	118567.76	20	80	120	
Cr	52	45	He	21.861	ppb	1.6	150664.00	20	80	120	
Mn	55	45	No Gas	18.844	ppb	0.6	456836.70	20	80	120	
Fe	56	45	H2	94646.587	ppb	0.5	1454028885.33	100000	80	120	
Co	59	45	No Gas	18.982	ppb	1.2	379320.43	20	80	120	
Ni	60	45	He	20.137	ppb	1.9	46927.85	20	80	120	
Cu	63	45	He	20.140	ppb	1.6	118645.58	20	80	120	
Zn	66	72	No Gas	22.713	ppb	1.2	68878.26	20	80	120	
As	75	72	He	18.927	ppb	0.9	22384.85	20	80	120	
Se	78	72	H2	19.231	ppb	0.5	8838.90	20	80	120	
Sr	88	72	No Gas	19.773	ppb	0.8	507963.96	20	80	120	
Zr	90	72	No Gas	11.930	ppb	2.8	198078.63	20	80	120	> +/- 20%
Mo	95	115	No Gas	1940.393	ppb	1.4	9317060.19	2000	80	120	
Ag	107	115	No Gas	19.196	ppb	1.3	217680.91	20	80	120	
Cd	111	115	No Gas	19.651	ppb	1.8	44857.87	20	80	120	
Sn	118	115	No Gas	19.728	ppb	0.6	132315.49	20	80	120	
Sb	123	115	No Gas	19.194	ppb	1.0	153861.60	20	80	120	
Ba	137	115	No Gas	20.138	ppb	1.9	72365.21	20	80	120	
W	182	159	No Gas	18.082	ppb	1.1	148547.21	20	80	120	
Hg	201	159	No Gas	1.821	ppb	0.3	2402.40	2	80	120	
Hg	201	159	He	1.871	ppb	2.0	2042.33	2	80	120	
Tl	205	159	No Gas	19.163	ppb	1.4	335781.89	20	80	120	
Pb	208	159	No Gas	19.068	ppb	1.9	465305.57	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.554	ppb	1.9	457400.05	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1213173.70	2.4	1352295.01	89.71	70	120	
Sc	45	No Gas	4440696.00	2.4	4225054.58	105.1	70	120	
Sc	45	H2	3700354.08	0.5	3464992.83	106.79	70	120	
Sc	45	He	580305.90	1.2	580131.85	100.03	70	120	
Ge	72	No Gas	1007065.81	1.1	959448.21	104.96	70	120	
Ge	72	H2	979933.83	0.9	922659.73	106.21	70	120	
Ge	72	He	332328.71	0.9	325132.83	102.21	70	120	
In	115	No Gas	5300229.97	3.4	5557053.09	95.38	70	120	
Tb	159	No Gas	7228597.49	3.2	7369853.6	98.08	70	120	
Tb	159	He	5872306.17	0.2	6134888	95.72	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6B02017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 13:08:11
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.172	ppb	0.6	192049.46	25	92.69	90	110	
Be	9	6	No Gas	23.807	ppb	2.3	45804.83	25	95.23	90	110	
B	11	6	No Gas	47.889	ppb	1.8	63633.69	50	95.78	90	110	
Na	23	45	H2	24266.125	ppb	1.4	98841221.33	25000	97.06	90	110	
Mg	24	45	No Gas	23942.899	ppb	0.6	183342410.67	25000	95.77	90	110	
Al	27	45	No Gas	23932.132	ppb	0.7	243010716.38	25000	95.73	90	110	
Si	28	45	H2	2307.262	ppb	1.6	3482442.33	2500	92.29	90	110	
P	31	45	No Gas	218.419	ppb	6.3	208277.48	250	87.37	90	110	> +/- 10%
K	39	45	He	24626.476	ppb	0.5	17500332.67	25000	98.51	90	110	
Ca	40	45	H2	24151.894	ppb	0.5	246920074.67	25000	96.61	90	110	
Ti	47	45	No Gas	234.960	ppb	0.2	326343.85	250	93.98	90	110	
V	51	45	He	251.448	ppb	0.9	1436450.75	250	100.58	90	110	
Cr	52	45	He	252.872	ppb	0.8	1636229.67	250	101.15	90	110	
Mn	55	45	No Gas	1463.798	ppb	0.5	32016530.00	1500	97.59	90	110	
Fe	56	45	H2	25082.182	ppb	0.8	376291840.00	25000	100.33	90	110	
Co	59	45	No Gas	239.144	ppb	0.8	4429437.50	250	95.66	90	110	
Ni	60	45	He	256.417	ppb	1.0	567315.71	250	102.57	90	110	
Cu	63	45	He	259.011	ppb	1.2	1439816.46	250	103.6	90	110	
Zn	66	72	No Gas	245.641	ppb	0.4	674870.37	250	98.26	90	110	
As	75	72	He	246.451	ppb	2.1	282462.61	250	98.58	90	110	
Se	78	72	H2	245.630	ppb	0.9	111982.15	250	98.25	90	110	
Sr	88	72	No Gas	243.314	ppb	2.1	5889655.46	250	97.33	90	110	
Zr	90	72	No Gas	24.113	ppb	1.5	378269.76	25	96.45	90	110	
Mo	95	115	No Gas	232.878	ppb	2.4	1094693.36	250	93.15	90	110	
Ag	107	115	No Gas	23.783	ppb	2.6	263858.93	25	95.13	90	110	
Cd	111	115	No Gas	242.073	ppb	1.1	538736.07	250	96.83	90	110	
Sn	118	115	No Gas	236.163	ppb	1.8	1541013.38	250	94.47	90	110	
Sb	123	115	No Gas	45.986	ppb	0.9	359959.04	50	91.97	90	110	
Ba	137	115	No Gas	481.591	ppb	2.2	1679211.18	500	96.32	90	110	
W	182	159	No Gas	25.043	ppb	3.2	194886.23	25	100.17	90	110	
Hg	201	159	No Gas	2.466	ppb	1.1	3074.05	2.5	98.64	90	110	
Hg	201	159	He	2.501	ppb	1.0	2629.94	2.5	100.04	90	110	
Tl	205	159	No Gas	244.833	ppb	0.7	4044465.95	250	97.93	90	110	
Pb	208	159	No Gas	242.819	ppb	0.4	5579639.46	250	97.13	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	242.278	ppb	0.6	5346325.20	250	96.91	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1168889.42	10.1	1352295.01	86.44	70	120	
Sc	45	No Gas	4134508.17	10.6	4225054.58	97.86	70	120	
Sc	45	H2	3612588.92	0.8	3464992.83	104.26	70	120	
Sc	45	He	553567.81	3.5	580131.85	95.42	70	120	
Ge	72	No Gas	951575.92	9.7	959448.21	99.18	70	120	
Ge	72	H2	976957.36	0.9	922659.73	105.88	70	120	
Ge	72	He	324385.20	3.6	325132.83	99.77	70	120	
In	115	No Gas	5178242.33	8.8	5557053.09	93.18	70	120	
Tb	159	No Gas	6832905.28	9.8	7369853.6	92.71	70	120	
Tb	159	He	5659916.33	3.5	6134888	92.26	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6B02018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 13:13:24
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	58920.57	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	31.11	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	2177.95	4	
Na	23	45	H2	115.964	ppb	12.5	1073677.91	40	>LOD
Mg	24	45	No Gas	<0.000	ppb	N/A	51800.04	10	
Al	27	45	No Gas	<0.000	ppb	N/A	58051.22	15	
Si	28	45	H2	4.011	ppb	3.2	9423.19	8	
P	31	45	No Gas	<0.000	ppb	N/A	41111.36	10	
K	39	45	He	35.740	ppb	28.4	112638.80	20	>LOD
Ca	40	45	H2	0.277	ppb	183.4	225509.01	25	
Ti	47	45	No Gas	0.042	ppb	57.7	366.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1001.37	0.5	
Cr	52	45	He	0.096	ppb	4.7	2639.59	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	7880.27	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	89727.04	10	
Co	59	45	No Gas	<0.000	ppb	N/A	300.67	0.15	
Ni	60	45	He	<0.000	ppb	N/A	185.33	0.2	
Cu	63	45	He	0.026	ppb	56.5	1275.39	0.4	
Zn	66	72	No Gas	0.334	ppb	13.6	3196.38	2	
As	75	72	He	<0.000	ppb	N/A	111.33	0.2	
Se	78	72	H2	<0.000	ppb	N/A	39.33	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1051.15	0.2	
Zr	90	72	No Gas	0.000	ppb	2156.0	140.00	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	435.57	0.2	
Ag	107	115	No Gas	0.012	ppb	37.5	212.23	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	48.32	0.2	
Sn	118	115	No Gas	0.055	ppb	11.8	967.81	0.2	
Sb	123	115	No Gas	0.024	ppb	36.9	406.67	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	363.34	0.2	
W	182	159	No Gas	0.004	ppb	89.1	96.67	0.3	
Hg	201	159	No Gas	0.021	ppb	13.1	30.33	0.1	
Hg	201	159	He	0.018	ppb	25.5	21.67	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	663.35	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	797.79	0.1	

TH 2/3/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	201.12	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1038990.58	1.2	1352295.01	76.83	70	120	
Sc	45	No Gas	3436429.83	1.1	4225054.58	81.33	70	120	
Sc	45	H2	2902764.58	4.3	3464992.83	83.77	70	120	
Sc	45	He	470350.80	1.1	580131.85	81.08	70	120	
Ge	72	No Gas	790144.10	0.6	959448.21	82.35	70	120	
Ge	72	H2	812139.92	4.3	922659.73	88.02	70	120	
Ge	72	He	274625.43	0.2	325132.83	84.47	70	120	
In	115	No Gas	4516481.00	0.1	5557053.09	81.27	70	120	
Tb	159	No Gas	5770911.99	2.7	7369853.6	78.3	70	120	
Tb	159	He	4870154.33	1.0	6134888	79.38	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV10
File Name	H6B02098.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 17:01:24
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.560	ppb	4.5	228213.70	25	94.24	90	110	
Be	9	6	No Gas	22.922	ppb	5.4	51884.37	25	91.69	90	110	
B	11	6	No Gas	49.978	ppb	4.5	77802.61	50	99.96	90	110	
Na	23	45	H2	24105.266	ppb	0.8	105164098.67	25000	96.42	90	110	
Mg	24	45	No Gas	23929.894	ppb	1.0	212445210.67	25000	95.72	90	110	
Al	27	45	No Gas	24293.716	ppb	2.0	286048215.74	25000	97.17	90	110	
Si	28	45	H2	2243.589	ppb	1.0	3626965.50	2500	89.74	90	110	> +/- 10%
P	31	45	No Gas	207.898	ppb	1.0	233605.36	250	83.16	90	110	> +/- 10%
K	39	45	He	24365.035	ppb	1.2	19487825.33	25000	97.46	90	110	
Ca	40	45	H2	23933.022	ppb	0.9	262043674.67	25000	95.73	90	110	
Ti	47	45	No Gas	230.893	ppb	1.0	371852.09	250	92.36	90	110	
V	51	45	He	243.375	ppb	0.3	1564809.29	250	97.35	90	110	
Cr	52	45	He	242.499	ppb	1.3	1765927.75	250	97	90	110	
Mn	55	45	No Gas	1466.711	ppb	1.5	37186080.00	1500	97.78	90	110	
Fe	56	45	H2	24485.430	ppb	0.4	393414464.00	25000	97.94	90	110	
Co	59	45	No Gas	230.375	ppb	0.8	4946378.00	250	92.15	90	110	
Ni	60	45	He	240.439	ppb	0.5	598597.21	250	96.18	90	110	
Cu	63	45	He	243.465	ppb	0.6	1522946.46	250	97.39	90	110	
Zn	66	72	No Gas	246.743	ppb	0.4	752830.02	250	98.7	90	110	
As	75	72	He	233.766	ppb	0.6	294810.68	250	93.51	90	110	
Se	78	72	H2	244.784	ppb	1.3	115268.77	250	97.91	90	110	
Sr	88	72	No Gas	249.174	ppb	1.1	6688241.68	250	99.67	90	110	
Zr	90	72	No Gas	24.559	ppb	0.8	427561.78	25	98.24	90	110	
Mo	95	115	No Gas	230.164	ppb	1.8	1224451.65	250	92.07	90	110	
Ag	107	115	No Gas	23.361	ppb	1.7	293377.35	25	93.44	90	110	
Cd	111	115	No Gas	238.825	ppb	1.5	601994.70	250	95.53	90	110	
Sn	118	115	No Gas	237.327	ppb	1.5	1753343.65	250	94.93	90	110	
Sb	123	115	No Gas	46.323	ppb	2.0	410772.28	50	92.65	90	110	
Ba	137	115	No Gas	486.459	ppb	1.0	1919979.57	500	97.29	90	110	
W	182	159	No Gas	24.258	ppb	1.6	222150.95	25	97.03	90	110	
Hg	201	159	No Gas	2.386	ppb	4.1	3505.83	2.5	95.44	90	110	
Hg	201	159	He	2.518	ppb	1.8	2982.19	2.5	100.72	90	110	
Tl	205	159	No Gas	243.095	ppb	1.8	4732712.45	250	97.24	90	110	
Pb	208	159	No Gas	243.119	ppb	1.0	6584766.10	250	97.25	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	244.930	ppb	0.2	6370756.97	250	97.97	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1374944.60	3.0	1352295.01	101.67	70	120	
Sc	45	No Gas	4794205.50	2.2	4225054.58	113.47	70	120	
Sc	45	H2	3868844.42	0.2	3464992.83	111.66	70	120	
Sc	45	He	622956.54	0.3	580131.85	107.38	70	120	
Ge	72	No Gas	1056581.94	1.5	959448.21	110.12	70	120	
Ge	72	H2	1009130.35	0.8	922659.73	109.37	70	120	
Ge	72	He	356765.29	0.9	325132.83	109.73	70	120	
In	115	No Gas	5868406.55	2.0	5557053.09	105.6	70	120	
Tb	159	No Gas	8056937.18	2.1	7369853.6	109.32	70	120	
Tb	159	He	6375804.67	1.2	6134888	103.93	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB10
File Name	H6B02099.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:04:02
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	79427.28	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	22.22	0.08	
B	11	6	No Gas	3.753	ppb	3.2	11354.61	4	
Na	23	45	H2	<0.000	ppb	N/A	770730.94	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	36124.78	10	
Al	27	45	No Gas	<0.000	ppb	N/A	41578.48	15	
Si	28	45	H2	1.238	ppb	10.0	6762.98	8	
P	31	45	No Gas	<0.000	ppb	N/A	52213.90	10	
K	39	45	He	20.220	ppb	36.5	117308.17	20	>LOD
Ca	40	45	H2	<0.000	ppb	N/A	195473.79	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	256.00	0.5	
V	51	45	He	<0.000	ppb	N/A	1105.38	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1686.10	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	11903.31	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	40672.04	10	
Co	59	45	No Gas	<0.000	ppb	N/A	851.36	0.15	
Ni	60	45	He	<0.000	ppb	N/A	122.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	767.36	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	3073.02	2	
As	75	72	He	<0.000	ppb	N/A	117.33	0.2	
Se	78	72	H2	0.026	ppb	61.4	52.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1864.58	0.2	
Zr	90	72	No Gas	0.002	ppb	201.3	206.67	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	308.89	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	67.78	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	122.24	0.2	
Sn	118	115	No Gas	0.028	ppb	24.8	1076.71	0.2	
Sb	123	115	No Gas	0.053	ppb	19.5	805.58	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	413.34	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	66.67	0.3	
Hg	201	159	No Gas	0.025	ppb	12.3	47.67	0.1	
Hg	201	159	He	0.014	ppb	31.7	20.00	0.1	
Tl	205	159	No Gas	0.007	ppb	164.4	1475.65	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1334.47	0.1	

TH 2/3/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	997.82	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1396005.04	6.5	1352295.01	103.23	70	120	
Sc	45	No Gas	4698747.50	4.8	4225054.58	111.21	70	120	
Sc	45	H2	3234910.00	1.1	3464992.83	93.36	70	120	
Sc	45	He	533799.44	0.9	580131.85	92.01	70	120	
Ge	72	No Gas	1018728.04	6.3	959448.21	106.18	70	120	
Ge	72	H2	856857.52	0.8	922659.73	92.87	70	120	
Ge	72	He	302605.59	0.4	325132.83	93.07	70	120	
In	115	No Gas	5974088.09	5.4	5557053.09	107.5	70	120	
Tb	159	No Gas	7841474.69	6.3	7369853.6	106.4	70	120	
Tb	159	He	5472289.83	0.1	6134888	89.2	70	120	

Blank Report

Sample Name	IML028WB
File Name	H6B02100.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:06:39
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.093	ppb	234.4	67272.17	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	17.78	0.08	
B	11	6	No Gas	1.072	ppb	41.9	6182.48	4	
Na	23	45	H2	4.800	ppb	51.2	795716.96	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	23951.88	10	
Al	27	45	No Gas	<0.000	ppb	N/A	27467.20	15	
Si	28	45	H2	3.064	ppb	3.1	9223.73	8	
P	31	45	No Gas	<0.000	ppb	N/A	50381.13	10	
K	39	45	He	<0.000	ppb	N/A	112097.93	20	
Ca	40	45	H2	<0.000	ppb	N/A	203127.98	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	287.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1090.71	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1700.11	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	8858.20	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	32892.16	10	
Co	59	45	No Gas	<0.000	ppb	N/A	290.67	0.15	
Ni	60	45	He	<0.000	ppb	N/A	221.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1346.07	0.4	
Zn	66	72	No Gas	0.075	ppb	39.3	3015.00	2	
As	75	72	He	<0.000	ppb	N/A	110.67	0.2	
Se	78	72	H2	<0.000	ppb	N/A	27.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1381.18	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	143.33	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	65.56	0.2	
Ag	107	115	No Gas	0.004	ppb	42.5	151.11	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	28.50	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	746.69	0.2	
Sb	123	115	No Gas	0.119	ppb	5.1	1218.95	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	280.00	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	50.00	0.3	
Hg	201	159	No Gas	0.013	ppb	24.9	26.00	0.1	
Hg	201	159	He	0.011	ppb	2.5	19.67	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	545.57	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	617.78	0.1	

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	97.78	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1162933.61	1.5	1352295.01	86	70	120	
Sc	45	No Gas	3960655.33	0.6	4225054.58	93.74	70	120	
Sc	45	H2	3233655.83	1.2	3464992.83	93.32	70	120	
Sc	45	He	608728.08	1.1	580131.85	104.93	70	120	
Ge	72	No Gas	913607.63	1.9	959448.21	95.22	70	120	
Ge	72	H2	864992.94	0.8	922659.73	93.75	70	120	
Ge	72	He	342932.74	0.8	325132.83	105.47	70	120	
In	115	No Gas	5221694.93	1.0	5557053.09	93.97	70	120	
Tb	159	No Gas	6736135.01	1.1	7369853.6	91.4	70	120	
Tb	159	He	6227512.50	2.0	6134888	101.51	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML028WL
File Name	H6B02101.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:09:16
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.743	ppb	1.3	221118.16	30	99.14	85	115	
Be	9	6	No Gas	29.881	ppb	2.3	55942.18	30	99.6	83	121	
B	11	6	No Gas	28.413	ppb	3.6	38646.43	30	94.71	85	115	
Na	23	45	H2	3086.252	ppb	0.8	11888031.33	3000	102.88	85	117	
Mg	24	45	No Gas	3032.891	ppb	1.6	22135710.00	3000	101.1	83	118	
Al	27	45	No Gas	3053.878	ppb	1.3	29558472.89	3000	101.8	84	117	
Si	28	45	H2	3.594	ppb	2.4	9901.52	3000	0.12	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	50318.89	300	-0.3	85	115	FAIL
K	39	45	He	3139.973	ppb	0.4	2220101.33	3000	104.67	87	115	
Ca	40	45	H2	3054.895	ppb	1.3	28067662.67	3000	101.83	87	118	
Ti	47	45	No Gas	29.461	ppb	1.2	39215.85	30	98.2	85	115	
V	51	45	He	31.284	ppb	0.9	171782.02	30	104.28	86	115	
Cr	52	45	He	31.139	ppb	1.8	194456.40	30	103.8	85	116	
Mn	55	45	No Gas	30.379	ppb	1.3	643921.92	30	101.26	87	115	
Fe	56	45	H2	3159.571	ppb	0.9	42388533.33	3000	105.32	87	118	
Co	59	45	No Gas	30.474	ppb	1.4	537884.10	30	101.58	86	115	
Ni	60	45	He	30.633	ppb	1.0	64902.66	30	102.11	85	117	
Cu	63	45	He	32.414	ppb	0.8	173143.73	30	108.05	85	118	
Zn	66	72	No Gas	63.370	ppb	2.4	168967.74	60	105.62	83	119	
As	75	72	He	32.030	ppb	0.6	34869.22	30	106.77	84	116	
Se	78	72	H2	32.223	ppb	1.5	13319.24	30	107.41	80	120	
Sr	88	72	No Gas	30.544	ppb	0.8	709374.63	30	101.81	85	115	
Zr	90	72	No Gas	0.017	ppb	45.1	420.01	30	0.06	85	115	FAIL
Mo	95	115	No Gas	28.734	ppb	0.5	133242.06	30	95.78	85	115	
Ag	107	115	No Gas	30.743	ppb	1.2	335223.96	30	102.48	85	117	
Cd	111	115	No Gas	30.015	ppb	0.7	65820.03	30	100.05	87	115	
Sn	118	115	No Gas	30.707	ppb	0.6	197611.49	30	102.36	85	115	
Sb	123	115	No Gas	30.184	ppb	0.7	232507.16	30	100.61	85	117	
Ba	137	115	No Gas	29.883	ppb	1.3	102976.99	30	99.61	86	114	
W	182	159	No Gas	<0.000	ppb	N/A	66.67	30	-0.01	85	115	FAIL
Hg	201	159	No Gas	0.014	ppb	15.8	26.17	2.5	0.56	85	115	FAIL
Hg	201	159	He	0.006	ppb	46.9	12.50	2.5	0.24	82	119	FAIL
Tl	205	159	No Gas	31.253	ppb	1.1	506053.87	30	104.18	82	116	
Pb	208	159	No Gas	30.943	ppb	1.2	697487.65	30	103.14	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	29.853	ppb	0.8	645624.44	30	99.51	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1136494.79	1.2	1352295.01	84.04	70	120	
Sc	45	No Gas	3929963.75	0.9	4225054.58	93.02	70	120	
Sc	45	H2	3221609.33	0.6	3464992.83	92.98	70	120	
Sc	45	He	528536.08	0.5	580131.85	91.11	70	120	
Ge	72	No Gas	911853.48	1.2	959448.21	95.04	70	120	
Ge	72	H2	883266.04	0.8	922659.73	95.73	70	120	
Ge	72	He	306813.68	0.7	325132.83	94.37	70	120	
In	115	No Gas	5095744.82	1.5	5557053.09	91.7	70	120	
Tb	159	No Gas	6687330.98	0.6	7369853.6	90.74	70	120	
Tb	159	He	5426999.83	0.4	6134888	88.46	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML028WC
File Name	H6B02102.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:11:53
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.348	ppb	1.3	223826.63	30	97.83	85	115	
Be	9	6	No Gas	29.673	ppb	1.7	56762.03	30	98.91	83	121	
B	11	6	No Gas	29.032	ppb	0.8	40239.74	30	96.77	85	115	
Na	23	45	H2	3127.680	ppb	0.7	12045181.33	3000	104.26	85	117	
Mg	24	45	No Gas	3033.601	ppb	1.5	22474312.67	3000	101.12	83	118	
Al	27	45	No Gas	3080.932	ppb	0.9	30268997.05	3000	102.7	84	117	
Si	28	45	H2	4.032	ppb	2.6	10497.97	3000	0.13	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	49699.32	300	-0.97	85	115	FAIL
K	39	45	He	3163.597	ppb	0.6	2246195.50	3000	105.45	87	115	
Ca	40	45	H2	3106.468	ppb	1.1	28556578.00	3000	103.55	87	118	
Ti	47	45	No Gas	29.751	ppb	1.7	40196.70	30	99.17	85	115	
V	51	45	He	31.233	ppb	0.7	172290.13	30	104.11	86	115	
Cr	52	45	He	31.424	ppb	1.7	197087.88	30	104.75	85	116	
Mn	55	45	No Gas	30.401	ppb	0.5	654137.81	30	101.34	87	115	
Fe	56	45	H2	3200.858	ppb	0.5	42969556.00	3000	106.7	87	118	
Co	59	45	No Gas	30.462	ppb	2.1	545806.75	30	101.54	86	115	
Ni	60	45	He	31.305	ppb	1.3	66621.62	30	104.35	85	117	
Cu	63	45	He	32.419	ppb	1.9	173934.57	30	108.06	85	118	
Zn	66	72	No Gas	62.864	ppb	1.2	170229.08	60	104.77	83	119	
As	75	72	He	31.855	ppb	0.7	35056.72	30	106.18	84	116	
Se	78	72	H2	32.217	ppb	2.5	13308.23	30	107.39	80	120	
Sr	88	72	No Gas	30.364	ppb	3.1	716171.95	30	101.21	85	115	
Zr	90	72	No Gas	0.010	ppb	18.8	320.00	30	0.03	85	115	FAIL
Mo	95	115	No Gas	28.372	ppb	1.9	134142.48	30	94.57	85	115	
Ag	107	115	No Gas	30.210	ppb	2.2	335747.11	30	100.7	85	117	
Cd	111	115	No Gas	30.046	ppb	1.5	67162.97	30	100.15	87	115	
Sn	118	115	No Gas	30.419	ppb	1.2	199580.82	30	101.4	85	115	
Sb	123	115	No Gas	30.261	ppb	2.9	237551.99	30	100.87	85	117	
Ba	137	115	No Gas	29.705	ppb	1.7	104355.80	30	99.02	86	114	
W	182	159	No Gas	<0.000	ppb	N/A	46.67	30	-0.02	85	115	FAIL
Hg	201	159	No Gas	0.006	ppb	26.0	17.17	2.5	0.24	85	115	FAIL
Hg	201	159	He	0.008	ppb	17.3	14.00	2.5	0.32	82	119	FAIL
Tl	205	159	No Gas	31.090	ppb	2.2	509774.39	30	103.63	82	116	
Pb	208	159	No Gas	30.570	ppb	1.2	697809.16	30	101.9	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	29.889	ppb	2.3	654522.49	30	99.63	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1161474.16	2.6	1352295.01	85.89	70	120	
Sc	45	No Gas	3989401.25	0.6	4225054.58	94.42	70	120	
Sc	45	H2	3223736.58	0.3	3464992.83	93.04	70	120	
Sc	45	He	530966.17	1.8	580131.85	91.53	70	120	
Ge	72	No Gas	926006.58	1.9	959448.21	96.51	70	120	
Ge	72	H2	882689.21	0.1	922659.73	95.67	70	120	
Ge	72	He	310156.95	0.4	325132.83	95.39	70	120	
In	115	No Gas	5195021.36	2.3	5557053.09	93.49	70	120	
Tb	159	No Gas	6772573.48	1.7	7369853.6	91.9	70	120	
Tb	159	He	5463675.17	0.1	6134888	89.06	70	120	

Sample Report

Sample Name	L226-06T
File Name	H6B02103.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:14:30
Sample Type	Sample
Total Dilution	50.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	397.488	7.950	ppb	1.5	112603.69	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	27.78	50	
B	11	6	No Gas	2456.394	49.128	ppb	6.8	66441.27	100	
Na	23	45	H2	1780497.182	35609.944	ppb	0.9	127728842.67	50000	
Mg	24	45	No Gas	65438.242	1308.765	ppb	1.2	10180397.33	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	26452.35	50000	
Si	28	45	H2	11476.716	229.534	ppb	0.8	310484.64	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	52984.14	500	
K	39	45	He	11336.555	226.731	ppb	4.2	253554.39	50000	
Ca	40	45	H2	119775.440	2395.509	ppb	1.4	21846830.00	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	264.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1134.71	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	2174.84	500	
Mn	55	45	No Gas	523.073	10.461	ppb	1.0	244340.80	3000	
Fe	56	45	H2	6374.466	127.489	ppb	1.4	1820654.42	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	424.01	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	225.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1276.06	500	
Zn	66	72	No Gas	473.169	9.463	ppb	0.9	29131.97	500	
As	75	72	He	22.849	0.457	ppb	3.3	647.02	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	33.00	500	
Sr	88	72	No Gas	3259.735	65.195	ppb	1.1	1594919.38	500	
Zr	90	72	No Gas	0.221	0.004	ppb	123.9	236.67	50	
Mo	95	115	No Gas	55.455	1.109	ppb	3.0	5923.55	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	108.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	34.77	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	700.02	500	
Sb	123	115	No Gas	1.190	0.024	ppb	25.0	480.01	100	
Ba	137	115	No Gas	70.908	1.418	ppb	3.0	5689.03	1000	
W	182	159	No Gas	0.377	0.008	ppb	64.4	146.67	50	
Hg	201	159	No Gas	0.443	0.009	ppb	4.4	21.50	5	
Hg	201	159	He	0.275	0.005	ppb	23.7	11.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	458.90	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1114.46	500	
U	238	159	No Gas	0.478	0.010	ppb	18.9	1551.21	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1197391.73	10.1	1352295.01	88.55	70	120	
Sc	45	No Gas	4174437.75	8.5	4225054.58	98.8	70	120	
Sc	45	H2	3190177.00	1.2	3464992.83	92.07	70	120	
Sc	45	He	524751.43	0.8	580131.85	90.45	70	120	
Ge	72	No Gas	961694.90	5.7	959448.21	100.23	70	120	
Ge	72	H2	871242.83	0.7	922659.73	94.43	70	120	
Ge	72	He	307457.62	0.3	325132.83	94.56	70	120	
In	115	No Gas	5311763.73	8.4	5557053.09	95.59	70	120	
Tb	159	No Gas	7029563.89	7.2	7369853.6	95.38	70	120	
Tb	159	He	5406643.50	0.4	6134888	88.13	70	120	

Sample Report

Sample Name	L226-07T
File Name	H6B02104.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 17:25:53
Sample Type	Sample
Total Dilution	50.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	437.624	8.752	ppb	4.0	118649.89	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	10.00	50	
B	11	6	No Gas	2148.435	42.969	ppb	5.5	59622.04	100	
Na	23	45	H2	2324422.643	46488.453	ppb	2.4	168276704.00	50000	>LDR
Mg	24	45	No Gas	95391.476	1907.830	ppb	2.2	15016090.33	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	18358.90	50000	
Si	28	45	H2	1237.983	24.760	ppb	1.3	38370.87	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	52371.11	500	
K	39	45	He	17423.246	348.465	ppb	4.8	330107.70	50000	
Ca	40	45	H2	29326.840	586.537	ppb	2.0	5593277.17	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	311.34	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	981.37	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	2066.83	500	
Mn	55	45	No Gas	41.571	0.831	ppb	6.0	32375.70	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	35880.37	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	320.00	500	
Ni	60	45	He	0.264	0.005	ppb	183.5	236.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1103.38	500	
Zn	66	72	No Gas	264.048	5.281	ppb	1.3	17889.80	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	106.33	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	24.67	500	
Sr	88	72	No Gas	2110.178	42.204	ppb	0.2	1052108.92	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	113.33	50	
Mo	95	115	No Gas	20.120	0.402	ppb	0.3	2614.71	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	62.22	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	19.20	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	543.35	500	
Sb	123	115	No Gas	0.579	0.012	ppb	44.1	393.34	100	
Ba	137	115	No Gas	3.042	0.061	ppb	38.5	872.25	1000	
W	182	159	No Gas	0.033	0.001	ppb	527.9	96.67	50	
Hg	201	159	No Gas	0.060	0.001	ppb	46.4	12.33	5	
Hg	201	159	He	0.014	0.000	ppb	633.9	6.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	297.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	848.90	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	414.45	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1213466.49	8.0	1352295.01	89.73	70	120	
Sc	45	No Gas	4236295.25	9.5	4225054.58	100.27	70	120	
Sc	45	H2	3223843.00	0.7	3464992.83	93.04	70	120	
Sc	45	He	517009.08	0.7	580131.85	89.12	70	120	
Ge	72	No Gas	979593.29	6.0	959448.21	102.1	70	120	
Ge	72	H2	883751.96	1.2	922659.73	95.78	70	120	
Ge	72	He	306593.67	1.3	325132.83	94.3	70	120	
In	115	No Gas	5488196.51	8.0	5557053.09	98.76	70	120	
Tb	159	No Gas	7391981.10	8.9	7369853.6	100.3	70	120	
Tb	159	He	5445108.00	1.0	6134888	88.76	70	120	

Sample Report

Sample Name	L226-08T
File Name	H6B02105.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 17:28:30
Sample Type	Sample
Total Dilution	50.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	104.653	2.093	ppb	8.7	93070.33	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	16.67	50	
B	11	6	No Gas	456.543	9.131	ppb	1.8	19109.64	100	
Na	23	45	H2	226807.496	4536.150	ppb	1.2	19835539.33	50000	
Mg	24	45	No Gas	6239.269	124.785	ppb	1.2	1175047.21	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	20518.50	50000	
Si	28	45	H2	10734.243	214.685	ppb	0.7	340379.79	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	53324.07	500	
K	39	45	He	4976.948	99.539	ppb	6.7	197928.19	50000	
Ca	40	45	H2	35028.185	700.564	ppb	1.1	7684179.83	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	293.33	500	
V	51	45	He	13.504	0.270	ppb	0.2	3233.72	500	
Cr	52	45	He	30.952	0.619	ppb	4.7	7227.24	500	
Mn	55	45	No Gas	<0.000	<0.000	ppb	N/A	12373.60	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	36632.99	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	420.68	500	
Ni	60	45	He	20.436	0.409	ppb	4.6	1276.06	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1229.39	500	
Zn	66	72	No Gas	229.349	4.587	ppb	0.7	17323.71	500	
As	75	72	He	14.125	0.282	ppb	2.2	531.01	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	29.00	500	
Sr	88	72	No Gas	524.424	10.488	ppb	0.7	285955.01	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	156.67	50	
Mo	95	115	No Gas	5.538	0.111	ppb	8.5	1288.95	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	84.44	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	23.25	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	585.57	500	
Sb	123	115	No Gas	0.386	0.008	ppb	46.6	400.01	100	
Ba	137	115	No Gas	115.524	2.310	ppb	2.7	10158.42	1000	
W	182	159	No Gas	4.653	0.093	ppb	5.8	950.04	50	
Hg	201	159	No Gas	0.205	0.004	ppb	63.9	17.67	5	
Hg	201	159	He	0.041	0.001	ppb	78.7	8.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	344.45	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	852.23	500	
U	238	159	No Gas	1.941	0.039	ppb	13.6	2536.93	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1387462.39	0.8	1352295.01	102.6	70	120	
Sc	45	No Gas	4724480.33	1.2	4225054.58	111.82	70	120	
Sc	45	H2	3735119.33	0.5	3464992.83	107.8	70	120	
Sc	45	He	616642.11	1.0	580131.85	106.29	70	120	
Ge	72	No Gas	1064625.37	1.8	959448.21	110.96	70	120	
Ge	72	H2	1003474.90	0.7	922659.73	108.76	70	120	
Ge	72	He	356900.52	0.6	325132.83	109.77	70	120	
In	115	No Gas	6074951.08	0.6	5557053.09	109.32	70	120	
Tb	159	No Gas	8056199.96	1.0	7369853.6	109.31	70	120	
Tb	159	He	6321809.33	0.3	6134888	103.05	70	120	

Sample Report

Sample Name	L226-09G
File Name	H6B02106.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 17:31:07
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	107.483	21.497	ppb	1.2	173953.51	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	6.67	50	
B	11	6	No Gas	366.161	73.232	ppb	3.3	90038.84	100	
Na	23	45	H2	225613.275	45122.655	ppb	1.1	160135696.00	50000	>LDR
Mg	24	45	No Gas	6741.669	1348.334	ppb	2.4	9812971.33	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	26942.83	50000	
Si	28	45	H2	11016.071	2203.214	ppb	0.4	2909501.75	5000	
P	31	45	No Gas	4.001	0.800	ppb	199.8	51127.19	500	
K	39	45	He	5705.987	1141.197	ppb	0.1	854429.89	50000	
Ca	40	45	H2	34794.922	6958.984	ppb	1.2	62410158.67	50000	
Ti	47	45	No Gas	0.104	0.021	ppb	167.0	388.67	500	
V	51	45	He	17.258	3.452	ppb	3.2	19695.47	500	
Cr	52	45	He	37.311	7.462	ppb	1.3	47420.49	500	
Mn	55	45	No Gas	1.460	0.292	ppb	7.2	18766.87	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	64030.81	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	1506.08	500	
Ni	60	45	He	22.889	4.578	ppb	2.8	9692.12	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1245.39	500	
Zn	66	72	No Gas	15.662	3.132	ppb	0.5	11189.28	500	
As	75	72	He	17.875	3.575	ppb	1.5	4072.28	500	
Se	78	72	H2	0.786	0.157	ppb	26.6	106.00	500	
Sr	88	72	No Gas	515.663	103.133	ppb	1.7	2425903.10	500	
Zr	90	72	No Gas	0.035	0.007	ppb	28.4	266.67	50	
Mo	95	115	No Gas	11.377	2.275	ppb	1.4	10907.80	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	91.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	21.41	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	460.01	500	
Sb	123	115	No Gas	0.110	0.022	ppb	25.8	437.79	100	
Ba	137	115	No Gas	120.947	24.189	ppb	1.9	82210.16	1000	
W	182	159	No Gas	5.249	1.050	ppb	8.8	7999.23	50	
Hg	201	159	No Gas	0.013	0.003	ppb	120.0	12.83	5	
Hg	201	159	He	0.014	0.003	ppb	134.5	8.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	252.23	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	641.12	500	
U	238	159	No Gas	4.582	0.916	ppb	2.8	20865.53	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1111208.43	1.4	1352295.01	82.17	70	120	
Sc	45	No Gas	3904675.00	2.0	4225054.58	92.42	70	120	
Sc	45	H2	3160355.08	0.8	3464992.83	91.21	70	120	
Sc	45	He	517812.16	1.7	580131.85	89.26	70	120	
Ge	72	No Gas	925417.71	1.0	959448.21	96.45	70	120	
Ge	72	H2	865392.89	0.4	922659.73	93.79	70	120	
Ge	72	He	310400.54	0.7	325132.83	95.47	70	120	
In	115	No Gas	5018150.08	0.2	5557053.09	90.3	70	120	
Tb	159	No Gas	6631312.79	1.9	7369853.6	89.98	70	120	
Tb	159	He	5349349.67	0.7	6134888	87.2	70	120	

Sample Report

Sample Name	L226-10T
File Name	H6B02107.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:33:44
Sample Type	Sample
Total Dilution	50.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	97.670	1.953	ppb	6.9	92487.54	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	10.00	50	
B	11	6	No Gas	506.086	10.122	ppb	2.9	20616.23	100	
Na	23	45	H2	238156.915	4763.138	ppb	1.0	20992783.33	50000	
Mg	24	45	No Gas	6648.819	132.976	ppb	2.6	1246654.88	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	19473.78	50000	
Si	28	45	H2	11287.015	225.740	ppb	0.3	361211.37	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	53292.62	500	
K	39	45	He	5439.185	108.784	ppb	4.1	203808.60	50000	
Ca	40	45	H2	36454.881	729.098	ppb	1.0	8065932.50	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	283.33	500	
V	51	45	He	13.703	0.274	ppb	5.9	3236.39	500	
Cr	52	45	He	32.984	0.660	ppb	4.8	7467.37	500	
Mn	55	45	No Gas	<0.000	<0.000	ppb	N/A	11644.29	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	37268.70	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	374.67	500	
Ni	60	45	He	21.927	0.439	ppb	3.3	1340.07	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1192.72	500	
Zn	66	72	No Gas	185.475	3.710	ppb	1.4	14631.88	500	
As	75	72	He	14.514	0.290	ppb	3.4	533.34	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	29.33	500	
Sr	88	72	No Gas	555.120	11.102	ppb	1.1	302427.50	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	130.00	50	
Mo	95	115	No Gas	6.278	0.126	ppb	12.6	1365.63	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	73.33	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	19.29	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	511.12	500	
Sb	123	115	No Gas	0.152	0.003	ppb	147.6	355.56	100	
Ba	137	115	No Gas	121.397	2.428	ppb	5.4	10598.78	1000	
W	182	159	No Gas	5.210	0.104	ppb	15.8	1046.71	50	
Hg	201	159	No Gas	0.080	0.002	ppb	97.0	14.00	5	
Hg	201	159	He	0.111	0.002	ppb	12.3	9.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	356.67	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	794.45	500	
U	238	159	No Gas	2.188	0.044	ppb	5.0	2654.73	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1392157.51	2.1	1352295.01	102.95	70	120	
Sc	45	No Gas	4724561.67	1.5	4225054.58	111.82	70	120	
Sc	45	H2	3772756.75	0.2	3464992.83	108.88	70	120	
Sc	45	He	612512.23	1.9	580131.85	105.58	70	120	
Ge	72	No Gas	1064148.62	1.1	959448.21	110.91	70	120	
Ge	72	H2	1006081.09	1.0	922659.73	109.04	70	120	
Ge	72	He	351934.65	0.1	325132.83	108.24	70	120	
In	115	No Gas	6052757.97	0.5	5557053.09	108.92	70	120	
Tb	159	No Gas	8023343.57	1.8	7369853.6	108.87	70	120	
Tb	159	He	6220706.67	0.3	6134888	101.4	70	120	

Sample Report

Sample Name	L226-11I
File Name	H6B02108.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:36:21
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	231.508	23.151	ppb	4.5	183184.46	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	7.78	50	
B	11	6	No Gas	608.067	60.807	ppb	7.0	75788.29	100	
Na	23	45	H2	417637.041	41763.704	ppb	0.7	177806442.67	50000	
Mg	24	45	No Gas	2032.149	203.215	ppb	8.7	1512649.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	19517.08	50000	
Si	28	45	H2	11483.441	1148.344	ppb	1.6	1821284.67	5000	
P	31	45	No Gas	17.199	1.720	ppb	247.3	50947.29	500	
K	39	45	He	6822.926	682.293	ppb	1.5	655667.79	50000	
Ca	40	45	H2	29361.615	2936.161	ppb	0.5	31746855.33	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	301.33	500	
V	51	45	He	17.458	1.746	ppb	2.7	12601.13	500	
Cr	52	45	He	16.623	1.662	ppb	1.5	14719.23	500	
Mn	55	45	No Gas	0.745	0.074	ppb	70.9	14048.55	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	59070.56	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	804.69	500	
Ni	60	45	He	18.677	1.868	ppb	3.3	4863.54	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1224.06	500	
Zn	66	72	No Gas	41.551	4.155	ppb	6.2	13576.81	500	
As	75	72	He	13.357	1.336	ppb	2.5	1859.46	500	
Se	78	72	H2	0.103	0.010	ppb	155.3	54.67	500	
Sr	88	72	No Gas	690.036	69.004	ppb	3.7	1584543.55	500	
Zr	90	72	No Gas	0.011	0.001	ppb	127.5	173.33	50	
Mo	95	115	No Gas	14.747	1.475	ppb	7.0	7211.96	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	61.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	12.53	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	411.12	500	
Sb	123	115	No Gas	0.138	0.014	ppb	68.6	372.23	100	
Ba	137	115	No Gas	113.475	11.348	ppb	3.8	38628.51	1000	
W	182	159	No Gas	5.186	0.519	ppb	5.8	3947.30	50	
Hg	201	159	No Gas	0.025	0.002	ppb	57.5	12.50	5	
Hg	201	159	He	0.029	0.003	ppb	59.4	10.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	257.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	711.12	500	
U	238	159	No Gas	2.089	0.209	ppb	5.2	5673.55	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1116338.07	4.0	1352295.01	82.55	70	120	
Sc	45	No Gas	3851203.92	5.6	4225054.58	91.15	70	120	
Sc	45	H2	3789745.17	0.4	3464992.83	109.37	70	120	
Sc	45	He	615896.33	0.7	580131.85	106.16	70	120	
Ge	72	No Gas	903472.77	3.7	959448.21	94.17	70	120	
Ge	72	H2	1012959.75	0.9	922659.73	109.79	70	120	
Ge	72	He	356961.52	0.6	325132.83	109.79	70	120	
In	115	No Gas	4987959.06	4.6	5557053.09	89.76	70	120	
Tb	159	No Gas	6571070.43	4.8	7369853.6	89.16	70	120	
Tb	159	He	6340359.33	0.6	6134888	103.35	70	120	

Sample Report

Sample Name	L226-12I
File Name	H6B02109.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:38:58
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	205.537	20.554	ppb	0.2	196882.78	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	12.22	50	
B	11	6	No Gas	562.516	56.252	ppb	1.9	81702.18	100	
Na	23	45	H2	399642.861	39964.286	ppb	1.7	171307264.00	50000	
Mg	24	45	No Gas	2028.759	202.876	ppb	1.8	1749369.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	21389.89	50000	
Si	28	45	H2	11446.792	1144.679	ppb	1.8	1827482.63	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	52464.14	500	
K	39	45	He	6540.573	654.057	ppb	1.7	631572.96	50000	
Ca	40	45	H2	28309.914	2830.991	ppb	2.1	30820693.33	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	349.34	500	
V	51	45	He	17.659	1.766	ppb	0.9	12692.54	500	
Cr	52	45	He	16.982	1.698	ppb	1.0	14932.79	500	
Mn	55	45	No Gas	0.015	0.001	ppb	1024.8	14537.07	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	67307.12	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	884.03	500	
Ni	60	45	He	14.774	1.477	ppb	1.1	3892.56	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1297.39	500	
Zn	66	72	No Gas	35.397	3.540	ppb	2.5	13497.40	500	
As	75	72	He	12.671	1.267	ppb	3.0	1775.45	500	
Se	78	72	H2	0.168	0.017	ppb	47.7	57.33	500	
Sr	88	72	No Gas	660.020	66.002	ppb	1.0	1709811.67	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	170.00	50	
Mo	95	115	No Gas	13.772	1.377	ppb	4.6	7771.18	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	63.33	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	17.27	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	514.46	500	
Sb	123	115	No Gas	0.053	0.005	ppb	40.6	355.56	100	
Ba	137	115	No Gas	103.374	10.337	ppb	1.0	40364.98	1000	
W	182	159	No Gas	5.565	0.557	ppb	2.0	4907.64	50	
Hg	201	159	No Gas	0.046	0.005	ppb	41.0	17.33	5	
Hg	201	159	He	0.021	0.002	ppb	34.2	9.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	281.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	711.12	500	
U	238	159	No Gas	2.417	0.242	ppb	5.6	7391.15	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1293622.51	6.8	1352295.01	95.66	70	120	
Sc	45	No Gas	4446073.00	5.4	4225054.58	105.23	70	120	
Sc	45	H2	3815037.75	1.0	3464992.83	110.1	70	120	
Sc	45	He	614107.48	0.9	580131.85	105.86	70	120	
Ge	72	No Gas	1018456.60	5.5	959448.21	106.15	70	120	
Ge	72	H2	1006280.75	0.4	922659.73	109.06	70	120	
Ge	72	He	357511.44	0.9	325132.83	109.96	70	120	
In	115	No Gas	5709961.82	4.9	5557053.09	102.75	70	120	
Tb	159	No Gas	7612992.75	4.5	7369853.6	103.3	70	120	
Tb	159	He	6349806.50	0.7	6134888	103.5	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV11
File Name	H6B02110.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 17:41:34
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	22.778	ppb	4.7	224505.94	25	91.11	90	110	
Be	9	6	No Gas	22.252	ppb	3.2	50677.79	25	89.01	90	110	> +/- 10%
B	11	6	No Gas	48.264	ppb	4.0	75779.39	50	96.53	90	110	
Na	23	45	H2	24258.234	ppb	2.2	105006269.33	25000	97.03	90	110	
Mg	24	45	No Gas	23623.060	ppb	3.2	209502000.00	25000	94.49	90	110	
Al	27	45	No Gas	23792.505	ppb	2.0	279799295.83	25000	95.17	90	110	
Si	28	45	H2	2266.259	ppb	1.9	3635298.42	2500	90.65	90	110	
P	31	45	No Gas	205.793	ppb	1.2	231581.81	250	82.32	90	110	> +/- 10%
K	39	45	He	24071.373	ppb	1.4	19100076.67	25000	96.29	90	110	
Ca	40	45	H2	24030.377	ppb	2.6	261058208.00	25000	96.12	90	110	
Ti	47	45	No Gas	232.693	ppb	2.8	374323.85	250	93.08	90	110	
V	51	45	He	243.857	ppb	0.8	1555317.17	250	97.54	90	110	
Cr	52	45	He	241.340	ppb	0.4	1743479.92	250	96.54	90	110	
Mn	55	45	No Gas	1465.650	ppb	1.8	37111777.33	1500	97.71	90	110	
Fe	56	45	H2	24507.134	ppb	1.6	390739669.33	25000	98.03	90	110	
Co	59	45	No Gas	228.458	ppb	2.3	4899548.67	250	91.38	90	110	
Ni	60	45	He	240.171	ppb	0.4	593132.37	250	96.07	90	110	
Cu	63	45	He	242.190	ppb	1.1	1502825.25	250	96.88	90	110	
Zn	66	72	No Gas	245.690	ppb	1.8	745177.91	250	98.28	90	110	
As	75	72	He	235.751	ppb	0.6	295675.71	250	94.3	90	110	
Se	78	72	H2	244.766	ppb	0.3	115425.00	250	97.91	90	110	
Sr	88	72	No Gas	252.139	ppb	2.7	6726109.73	250	100.86	90	110	
Zr	90	72	No Gas	24.663	ppb	2.5	426753.55	25	98.65	90	110	
Mo	95	115	No Gas	229.466	ppb	2.1	1230149.19	250	91.79	90	110	
Ag	107	115	No Gas	23.064	ppb	1.1	291834.57	25	92.26	90	110	
Cd	111	115	No Gas	238.338	ppb	1.4	605416.29	250	95.34	90	110	
Sn	118	115	No Gas	237.587	ppb	1.6	1768614.76	250	95.03	90	110	
Sb	123	115	No Gas	46.017	ppb	2.0	411221.07	50	92.03	90	110	
Ba	137	115	No Gas	481.589	ppb	1.9	1915657.35	500	96.32	90	110	
W	182	159	No Gas	24.682	ppb	1.7	226136.36	25	98.73	90	110	
Hg	201	159	No Gas	2.388	ppb	3.7	3511.83	2.5	95.52	90	110	
Hg	201	159	He	2.483	ppb	0.3	2939.84	2.5	99.32	90	110	
Tl	205	159	No Gas	244.539	ppb	2.7	4764520.09	250	97.82	90	110	
Pb	208	159	No Gas	242.255	ppb	2.2	6566072.24	250	96.9	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	242.053	ppb	1.0	6299959.61	250	96.82	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1382317.93	1.6	1352295.01	102.22	70	120	
Sc	45	No Gas	4787883.33	1.4	4225054.58	113.32	70	120	
Sc	45	H2	3839791.75	1.7	3464992.83	110.82	70	120	
Sc	45	He	617966.98	0.3	580131.85	106.52	70	120	
Ge	72	No Gas	1050270.63	1.2	959448.21	109.47	70	120	
Ge	72	H2	1010496.42	0.8	922659.73	109.52	70	120	
Ge	72	He	354796.77	0.6	325132.83	109.12	70	120	
In	115	No Gas	5913098.87	1.4	5557053.09	106.41	70	120	
Tb	159	No Gas	8061897.74	1.3	7369853.6	109.39	70	120	
Tb	159	He	6373857.83	0.2	6134888	103.9	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB11
File Name	H6B02111.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 17:44:11
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	81256.61	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	15.55	0.08	
B	11	6	No Gas	3.159	ppb	7.3	10684.06	4	
Na	23	45	H2	<0.000	ppb	N/A	750502.04	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	37230.21	10	
Al	27	45	No Gas	<0.000	ppb	N/A	46425.49	15	
Si	28	45	H2	0.604	ppb	15.2	6982.42	8	
P	31	45	No Gas	<0.000	ppb	N/A	52005.07	10	
K	39	45	He	<0.000	ppb	N/A	112367.85	20	
Ca	40	45	H2	<0.000	ppb	N/A	228675.79	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	268.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1067.38	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1613.43	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	12272.92	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	48283.75	10	
Co	59	45	No Gas	<0.000	ppb	N/A	954.70	0.15	
Ni	60	45	He	<0.000	ppb	N/A	136.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	842.70	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	3180.37	2	
As	75	72	He	<0.000	ppb	N/A	118.67	0.2	
Se	78	72	H2	<0.000	ppb	N/A	42.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1870.14	0.2	
Zr	90	72	No Gas	0.001	ppb	320.0	193.33	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	323.34	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	72.22	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	142.64	0.2	
Sn	118	115	No Gas	0.015	ppb	44.2	1016.71	0.2	
Sb	123	115	No Gas	0.049	ppb	26.3	792.25	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	386.67	0.2	
W	182	159	No Gas	0.000	ppb	957.9	100.00	0.3	
Hg	201	159	No Gas	0.021	ppb	17.1	42.00	0.1	
Hg	201	159	He	0.014	ppb	24.9	23.67	0.1	
Tl	205	159	No Gas	0.006	ppb	253.9	1491.20	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1548.94	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	1117.83	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1422752.49	0.5	1352295.01	105.21	70	120	
Sc	45	No Gas	4787584.17	1.1	4225054.58	113.31	70	120	
Sc	45	H2	3823167.00	0.2	3464992.83	110.34	70	120	
Sc	45	He	622491.98	1.0	580131.85	107.3	70	120	
Ge	72	No Gas	1039411.96	1.6	959448.21	108.33	70	120	
Ge	72	H2	991578.56	0.2	922659.73	107.47	70	120	
Ge	72	He	351809.39	0.3	325132.83	108.2	70	120	
In	115	No Gas	6162288.49	1.7	5557053.09	110.89	70	120	
Tb	159	No Gas	8071044.95	1.2	7369853.6	109.51	70	120	
Tb	159	He	6403481.17	0.5	6134888	104.38	70	120	

Sample Report

Sample Name	L226-13I
File Name	H6B02113.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:49:23
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	107.362	10.738	ppb	1.2	149202.83	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	32.22	50	
B	11	6	No Gas	592.628	59.263	ppb	2.4	92597.48	100	
Na	23	45	H2	222163.264	22216.326	ppb	1.3	96940736.00	50000	
Mg	24	45	No Gas	12578.284	1257.828	ppb	1.1	11221062.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	31221.74	50000	
Si	28	45	H2	15124.278	1512.428	ppb	0.8	2445601.75	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	52155.65	500	
K	39	45	He	6335.536	633.554	ppb	1.7	625425.08	50000	
Ca	40	45	H2	55501.595	5550.159	ppb	1.9	60960421.33	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	371.34	500	
V	51	45	He	14.900	1.490	ppb	1.3	11121.18	500	
Cr	52	45	He	20.335	2.033	ppb	2.3	17613.97	500	
Mn	55	45	No Gas	11.463	1.146	ppb	3.1	44585.89	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	44655.42	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	449.34	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	198.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1238.06	500	
Zn	66	72	No Gas	35.219	3.522	ppb	1.4	14366.93	500	
As	75	72	He	4.028	0.403	ppb	3.6	689.69	500	
Se	78	72	H2	3.891	0.389	ppb	7.2	235.33	500	
Sr	88	72	No Gas	765.042	76.504	ppb	0.2	2115200.27	500	
Zr	90	72	No Gas	0.028	0.003	ppb	146.0	240.00	50	
Mo	95	115	No Gas	12.203	1.220	ppb	4.8	7460.99	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	108.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	44.80	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	624.46	500	
Sb	123	115	No Gas	0.710	0.071	ppb	9.6	988.93	100	
Ba	137	115	No Gas	69.080	6.908	ppb	1.7	29186.07	1000	
W	182	159	No Gas	2.413	0.241	ppb	4.4	2290.22	50	
Hg	201	159	No Gas	0.086	0.009	ppb	35.2	24.00	5	
Hg	201	159	He	0.082	0.008	ppb	28.0	17.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	524.46	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	916.68	500	
U	238	159	No Gas	4.721	0.472	ppb	2.4	13690.99	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1395199.23	1.8	1352295.01	103.17	70	120	
Sc	45	No Gas	4783643.17	2.9	4225054.58	113.22	70	120	
Sc	45	H2	3866791.50	0.6	3464992.83	111.6	70	120	
Sc	45	He	623963.19	0.3	580131.85	107.56	70	120	
Ge	72	No Gas	1087499.67	1.4	959448.21	113.35	70	120	
Ge	72	H2	1020256.73	0.6	922659.73	110.58	70	120	
Ge	72	He	360555.27	0.4	325132.83	110.89	70	120	
In	115	No Gas	6128164.35	1.9	5557053.09	110.28	70	120	
Tb	159	No Gas	7991706.35	1.9	7369853.6	108.44	70	120	
Tb	159	He	6442777.00	0.3	6134888	105.02	70	120	

Sample Report

Sample Name	L226-14I
File Name	H6B02114.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:52:01
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	135.117	13.512	ppb	2.0	138244.53	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	14.44	50	
B	11	6	No Gas	581.310	58.131	ppb	3.0	75242.12	100	
Na	23	45	H2	279100.077	27910.008	ppb	1.0	103542797.33	50000	
Mg	24	45	No Gas	6569.444	656.944	ppb	1.1	4900305.83	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	21566.85	50000	
Si	28	45	H2	11322.103	1132.210	ppb	1.3	1560629.00	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	49849.23	500	
K	39	45	He	7438.809	743.881	ppb	1.4	594817.73	50000	
Ca	40	45	H2	48132.179	4813.218	ppb	0.7	45060980.00	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	317.33	500	
V	51	45	He	13.906	1.391	ppb	4.0	8740.79	500	
Cr	52	45	He	8.076	0.808	ppb	2.6	7244.59	500	
Mn	55	45	No Gas	47.198	4.720	ppb	1.8	112050.78	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	36991.35	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	624.02	500	
Ni	60	45	He	6.858	0.686	ppb	3.5	1652.77	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1172.05	500	
Zn	66	72	No Gas	38.141	3.814	ppb	1.9	13147.05	500	
As	75	72	He	8.216	0.822	ppb	2.2	1063.71	500	
Se	78	72	H2	0.335	0.033	ppb	60.4	58.00	500	
Sr	88	72	No Gas	951.545	95.154	ppb	0.2	2262793.66	500	
Zr	90	72	No Gas	0.031	0.003	ppb	40.1	210.00	50	
Mo	95	115	No Gas	19.109	1.911	ppb	0.4	9562.33	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	83.33	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	20.59	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	521.13	500	
Sb	123	115	No Gas	0.342	0.034	ppb	7.7	548.90	100	
Ba	137	115	No Gas	71.873	7.187	ppb	1.4	25682.06	1000	
W	182	159	No Gas	3.439	0.344	ppb	1.6	2760.31	50	
Hg	201	159	No Gas	0.043	0.004	ppb	45.6	15.33	5	
Hg	201	159	He	0.040	0.004	ppb	28.7	10.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	327.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	857.79	500	
U	238	159	No Gas	5.670	0.567	ppb	2.6	13835.62	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1154808.94	1.2	1352295.01	85.4	70	120	
Sc	45	No Gas	3972002.75	1.2	4225054.58	94.01	70	120	
Sc	45	H2	3292657.17	5.8	3464992.83	95.03	70	120	
Sc	45	He	520352.22	0.2	580131.85	89.7	70	120	
Ge	72	No Gas	935600.52	0.9	959448.21	97.51	70	120	
Ge	72	H2	898770.65	5.5	922659.73	97.41	70	120	
Ge	72	He	313525.26	0.9	325132.83	96.43	70	120	
In	115	No Gas	5187751.87	1.5	5557053.09	93.35	70	120	
Tb	159	No Gas	6852066.53	1.8	7369853.6	92.97	70	120	
Tb	159	He	5421039.67	0.7	6134888	88.36	70	120	

Sample Report

Sample Name	L226-15I
File Name	H6B02115.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 17:54:39
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	141.485	14.149	ppb	2.2	166351.63	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	16.67	50	
B	11	6	No Gas	440.103	44.010	ppb	0.7	68278.22	100	
Na	23	45	H2	181185.088	18118.509	ppb	0.3	78969221.33	50000	
Mg	24	45	No Gas	1452.979	145.298	ppb	0.3	1319586.42	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	24618.63	50000	
Si	28	45	H2	11516.861	1151.686	ppb	1.0	1857447.17	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	52081.37	500	
K	39	45	He	5293.725	529.373	ppb	1.0	538415.96	50000	
Ca	40	45	H2	23693.582	2369.358	ppb	0.7	26107888.00	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	335.33	500	
V	51	45	He	16.850	1.685	ppb	0.6	12282.83	500	
Cr	52	45	He	15.081	1.508	ppb	0.5	13685.50	500	
Mn	55	45	No Gas	1.792	0.179	ppb	6.4	19375.78	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	38891.23	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	346.00	500	
Ni	60	45	He	2.415	0.242	ppb	4.6	868.03	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1188.05	500	
Zn	66	72	No Gas	33.635	3.364	ppb	0.9	13641.55	500	
As	75	72	He	10.305	1.030	ppb	2.8	1487.08	500	
Se	78	72	H2	0.325	0.033	ppb	51.7	65.33	500	
Sr	88	72	No Gas	533.427	53.343	ppb	2.5	1451758.07	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	160.00	50	
Mo	95	115	No Gas	9.011	0.901	ppb	2.4	5566.73	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	81.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	20.60	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	543.35	500	
Sb	123	115	No Gas	0.194	0.019	ppb	9.2	501.12	100	
Ba	137	115	No Gas	94.986	9.499	ppb	1.2	39001.91	1000	
W	182	159	No Gas	4.648	0.465	ppb	2.9	4297.42	50	
Hg	201	159	No Gas	0.043	0.004	ppb	43.3	17.83	5	
Hg	201	159	He	0.048	0.005	ppb	31.0	13.00	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	385.56	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	848.90	500	
U	238	159	No Gas	4.034	0.403	ppb	2.8	11879.13	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1355756.32	4.9	1352295.01	100.26	70	120	
Sc	45	No Gas	4603127.83	6.1	4225054.58	108.95	70	120	
Sc	45	H2	3853862.33	0.9	3464992.83	111.22	70	120	
Sc	45	He	619307.46	0.4	580131.85	106.75	70	120	
Ge	72	No Gas	1069383.18	3.3	959448.21	111.46	70	120	
Ge	72	H2	1016371.19	0.5	922659.73	110.16	70	120	
Ge	72	He	360016.03	0.5	325132.83	110.73	70	120	
In	115	No Gas	5997246.76	4.5	5557053.09	107.92	70	120	
Tb	159	No Gas	7958524.96	3.7	7369853.6	107.99	70	120	
Tb	159	He	6394044.33	1.3	6134888	104.22	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6B02118.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq TIme	2023-02-02 18:02:29
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.423	ppb	16.9	65402.41	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	14.44	0.4	-50	50	
B	11	6	No Gas	3.678	ppb	5.4	8871.69	10	-50	50	
Na	23	45	H2	103733.947	ppb	0.7	377089472.00	100000	80	120	
Mg	24	45	No Gas	99888.261	ppb	0.8	736609493.33	100000	80	120	
Al	27	45	No Gas	102402.736	ppb	1.2	1001539398.41	100000	80	120	
Si	28	45	H2	4.286	ppb	7.2	10910.95	50	-50	50	
P	31	45	No Gas	102317.724	ppb	1.2	70181018.67	100000	80	120	
K	39	45	He	104580.976	ppb	1.6	70718461.33	100000	80	120	
Ca	40	45	H2	105347.264	ppb	1.0	966858282.67	100000	80	120	
Ti	47	45	No Gas	2097.400	ppb	2.4	2804277.92	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1290.06	1	-50	50	
Cr	52	45	He	2.145	ppb	1.7	15630.24	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.177	ppb	3.6	16737.58	1	-50	50	
Fe	56	45	H2	105964.642	ppb	1.6	1427802325.33	100000	80	120	
Co	59	45	No Gas	0.084	ppb	5.5	3229.72	0.75	-50	50	
Ni	60	45	He	0.410	ppb	4.1	1098.04	1	-50	50	
Cu	63	45	He	0.110	ppb	8.9	1880.13	2	-50	50	
Zn	66	72	No Gas	4.760	ppb	2.9	15644.36	20	-50	50	
As	75	72	He	0.075	ppb	11.4	231.33	1	-50	50	
Se	78	72	H2	0.037	ppb	48.8	58.00	1	-50	50	
Sr	88	72	No Gas	0.849	ppb	3.3	22230.70	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.134	ppb	2.8	2223.52	10	-50	50	
Mo	95	115	No Gas	2084.851	ppb	1.8	9258629.35	2000	80	120	
Ag	107	115	No Gas	0.074	ppb	7.5	881.14	0.4	-50	50	
Cd	111	115	No Gas	0.010	ppb	395.9	156.06	1	-50	50	
Sn	118	115	No Gas	0.058	ppb	22.0	1072.27	1	-50	50	
Sb	123	115	No Gas	0.087	ppb	10.7	906.70	1	-50	50	
Ba	137	115	No Gas	0.552	ppb	5.3	2401.34	1	-50	50	> +/- 20%
W	182	159	No Gas	0.155	ppb	2.0	1260.07	1	-50	50	
Hg	201	159	No Gas	0.007	ppb	65.6	18.50	0.5	-50	50	
Hg	201	159	He	0.002	ppb	34.3	8.33	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	345.56	0.5	-50	50	
Pb	208	159	No Gas	<0.000	ppb	N/A	1715.61	0.5	-50	50	

TH 2/3/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	451.12	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1101510.21	1.1	1352295.01	81.45	70	120	
Sc	45	No Gas	3982982.33	2.0	4225054.58	94.27	70	120	
Sc	45	H2	3245760.17	0.9	3464992.83	93.67	70	120	
Sc	45	He	529310.05	2.3	580131.85	91.24	70	120	
Ge	72	No Gas	932749.38	1.4	959448.21	97.22	70	120	
Ge	72	H2	874311.79	0.4	922659.73	94.76	70	120	
Ge	72	He	305841.80	0.5	325132.83	94.07	70	120	
In	115	No Gas	4900201.54	0.7	5557053.09	88.18	70	120	
Tb	159	No Gas	6698190.01	2.5	7369853.6	90.89	70	120	
Tb	159	He	5326436.67	0.4	6134888	86.82	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6B02119.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 18:05:06
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.005	ppb	4.9	189138.25	20	80	120	
Be	9	6	No Gas	18.570	ppb	2.6	39906.59	20	80	120	
B	11	6	No Gas	19.775	ppb	1.2	32509.73	20	80	120	
Na	23	45	H2	94353.363	ppb	0.7	414492896.00	100000	80	120	
Mg	24	45	No Gas	91832.693	ppb	2.7	823069226.67	100000	80	120	
Al	27	45	No Gas	94217.404	ppb	3.9	1120131449.98	100000	80	120	
Si	28	45	H2	185.119	ppb	0.9	309010.82	200	80	120	
P	31	45	No Gas	84907.544	ppb	2.7	70784440.00	100000	80	120	
K	39	45	He	93999.689	ppb	0.9	65443989.33	100000	80	120	
Ca	40	45	H2	95375.624	ppb	0.6	1057608853.33	100000	80	120	
Ti	47	45	No Gas	1923.803	ppb	2.4	3125426.08	2000	80	120	
V	51	45	He	19.397	ppb	1.1	110305.15	20	80	120	
Cr	52	45	He	21.204	ppb	1.4	137251.44	20	80	120	
Mn	55	45	No Gas	19.139	ppb	1.2	505550.95	20	80	120	
Fe	56	45	H2	93829.227	ppb	0.6	1527606912.00	100000	80	120	
Co	59	45	No Gas	18.468	ppb	2.1	402361.33	20	80	120	
Ni	60	45	He	19.368	ppb	1.0	42386.64	20	80	120	
Cu	63	45	He	19.288	ppb	1.3	106715.23	20	80	120	
Zn	66	72	No Gas	23.522	ppb	2.6	75646.13	20	80	120	
As	75	72	He	19.822	ppb	1.2	22048.97	20	80	120	
Se	78	72	H2	19.605	ppb	0.7	9228.82	20	80	120	
Sr	88	72	No Gas	20.566	ppb	2.7	561106.38	20	80	120	
Zr	90	72	No Gas	10.877	ppb	2.5	191837.68	20	80	120	> +/- 20%
Mo	95	115	No Gas	1869.421	ppb	3.9	10016545.71	2000	80	120	
Ag	107	115	No Gas	18.637	ppb	3.0	235833.07	20	80	120	
Cd	111	115	No Gas	19.092	ppb	4.5	48630.69	20	80	120	
Sn	118	115	No Gas	19.321	ppb	3.9	144572.31	20	80	120	
Sb	123	115	No Gas	18.773	ppb	4.0	167886.96	20	80	120	
Ba	137	115	No Gas	19.895	ppb	4.6	79774.23	20	80	120	
W	182	159	No Gas	17.576	ppb	3.6	163821.69	20	80	120	
Hg	201	159	No Gas	1.752	ppb	2.9	2622.27	2	80	120	
Hg	201	159	He	1.832	ppb	0.7	1890.98	2	80	120	
Tl	205	159	No Gas	18.443	ppb	2.9	366753.88	20	80	120	
Pb	208	159	No Gas	18.638	ppb	3.2	516124.75	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.200	ppb	2.6	509778.19	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1303699.78	1.0	1352295.01	96.41	70	120	
Sc	45	No Gas	4840832.17	1.3	4225054.58	114.57	70	120	
Sc	45	H2	3921629.08	1.3	3464992.83	113.18	70	120	
Sc	45	He	544890.23	5.3	580131.85	93.93	70	120	
Ge	72	No Gas	1069686.71	0.3	959448.21	111.49	70	120	
Ge	72	H2	1003732.31	0.8	922659.73	108.79	70	120	
Ge	72	He	312721.08	2.5	325132.83	96.18	70	120	
In	115	No Gas	5916957.44	3.9	5557053.09	106.48	70	120	
Tb	159	No Gas	8202753.56	2.1	7369853.6	111.3	70	120	
Tb	159	He	5552725.17	5.0	6134888	90.51	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV12
File Name	H6B02120.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B02.b
Acq Time	2023-02-02 18:07:44
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.374	ppb	2.3	216959.78	25	93.5	90	110	
Be	9	6	No Gas	23.200	ppb	1.9	50209.53	25	92.8	90	110	
B	11	6	No Gas	48.813	ppb	3.9	72767.37	50	97.63	90	110	
Na	23	45	H2	24139.177	ppb	0.8	107425954.67	25000	96.56	90	110	
Mg	24	45	No Gas	23506.687	ppb	3.2	216178058.67	25000	94.03	90	110	
Al	27	45	No Gas	23847.707	ppb	3.0	290882469.00	25000	95.39	90	110	
Si	28	45	H2	2243.535	ppb	1.3	3699705.50	2500	89.74	90	110	> +/- 10%
P	31	45	No Gas	202.662	ppb	0.9	237524.02	250	81.06	90	110	> +/- 10%
K	39	45	He	24005.507	ppb	0.6	19673888.00	25000	96.02	90	110	
Ca	40	45	H2	23907.588	ppb	0.7	267016976.00	25000	95.63	90	110	
Ti	47	45	No Gas	231.615	ppb	2.5	386400.66	250	92.65	90	110	
V	51	45	He	241.134	ppb	0.1	1588500.96	250	96.45	90	110	
Cr	52	45	He	240.890	ppb	0.7	1797425.04	250	96.36	90	110	
Mn	55	45	No Gas	1470.155	ppb	2.6	38608344.00	1500	98.01	90	110	
Fe	56	45	H2	24143.557	ppb	0.5	395709674.67	25000	96.57	90	110	
Co	59	45	No Gas	228.937	ppb	3.5	5091593.50	250	91.57	90	110	
Ni	60	45	He	239.415	ppb	1.0	610670.83	250	95.77	90	110	
Cu	63	45	He	239.373	ppb	0.9	1534115.54	250	95.75	90	110	
Zn	66	72	No Gas	247.282	ppb	1.4	773445.40	250	98.91	90	110	
As	75	72	He	235.287	ppb	1.0	298618.20	250	94.11	90	110	
Se	78	72	H2	247.425	ppb	1.3	118165.63	250	98.97	90	110	
Sr	88	72	No Gas	251.828	ppb	1.4	6928848.61	250	100.73	90	110	
Zr	90	72	No Gas	24.881	ppb	1.7	444024.47	25	99.52	90	110	
Mo	95	115	No Gas	228.632	ppb	2.2	1257800.92	250	91.45	90	110	
Ag	107	115	No Gas	23.255	ppb	2.0	301951.01	25	93.02	90	110	
Cd	111	115	No Gas	238.142	ppb	2.2	620728.87	250	95.26	90	110	
Sn	118	115	No Gas	235.598	ppb	2.3	1799695.28	250	94.24	90	110	
Sb	123	115	No Gas	45.115	ppb	1.5	413691.30	50	90.23	90	110	
Ba	137	115	No Gas	482.256	ppb	1.9	1968393.26	500	96.45	90	110	
W	182	159	No Gas	24.357	ppb	2.3	227853.54	25	97.43	90	110	
Hg	201	159	No Gas	2.380	ppb	2.3	3571.18	2.5	95.2	90	110	
Hg	201	159	He	2.499	ppb	3.1	2977.02	2.5	99.96	90	110	
Tl	205	159	No Gas	239.478	ppb	2.4	4762408.01	250	95.79	90	110	
Pb	208	159	No Gas	239.117	ppb	3.0	6615307.66	250	95.65	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	243.108	ppb	2.2	6459230.44	250	97.24	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1313375.56	1.1	1352295.01	97.12	70	120	
Sc	45	No Gas	4966163.67	0.8	4225054.58	117.54	70	120	
Sc	45	H2	3946512.33	0.3	3464992.83	113.9	70	120	
Sc	45	He	638262.50	0.6	580131.85	110.02	70	120	
Ge	72	No Gas	1083050.46	1.2	959448.21	112.88	70	120	
Ge	72	H2	1023421.94	0.4	922659.73	110.92	70	120	
Ge	72	He	359046.75	0.9	325132.83	110.43	70	120	
In	115	No Gas	6068926.16	1.9	5557053.09	109.21	70	120	
Tb	159	No Gas	8233073.01	3.5	7369853.6	111.71	70	120	
Tb	159	He	6415206.67	2.3	6134888	104.57	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB12
File Name	H6B02121.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B02.b
Acq Time	2023-02-02 18:10:22
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B02003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.034	ppb	486.2	77899.09	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	21.11	0.08	
B	11	6	No Gas	2.603	ppb	16.9	9358.68	4	
Na	23	45	H2	<0.000	ppb	N/A	747781.54	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	53382.70	10	
Al	27	45	No Gas	<0.000	ppb	N/A	64797.15	15	
Si	28	45	H2	0.434	ppb	32.1	6871.70	8	
P	31	45	No Gas	<0.000	ppb	N/A	47975.33	10	
K	39	45	He	<0.000	ppb	N/A	115610.27	20	
Ca	40	45	H2	<0.000	ppb	N/A	247489.14	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	350.00	0.5	
V	51	45	He	<0.000	ppb	N/A	1015.37	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1570.09	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	12754.04	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	73816.68	10	
Co	59	45	No Gas	<0.000	ppb	N/A	948.04	0.15	
Ni	60	45	He	<0.000	ppb	N/A	152.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	846.03	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	3266.39	2	
As	75	72	He	<0.000	ppb	N/A	118.67	0.2	
Se	78	72	H2	<0.000	ppb	N/A	38.00	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1955.70	0.2	
Zr	90	72	No Gas	0.000	ppb	502.1	193.33	2	
Mo	95	115	No Gas	0.010	ppb	197.8	750.02	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	94.45	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	152.11	0.2	
Sn	118	115	No Gas	0.034	ppb	57.0	1177.83	0.2	
Sb	123	115	No Gas	0.036	ppb	10.1	675.58	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	455.57	0.2	
W	182	159	No Gas	0.005	ppb	175.6	146.67	0.3	
Hg	201	159	No Gas	0.026	ppb	15.2	50.50	0.1	
Hg	201	159	He	0.017	ppb	13.0	27.17	0.1	
Tl	205	159	No Gas	0.012	ppb	142.1	1626.77	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1662.27	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	1187.84	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1352563.56	2.3	1352295.01	100.02	70	120	
Sc	45	No Gas	4853393.17	2.0	4225054.58	114.87	70	120	
Sc	45	H2	3914144.08	0.6	3464992.83	112.96	70	120	
Sc	45	He	636532.09	0.2	580131.85	109.72	70	120	
Ge	72	No Gas	1071434.13	0.7	959448.21	111.67	70	120	
Ge	72	H2	1010687.67	0.2	922659.73	109.54	70	120	
Ge	72	He	352198.04	0.2	325132.83	108.32	70	120	
In	115	No Gas	6237174.10	1.6	5557053.09	112.24	70	120	
Tb	159	No Gas	8129847.18	1.2	7369853.6	110.31	70	120	
Tb	159	He	6451678.33	0.7	6134888	105.16	70	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 02/03/23 12:02

End Date: 02/03/23 20:31

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

Micropipette ID: C42761702
C42750334
B42787098

See analytical sequence.

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	1H6B03
Analytical Sequence:	H6B03
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☒ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☐ EMAX-200.8	7
☒ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-26-8701	MRL1(CI)	SM6B-26-9502
S1	8702	MRL2(CCV)	9601
S2	8801	MRL3(CCV)	9602
S3	8802	MRL4	N/A
S4	8901	MRL5	
S5	8902	MRL6	
S6	N/A	Internal Standard	SM6B-26-6701
S7		Post-Spike 1	SM6A-23-0203
ICV	SM6B-26-7101	Post-Spike 2	0204
CCV	9001	Post-Spike 3	N/A
ICSA	SM6B-27-0202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.			

Analyzed By: TH

Date: 2/3/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6B03
InstrumentID: H6

		ICV	ICSA	ICSAB
Lab Samp ID	:	ICV	ICSA	ICSAB
QC Limit	:	%R:90-110/RSD:<5	%R:80-120/<LOD	%R:80-120
Lab File ID	:	H6B03009	H6B03013	H6B03014
DateAnalyed	:	02/03/2312:22	02/03/2312:44	02/03/2312:47

Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		28.19	30	2.4	94	0.41378	0	>0	19.622	20	98
Beryllium	T	29.55	30	3.2	99	0.0062255	0	<.2	19.915	20	100
Boron	T	29.15	30	3.1	97	0.48610	0	<5	18.701	20	94
Sodium	T	32340	30000	0.6	108	109840	100000	110	97359	100000	97
Magnesium	T	30740	30000	2.2	102	104470	100000	104	93597	100000	94
Aluminum	T	31300	30000	1.7	104	104210	100000	104	93293	100000	93
Silicon		3238	3000	0.8	108	4.9453	0	<20	206.63	200	103
Phosphorus		278.1	300	1.6	93	95596	100000	96	94232	100000	94
Potassium	T	31420	30000	0.3	105	107790	100000	108	96192	100000	96
Calcium	T	31850	30000	0.3	106	110200	100000	110	98117	100000	98
Titanium		305.8	300	0.2	102	2175.2	2000	109	1986.0	2000	99
Vanadium	T	309.7	300	0.6	103	0.039623	0	<.5	19.854	20	99
Chromium	T	313.6	300	0.6	105	2.3957	0	>.3	22.403	20	112
Manganese	T	2000	2000	0.6	100	0.36772	0	<.5	19.605	20	98
Iron	T	31010	30000	0.7	103	106440	100000	106	95969	100000	96
Cobalt	T	306.6	300	1.7	102	0.16307	0	<.2	20.141	20	101
Nickel	T	313.2	300	1.4	104	0.49440	0	<.5	20.353	20	102
Copper	T	325.1	300	1.5	108	0.15185	0	<1	20.291	20	101
Zinc	T	307.2	300	0.9	102	4.9701	0	<10	23.835	20	119
Arsenic	T	293.0	300	0.3	98	0.085557	0	<.25	19.994	20	100
Selenium	T	295.5	300	1.0	98	0.070801	0	<.3	20.104	20	101
Strontium		312.1	300	0.5	104	0.91410	0	<1.0	20.215	20	101
Zirconium		31.56	30	0.3	105	0.16747	0	<2.0	9.6969	20	48*
Molybdenum	T	301.5	300	1.2	100	2181.4	2000	109	1966.1	2000	98
Silver	T	30.45	30	0.7	102	0.082808	0	<.2	19.513	20	98
Cadmium	T	300.3	300	0.7	100	0.033457	0	<.3	19.750	20	99
Tin		310.4	300	0.7	103	0.092207	0	<0.2	19.889	20	99
Antimony	T	56.78	60	1.1	95	0.063411	0	<.5	19.686	20	98
Barium	T	301.4	300	1.0	100	0.66209	0	>.5	20.459	20	102
Tungsten		30.71	30	0.8	102	0.14470	0	<1.0	18.454	20	92
Mercury		2.843	3	0.7	95	0.015465	0	<0.1	1.8508	2	93
Thallium	T	311.0	300	2.5	104	0.024856	0	<.2	19.431	20	97
Lead	T	308.9	300	2.4	103	0.052792	0	<.2	19.562	20	98
Uranium		310.0	300	2.6	103	0.0037132	0	<0.1	19.706	20	99

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6B03
Instrument ID: H6

CCV SampleID		: CCV12				CCV13		
CCV DataFileID		: H6B03129				H6B03141		
CCV DateTime		: 02/03/23 19:28				02/03/23 20:00		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.2	97	2.3	24.0	96	3.0
Beryllium	T	25	24.1	96	2.4	24.7	99	4.1
Boron	T	50	55.1	110	2.0	48.1	96	4.4
Sodium	T	25000	25500	102	1.0	25000	100	0.5
Magnesium	T	25000	24300	97	2.5	24000	96	1.8
Aluminum	T	25000	24300	97	2.7	23600	95	3.6
Silicon		2500	2520	101	0.3	2420	97	0.3
Phosphorus		250	243	97	2.2	246	98	1.9
Potassium	T	25000	24500	98	0.8	24500	98	1.4
Calcium	T	25000	25000	100	0.2	24700	99	0.3
Titanium		250	236	94	2.4	236	94	3.6
Vanadium	T	250	241	96	1.1	240	96	1.5
Chromium	T	250	244	98	0.8	244	98	1.1
Manganese	T	1500	1450	97	1.8	1460	97	2.9
Iron	T	25000	24800	99	0.7	24600	98	0.4
Cobalt	T	250	240	96	3.2	238	95	3.5
Nickel	T	250	248	99	1.0	250	100	1.1
Copper	T	250	246	98	0.3	247	99	1.0
Zinc	T	250	243	97	2.0	242	97	2.9
Arsenic	T	250	243	97	0.6	243	97	0.7
Selenium	T	250	250	100	0.7	247	99	0.3
Strontium		250	243	97	2.0	246	99	3.1
Zirconium		25	23.9	96	2.5	24.2	97	1.7
Molybdenum	T	250	227	91	1.5	228	91	3.5
Silver	T	25	23.0	92	1.3	23.2	93	2.1
Cadmium	T	250	238	95	0.5	239	96	1.4
Tin		250	234	93	0.1	235	94	2.0
Antimony	T	50	45.9	92	0.5	46.1	92	0.8
Barium	T	500	481	96	0.7	480	96	2.4
Tungsten		25	24.6	98	2.8	24.5	98	3.1
Mercury		2.5	2.45	98	1.6	2.51	100	2.7
Thallium	T	250	246	98	3.1	246	98	1.7
Lead	T	250	243	97	0.8	243	97	1.8
Uranium		250	239	95	2.5	241	96	2.4

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A (DISSOLVED)
Sequence : IH6B03
Instrument ID: H6

CB SampleID			: ICB		CCB12		CCB13	
CB DataFileID			: H6B03010		H6B03130		H6B03142	
CB DateTime			: 02/03/2312:25		02/03/2319:31		02/03/2320:02	
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.03	>0	0.03	>0	0.05	>0
Beryllium	T	.2	0.006	<.2	0.004	<.2	0.002	<.2
Boron	T	5	1.0	<5	3	<5	0.4	<5
Sodium	T	50	4	<50	80	>50	50	>50
Magnesium	T	20	3	<20	4	<20	5	<20
Aluminum	T	100	3	<100	2	<100	4	<100
Silicon		20	3	<20	10	<20	2	<20
Phosphorus		25	0.9	<25	9	<25	5	<25
Potassium	T	25	40	>25	40	>25	40	>25
Calcium	T	60	1	<60	5	<60	3	<60
Titanium		0.5	0.02	<0.5	0.08	<0.5	0.1	<0.5
Vanadium	T	.5	0.03	<.5	0.05	<.5	0.03	<.5
Chromium	T	.3	0.06	<.3	0.009	<.3	0.009	<.3
Manganese	T	.5	0.2	<.5	0.2	<.5	0.2	<.5
Iron	T	50	2	<50	1	<50	4	<50
Cobalt	T	.2	0.03	<.2	0.02	<.2	0.02	<.2
Nickel	T	.5	0.03	<.5	0.02	<.5	0.01	<.5
Copper	T	1	0.07	<1	0.1	<1	0.1	<1
Zinc	T	10	0.08	<10	0.02	<10	0.04	<10
Arsenic	T	.25	0.03	<.25	0.02	<.25	0.02	<.25
Selenium	T	.3	0.05	<.3	0.05	<.3	0.08	<.3
Strontium		1.0	0.03	<1.0	0.04	<1.0	0.03	<1.0
Zirconium		2.0	0.006	<2.0	0.00006	<2.0	0.001	<2.0
Molybdenum	T	.5	0.05	<.5	0.03	<.5	0.1	<.5
Silver	T	.2	0.005	<.2	0.004	<.2	0.004	<.2
Cadmium	T	.3	0.04	<.3	0.01	<.3	0.01	<.3
Tin		0.2	0.1	<0.2	0.03	<0.2	0.01	<0.2
Antimony	T	.5	0.007	<.5	0.03	<.5	0.03	<.5
Barium	T	.5	0.04	<.5	0.06	<.5	0.05	<.5
Tungsten		1.0	0.006	<1.0	0.005	<1.0	0.006	<1.0
Mercury		0.1	0.02	<0.1	0.01	<0.1	0.006	<0.1
Thallium	T	.2	0.10	<.2	0.02	<.2	0.02	<.2
Lead	T	.2	0.04	<.2	0.01	<.2	0.02	<.2
Uranium		0.1	0.04	<0.1	0.02	<0.1	0.02	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b

WB, WL, WC ✓ TH 2/8/23

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

No dilution

Blocks

Calibration Standards

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	CalBlk	BLANK		1101	H6B03001.d		1
2	CalBlk	BLANK		1101	H6B03002.d		1
3	CalBlk	S0		1102	H6B03003.d		1
4	CalStd	S1		1103	H6B03004.d		2
5	CalStd	S2		1104	H6B03005.d		3
6	CalStd	S3		1105	H6B03006.d		4
7	CalStd	S4		1106	H6B03007.d		5
8	CalStd	S5		1107	H6B03008.d		6
9	ICV	ICV		1204	H6B03009.d	1	
10	ICB	ICB		1102	H6B03010.d	1	
11	LLCCV	MRLB0301	1/100/10 ppb	1306	H6B03011.d	1	
12	LLCCV2	MRLB0302	0.4/40/4 ppb	1307	H6B03012.d	1	
13	ICS-A	ICSA		1304	H6B03013.d	1	
14	ICSB	ICSAB		1305	H6B03014.d	1	
15	Sample	MRLB0303	500 ppb CAT	1207	H6B03015.d	1	
16	CCV	CCV1		1206	H6B03016.d	1	
17	CCB	CCB1		1102	H6B03017.d	1	

Unknown Samples

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Blank	IMA025WB	Ca > ½ LOQ	2101	H6B03018.d	1	
2	LCSW	IMA025WL		2102	H6B03019.d	1	
3	LCSW	IMA025WC		2103	H6B03020.d	1	
4	Sample	A267-01		2104	H6B03021.d	1	
5	Sample	A267-02		2105	H6B03022.d	1	
6	Sample	A267-03		2106	H6B03023.d	1	
7	Sample	A267-05		2107	H6B03024.d	1	
8	Sample	A267-06		2108	H6B03025.d	1	
9	Blank	IMA025WB	REPREP ✓	2101	H6B03026.d	1	
10	Sample	L228-10N		3512	H6B03027.d	1	
11	CCV	CCV2		1206	H6B03028.d	1	
12	CCB	CCB2		1102	H6B03029.d	1	
13	Sample	A204-01N	TOT	3510	H6B03030.d	1	
14	Sample	A204-01N	DISS	3511	H6B03031.d	1	
15	LLCCV	MRLB0304	1/100/10 ppb	1306	H6B03032.d	1	
16	LLCCV2	MRLB0305	0.4/40/4 ppb	1307	H6B03033.d	1	
17	CCV	CCV3		1206	H6B03034.d	1	
18	CCB	CCB3		1102	H6B03035.d	1	
19	Blank	IMA011SB		2109	H6B03036.d	1	
20	LCSS	IMA011SL		2110	H6B03037.d	1	
21	LCSS	IMA011SC		2111	H6B03038.d	1	

Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
22	Sample	A061-01A		2112	H6B03039.d	1	
23	Sample	A061-01		2201	H6B03040.d	1	
24	Sample	A061-01J		2202	H6B03041.d	5	
25	Sample	A061-01M		2203	H6B03042.d	1	
26	Sample	A061-01S		2204	H6B03043.d	1	
27	Sample	A061-02	↑ CaBa	2205	H6B03044.d	1	
28	Sample	A061-03	↑ Ca	2206	H6B03045.d	1	
29	CCV	CCV4		1206	H6B03046.d	1	
30	CCB	CCB4		1102	H6B03047.d	1	
31	Sample	A061-04	↑ Ca	2207	H6B03048.d	1	
32	Sample	A061-05	↓	2208	H6B03049.d	1	
33	Sample	A061-06	↓	2209	H6B03050.d	1	
34	Sample	A061-07		2210	H6B03051.d	1	
35	Sample	A061-08		2211	H6B03052.d	1	
36	Sample	A061-09		2212	H6B03053.d	1	
37	CCV	CCV5		1206	H6B03054.d	1	
38	CCB	CCB5		1102	H6B03055.d	1	
39	Blank	IMA012SB		2301	H6B03056.d	1	
40	LCSS	IMA012SL		2302	H6B03057.d	1	
41	LCSS	IMA012SC		2303	H6B03058.d	1	
42	Sample	A077-01A	↑ Ca	2304	H6B03059.d	1	
43	Sample	A077-01	↓	2305	H6B03060.d	1	
44	Sample	A077-01J		2306	H6B03061.d	5	
45	Sample	A077-01M	↑ Ca	2307	H6B03062.d	1	
46	Sample	A077-01S	↓	2308	H6B03063.d	1	
47	Sample	A077-02	↓	2309	H6B03064.d	1	
48	Sample	A077-03		2310	H6B03065.d	1	
49	CCV	CCV6		1206	H6B03066.d	1	
50	CCB	CCB6		1102	H6B03067.d	1	
51	Sample	A077-04		2311	H6B03068.d	1	
52	Sample	A077-05		2312	H6B03069.d	1	
53	Sample	A077-06	↑ Ca	2401	H6B03070.d	1	
54	Sample	A077-07	↑ CaBa	2402	H6B03071.d	1	
55	Sample	A077-08	↑ Ca	2403	H6B03072.d	1	
56	Sample	A077-09	↑ CaMn	2404	H6B03073.d	1	
57	Sample	A077-10	↑ Ca	2405	H6B03074.d	1	
58	Sample	A077-11	↓	2406	H6B03075.d	1	
59	Sample	A077-12		2407	H6B03076.d	1	
60	CCV	CCV7		1206	H6B03077.d	1	
61	CCB	CCB7		1102	H6B03078.d	1	
62	Blank	IMA013SB		2408	H6B03079.d	1	
63	LCSS	IMA013SL		2409	H6B03080.d	1	
64	LCSS	IMA013SC		2410	H6B03081.d	1	
65	Sample	A098-01A		2411	H6B03082.d	1	
66	Sample	A098-01		2412	H6B03083.d	1	
67	Sample	A098-01J		2501	H6B03084.d	5	
68	Sample	A098-01M		2502	H6B03085.d	1	
69	Sample	A098-01S	~~Ca~~ TH216N2	2503	H6B03086.d	1	
70	Sample	A098-02	↑Ca	2504	H6B03087.d	1	
71	Sample	A098-03		2505	H6B03088.d	1	
72	CCV	CCV8		1206	H6B03089.d	1	
73	CCB	CCB8		1102	H6B03090.d	1	
74	Sample	A098-04		2506	H6B03091.d	1	

Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
75	Sample	A098-05	↑Ca	2507	H6B03092.d	1	
76	Sample	A098-06	↑CaBa	2508	H6B03093.d	1	
77	Sample	A098-07	↑Ca	2509	H6B03094.d	1	
78	Sample	A098-08	↓	2510	H6B03095.d	1	
79	Sample	A098-09		2511	H6B03096.d	1	
80	Sample	A098-10	↑Ca	2512	H6B03097.d	1	
81	Sample	A098-11		3101	H6B03098.d	1	
82	Sample	A098-12		3102	H6B03099.d	1	
83	Sample	A098-13		3103	H6B03100.d	1	
84	CCV	CCV9		1206	H6B03101.d	1	
85	CCB	CCB9		1102	H6B03102.d	1	
86	Blank	IMA016WB	Mn > ½ LOQ	3104	H6B03103.d	1	
87	LCSW	IMA016WL		3105	H6B03104.d	1	
88	LCSW	IMA016WC		3106	H6B03105.d	1	
89	Sample	A154-02	Mn=ND	3107	H6B03106.d	1	
90	Sample	A154-03	↓	3108	H6B03107.d	1	
91	Sample	A223-02		3109	H6B03108.d	1	
92	CCV	CCV10		1206	H6B03109.d	1	
93	CCB	CCB10		1102	H6B03110.d	1	
94	Sample	A163-02	DISS	3110	H6B03111.d	1	
95	Sample	A163-03	DISS	3111	H6B03112.d	1	
96	Sample	A163-04	DISS	3112	H6B03113.d	1	
97	Sample	A163-05	DISS	3201	H6B03114.d	1	
98	Sample	A163-06	DISS	3202	H6B03115.d	1	
99	Sample	A163-07	DISS	3203	H6B03116.d	1	
100	CCV	CCV11		1206	H6B03117.d	1	
101	CCB	CCB11		1102	H6B03118.d	1	
102	Sample	A163-02A	TOT	3204	H6B03119.d	1	
103	Sample	A163-02	TOT	3205	H6B03120.d	1	
104	Sample	A163-02J	TOT	3206	H6B03121.d	5	
105	Sample	A163-02M	TOT	3207	H6B03122.d	1	
106	Sample	A163-02S	TOT	3208	H6B03123.d	1	
107	Sample	A163-03	TOT	3209	H6B03124.d	1	
108	Sample	A163-04	TOT	3210	H6B03125.d	1	
109	Sample	A163-05	TOT	3211	H6B03126.d	1	
110	Sample	A163-06	TOT	3212	H6B03127.d	1	
111	Sample	A163-07	TOT	3301	H6B03128.d	1	
112	CCV	CCV12		1206	H6B03129.d	1	
113	CCB	CCB12		1102	H6B03130.d	1	
114	Blank	IML028WB		3302	H6B03131.d	1	
115	LCSW	IML028WL		3303	H6B03132.d	1	
116	LCSW	IML028WC	1B	3304	H6B03133.d	1	
117	Sample	L226-07T		3305	H6B03134.d	100	
118	Sample	L226-09I	1H2/7/23	3306	H6B03135.d	10	
119	Sample	L195-06I		3307	H6B03136.d	10	
120	Sample	L195-07I		3308	H6B03137.d	10	
121	Sample	L195-08I		3309	H6B03138.d	10	
122	ICS-A	ICSA2		1304	H6B03139.d	1	
123	ICSB	ICSAB2		1305	H6B03140.d	1	
124	CCV	CCV13		1206	H6B03141.d	1	
125	CCB	CCB13		1102	H6B03142.d	1	
126	Sample	L194-02A		3310	H6B03143.d	10	
127	Sample	L194-02I		3311	H6B03144.d	10	

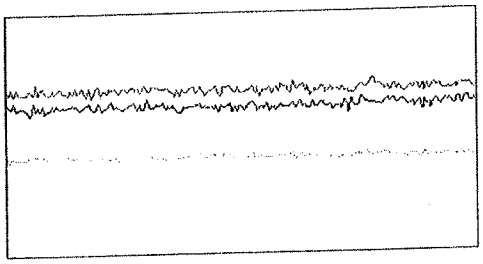
Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
128	Sample	L194-02J		3312	H6B03145.d	50	
129	Sample	L194-02M		3401	H6B03146.d	10	
130	Sample	L194-02S		3402	H6B03147.d	10	
131	Sample	L194-03I		3403	H6B03148.d	10	
132	Sample	L194-04I		3404	H6B03149.d	10	
133	Sample	L194-05I		3405	H6B03150.d	10	
134	Sample	L194-06I		3406	H6B03151.d	10	
135	CCV	CCV14		1206	H6B03152.d	1	
136	CCB	CCB14		1102	H6B03153.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-02-03 10:09:31
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



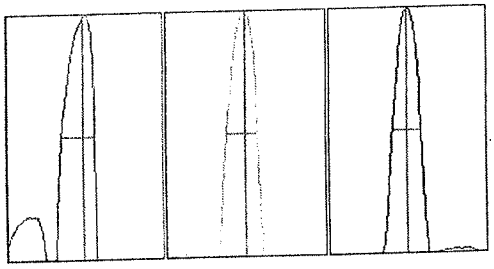
Mass	Range	Count	RSD%	Background
7	10000	6801	1.889	0.300
89	50000	19969	1.778	1.450
205	20000	12242	2.096	5.350

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.057 %
Doubly Charged	70 / 140 1.664 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	6813.95	7.00	0.63	0.77
89	19789.53	89.05	0.58	0.76
205	12272.33	205.00	0.56	0.78

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.8 V	Deflect	13.6 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters					
Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		
QP Parameters					
QP Bias	-3.0 V				
Hardware Settings					
Torch					
Torch H	0.4 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.3 mm	Torch V (Hot)	---	Torch V (Cool)	---
Plasma Correction					
Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		
Resolution/Axis					
Mass Gain	123	Axis Gain	0.9995		
Mass Offset	124	Axis Offset	-0.04		
EM					
Discriminator	3.3 mV	Analog HV	2808 V	Pulse HV	1533 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.99	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.18E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.6	°C
Nebulizer Gas(DP)	5.45E+0	kPa
MU./Dil. Gas(DP)	-1.16E-2	kPa
Aux Gas(DP)	1.14E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.67E+2	kPa
MU./Dil. Gas(BP)	-1.93E-2	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.32E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.45E+2	Pa
Analyzer Press	7.25E-5	Pa
IG HV	178	V
IG Emission	4.98	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.77	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.12	V
OctP RF (Avg)	193.9	V
OctP RF Set	3.8	V
OctP FET Bias Set	3.75	V
OctP RF(+)	168.0	V
OctP RF(-)	219.4	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.2	V
+U Voltage	177.8	V

Name	Value	Unit
-U Voltage	-183.2	V
V Voltage	776.9	V
QPRF Fader	0.5	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.6	V
-120V	-130.2	V
-720V	-738.5	V
Prefilter Bias	-5.07	V
Pickup Heater I	0.08	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2811	V
Pulse HV	1547	V
EM Gate	-36.1	V
Pulse Gate	315.4	V
EM Entrance	0.1	V
EM HV Gain	-1481.1	V
Inner Pole	-300.3	V
Outer Pole	20.0	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.2	V
RF PS +48V	47.9	V
Forward Power	1549	W
Reflected Power	4	W
Plasma Freq.	26.69	MHz
Drain I 1	11.33	A
Drain I 2	10.84	A
Drain I 3	10.71	A
Drain I 4	10.12	A
Temp Sensor	2.8	V
Driver I	5.54	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.71E+2	kPa
He Gas Press	1.64E+0	kPa
ORS AMFC Temp	29.5	°C
Atmospheric Press	1.02E+2	kPa
Extract 1	-0.1	V
Extract 2	-195.3	V
Omega Bias	-110.2	V
Omega Lens	6.8	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.6	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	27.8	°C
Internal Temp	33.8	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.41	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

Performance Report History

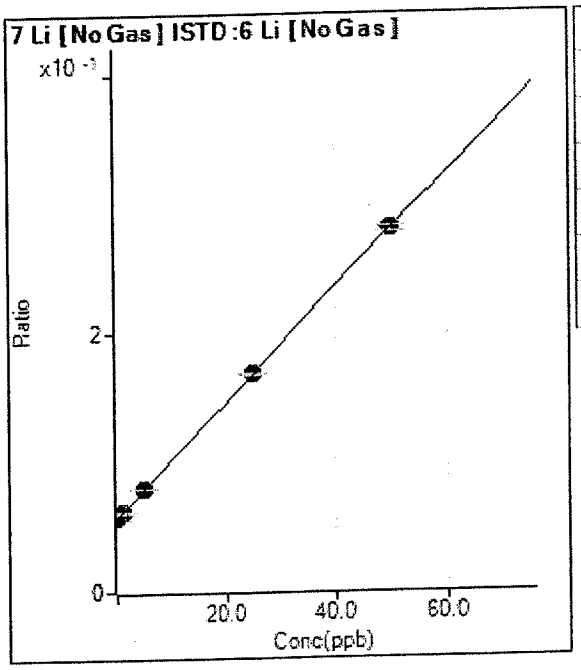
Sensitivity

Calibration for H6B03134.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b\
Analysis File: IH6B03.batch.bin
DA Date-Time: 2023-02-03 19:43:29
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6B03003.d	S0	2023-02-03 12:05:36
2	H6B03004.d	S1	2023-02-03 12:08:27
3	H6B03005.d	S2	2023-02-03 12:11:18
4	H6B03006.d	S3	2023-02-03 12:14:09
5	H6B03007.d	S4	2023-02-03 12:17:13
6	H6B03008.d	S5	2023-02-03 12:20:04

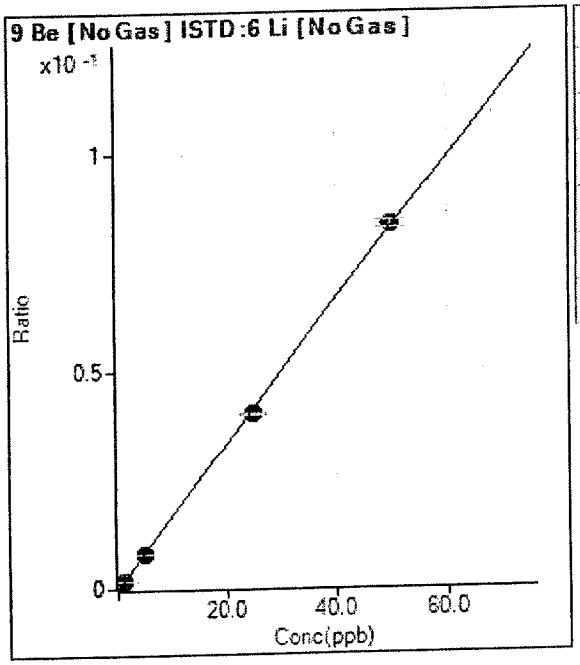
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	97135.13	0.0575	P	1.2
2	☐	0.500	0.522	94341.22	0.0598	P	0.9
3	☐	1.000	0.981	103500.29	0.0619	P	0.7
4	☐	5.000	5.055	131535.33	0.0800	P	0.5
5	☐	25.000	25.006	272754.65	0.1690	P	0.5
6	☐	50.000	49.991	384552.44	0.2804	P	1.7

y = 0.0045 * x + 0.0575
R = 1.0000
DL = 0.4594
BEC = 12.9

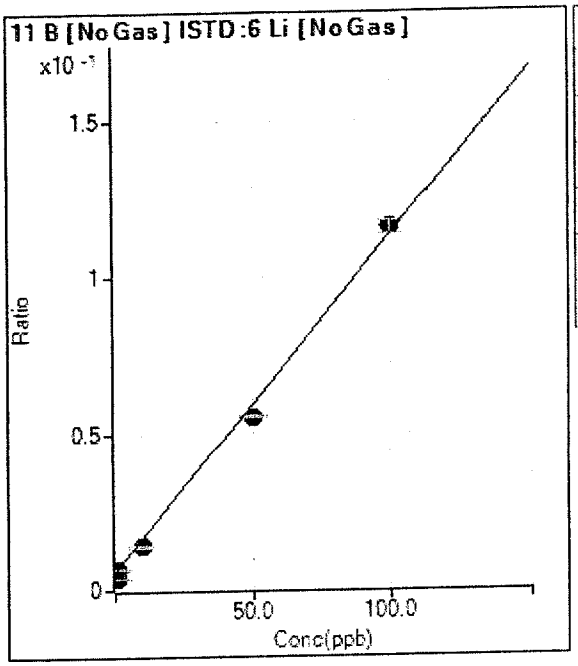
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	9.3
2	☐	0.500	0.454	1220.05	0.0008	P	2.9
3	☐	1.000	0.945	2651.37	0.0016	P	3.5
4	☐	5.000	4.793	13081.63	0.0080	P	1.9
5	☐	25.000	24.208	64750.69	0.0401	P	1.0
6	☐	50.000	50.418	114557.39	0.0835	P	2.1

y = 0.0017 * x + 1.9726E-005
R = 0.9998
DL = 0.003315
BEC = 0.01191

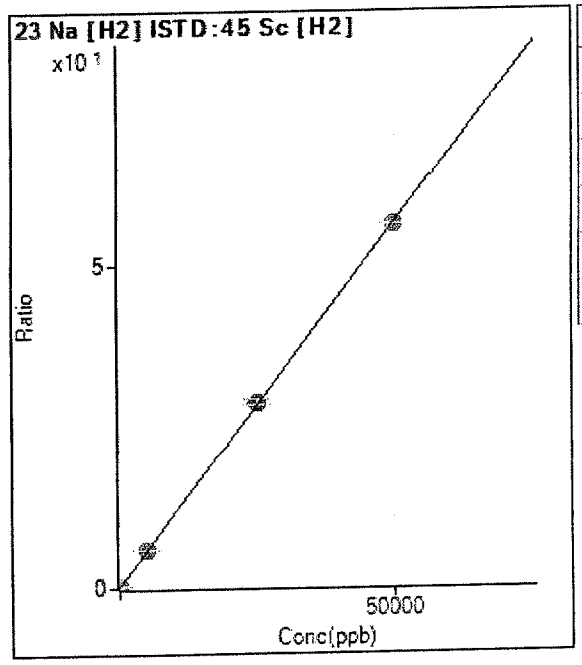
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10084.73	0.0060	P	2.1
2	☐	0.500	-2.096	5859.01	0.0037	P	1.5
3	☐	1.000	0.666	11184.45	0.0067	P	0.8
4	☐	10.000	7.397	22876.35	0.0139	P	1.7
5	☐	50.000	46.013	89462.37	0.0554	P	0.8
6	☐	100.000	102.270	158808.95	0.1159	P	3.8

y = 0.0011 * x + 0.0060
R = 0.9988
DL = 0.3534
BEC = 5.555

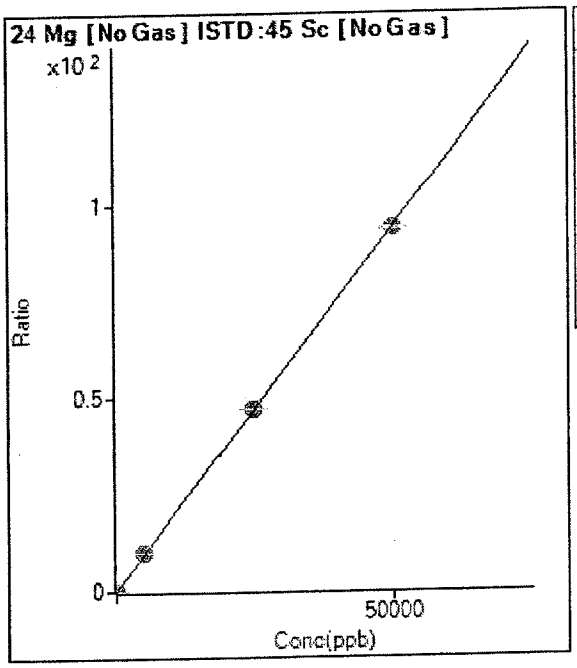
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	842531.25	0.2020	A	0.6
2	☐	50.000	56.443	1097902.42	0.2654	A	1.0
3	☐	100.000	113.012	1354929.92	0.3289	A	0.6
4	☐	5000.000	5201.364	25129461.33	6.0417	A	0.9
5	☐	25000.000	25358.343	120102538.67	28.6724	A	2.5
6	☐	50000.000	49800.659	201498448.00	56.1144	A	0.1

y = 0.0011 * x + 0.2020
R = 1.0000
DL = 3.42
BEC = 179.9

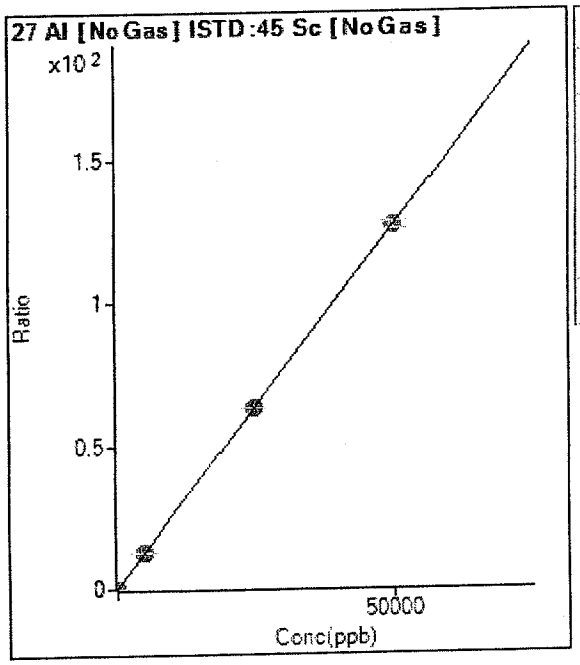
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	25194.08	0.0047	P	3.3
2	☐	50.000	53.137	517767.22	0.1045	P	0.8
3	☐	100.000	104.344	1073283.42	0.2007	A	1.0
4	☐	5000.000	5201.299	51560125.33	9.7721	A	1.4
5	☐	25000.000	25150.846	250927685.33	47.2347	A	0.3
6	☐	50000.000	49904.435	435804512.00	93.7188	A	0.8

y = 0.0019 * x + 0.0047
R = 1.0000
DL = 0.2489
BEC = 2.507

Weight: <None>
Min Conc: 0

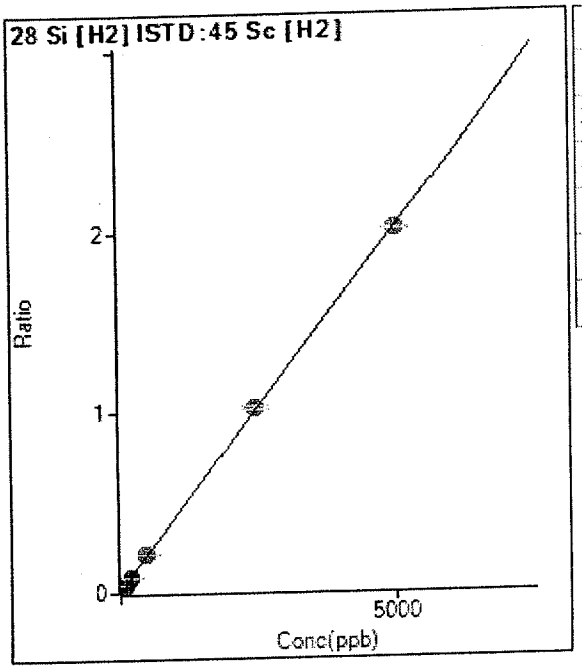


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	32618.48	0.0061	P	6.1
2	☐	50.000	52.305	687014.91	0.1387	P	1.3
3	☐	100.000	104.230	1446373.78	0.2704	A	1.2
4	☐	5000.000	5105.083	68334743.98	12.9510	A	1.1
5	☐	25000.000	24912.715	335612888.33	63.1772	A	0.3
6	☐	50000.000	50033.124	589948017.88	126.8750	A	2.2

y = 0.0025 * x + 0.0061
R = 1.0000
DL = 0.4435
BEC = 2.404

Weight: <None>
Min Conc: 0

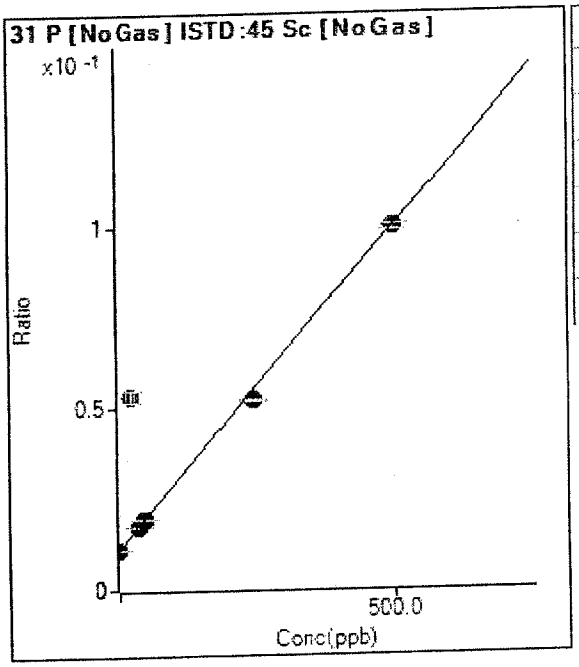
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8681.38	0.0021	P	0.8
2	☐	100.000	104.934	183815.16	0.0444	P	0.8
3	☐	200.000	216.608	368719.13	0.0895	P	1.6
4	☐	500.000	514.780	872721.89	0.2098	A	1.4
5	☐	2500.000	2531.209	4287834.17	1.0236	A	1.5
6	☐	5000.000	4982.154	7227412.33	2.0127	A	0.5

y = 4.0357E-004 * x + 0.0021
R = 1.0000
DL = 0.1173
BEC = 5.158

Weight: <None>
Min Conc: 0

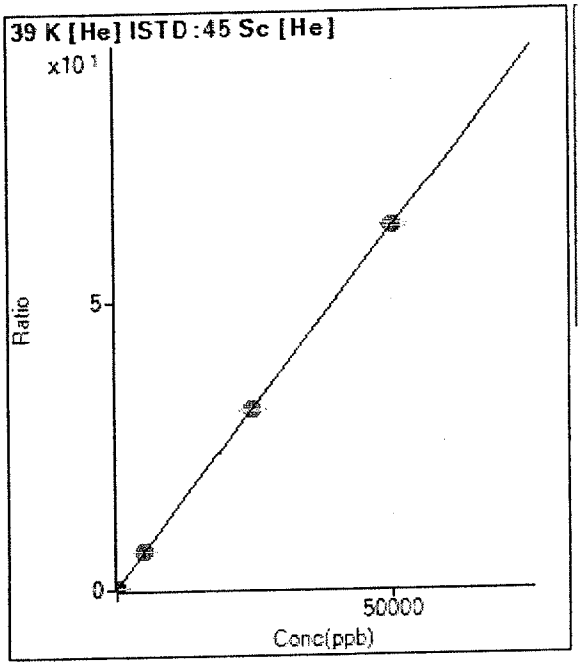


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	58119.39	0.0109	P	0.2
2	☐	25.000	238.526	263158.38	0.0533	P	5.8
3	☐	40.000	37.873	94123.44	0.0176	P	0.7
4	☐	50.000	48.544	102861.72	0.0195	P	1.5
5	☐	250.000	231.485	276425.08	0.0520	P	1.4
6	☐	500.000	498.897	463044.47	0.0996	P	1.3

y = 1.7792E-004 * x + 0.0109
R = 0.8929
DL = 0.4052
BEC = 61.03

Weight: <None>
Min Conc: 0

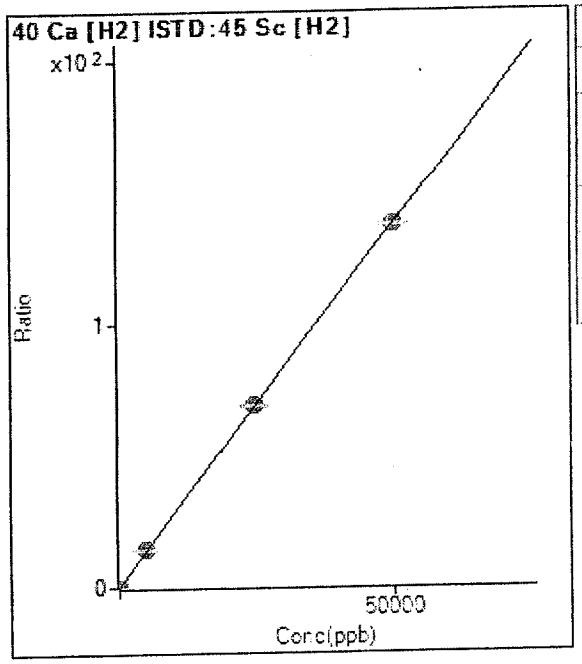
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	122447.20	0.1785	F	3.2
2	☐	50.000	53.518	166854.72	0.2456	F	2.9
3	☐	100.000	136.061	205124.29	0.3492	F	2.8
4	☐	5000.000	5095.985	4469758.33	6.5709	A	0.7
5	☐	25000.000	24796.241	21527558.00	31.2826	A	0.6
6	☐	50000.000	50092.205	37012461.33	63.0135	A	1.0

y = 0.0013 * x + 0.1785
R = 1.0000
DL = 13.5
BEC = 142.3

Weight: <None>
Min Conc: 0

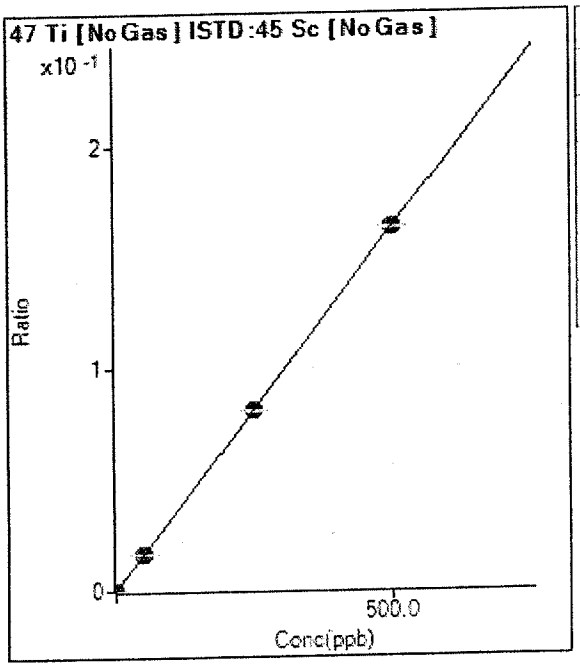


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230758.73	0.0553	F	1.5
2	☐	50.000	56.449	872256.02	0.2108	F	1.0
3	☐	100.000	109.744	1473391.21	0.3576	A	1.0
4	☐	5000.000	5162.690	59378849.33	14.2771	A	1.3
5	☐	25000.000	25103.455	289916352.00	69.2082	A	1.1
6	☐	50000.000	49931.978	494115797.33	137.6036	A	0.4

y = 0.0028 * x + 0.0553
R = 1.0000
DL = 0.8938
BEC = 20.09

Weight: <None>
Min Conc: 0

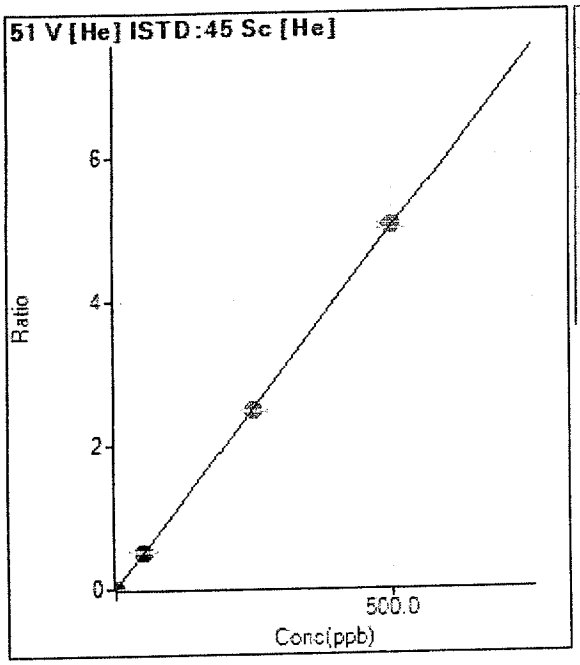
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	290.00	0.0001	P	4.3
2	☐	0.500	0.668	1346.07	0.0003	P	5.0
3	☐	1.000	1.046	2112.83	0.0004	P	1.3
4	☐	50.000	50.485	87108.16	0.0165	P	0.9
5	☐	250.000	248.819	431071.46	0.0812	P	0.7
6	☐	500.000	500.542	758825.38	0.1632	P	0.7

y = 3.2593E-004 * x + 5.4172E-005
R = 1.0000
DL = 0.02132
BEC = 0.1662

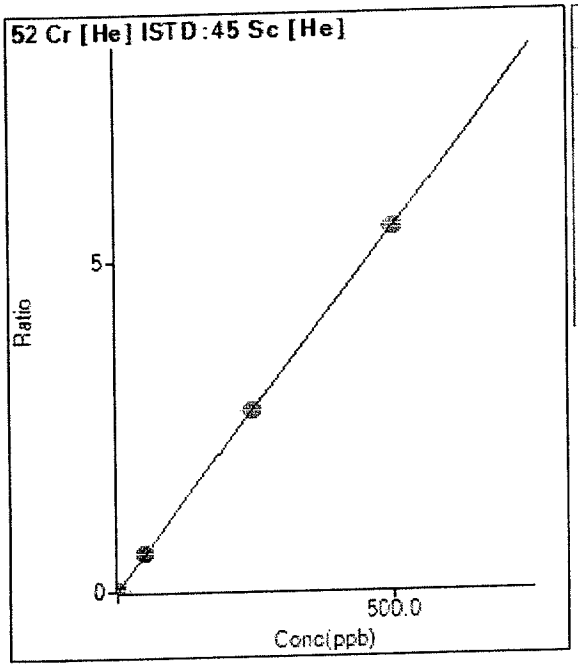
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1414.07	0.0021	P	1.0
2	☐	0.500	0.530	5014.25	0.0074	P	2.6
3	☐	1.000	1.040	7344.64	0.0125	P	2.0
4	☐	50.000	51.367	352214.79	0.5178	P	1.6
5	☐	250.000	246.018	1701258.25	2.4722	A	0.1
6	☐	500.000	501.854	2960619.25	5.0408	A	1.5

y = 0.0100 * x + 0.0021
R = 0.9999
DL = 0.006387
BEC = 0.2053

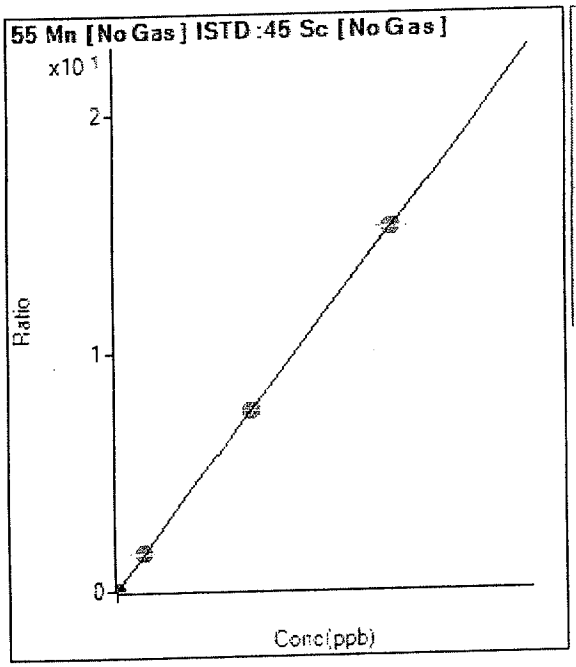
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2088.83	0.0030	P	0.7
2	☐	0.500	0.566	6286.78	0.0093	P	3.3
3	☐	1.000	1.161	9273.15	0.0158	P	[illegible]
4	☐	50.000	53.032	397972.80	0.5851	P	0.8
5	☐	250.000	249.366	1885421.29	2.7397	A	0.5
6	☐	500.000	500.013	3224799.67	5.4905	A	1.2

y = 0.0110 * x + 0.0030
R = 1.0000
DL = 0.005497
BEC = 0.2775

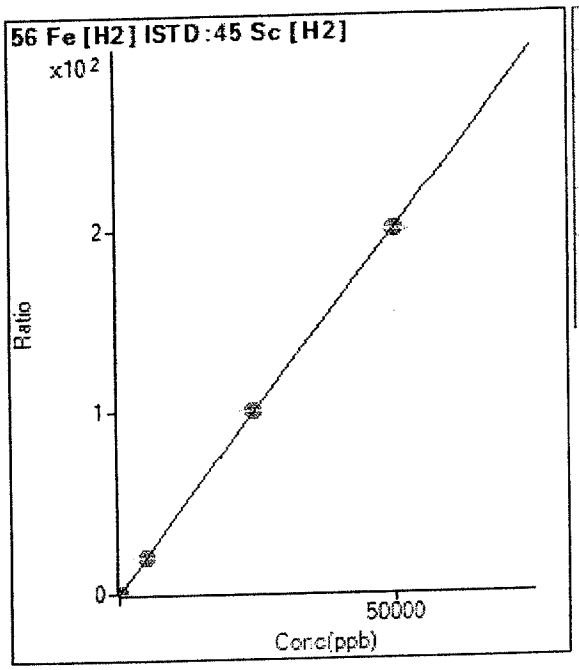
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10973.73	0.0021	P	[illegible]
2	☐	0.500	0.583	24763.81	0.0050	P	2.2
3	☐	1.000	1.180	42967.31	0.0080	P	0.3
4	☐	300.000	311.127	8332425.33	1.5792	A	1.0
5	☐	1500.000	1497.604	40339886.67	7.5935	A	0.0
6	☐	3000.000	3000.085	70725309.33	15.2096	A	0.6

y = 0.0051 * x + 0.0021
R = 1.0000
DL = 0.01387
BEC = 0.4045

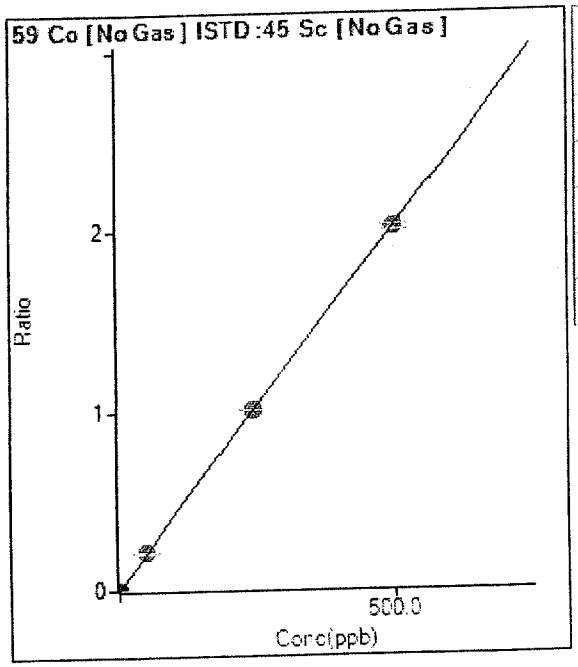
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45375.14	0.0109	P	1.7
2	☐	50.000	53.260	925485.83	0.2237	P	0.8
3	☐	100.000	106.337	1795308.38	0.4358	A	0.5
4	☐	5000.000	5112.902	85021976.00	20.4414	A	0.7
5	☐	25000.000	25124.182	420617632.00	100.4039	A	0.3
6	☐	50000.000	49926.603	716414442.67	199.5112	A	0.6

y = 0.0040 * x + 0.0109
R = 1.0000
DL = 0.09359
BEC = 2.723

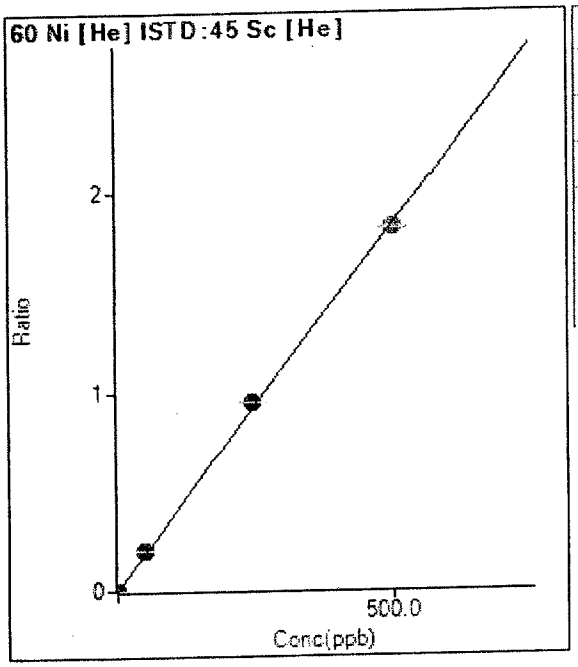
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	559.34	0.0001	P	5.6
2	☐	0.500	0.550	11543.57	0.0023	P	1.3
3	☐	1.000	1.112	24624.20	0.0046	P	0.8
4	☐	50.000	51.808	1106707.96	0.2097	A	1.0
5	☐	250.000	249.944	5373359.00	1.0115	A	0.3
6	☐	500.000	499.847	9403211.67	2.0227	A	1.6

y = 0.0040 * x + 1.0453E-004
R = 1.0000
DL = 0.004352
BEC = 0.02583

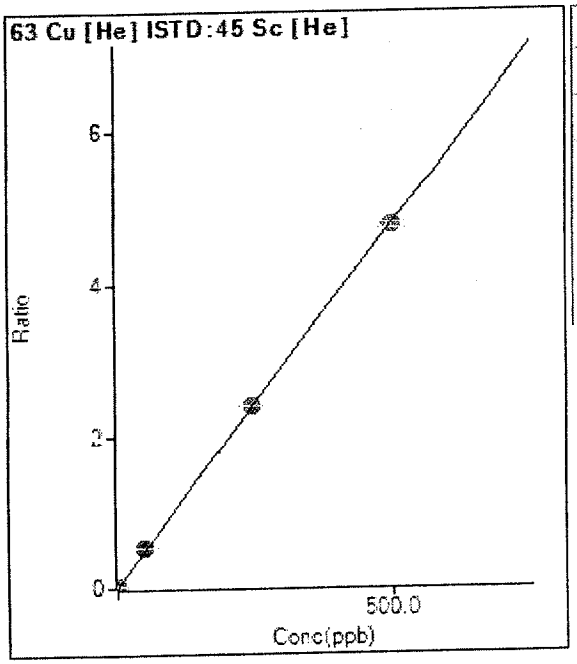
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	188.67	0.0003	P	13.4
2	☐	0.500	0.558	1579.42	0.0023	P	3.6
3	☐	1.000	1.138	2618.25	0.0045	P	3.4
4	☐	50.000	54.199	135722.18	0.1995	P	1.1
5	☐	250.000	256.809	649838.77	0.9443	P	0.3
6	☐	500.000	496.175	1071497.58	1.8242	A	0.7

y = 0.0037 * x + 2.7488E-004
R = 0.9998
DL = 0.03
BEC = 0.07478

Weight: <None>
Min Conc: 0

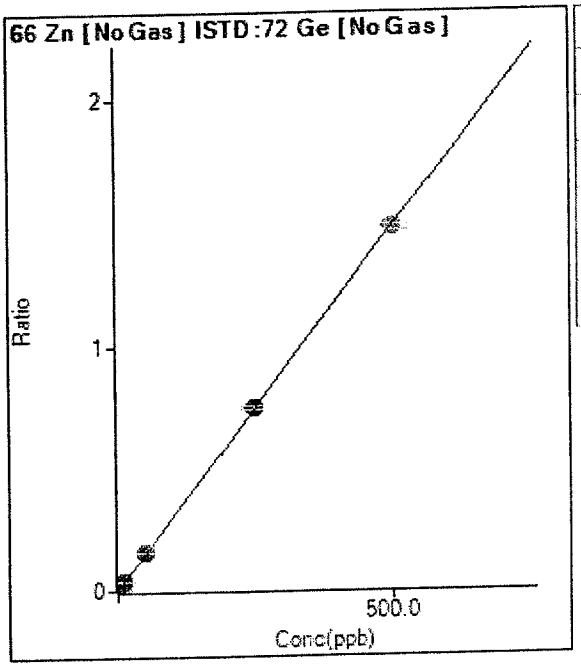


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2370.21	0.0035	P	7.4
2	☐	0.500	0.583	6125.38	0.0090	P	2.1
3	☐	1.000	1.140	8423.28	0.0143	P	0.5
4	☐	50.000	54.618	357052.93	0.5249	P	0.6
5	☐	250.000	251.668	1655781.71	2.4061	A	0.2
6	☐	500.000	498.704	2798310.17	4.7645	A	1.4

y = 0.0095 * x + 0.0035
R = 1.0000
DL = 0.0801
BEC = 0.3619

Weight: <None>
Min Conc: 0

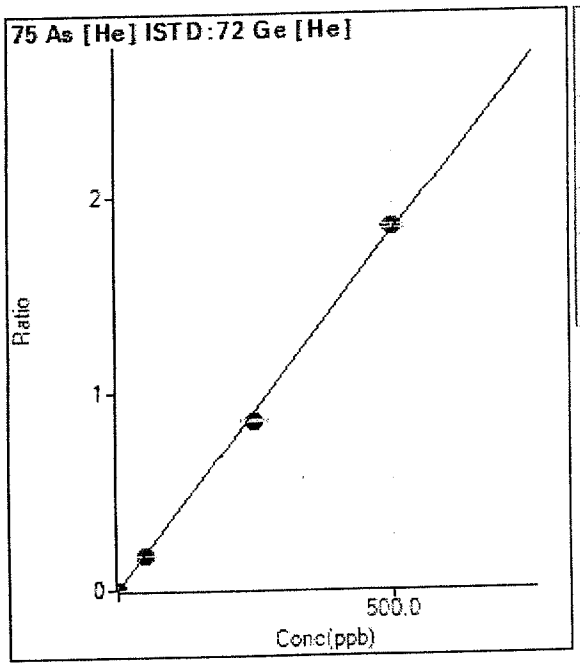
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3140.37	0.0029	P	2.6
2	☐	1.000	1.450	7555.44	0.0072	P	1.4
3	☐	10.000	11.419	40763.03	0.0366	P	0.6
4	☐	50.000	51.028	172134.30	0.1538	P	0.8
5	☐	250.000	250.582	826361.52	0.7440	P	1.9
6	☐	500.000	499.577	1474937.42	1.4805	A	1.5

y = 0.0030 * x + 0.0029
R = 1.0000
DL = 0.07528
BEC = 0.9679

Weight: <None>
Min Conc: 0

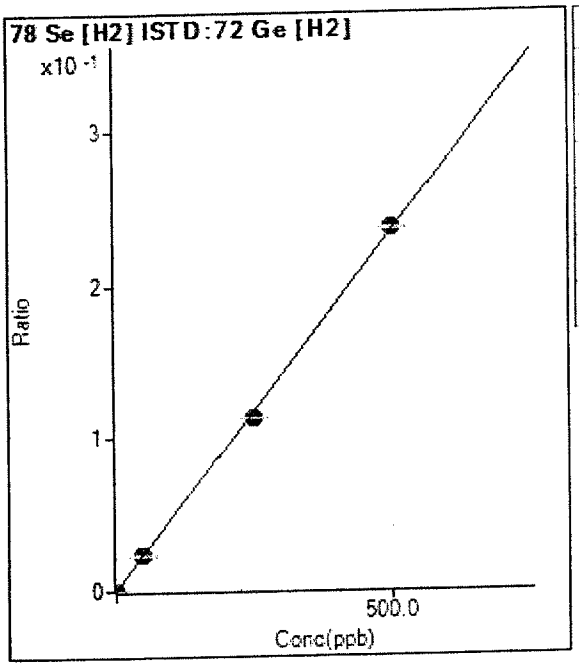


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0004	P	8.4
2	☐	0.500	0.466	778.69	0.0021	P	4.5
3	☐	1.000	1.001	1309.39	0.0040	P	1.4
4	☐	50.000	48.110	64764.02	0.1749	P	0.9
5	☐	250.000	237.328	317597.16	0.8612	P	0.9
6	☐	500.000	506.525	594274.98	1.8377	P	0.9

y = 0.0036 * x + 4.0396E-004
R = 0.9995
DL = 0.02792
BEC = 0.1114

Weight: <None>
Min Conc: 0

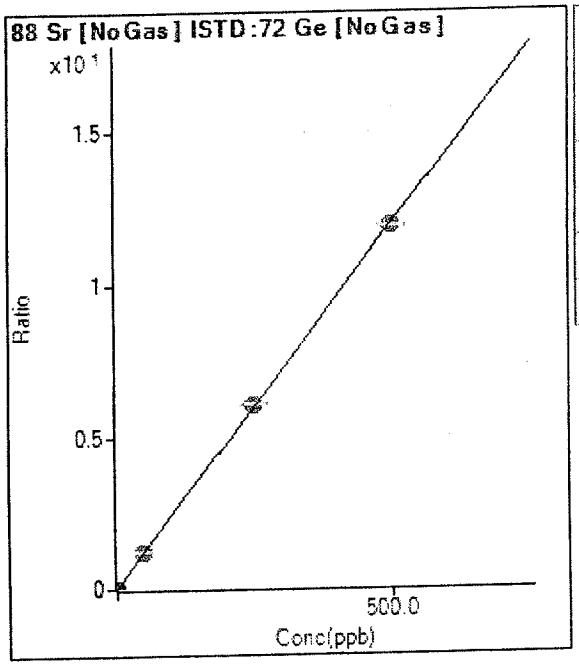
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	49.67	0.0000	F	22.0
2	☐	0.500	0.462	272.67	0.0003	F	3.6
3	☐	1.000	0.943	509.68	0.0005	F	7.7
4	☐	50.000	49.434	24178.30	0.0233	F	0.3
5	☐	250.000	241.087	118156.76	0.1134	F	0.2
6	☐	500.000	504.513	216359.06	0.2372	F	0.7

y = 4.7013E-004 * x + 4.8774E-005
R = 0.9998
DL = 0.06838
BEC = 0.1037

Weight: <None>
Min Conc: 0

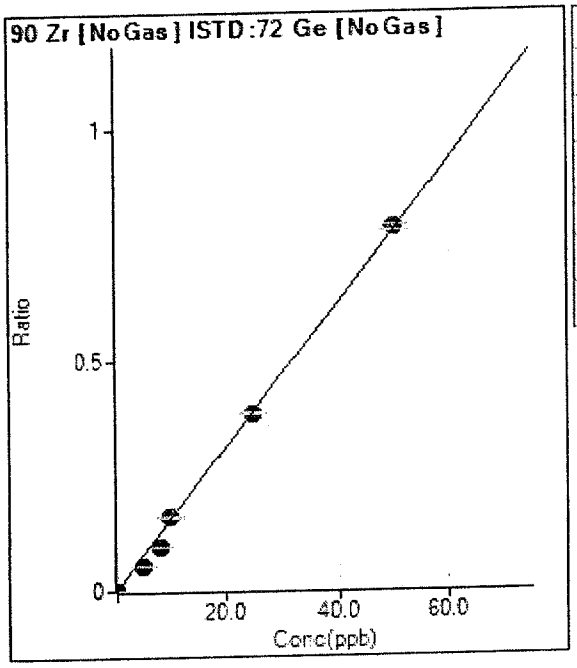


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1140.05	0.0010	F	4.3
2	☐	0.500	0.523	14341.06	0.0136	F	2.2
3	☐	1.000	1.063	29444.54	0.0265	F	0.6
4	☐	50.000	51.352	1376071.79	1.2295	A	0.8
5	☐	250.000	254.201	6755963.07	6.0818	A	1.0
6	☐	500.000	497.764	11864060.36	11.9082	A	0.8

y = 0.0239 * x + 0.0010
R = 0.9999
DL = 0.005651
BEC = 0.04345

Weight: <None>
Min Conc: 0

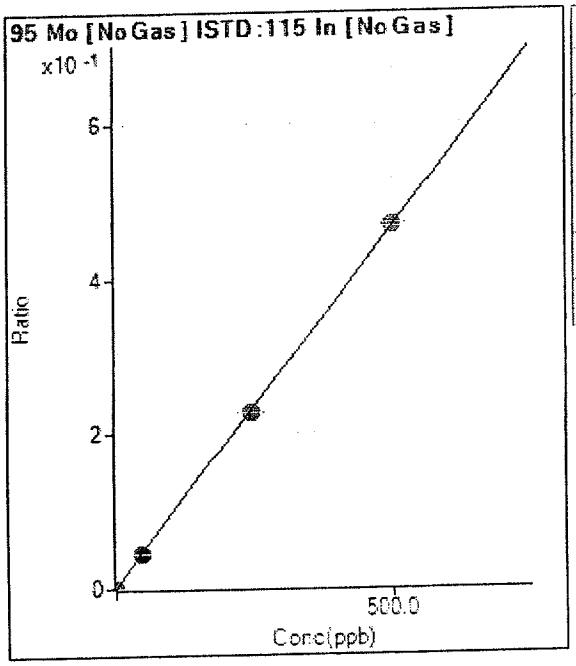
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	20.0
2	☐	5.000	3.515	58103.99	0.0549	P	4.9
3	☐	8.000	6.190	107436.18	0.0966	P	0.8
4	☐	10.000	10.326	180150.71	0.1610	P	1.4
5	☐	25.000	24.730	427859.47	0.3852	P	1.6
6	☐	50.000	50.508	783676.86	0.7866	P	1.8

y = 0.0156 * x + 1.7925E-004
R = 0.9990
DL = 0.006923
BEC = 0.01151

Weight: <None>
Min Conc: 0

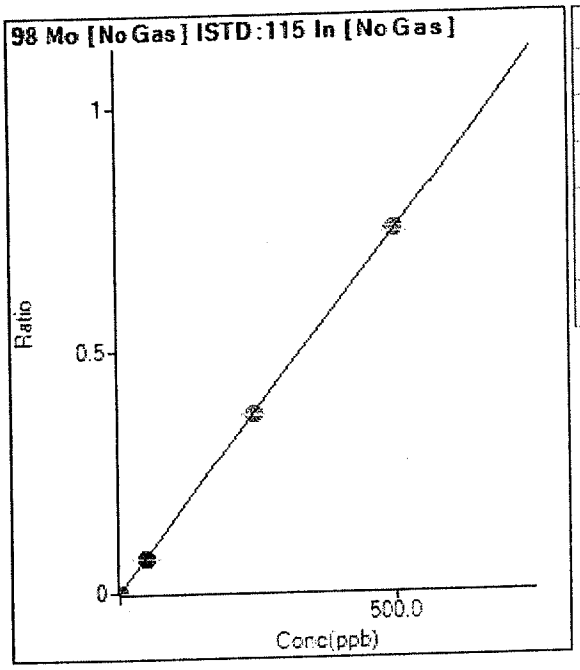


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	152.22	0.0000	P	9.7
2	☐	0.500	0.472	2552.47	0.0005	P	4.2
3	☐	1.000	0.928	5113.21	0.0009	P	2.6
4	☐	50.000	48.940	255705.50	0.0456	P	0.3
5	☐	250.000	245.356	1258823.04	0.2286	A	0.7
6	☐	500.000	502.428	2226586.23	0.4681	A	1.0

y = 9.3156E-004 * x + 2.6720E-005
R = 0.9999
DL = 0.008379
BEC = 0.02868

Weight: <None>
Min Conc: 0

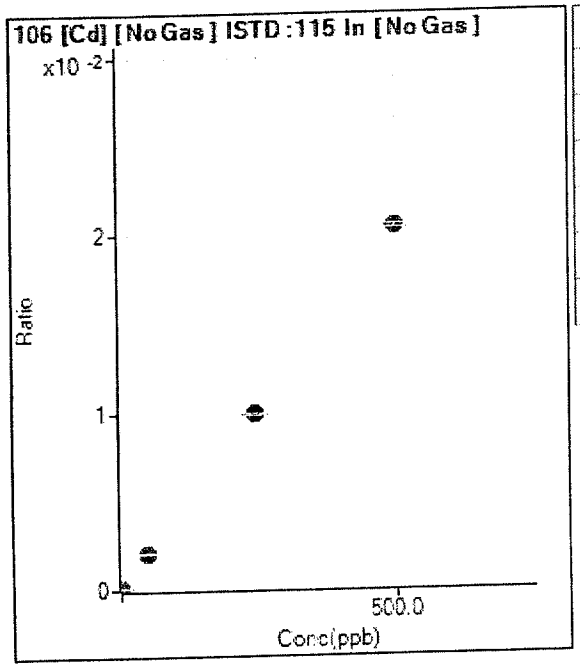
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	275.56	0.0000	P	5.7
2	☐	0.500	0.455	3982.82	0.0007	P	1.3
3	☐	1.000	0.942	8344.85	0.0015	P	2.1
4	☐	50.000	48.835	408952.49	0.0730	P	1.0
5	☐	250.000	246.598	2027936.17	0.3682	A	1.1
6	☐	500.000	501.818	3564555.07	0.7493	A	1.8

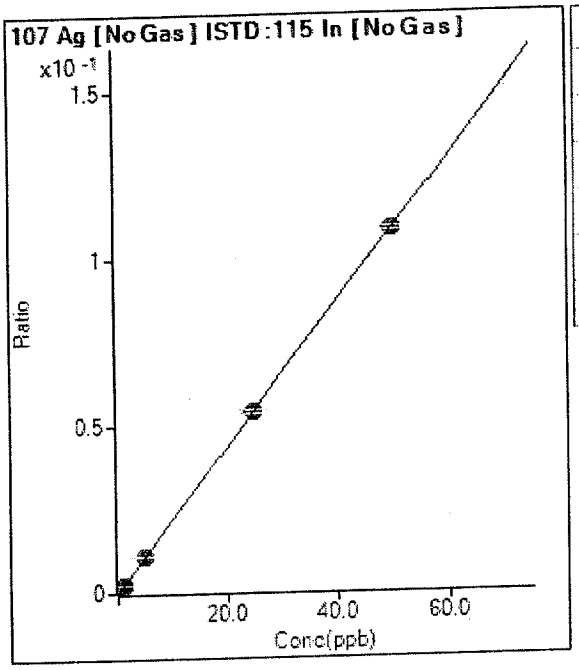
y = 0.0015 * x + 4.8368E-005
R = 1.0000
DL = 0.005534
BEC = 0.0324

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		10.00	0.0000	P	45.7
2	☐	0.500		312.67	0.0001	P	1.1
3	☐	1.000		564.68	0.0001	P	4.9
4	☐	50.000		11540.69	0.0021	F	1.4
5	☐	250.000		54644.75	0.0099	F	1.5
6	☐	500.000		97181.12	0.0204	P	1.2

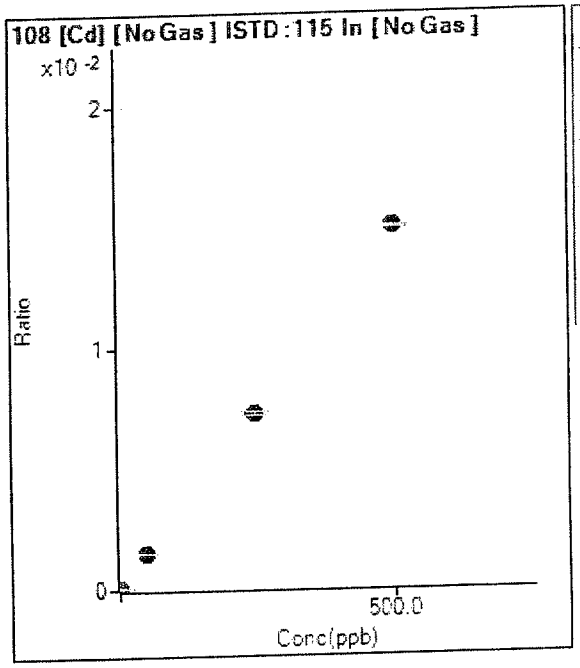
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.34	0.0000	P	26.3
2	☐	0.500	0.580	6944.07	0.0013	P	2.2
3	☐	1.000	1.122	14028.55	0.0024	P	2.0
4	☐	5.000	5.137	62580.77	0.0112	P	0.-
5	☐	25.000	24.907	297898.64	0.0541	P	1.3
6	☐	50.000	50.030	516871.33	0.1087	P	1.'

y = 0.0022 * x + 7.6038E-006
R = 1.0000
DL = 0.002766
BEC = 0.003501

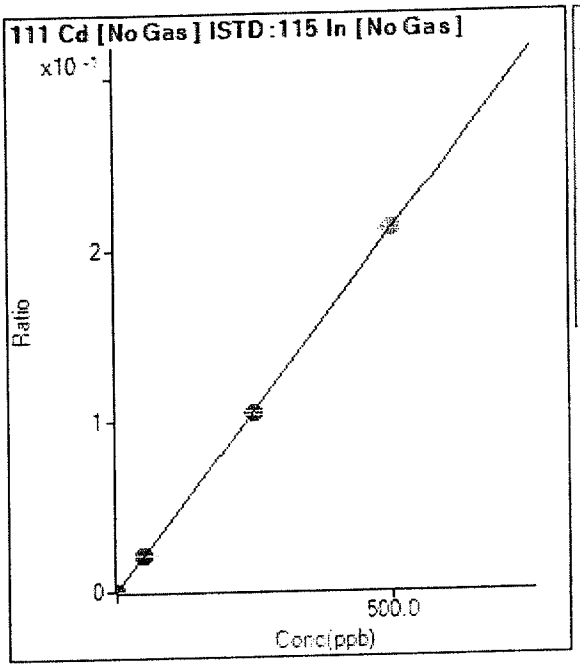
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		8.00	0.0000	P	57.'
2	☐	0.500		196.67	0.0000	P	1.5
3	☐	1.000		334.33	0.0001	P	5.'
4	☐	50.000		8365.31	0.0015	P	1.2
5	☐	250.000		40113.34	0.0073	P	1.8
6	☐	500.000		71141.71	0.0150	P	0.5

Excluded

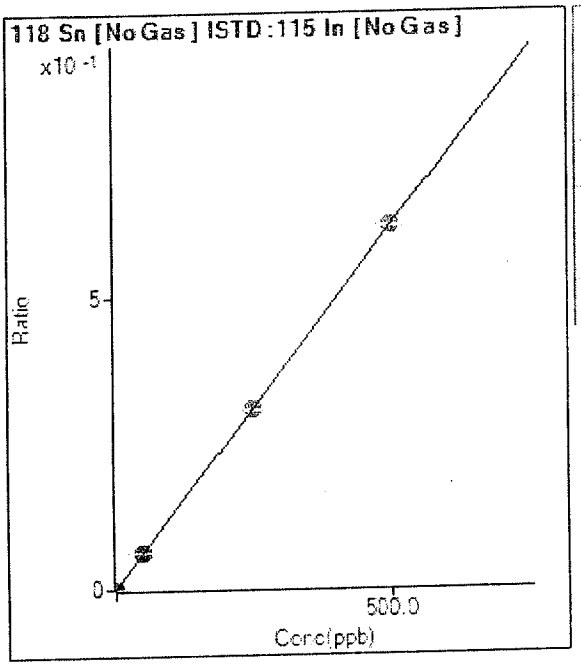
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	100.39	0.0000	F	5.9
2	☐	0.500	0.520	1300.25	0.0002	F	4.1
3	☐	1.000	1.028	2595.24	0.0005	F	2.1
4	☐	50.000	49.989	118553.70	0.0212	P	0.8
5	☐	250.000	246.977	575012.77	0.1044	P	1.6
6	☐	500.000	501.512	1008655.56	0.2120	M	1.2

y = 4.2275E-004 * x + 1.7625E-005
R = 1.0000
DL = 0.007352
BEC = 0.04169

Weight: <None>
Min Conc: 0

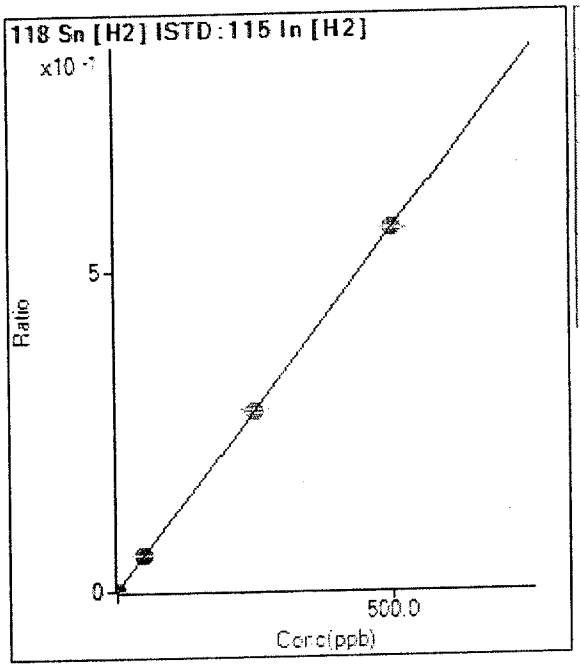


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1421.19	0.0002	F	3.5
2	☐	0.500	0.555	5112.12	0.0009	P	3.7
3	☐	1.000	0.921	7964.64	0.0014	P	0.9
4	☐	50.000	50.986	354617.71	0.0633	P	1.5
5	☐	250.000	248.319	1691556.63	0.3072	A	1.0
6	☐	500.000	500.742	2946277.18	0.6192	A	0.8

y = 0.0012 * x + 2.4949E-004
R = 1.0000
DL = 0.02133
BEC = 0.2019

Weight: <None>
Min Conc: 0

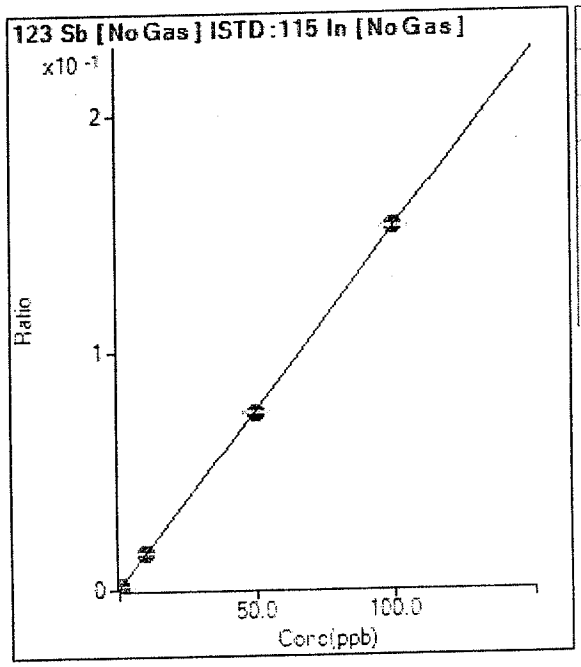
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2111.41	0.0003	P	25.2
2	☐	0.500	0.509	6212.58	0.0009	P	1.0
3	☐	1.000	0.905	9442.28	0.0013	P	1.5
4	☐	50.000	50.714	404568.53	0.0574	P	0.5
5	☐	250.000	249.212	1960482.08	0.2811	A	1.7
6	☐	500.000	500.323	3323946.53	0.5640	A	0.6

y = 0.0011 * x + 3.0037E-004
R = 1.0000
DL = 0.2018
BEC = 0.2666

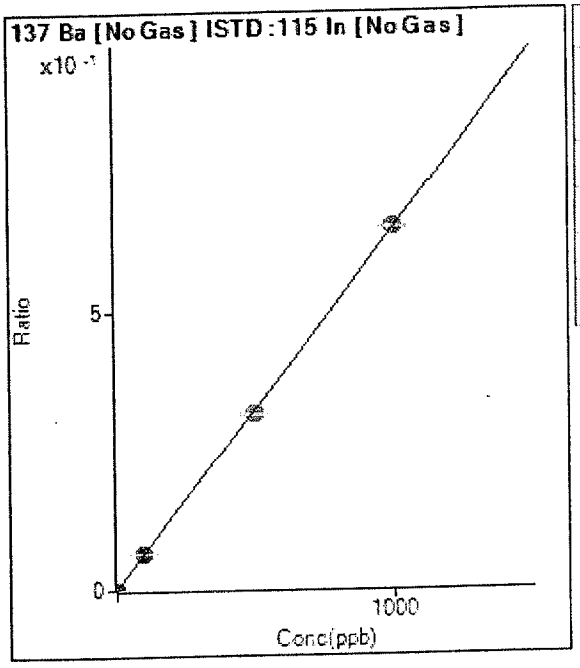
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	235.56	0.0000	P	13.1
2	☐	0.500	0.473	4156.22	0.0008	P	1.3
3	☐	1.000	0.925	8299.30	0.0014	P	1.1
4	☐	10.000	9.885	84357.93	0.0150	P	0.7
5	☐	50.000	49.062	410428.13	0.0745	P	0.8
6	☐	100.000	100.481	726059.57	0.1526	P	0.4

y = 0.0015 * x + 4.1363E-005
R = 0.9999
DL = 0.01071
BEC = 0.02724

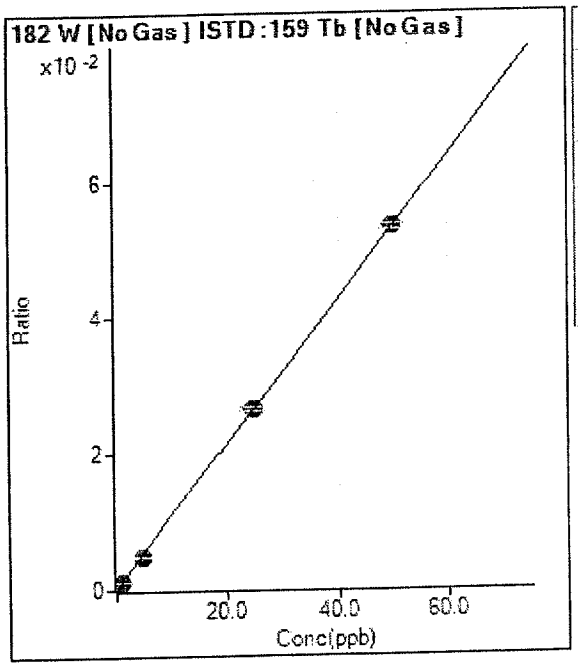
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0000	F	14.0
2	☐	0.500	0.532	2117.95	0.0004	F	2.3
3	☐	1.000	1.111	4370.74	0.0008	F	2.5
4	☐	100.000	99.230	360009.53	0.0642	F	0.8
5	☐	500.000	488.134	1738814.45	0.3158	A	1.2
6	☐	1000.000	1006.010	3095819.60	0.6507	A	0.3

y = 6.4680E-004 * x + 4.3292E-005
R = 0.9999
DL = 0.02819
BEC = 0.06693

Weight: <None>
Min Conc: 0

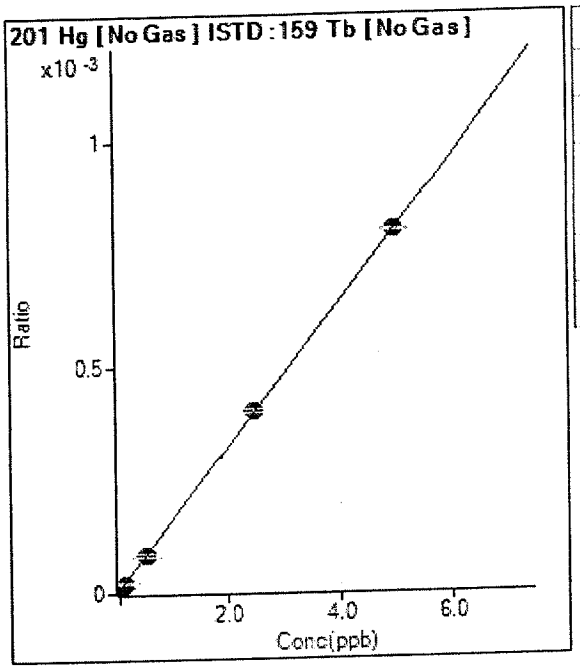


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	146.67	0.0000	F	14.6
2	☐	0.500	0.264	2043.51	0.0003	F	8.3
3	☐	1.000	1.149	8979.90	0.0012	F	1.2
4	☐	5.000	4.465	34212.93	0.0048	F	3.8
5	☐	25.000	24.916	189068.44	0.0265	F	2.6
6	☐	50.000	50.095	329891.94	0.0533	F	1.6

y = 0.0011 * x + 2.0307E-005
R = 0.9999
DL = 0.008346
BEC = 0.01909

Weight: <None>
Min Conc: 0

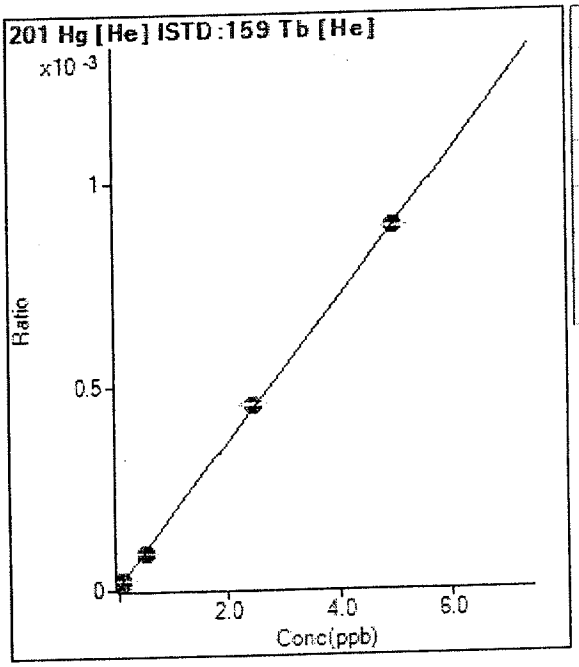
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48.50	0.0000	F	10.0
2	☐	0.050	0.044	92.00	0.0000	F	6.3
3	☐	0.100	0.104	168.50	0.0000	F	3.2
4	☐	0.500	0.487	603.01	0.0001	F	3.0
5	☐	2.500	2.495	2873.83	0.0004	F	1.5
6	☐	5.000	5.004	4959.98	0.0008	F	0.7

y = 1.5886E-004 * x + 6.7149E-006
R = 1.0000
DL = 0.01263
BEC = 0.04227

Weight: <None>
Min Conc: 0

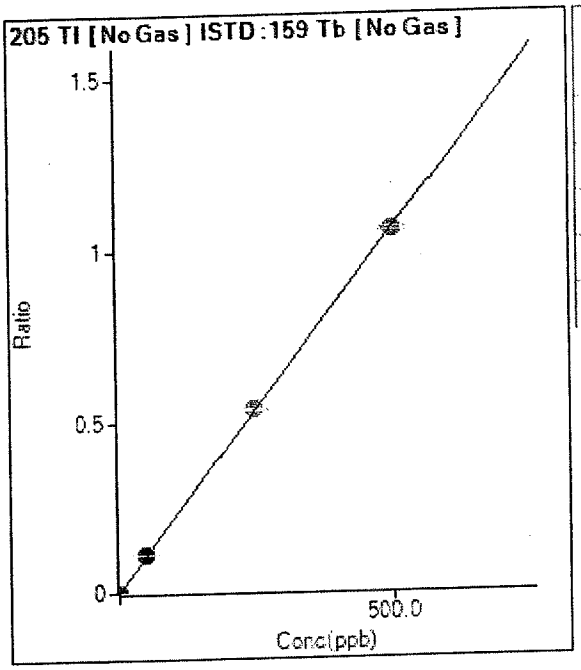


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38.17	0.0000	F	16.6
2	☐	0.050	0.049	91.33	0.0000	F	2.0
3	☐	0.100	0.102	126.50	0.0000	F	2.0
4	☐	0.500	0.476	544.51	0.0001	F	1.9
5	☐	2.500	2.526	2734.30	0.0005	F	0.7
6	☐	5.000	4.989	4557.00	0.0009	F	0.8

y = 1.7740E-004 * x + 6.3399E-006
R = 1.0000
DL = 0.01779
BEC = 0.03574

Weight: <None>
Min Conc: 0

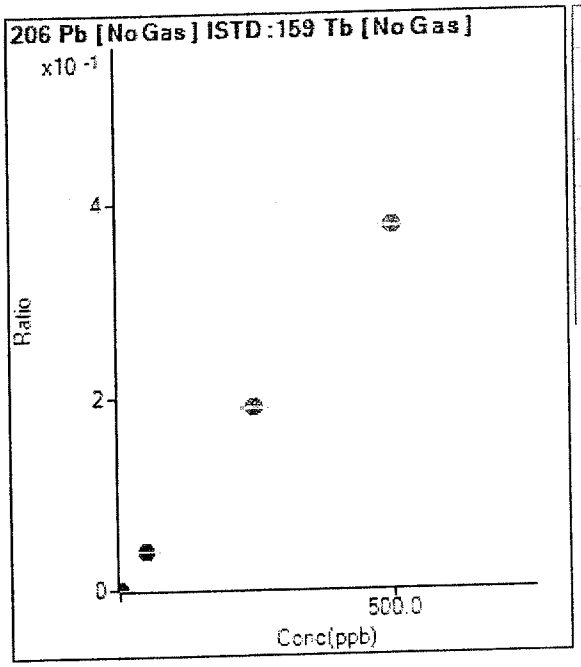
Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1097.33	0.0002	F	4.9
2	☐	0.500	0.513	8422.38	0.0012	F	4.7
3	☐	1.000	1.033	16953.74	0.0023	P	3.7
4	☐	50.000	53.446	815244.10	0.1136	P	1.3
5	☐	250.000	252.372	3822416.38	0.5361	A	0.5
6	☐	500.000	498.469	6551503.35	1.0587	A	1.1

y = 0.0021 * x + 1.5196E-004
R = 1.0000
DL = 0.01046
BEC = 0.07156

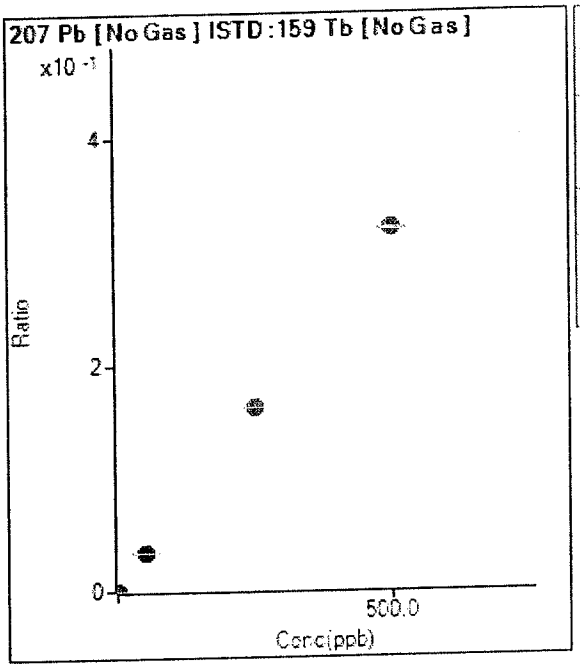
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		273.33	0.0000	F	15.6
2	☐	0.500		3050.38	0.0004	F	2.5
3	☐	1.000		6158.22	0.0009	F	4.3
4	☐	50.000		287689.49	0.0401	F	1.7
5	☐	250.000		1346005.87	0.1888	A	1.1
6	☐	500.000		2328817.78	0.3763	A	0.6

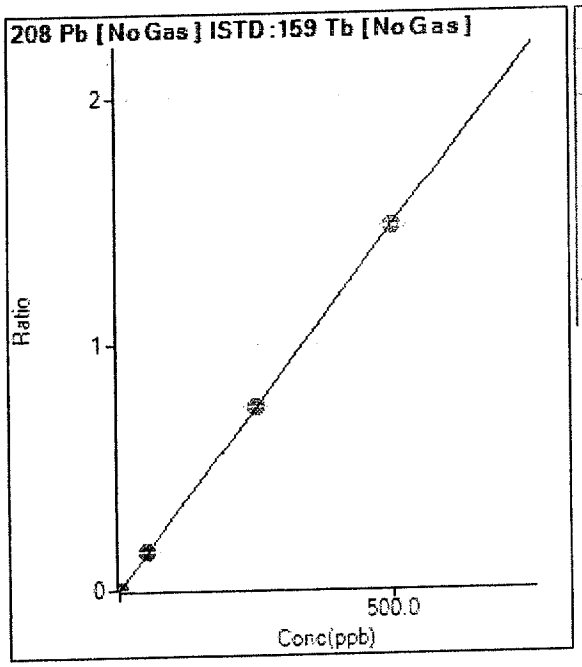
Excluded

Calibration for H6B03134.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		183.33	0.0000	F	23.1
2	☐	0.500		2623.62	0.0004	F	6.6
3	☐	1.000		5344.49	0.0007	F	3.7
4	☐	50.000		245117.61	0.0342	F	2.3
5	☐	250.000		1160621.34	0.1628	A	0.4
6	☐	500.000		1979219.50	0.3199	A	0.8

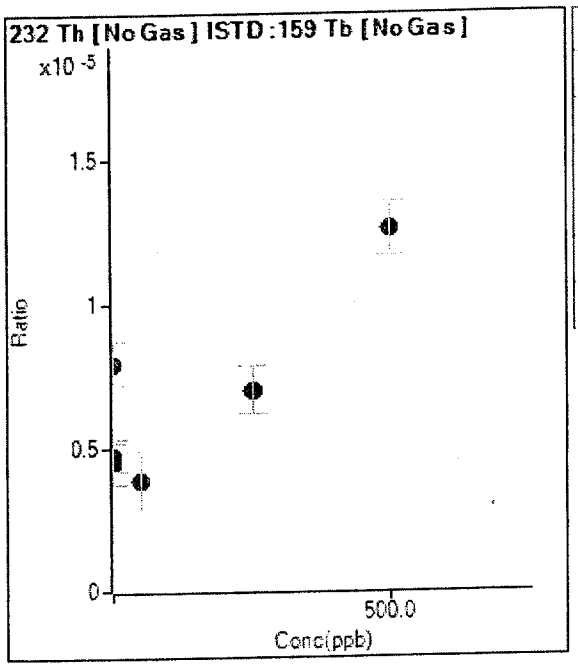
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1026.68	0.0001	F	9.9
2	☐	0.500	0.541	11823.31	0.0017	F	1.5
3	☐	1.000	1.093	24374.92	0.0034	F	3.0
4	☐	50.000	53.022	1125704.05	0.1569	F	1.3
5	☐	250.000	251.567	5304785.63	0.7440	A	0.3
6	☐	500.000	498.914	9130114.17	1.4754	A	0.7

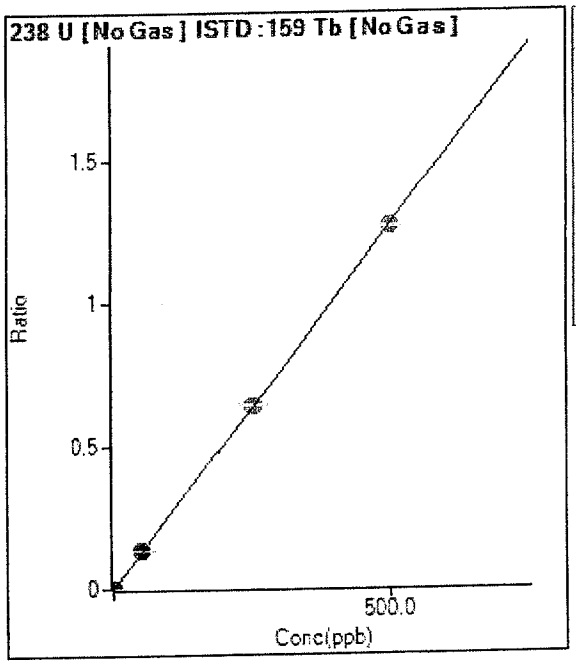
y = 0.0030 * x + 1.4214E-004
R = 1.0000
DL = 0.01424
BEC = 0.04807

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		32.22	0.0000	P	33.2
2	☐	0.500		53.34	0.0000	P	19.3
3	☐	1.000		34.44	0.0000	P	24.4
4	☐	50.000		27.78	0.0000	P	54.6
5	☐	250.000		50.00	0.0000	P	23.9
6	☐	500.000		77.78	0.0000	P	14.7

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	385.56	0.0001	P	27.3
2	☐	0.500	0.531	9554.90	0.0014	P	3.6
3	☐	1.000	1.075	20185.51	0.0028	P	1.6
4	☐	50.000	52.358	957245.24	0.1334	P	0.9
5	☐	250.000	252.176	4581090.10	0.6425	A	0.3
6	☐	500.000	498.676	7862200.24	1.2705	A	0.9

y = 0.0025 * x + 5.3398E-005
R = 1.0000
DL = 0.01717
BEC = 0.02096

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq. Date-Time	2023-02-03 10:24:19
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

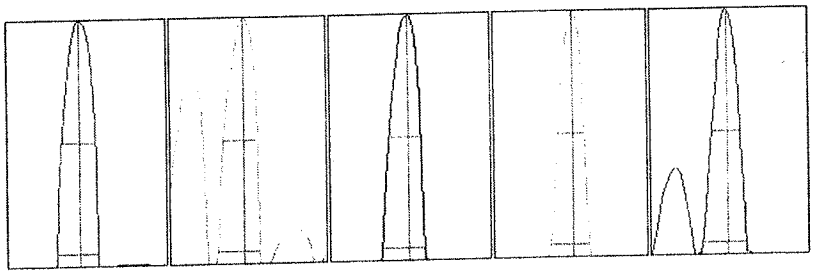
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	28139	281393.90			1.143	5.000
24	10.00	115341	1153408.66			0.462	5.000
59	10.00	248205	2482050.42			0.701	5.000
115	10.00	269914	2699136.55			0.784	5.000
208	10.00	126771	1267708.82			1.515	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	28493	28017	28244	28293	27650
24	115498	114967	116027	115549	114664
59	246842	246315	249793	250216	247860
115	266681	270148	272340	271028	269370
208	124220	125634	127549	129256	127195

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	48561.85	8.90	8.90 - 9.10	
24	198565.52	23.95	23.90 - 24.10	
59	439046.74	59.00	58.90 - 59.10	
115	541321.58	115.05	114.90 - 115.10	
208	241094.46	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.62	0.786	0.900	
24	0.64	0.822	0.900	
59	0.59	0.786	0.900	
115	0.52	0.758	0.900	
208	0.55	0.807	0.900	

Integration Time [sec] 0.1
Acquisition Time [sec] 153.699999999999
Y Axis Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.5 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-110 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	170 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9995	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	0.4 mm	Torch V	-0.3 mm		

EM

Discriminator	3.3 mV	Analog HV	2808 V	Pulse HV	1533 V

Calibration Blank Report

Sample Name	BLANK
File Name	H6B03002.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:02:10
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	95014.31	5.3
Be	9	6	No Gas	35.55	37.9
B	11	6	No Gas	10631.81	4.3
Na	23	45	H2	848609.75	0.2
Mg	24	45	No Gas	33489.57	5.0
Al	27	45	No Gas	44170.41	3.0
Si	28	45	H2	10479.94	0.8
P	31	45	No Gas	59184.39	0.9
K	39	45	He	128900.26	3.9
Ca	40	45	H2	234516.85	0.6
Ti	47	45	No Gas	302.67	13.8
V	51	45	He	1459.41	2.2
Cr	52	45	He	2246.19	2.1
Mn	55	45	No Gas	11999.26	1.9
Fe	56	45	H2	69207.24	1.2
Co	59	45	No Gas	623.35	5.4
Ni	60	45	He	187.33	6.5
Cu	63	45	He	2650.26	3.2
Zn	66	72	No Gas	3024.34	3.1
As	75	72	He	157.67	7.0
Se	78	72	H2	66.67	6.1
Sr	88	72	No Gas	1303.40	7.8
Zr	90	72	No Gas	283.34	32.6
Mo	95	115	No Gas	362.23	15.0
Mo	98	115	No Gas	621.13	5.3
[Cd]	106	115	No Gas	15.00	50.3
Ag	107	115	No Gas	75.56	15.5
[Cd]	108	115	No Gas	12.67	19.9
Cd	111	115	No Gas	126.87	20.2
Sn	118	115	No Gas	1950.15	4.3
Sn	118	115	H2	2394.66	3.7
Sb	123	115	No Gas	253.34	10.5
Ba	137	115	No Gas	278.89	12.0
W	182	159	No Gas	156.67	14.7
Hg	201	159	No Gas	52.67	12.1

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	37.00	3.6
Tl	205	159	No Gas	1381.19	3.3
Pb	206	159	No Gas	303.34	6.9
Pb	207	159	No Gas	260.00	11.5
Pb	208	159	No Gas	1281.14	4.0
Th	232	159	No Gas	58.89	8.6
U	238	159	No Gas	528.90	1.5

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1661676.38	5.4
Sc	45	No Gas	5323721.00	2.9
Sc	45	H2	4143838.67	0.9
Sc	45	He	581028.62	0.6
Ge	72	No Gas	1086110.56	3.0
Ge	72	H2	1027021.48	0.7
Ge	72	He	319209.44	0.4
In	115	No Gas	5756049.96	3.0
Tb	159	No Gas	7230326.38	2.7
Tb	159	He	5136373.33	1.4

Calibration Blank Report

Sample Name	S0
File Name	H6B03003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:05:36
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	97135.13	1.1
Be	9	6	No Gas	33.33	10.0
B	11	6	No Gas	10084.73	0.6
Na	23	45	H2	842531.25	0.3
Mg	24	45	No Gas	25194.08	2.6
Al	27	45	No Gas	32618.48	5.6
Si	28	45	H2	8681.38	0.5
P	31	45	No Gas	58119.89	0.8
K	39	45	He	122447.20	3.5
Ca	40	45	H2	230758.73	1.2
Ti	47	45	No Gas	290.00	4.8
V	51	45	He	1414.07	0.9
Cr	52	45	He	2088.83	1.4
Mn	55	45	No Gas	10973.73	0.8
Fe	56	45	H2	45375.14	1.5
Co	59	45	No Gas	559.34	4.9
Ni	60	45	He	188.67	14.1
Cu	63	45	He	2370.21	7.9
Zn	66	72	No Gas	3140.37	3.7
As	75	72	He	146.67	8.8
Se	78	72	H2	49.67	22.6
Sr	88	72	No Gas	1140.05	5.3
Zr	90	72	No Gas	196.67	20.5
Mo	95	115	No Gas	152.22	9.9
Mo	98	115	No Gas	275.56	6.0
[Cd]	106	115	No Gas	10.00	45.8
Ag	107	115	No Gas	43.34	26.6
[Cd]	108	115	No Gas	8.00	57.3
Cd	111	115	No Gas	100.39	5.5
Sn	118	115	No Gas	1421.19	3.3
Sn	118	115	H2	2111.41	24.1
Sb	123	115	No Gas	235.56	12.8
Ba	137	115	No Gas	246.67	14.3
W	182	159	No Gas	146.67	14.2
Hg	201	159	No Gas	48.50	9.4

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	38.17	17.0
Tl	205	159	No Gas	1097.83	4.6
Pb	206	159	No Gas	273.33	15.2
Pb	207	159	No Gas	183.33	22.7
Pb	208	159	No Gas	1026.68	9.5
Th	232	159	No Gas	32.22	33.3
U	238	159	No Gas	385.56	27.0

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1689242.95	1.5
Sc	45	No Gas	5352659.50	0.8
Sc	45	H2	4170882.25	0.9
Sc	45	He	685896.04	0.8
Ge	72	No Gas	1096669.96	1.1
Ge	72	H2	1017378.04	0.6
Ge	72	He	362987.96	0.4
In	115	No Gas	5696579.81	0.3
Tb	159	No Gas	7225243.32	0.6
Tb	159	He	6016916.67	0.5

Calibration Standard Report

Sample Name	S1
File Name	H6B03004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:08:27
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	94341.22	10.8
Be	9	6	No Gas	1220.05	13.0
B	11	6	No Gas	5859.01	10.0
Na	23	45	H2	1097902.42	0.2
Mg	24	45	No Gas	517767.22	9.6
Al	27	45	No Gas	687014.91	8.8
Si	28	45	H2	183815.16	0.6
P	31	45	No Gas	263158.38	4.6
K	39	45	He	166854.72	2.8
Ca	40	45	H2	872256.02	1.1
Tl	47	45	No Gas	1346.07	8.8
V	51	45	He	5014.25	2.8
Cr	52	45	He	6286.78	3.1
Mn	55	45	No Gas	24763.81	8.0
Fe	56	45	H2	925485.83	0.4
Co	59	45	No Gas	11543.57	8.8
Ni	60	45	He	1579.42	3.9
Cu	63	45	He	6125.38	1.8
Zn	66	72	No Gas	7555.44	8.4
As	75	72	He	778.69	4.0
Se	78	72	H2	272.67	2.8
Sr	88	72	No Gas	14341.06	10.1
Zr	90	72	No Gas	58103.99	12.0
Mo	95	115	No Gas	2552.47	10.2
Ag	107	115	No Gas	6944.07	12.1
Cd	111	115	No Gas	1300.25	12.3
Sn	118	115	No Gas	5112.12	7.6
Sb	123	115	No Gas	4156.22	9.2
Ba	137	115	No Gas	2117.95	8.5
W	182	159	No Gas	2043.51	15.2
Hg	201	159	He	91.33	1.1
Tl	205	159	No Gas	8422.88	13.6
Pb	208	159	No Gas	11823.31	12.1
U	238	159	No Gas	9554.90	14.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1576756.45	10.8	1689242.95	93.34	70	120	
Sc	45	No Gas	4956752.00	10.0	5352659.5	92.6	70	120	
Sc	45	H2	4137338.83	0.8	4170882.25	99.2	70	120	
Sc	45	He	679267.50	0.4	685896.04	99.03	70	120	
Ge	72	No Gas	1056745.06	8.8	1096669.96	96.36	70	120	
Ge	72	H2	1025392.77	0.9	1017378.04	100.79	70	120	
Ge	72	He	371569.13	0.5	362987.96	102.36	70	120	
In	115	No Gas	5474232.71	10.4	5696579.81	96.1	70	120	
Tb	159	No Gas	6778236.12	10.9	7225243.32	93.81	70	120	
Tb	159	He	6044559.67	0.8	6016916.67	100.46	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6B03005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:11:18
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	103500.29	1.0
Be	9	6	No Gas	2651.37	4.1
B	11	6	No Gas	11184.45	0.2
Na	23	45	H2	1354929.92	0.9
Mg	24	45	No Gas	1073283.42	0.8
Al	27	45	No Gas	1446373.78	1.5
Si	28	45	H2	368719.13	2.1
P	31	45	No Gas	94123.44	0.6
K	39	45	He	205124.29	3.1
Ca	40	45	H2	1473391.21	1.4
Ti	47	45	No Gas	2112.83	1.3
V	51	45	He	7344.64	2.3
Cr	52	45	He	9273.15	0.6
Mn	55	45	No Gas	42967.31	0.7
Fe	56	45	H2	1795308.38	0.7
Co	59	45	No Gas	24624.20	0.8
Ni	60	45	He	2618.25	3.2
Cu	63	45	He	8423.28	1.0
Zn	66	72	No Gas	40763.03	0.2
As	75	72	He	1309.39	1.0
Se	78	72	H2	509.68	8.6
Sr	88	72	No Gas	29444.54	1.1
Zr	90	72	No Gas	107436.18	1.0
Mo	95	115	No Gas	5113.21	2.9
Ag	107	115	No Gas	14028.55	2.6
Cd	111	115	No Gas	2595.24	2.2
Sn	118	115	No Gas	7964.64	1.0
Sb	123	115	No Gas	8299.30	0.8
Ba	137	115	No Gas	4370.74	2.6
W	182	159	No Gas	8979.90	1.2
Hg	201	159	He	126.50	1.2
Tl	205	159	No Gas	16953.74	3.1
Pb	208	159	No Gas	24374.92	2.6
U	238	159	No Gas	20185.51	1.8

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1672579.28	0.9	1689242.95	99.01	70	120	
Sc	45	No Gas	5349084.67	0.5	5352659.5	99.93	70	120	
Sc	45	H2	4119657.58	0.4	4170882.25	98.77	70	120	
Sc	45	He	587414.52	0.8	685896.04	85.64	70	120	
Ge	72	No Gas	1112645.50	0.6	1096669.96	101.46	70	120	
Ge	72	H2	1034872.29	1.1	1017378.04	101.72	70	120	
Ge	72	He	324477.76	1.2	362987.96	89.39	70	120	
In	115	No Gas	5738848.17	0.4	5696579.81	100.74	70	120	
Tb	159	No Gas	7227205.27	0.6	7225243.32	100.03	70	120	
Tb	159	He	5165036.17	1.4	6016916.67	85.84	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6B03006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 12:14:09
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	131535.33	0.9
Be	9	6	No Gas	13081.63	2.3
B	11	6	No Gas	22876.35	2.1
Na	23	45	H2	25129461.33	1.1
Mg	24	45	No Gas	51560125.33	0.6
Al	27	45	No Gas	68334743.98	0.4
Si	28	45	H2	872721.89	1.0
P	31	45	No Gas	102861.72	0.9
K	39	45	He	4469758.33	0.7
Ca	40	45	H2	59378849.33	0.3
Ti	47	45	No Gas	87108.16	0.4
V	51	45	He	352214.79	1.1
Cr	52	45	He	397972.80	0.5
Mn	55	45	No Gas	8332425.33	0.6
Fe	56	45	H2	85021976.00	0.9
Co	59	45	No Gas	1106707.96	0.3
Ni	60	45	He	135722.18	1.6
Cu	63	45	He	357052.93	1.0
Zn	66	72	No Gas	172134.30	0.6
As	75	72	He	64764.02	0.1
Se	78	72	H2	24178.30	0.6
Sr	88	72	No Gas	1376071.79	0.7
Zr	90	72	No Gas	180150.71	1.4
Mo	95	115	No Gas	255705.50	1.0
Ag	107	115	No Gas	62580.77	0.7
Cd	111	115	No Gas	118553.70	0.6
Sn	118	115	No Gas	354617.71	0.4
Sb	123	115	No Gas	84357.93	1.1
Ba	137	115	No Gas	360009.53	1.3
W	182	159	No Gas	34212.93	3.1
Hg	201	159	He	544.51	1.7
Tl	205	159	No Gas	815244.10	0.5
Pb	208	159	No Gas	1125704.05	0.6
U	238	159	No Gas	957245.24	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1643209.83	0.4	1689242.95	97.27	70	120	
Sc	45	No Gas	5276705.67	0.9	5352659.5	98.58	70	120	
Sc	45	H2	4159449.92	1.2	4170882.25	99.73	70	120	
Sc	45	He	680254.04	0.7	685896.04	99.18	70	120	
Ge	72	No Gas	1119285.87	0.9	1096669.96	102.06	70	120	
Ge	72	H2	1038182.23	0.7	1017378.04	102.04	70	120	
Ge	72	He	370291.48	0.9	362987.96	102.01	70	120	
In	115	No Gas	5605538.40	1.1	5696579.81	98.4	70	120	
Tb	159	No Gas	7174070.55	0.9	7225243.32	99.29	70	120	
Tb	159	He	6001605.50	0.3	6016916.67	99.75	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6B03007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:17:13
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	272754.65	1.1
Be	9	6	No Gas	64750.69	0.4
B	11	6	No Ges	89462.37	2.2
Na	23	45	H2	120102538.67	1.8
Mg	24	45	No Gas	250927685.33	2.1
Al	27	45	No Gas	335612888.33	1.9
Si	28	45	H2	4287834.17	0.6
P	31	45	No Gas	276425.08	1.0
K	39	45	He	21527558.00	0.6
Ca	40	45	H2	289916352.00	0.2
Ti	47	45	No Gas	431071.46	1.5
V	51	45	He	1701258.25	0.4
Cr	52	45	He	1885421.29	0.8
Mn	55	45	No Gas	40339886.67	2.2
Fe	56	45	H2	420617632.00	0.7
Co	59	45	No Gas	5373359.00	1.9
Ni	60	45	He	649838.77	0.1
Cu	63	45	He	1655781.71	0.5
Zn	66	72	No Gas	826361.52	1.0
As	75	72	He	317597.16	0.5
Se	78	72	H2	118156.76	0.7
Sr	88	72	No Gas	6755963.07	1.9
Zr	90	72	No Gas	427859.47	1.3
Mo	95	115	No Gas	1258823.04	1.5
Ag	107	115	No Gas	297898.64	1.1
Cd	111	115	No Gas	575012.77	1.1
Sn	118	115	No Gas	1691556.63	1.5
Sb	123	115	No Gas	410428.13	1.1
Ba	137	115	No Gas	1738814.45	1.4
W	182	159	No Gas	189068.44	2.1
Hg	201	159	He	2734.30	1.0
Tl	205	159	No Gas	3822416.38	2.1
Pb	208	159	No Gas	5304785.63	1.7
U	238	159	No Gas	4581090.10	1.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1613927.83	1.4	1689242.95	95.54	70	120	
Sc	45	No Gas	5312452.17	2.2	5352659.5	99.25	70	120	
Sc	45	H2	4189314.92	0.9	4170882.25	100.44	70	120	
Sc	45	He	688166.35	0.3	685896.04	100.33	70	120	
Ge	72	No Gas	1111052.08	2.9	1096669.96	101.31	70	120	
Ge	72	H2	1042034.21	0.6	1017378.04	102.42	70	120	
Ge	72	He	368790.32	1.2	362987.96	101.6	70	120	
In	115	No Gas	5506919.46	1.4	5696579.81	96.67	70	120	
Tb	159	No Gas	7130016.94	1.6	7225243.32	98.68	70	120	
Tb	159	He	6016133.83	0.9	6016916.67	99.99	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6B03008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:20:04
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	384552.44	3.8
Be	9	6	No Gas	114557.39	3.5
B	11	6	No Gas	158808.95	1.5
Na	23	45	H2	201498448.00	0.1
Mg	24	45	No Gas	435804512.00	4.1
Al	27	45	No Gas	589948017.88	4.3
Si	28	45	H2	7227412.33	0.5
P	31	45	No Gas	463044.47	2.1
K	39	45	He	37012461.33	1.1
Ca	40	45	H2	494115797.33	0.5
Ti	47	45	No Gas	758825.38	3.8
V	51	45	He	2960619.25	0.5
Cr	52	45	He	3224799.67	0.4
Mn	55	45	No Gas	70725309.33	4.0
Fe	56	45	H2	716414442.67	0.6
Co	59	45	No Gas	9403211.67	3.1
Ni	60	45	He	1071497.58	0.9
Cu	63	45	He	2798310.17	0.2
Zn	66	72	No Gas	1474937.42	2.7
As	75	72	He	594274.98	0.6
Se	78	72	H2	216359.06	0.5
Sr	88	72	No Gas	11864060.36	2.8
Zr	90	72	No Gas	783676.86	3.3
Mo	95	115	No Gas	2226586.23	1.9
Ag	107	115	No Gas	516871.33	1.7
Cd	111	115	No Gas	1008655.56	2.2
Sn	118	115	No Gas	2946277.18	3.5
Sb	123	115	No Gas	726059.57	2.9
Ba	137	115	No Gas	3095819.60	2.5
W	182	159	No Gas	329891.94	3.5
Hg	201	159	He	4557.00	1.0
Tl	205	159	No Gas	6551503.35	2.8
Pb	208	159	No Gas	9130114.17	2.6
U	238	159	No Gas	7862200.24	2.8

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1372168.47	5.4	1689242.95	81.23	70	120	
Sc	45	No Gas	4649467.67	3.4	5352659.5	86.86	70	120	
Sc	45	H2	3590855.67	0.2	4170882.25	86.09	70	120	
Sc	45	He	587417.71	1.6	685896.04	85.64	70	120	
Ge	72	No Gas	996213.31	2.1	1096669.96	90.84	70	120	
Ge	72	H2	912046.91	1.1	1017378.04	89.65	70	120	
Ge	72	He	323392.79	0.7	362987.96	89.09	70	120	
In	115	No Gas	4757751.74	2.8	5696579.81	83.52	70	120	
Tb	159	No Gas	6187763.23	1.9	7225243.32	85.64	70	120	
Tb	159	He	5112153.17	0.5	6016916.67	84.96	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6B03009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:22:50
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	28.191	ppb	2.4	297014.08	30	93.97	90	110	
Be	9	6	No Gas	29.552	ppb	3.2	79422.65	30	98.51	90	110	
B	11	6	No Gas	29.150	ppb	3.1	60475.36	30	97.17	90	110	
Na	23	45	H2	32341.023	ppb	0.6	153462682.67	30000	107.8	90	110	
Mg	24	45	No Gas	30740.308	ppb	2.2	311625226.67	30000	102.47	90	110	
Al	27	45	No Gas	31297.332	ppb	1.7	428391553.62	30000	104.32	90	110	
Si	28	45	H2	3238.068	ppb	0.8	5501264.17	3000	107.94	90	110	
P	31	45	No Gas	278.154	ppb	1.6	325715.71	300	92.72	90	110	
K	39	45	He	31418.241	ppb	0.3	27144085.33	30000	104.73	90	110	
Ca	40	45	H2	31851.878	ppb	0.3	369019733.33	30000	106.17	90	110	
Ti	47	45	No Gas	305.765	ppb	0.2	538114.52	300	101.92	90	110	
V	51	45	He	309.676	ppb	0.6	2133200.58	300	103.23	90	110	
Cr	52	45	He	313.556	ppb	0.6	2361457.00	300	104.52	90	110	
Mn	55	45	No Gas	1999.747	ppb	0.6	54718986.67	2000	99.99	90	110	
Fe	56	45	H2	31007.582	ppb	0.7	520812128.00	30000	103.36	90	110	
Co	59	45	No Gas	306.593	ppb	1.7	6696871.50	300	102.2	90	110	
Ni	60	45	He	313.213	ppb	1.4	789573.98	300	104.4	90	110	
Cu	63	45	He	325.097	ppb	1.5	2130213.92	300	108.37	90	110	
Zn	66	72	No Gas	307.173	ppb	0.9	1015371.88	300	102.39	90	110	
As	75	72	He	293.040	ppb	0.3	388959.92	300	97.68	90	110	
Se	78	72	H2	295.450	ppb	1.0	143688.07	300	98.48	90	110	
Sr	88	72	No Gas	312.105	ppb	0.5	8318691.89	300	104.04	90	110	
Zr	90	72	No Gas	31.557	ppb	0.3	547558.99	30	105.19	90	110	
Mo	95	115	No Gas	301.495	ppb	1.2	1547911.15	300	100.5	90	110	
Ag	107	115	No Gas	30.454	ppb	0.7	364509.70	30	101.51	90	110	
Cd	111	115	No Gas	300.249	ppb	0.7	699569.26	300	100.08	90	110	
Sn	118	115	No Gas	310.350	ppb	0.7	2115242.76	300	103.45	90	110	
Sb	123	115	No Gas	56.777	ppb	1.1	475282.66	60	94.63	90	110	
Ba	137	115	No Gas	301.404	ppb	1.0	1074544.51	300	100.47	90	110	
W	182	159	No Gas	30.715	ppb	0.8	234682.29	30	102.38	90	110	
Hg	201	159	No Gas	2.843	ppb	0.7	3290.27	3	94.77	90	110	
Hg	201	159	He	2.912	ppb	1.1	3157.57	3	97.07	90	110	
Tl	205	159	No Gas	310.950	ppb	2.5	4741869.95	300	103.65	90	110	
Pb	208	159	No Gas	308.915	ppb	2.4	6558869.51	300	102.97	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	309.976	ppb	2.6	5670118.94	300	103.33	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1621236.12	2.4	1689242.95	95.97	70	120	
Sc	45	No Gas	5396709.33	1.5	5352659.5	100.82	70	120	
Sc	45	H2	4203055.17	0.1	4170882.25	100.77	70	120	
Sc	45	He	685652.66	0.9	685896.04	99.96	70	120	
Ge	72	No Gas	1114040.42	1.9	1096669.96	101.58	70	120	
Ge	72	H2	1034174.65	1.0	1017378.04	101.65	70	120	
Ge	72	He	365794.09	0.2	362987.96	100.77	70	120	
In	115	No Gas	5510471.17	0.7	5696579.81	96.73	70	120	
Tb	159	No Gas	7179308.05	1.2	7225243.32	99.36	70	120	
Tb	159	He	6037908.17	0.1	6016916.67	100.35	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6B03010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:25:28
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	96368.05	0.4	
Be	9	6	No Gas	0.006	ppb	34.5	48.89	0.08	
B	11	6	No Gas	0.951	ppb	27.7	11740.46	4	
Na	23	45	H2	4.129	ppb	59.2	866406.71	40	
Mg	24	45	No Gas	3.191	ppb	49.6	56477.74	10	
Al	27	45	No Gas	3.006	ppb	53.1	72397.04	15	
Si	28	45	H2	2.515	ppb	7.5	12981.39	8	
P	31	45	No Gas	0.870	ppb	82.5	58293.29	10	
K	39	45	He	37.147	ppb	10.1	134953.19	20	>LOD
Ca	40	45	H2	1.370	ppb	8.1	247802.97	25	
Ti	47	45	No Gas	0.025	ppb	94.9	329.34	0.5	
V	51	45	He	0.027	ppb	43.2	1398.07	0.5	
Cr	52	45	He	0.058	ppb	49.8	2204.18	0.2	
Mn	55	45	No Gas	0.224	ppb	45.9	16825.88	0.2	>LOD
Fe	56	45	H2	1.585	ppb	7.4	72168.55	10	
Co	59	45	No Gas	0.034	ppb	32.6	1268.72	0.15	
Ni	60	45	He	0.032	ppb	9.2	236.00	0.2	
Cu	63	45	He	0.066	ppb	8.9	2447.55	0.4	
Zn	66	72	No Gas	0.082	ppb	48.7	3389.76	2	
As	75	72	He	0.034	ppb	15.4	172.00	0.2	
Se	78	72	H2	0.047	ppb	50.5	72.33	0.2	
Sr	88	72	No Gas	0.028	ppb	60.9	1866.80	0.2	
Zr	90	72	No Gas	0.006	ppb	66.7	290.00	2	
Mo	95	115	No Gas	0.054	ppb	10.7	434.45	0.2	
Ag	107	115	No Gas	0.005	ppb	47.0	101.11	0.08	
Cd	111	115	No Gas	0.044	ppb	24.0	204.79	0.2	
Sn	118	115	No Gas	0.141	ppb	4.4	2401.33	0.2	
Sb	123	115	No Gas	0.007	ppb	24.8	293.34	0.4	
Ba	137	115	No Gas	0.041	ppb	19.8	394.45	0.2	
W	182	159	No Gas	0.006	ppb	122.0	193.33	0.3	
Hg	201	159	No Gas	0.022	ppb	24.4	73.17	0.1	
Hg	201	159	He	0.011	ppb	15.8	43.83	0.1	
Tl	205	159	No Gas	0.097	ppb	54.7	2538.06	0.1	
Pb	208	159	No Gas	0.040	ppb	43.1	1847.84	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.038	ppb	35.6	1061.16	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1679251.15	1.2	1689242.95	99.41	70	120	
Sc	45	No Gas	5293801.50	1.5	5352659.5	98.9	70	120	
Sc	45	H2	4192886.00	0.5	4170882.25	100.53	70	120	
Sc	45	He	599362.62	3.4	685896.04	87.38	70	120	
Ge	72	No Gas	1091880.21	1.7	1096669.96	99.56	70	120	
Ge	72	H2	1020426.54	0.6	1017378.04	100.3	70	120	
Ge	72	He	325863.40	2.8	362987.96	89.77	70	120	
In	115	No Gas	5666607.19	2.7	5696579.81	99.47	70	120	
Tb	159	No Gas	7141281.66	3.1	7225243.32	98.84	70	120	
Tb	159	He	5258771.17	3.0	6016916.67	87.4	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLB0301
File Name	H6B03011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:33:37
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.964	ppb	11.2	103189.17	1	96.4	80	120	
Be	9	6	No Gas	0.919	ppb	2.7	2573.57	1	91.9	80	120	
B	11	6	No Gas	8.933	ppb	3.9	26000.70	10	89.33	80	120	
Na	23	45	H2	108.285	ppb	0.3	1338455.96	100	108.28	80	120	
Mg	24	45	No Gas	99.989	ppb	2.6	1043478.83	100	99.99	80	120	
Al	27	45	No Gas	98.586	ppb	2.8	1388353.42	100	98.59	80	120	
Si	28	45	H2	103.406	ppb	1.3	181236.42	100	103.41	80	120	
P	31	45	No Gas	44.039	ppb	0.6	101344.70	50	88.08	80	120	
K	39	45	He	107.661	ppb	6.2	211310.27	100	107.66	80	120	
Ca	40	45	H2	113.775	ppb	0.9	1525277.79	100	113.78	80	120	
Ti	47	45	No Gas	1.007	ppb	2.3	2072.82	1	100.7	80	120	
V	51	45	He	1.013	ppb	2.0	8249.16	1	101.3	80	120	
Cr	52	45	He	1.070	ppb	3.0	9962.96	1	107	80	120	
Mn	55	45	No Gas	1.010	ppb	1.8	38871.16	1	101	80	120	
Fe	56	45	H2	103.966	ppb	0.5	1763368.46	100	103.97	80	120	
Co	59	45	No Gas	1.064	ppb	2.9	23901.60	1	106.4	80	120	
Ni	60	45	He	1.113	ppb	1.9	2944.32	1	111.3	80	120	
Cu	63	45	He	1.051	ppb	1.2	9097.71	1	105.1	80	120	
Zn	66	72	No Gas	11.983	ppb	1.3	43337.09	10	119.83	80	120	
As	75	72	He	0.978	ppb	4.5	1449.08	1	97.8	80	120	
Se	78	72	H2	1.027	ppb	2.4	550.01	1	102.7	80	120	
Sr	88	72	No Gas	2.130	ppb	2.1	58825.56	2	106.5	80	120	
Zr	90	72	No Gas	3.997	ppb	2.7	70609.28	5	79.94	80	120	> +/- 20%
Mo	95	115	No Gas	0.905	ppb	1.9	5096.54	1	90.5	80	120	
Ag	107	115	No Gas	1.069	ppb	2.3	13661.50	1	106.9	80	120	
Cd	111	115	No Gas	1.003	ppb	1.6	2588.42	1	100.3	80	120	
Sn	118	115	No Gas	0.959	ppb	3.7	8414.92	1	95.9	80	120	
Sb	123	115	No Gas	0.936	ppb	3.0	8572.81	1	93.6	80	120	
Ba	137	115	No Gas	0.951	ppb	5.9	3860.58	1	95.1	80	120	
W	182	159	No Gas	2.012	ppb	3.0	15823.27	2	100.6	80	120	
Hg	201	159	No Gas	0.098	ppb	5.9	163.67	0.1	98	80	120	
Hg	201	159	He	0.099	ppb	7.0	142.83	0.1	99	80	120	
Tl	205	159	No Gas	1.038	ppb	3.4	17258.59	1	103.8	80	120	
Pb	208	159	No Gas	1.072	ppb	1.9	24245.90	1	107.2	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	1.042	ppb	0.4	19827.14	1	104.2	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1669609.54	0.2	1689242.95	98.84	70	120	
Sc	45	No Gas	5421343.83	0.6	5352659.5	101.28	70	120	
Sc	45	H2	4136361.58	0.7	4170882.25	99.17	70	120	
Sc	45	He	674158.19	3.3	685896.04	98.29	70	120	
Ge	72	No Gas	1131291.71	0.9	1096669.96	103.16	70	120	
Ge	72	H2	1034612.54	0.3	1017378.04	101.69	70	120	
Ge	72	He	366795.02	2.4	362987.96	101.05	70	120	
In	115	No Gas	5862330.68	0.5	5696579.81	102.91	70	120	
Tb	159	No Gas	7322744.71	0.3	7225243.32	101.35	70	120	
Tb	159	He	5964248.83	2.9	6016916.67	99.12	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLB0302
File Name	H6B03012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 12:36:13
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.503	ppb	25.5	81163.82	0.4	125.75	80	120	> +/- 20%
Be	9	6	No Gas	0.359	ppb	4.8	834.47	0.4	89.75	80	120	
B	11	6	No Gas	0.064	ppb	200.0	8203.51	0.4	16	80	120	> +/- 20%
Na	23	45	H2	92.109	ppb	1.6	1057974.42	40	230.27	80	120	> +/- 20%
Mg	24	45	No Gas	37.698	ppb	1.1	331758.34	40	94.24	80	120	
Al	27	45	No Gas	37.190	ppb	1.0	441161.39	40	92.98	80	120	
K	39	45	He	45.485	ppb	32.1	158171.95	40	113.71	80	120	
Ca	40	45	H2	53.728	ppb	1.4	704315.17	40	134.32	80	120	> +/- 20%
Ti	47	45	No Gas	0.402	ppb	9.6	814.02	0.4	100.5	80	120	
V	51	45	He	0.391	ppb	2.8	4029.26	0.4	97.75	80	120	
Cr	52	45	He	0.408	ppb	6.5	5052.94	0.4	102	80	120	
Mn	55	45	No Gas	0.423	ppb	1.8	18423.72	0.4	105.75	80	120	
Fe	56	45	H2	39.209	ppb	1.0	580393.09	40	98.02	80	120	
Co	59	45	No Gas	0.385	ppb	1.7	7308.63	0.4	96.25	80	120	
Ni	60	45	He	1.029	ppb	1.2	2728.94	0.4	257.25	80	120	> +/- 20%
Cu	63	45	He	0.423	ppb	5.0	5036.94	0.4	105.75	80	120	
Zn	66	72	No Gas	5.208	ppb	1.6	16881.84	4	130.2	80	120	> +/- 20%
As	75	72	He	0.335	ppb	10.3	576.34	0.4	83.75	80	120	
Se	78	72	H2	0.406	ppb	12.4	208.33	0.4	101.5	80	120	
Sr	88	72	No Gas	0.400	ppb	0.6	9794.70	0.4	100	80	120	
Mo	95	115	No Gas	0.343	ppb	4.2	1660.10	0.4	85.75	80	120	
Ag	107	115	No Gas	0.374	ppb	2.9	3930.59	0.4	93.5	80	120	
Cd	111	115	No Gas	0.355	ppb	1.9	803.56	0.4	88.75	80	120	
Sn	118	115	No Gas	0.435	ppb	6.3	3774.99	0.4	108.75	80	120	
Sb	123	115	No Gas	0.361	ppb	5.7	2826.98	0.4	90.25	80	120	
Ba	137	115	No Gas	0.390	ppb	4.5	1418.97	0.4	97.5	80	120	
Tl	205	159	No Gas	0.360	ppb	0.8	5462.31	0.4	90	80	120	
Pb	208	159	No Gas	0.388	ppb	4.8	7668.74	0.4	97	80	120	
U	238	159	No Gas	0.362	ppb	2.9	5811.39	0.4	90.5	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1358531.01	1.5	1689242.95	80.42	70	120	
Sc	45	No Gas	4393705.50	1.4	5352659.5	82.08	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3463989.83	0.7	4170882.25	83.05	70	120	
Sc	45	He	672647.13	3.6	685896.04	98.07	70	120	
Ge	72	No Gas	924050.04	1.0	1096669.96	84.26	70	120	
Ge	72	H2	869597.19	0.9	1017378.04	85.47	70	120	
Ge	72	He	355883.70	2.9	362987.96	98.04	70	120	
In	115	No Gas	4796093.30	1.5	5696579.81	84.19	70	120	
Tb	159	No Gas	5955771.85	1.1	7225243.32	82.43	70	120	
Tb	159	He	5931002.67	3.0	6016916.67	98.57	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6B03013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:44:33
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.414	ppb	31.8	91329.08	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	14.45	0.4	-50	50	
B	11	6	No Gas	0.486	ppb	10.3	9992.45	10	-50	50	
Na	23	45	H2	109835.813	ppb	1.2	517195808.00	100000	80	120	
Mg	24	45	No Gas	104465.026	ppb	1.4	1056394794.67	100000	80	120	
Al	27	45	No Gas	104212.331	ppb	0.6	1423006005.46	100000	80	120	
Si	28	45	H2	4.945	ppb	3.1	17074.47	50	-50	50	
P	31	45	No Gas	95595.968	ppb	0.6	91649456.00	100000	80	120	
K	39	45	He	107788.336	ppb	0.8	89606050.67	100000	80	120	
Ca	40	45	H2	110199.792	ppb	0.8	1271371093.33	100000	80	120	
Ti	47	45	No Gas	2175.239	ppb	0.4	3818175.92	2000	80	120	
V	51	45	He	0.040	ppb	24.7	1628.10	1	-50	50	
Cr	52	45	He	2.396	ppb	1.0	19417.08	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.368	ppb	2.0	21076.22	1	-50	50	
Fe	56	45	H2	106440.707	ppb	1.0	1781031552.00	100000	80	120	
Co	59	45	No Gas	0.163	ppb	0.5	4115.96	0.75	-50	50	
Ni	60	45	He	0.494	ppb	7.9	1384.74	1	-50	50	
Cu	63	45	He	0.152	ppb	10.7	3245.72	2	-50	50	
Zn	66	72	No Gas	4.970	ppb	2.2	19423.89	20	-50	50	
As	75	72	He	0.086	ppb	14.6	252.67	1	-50	50	
Se	78	72	H2	0.071	ppb	23.1	83.00	1	-50	50	
Sr	88	72	No Gas	0.914	ppb	0.5	25328.40	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.167	ppb	8.0	3083.71	10	-50	50	
Mo	95	115	No Gas	2181.388	ppb	1.5	10797669.85	2000	80	120	
Ag	107	115	No Gas	0.083	ppb	3.6	995.59	0.4	-50	50	
Cd	111	115	No Gas	0.033	ppb	95.0	169.95	1	-50	50	
Sn	118	115	No Gas	0.092	ppb	28.0	1932.37	1	-50	50	
Sb	123	115	No Gas	0.063	ppb	3.9	731.13	1	-50	50	
Ba	137	115	No Gas	0.662	ppb	4.3	2505.80	1	-50	50	> +/- 20%
W	182	159	No Gas	0.145	ppb	12.5	1220.06	1	-50	50	
Hg	201	159	No Gas	<0.000	ppb	N/A	29.83	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	21.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	694.46	0.5	-50	50	
Pb	208	159	No Gas	0.053	ppb	10.6	2088.96	0.5	-50	50	

IH216123

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.004	ppb	24.9	440.01	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1538896.17	1.2	1689242.95	91.1	70	120	
Sc	45	No Gas	5384900.17	2.4	5352659.5	100.6	70	120	
Sc	45	H2	4187561.58	1.1	4170882.25	100.4	70	120	
Sc	45	He	661855.44	0.6	685896.04	96.5	70	120	
Ge	72	No Gas	1105727.00	2.3	1096669.96	100.83	70	120	
Ge	72	H2	1011368.23	0.6	1017378.04	99.41	70	120	
Ge	72	He	353816.83	0.6	362987.96	97.47	70	120	
In	115	No Gas	5313952.62	2.5	5696579.81	93.28	70	120	
Tb	159	No Gas	7001798.61	1.0	7225243.32	96.91	70	120	
Tb	159	He	5893520.67	1.2	6016916.67	97.95	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6B03014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 12:47:10
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	19.622	ppb	2.6	185899.48	20	80	120	
Be	9	6	No Gas	19.915	ppb	1.7	42328.09	20	80	120	
B	11	6	No Gas	18.701	ppb	1.6	33427.45	20	80	120	
Na	23	45	H2	97359.133	ppb	0.7	398608394.67	100000	80	120	
Mg	24	45	No Gas	93597.286	ppb	0.6	795221738.67	100000	80	120	
Al	27	45	No Gas	93292.860	ppb	2.0	1070399957.38	100000	80	120	
Si	28	45	H2	206.629	ppb	0.8	311108.52	200	80	120	
P	31	45	No Gas	94232.451	ppb	0.7	75901989.33	100000	80	120	
K	39	45	He	96192.257	ppb	0.4	71425528.00	100000	80	120	
Ca	40	45	H2	98117.387	ppb	0.5	984005674.67	100000	80	120	
Ti	47	45	No Gas	1986.048	ppb	0.8	2928952.42	2000	80	120	
V	51	45	He	19.854	ppb	0.5	119035.88	20	80	120	
Cr	52	45	He	22.403	ppb	0.3	147120.37	20	80	120	
Mn	55	45	No Gas	19.605	ppb	1.4	458951.90	20	80	120	
Fe	56	45	H2	95968.911	ppb	1.0	1395832576.00	100000	80	120	
Co	59	45	No Gas	20.141	ppb	0.8	369194.31	20	80	120	
Ni	60	45	He	20.353	ppb	1.7	44383.43	20	80	120	
Cu	63	45	He	20.291	ppb	1.5	116528.90	20	80	120	
Zn	66	72	No Gas	23.835	ppb	1.2	70388.67	20	80	120	
As	75	72	He	19.994	ppb	1.5	23093.04	20	80	120	
Se	78	72	H2	20.104	ppb	0.3	8579.73	20	80	120	
Sr	88	72	No Gas	20.215	ppb	1.6	464987.85	20	80	120	
Zr	90	72	No Gas	9.697	ppb	0.2	145022.45	20	80	120	> +/- 20%
Mo	95	115	No Gas	1966.103	ppb	1.1	8276782.17	2000	80	120	
Ag	107	115	No Gas	19.513	ppb	0.2	191523.14	20	80	120	
Cd	111	115	No Gas	19.750	ppb	0.7	37807.01	20	80	120	
Sn	118	115	No Gas	19.889	ppb	0.5	112210.09	20	80	120	
Sb	123	115	No Gas	19.686	ppb	1.4	135257.13	20	80	120	
Ba	137	115	No Gas	20.459	ppb	1.3	59989.13	20	80	120	
W	182	159	No Gas	18.454	ppb	1.3	115027.71	20	80	120	
Hg	201	159	No Gas	1.851	ppb	1.8	1760.79	2	80	120	
Hg	201	159	He	1.860	ppb	0.8	1689.11	2	80	120	
Tl	205	159	No Gas	19.431	ppb	1.5	242479.81	20	80	120	
Pb	208	159	No Gas	19.562	ppb	1.9	339446.43	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.706	ppb	1.3	294242.04	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1282025.49	1.1	1689242.95	75.89	70	120	
Sc	45	No Gas	4523869.50	2.2	5352659.5	84.52	70	120	
Sc	45	H2	3639955.75	0.7	4170882.25	87.27	70	120	
Sc	45	He	591058.73	0.9	685896.04	86.17	70	120	
Ge	72	No Gas	959428.06	1.0	1096669.96	87.49	70	120	
Ge	72	H2	903088.02	0.3	1017378.04	88.77	70	120	
Ge	72	He	316672.99	0.5	362987.96	87.24	70	120	
In	115	No Gas	4518627.66	1.6	5696579.81	79.32	70	120	
Tb	159	No Gas	5854065.46	1.7	7225243.32	81.02	70	120	
Tb	159	He	5022544.67	0.4	6016916.67	83.47	70	120	

Sample Report

Sample Name	MRLB0303
File Name	H6B03015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 12:49:48
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	91444.01	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	22.22	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	5329.91	100	
Na	23	45	H2	564.207	564.207	ppb	0.8	3502339.67	50000	
Mg	24	45	No Gas	543.366	543.366	ppb	0.8	5498644.00	50000	
Al	27	45	No Gas	538.033	538.033	ppb	0.6	7350741.98	50000	
Si	28	45	H2	0.250	0.250	ppb	70.1	9148.34	5000	
P	31	45	No Gas	5.161	5.161	ppb	93.3	63130.09	500	
K	39	45	He	559.295	559.295	ppb	2.0	597268.58	50000	
Ca	40	45	H2	550.794	550.794	ppb	0.6	6592581.83	50000	
Ti	47	45	No Gas	0.353	0.353	ppb	29.2	906.03	500	
V	51	45	He	0.005	0.005	ppb	100.5	1432.74	500	
Cr	52	45	He	0.207	0.207	ppb	6.8	3607.14	500	
Mn	55	45	No Gas	0.073	0.073	ppb	4.9	12969.48	3000	
Fe	56	45	H2	548.035	548.035	ppb	0.9	9225980.00	50000	
Co	59	45	No Gas	0.013	0.013	ppb	6.8	851.36	500	
Ni	60	45	He	0.051	0.051	ppb	20.8	314.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1882.13	500	
Zn	66	72	No Gas	0.980	0.980	ppb	5.4	6310.14	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	136.00	500	
Se	78	72	H2	0.008	0.008	ppb	155.8	53.67	500	
Sr	88	72	No Gas	0.027	0.027	ppb	16.0	1832.35	500	
Zr	90	72	No Gas	0.009	0.009	ppb	21.5	350.01	50	
Mo	95	115	No Gas	0.426	0.426	ppb	25.9	2408.01	500	
Ag	107	115	No Gas	0.068	0.068	ppb	8.5	883.37	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	57.74	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	1145.61	500	
Sb	123	115	No Gas	0.008	0.008	ppb	46.1	304.45	100	
Ba	137	115	No Gas	0.051	0.051	ppb	6.0	433.34	1000	
W	182	159	No Gas	0.006	0.006	ppb	178.2	190.00	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	38.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	26.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	1041.15	500	
Pb	208	159	No Gas	0.015	0.015	ppb	31.1	1317.81	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	320.00	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1593389.57	0.5	1689242.95	94.33	70	120	
Sc	45	No Gas	5364321.17	1.5	5352659.5	100.22	70	120	
Sc	45	H2	4192140.58	0.2	4170882.25	100.51	70	120	
Sc	45	He	678642.42	0.2	685896.04	98.94	70	120	
Ge	72	No Gas	1095371.25	1.4	1096669.96	99.88	70	120	
Ge	72	H2	1022007.23	0.6	1017378.04	100.46	70	120	
Ge	72	He	361978.29	0.8	362987.96	99.72	70	120	
In	115	No Gas	5697143.25	0.8	5696579.81	100.01	70	120	
Tb	159	No Gas	7099383.33	1.7	7225243.32	98.26	70	120	
Tb	159	He	6030225.17	0.5	6016916.67	100.22	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6B03016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 12:52:25
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.930	ppb	2.0	214911.05	25	99.72	90	110	
Be	9	6	No Gas	25.787	ppb	1.4	54455.13	25	103.15	90	110	
B	11	6	No Gas	50.982	ppb	2.0	77436.11	50	101.96	90	110	
Na	23	45	H2	25166.960	ppb	0.6	103059341.33	25000	100.67	90	110	
Mg	24	45	No Gas	25003.316	ppb	0.4	210197242.67	25000	100.01	90	110	
Al	27	45	No Gas	24717.247	ppb	1.7	280622635.82	25000	98.87	90	110	
Si	28	45	H2	2486.048	ppb	0.6	3641013.83	2500	99.44	90	110	
P	31	45	No Gas	253.315	ppb	1.5	250313.96	250	101.33	90	110	
K	39	45	He	25393.677	ppb	0.5	18893173.33	25000	101.57	90	110	
Ca	40	45	H2	25414.389	ppb	1.1	253729946.67	25000	101.66	90	110	
Ti	47	45	No Gas	247.017	ppb	1.4	360561.63	250	98.81	90	110	
V	51	45	He	251.530	ppb	1.0	1490759.13	250	100.61	90	110	
Cr	52	45	He	257.771	ppb	0.6	1670353.50	250	103.11	90	110	
Mn	55	45	No Gas	1519.294	ppb	0.4	34483137.33	1500	101.29	90	110	
Fe	56	45	H2	25118.494	ppb	1.4	363508896.00	25000	100.47	90	110	
Co	59	45	No Gas	253.019	ppb	0.9	4583504.50	250	101.21	90	110	
Ni	60	45	He	261.698	ppb	1.6	567563.61	250	104.68	90	110	
Cu	63	45	He	258.788	ppb	0.7	1459238.67	250	103.52	90	110	
Zn	66	72	No Gas	256.216	ppb	0.5	726682.10	250	102.49	90	110	
As	75	72	He	253.286	ppb	0.8	298050.16	250	101.31	90	110	
Se	78	72	H2	254.603	ppb	1.1	109639.79	250	101.84	90	110	
Sr	88	72	No Gas	250.854	ppb	0.7	5733502.00	250	100.34	90	110	
Zr	90	72	No Gas	24.901	ppb	1.4	370565.56	25	99.6	90	110	
Mo	95	115	No Gas	241.172	ppb	1.1	1037490.58	250	96.47	90	110	
Ag	107	115	No Gas	24.661	ppb	0.4	247285.18	25	98.64	90	110	
Cd	111	115	No Gas	251.553	ppb	0.4	491020.88	250	100.62	90	110	
Sn	118	115	No Gas	245.585	ppb	1.1	1402535.60	250	98.23	90	110	
Sb	123	115	No Gas	48.766	ppb	0.8	341988.33	50	97.53	90	110	
Ba	137	115	No Gas	500.807	ppb	0.3	1495714.28	500	100.16	90	110	
W	182	159	No Gas	25.425	ppb	1.3	159317.38	25	101.7	90	110	
Hg	201	159	No Gas	2.518	ppb	1.1	2394.56	2.5	100.72	90	110	
Hg	201	159	He	2.550	ppb	1.0	2332.38	2.5	102	90	110	
Tl	205	159	No Gas	254.663	ppb	0.6	3184480.22	250	101.87	90	110	
Pb	208	159	No Gas	252.345	ppb	0.7	4393488.88	250	100.94	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	248.810	ppb	0.2	3731652.21	250	99.52	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1274039.28	1.7	1689242.95	75.42	70	120	
Sc	45	No Gas	4476156.00	1.7	5352659.5	83.62	70	120	
Sc	45	H2	3621673.50	1.2	4170882.25	86.83	70	120	
Sc	45	He	589822.04	0.2	685896.04	85.99	70	120	
Ge	72	No Gas	955259.67	1.5	1096669.96	87.11	70	120	
Ge	72	H2	915643.39	0.9	1017378.04	90	70	120	
Ge	72	He	324289.59	1.1	362987.96	89.34	70	120	
In	115	No Gas	4616761.19	2.1	5696579.81	81.04	70	120	
Tb	159	No Gas	5886681.57	1.3	7225243.32	81.47	70	120	
Tb	159	He	5085083.50	1.4	6016916.67	84.51	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6B03017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 12:55:02
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	81226.13	0.4	
Be	9	6	No Gas	0.003	ppb	153.5	35.56	0.08	
B	11	6	No Gas	0.688	ppb	47.2	9476.53	4	
Na	23	45	H2	14.793	ppb	26.1	916219.14	40	
Mg	24	45	No Gas	5.305	ppb	46.0	68457.46	10	
Al	27	45	No Gas	4.902	ppb	46.7	86429.62	15	
Si	28	45	H2	0.460	ppb	73.1	9501.27	8	
P	31	45	No Gas	3.301	ppb	148.7	54167.42	10	
K	39	45	He	6.438	ppb	122.9	127600.59	20	
Ca	40	45	H2	5.182	ppb	59.4	291792.32	25	
Tl	47	45	No Gas	0.095	ppb	15.8	404.68	0.5	
V	51	45	He	<0.000	ppb	N/A	1373.40	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1976.81	0.2	
Mn	55	45	No Gas	0.120	ppb	89.1	12481.09	0.2	
Fe	56	45	H2	5.110	ppb	55.3	131305.70	10	
Co	59	45	No Gas	0.018	ppb	86.3	817.36	0.15	
Ni	60	45	He	<0.000	ppb	N/A	160.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1897.47	0.4	
Zn	66	72	No Gas	0.096	ppb	57.3	3091.02	2	
As	75	72	He	<0.000	ppb	N/A	140.00	0.2	
Se	78	72	H2	0.001	ppb	1203.4	50.33	0.2	
Sr	88	72	No Gas	0.015	ppb	87.7	1371.18	0.2	
Zr	90	72	No Gas	0.006	ppb	158.3	256.67	2	
Mo	95	115	No Gas	0.113	ppb	12.5	661.13	0.2	
Ag	107	115	No Gas	0.003	ppb	53.5	71.11	0.08	
Cd	111	115	No Gas	0.025	ppb	67.5	140.44	0.2	
Sn	118	115	No Gas	0.039	ppb	45.7	1495.64	0.2	
Sb	123	115	No Gas	0.028	ppb	11.7	425.56	0.4	
Ba	137	115	No Gas	0.035	ppb	79.5	327.78	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	90.00	0.3	
Hg	201	159	No Gas	0.005	ppb	78.8	47.33	0.1	
Hg	201	159	He	<0.000	ppb	N/A	34.67	0.1	
Tl	205	159	No Gas	0.031	ppb	88.7	1363.41	0.1	
Pb	208	159	No Gas	0.024	ppb	83.0	1330.03	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.021	ppb	58.2	656.69	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1416919.77	9.6	1689242.95	83.88	70	120	
Sc	45	No Gas	4756151.00	9.7	5352659.5	88.86	70	120	
Sc	45	H2	4190908.25	0.9	4170882.25	100.48	70	120	
Sc	45	He	683699.71	0.7	685896.04	99.68	70	120	
Ge	72	No Gas	984500.23	7.4	1096669.96	89.77	70	120	
Ge	72	H2	1024457.46	0.6	1017378.04	100.7	70	120	
Ge	72	He	361298.54	0.5	362987.96	99.53	70	120	
In	115	No Gas	5048960.73	9.4	5696579.81	88.63	70	120	
Tb	159	No Gas	6296579.33	9.3	7225243.32	87.15	70	120	
Tb	159	He	5978007.00	0.5	6016916.67	99.35	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV12
File Name	H6B03129.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 19:28:36
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.206	ppb	2.3	232016.10	25	96.82	90	110	
Be	9	6	No Gas	24.109	ppb	2.4	56040.08	25	96.44	90	110	
B	11	6	No Gas	55.063	ppb	2.0	91374.54	50	110.13	90	110	> +/- 10%
Na	23	45	H2	25463.983	ppb	1.0	104625053.33	25000	101.86	90	110	
Mg	24	45	No Gas	24322.832	ppb	2.5	214714202.67	25000	97.29	90	110	
Al	27	45	No Gas	24258.988	ppb	2.7	289180135.69	25000	97.04	90	110	
Si	28	45	H2	2515.527	ppb	0.3	3696755.25	2500	100.62	90	110	
P	31	45	No Gas	242.886	ppb	2.2	254168.42	250	97.15	90	110	
K	39	45	He	24543.534	ppb	0.8	18686452.00	25000	98.17	90	110	
Ca	40	45	H2	25008.929	ppb	0.2	250557861.33	25000	100.04	90	110	
Ti	47	45	No Gas	235.622	ppb	2.4	361228.36	250	94.25	90	110	
V	51	45	He	241.181	ppb	1.1	1462498.58	250	96.47	90	110	
Cr	52	45	He	244.279	ppb	0.8	1619654.09	250	97.71	90	110	
Mn	55	45	No Gas	1454.134	ppb	1.8	34658410.67	1500	96.94	90	110	
Fe	56	45	H2	24772.511	ppb	0.7	359758602.67	25000	99.09	90	110	
Co	59	45	No Gas	239.520	ppb	3.2	4556301.00	250	95.81	90	110	
Ni	60	45	He	247.796	ppb	1.0	549847.07	250	99.12	90	110	
Cu	63	45	He	245.667	ppb	0.3	1417404.58	250	98.27	90	110	
Zn	66	72	No Gas	242.564	ppb	2.0	722414.25	250	97.03	90	110	
As	75	72	He	243.134	ppb	0.6	291835.07	250	97.25	90	110	
Se	78	72	H2	249.753	ppb	0.7	108442.51	250	99.9	90	110	
Sr	88	72	No Gas	243.446	ppb	2.0	5841307.41	250	97.38	90	110	
Zr	90	72	No Gas	23.913	ppb	2.5	373582.82	25	95.65	90	110	
Mo	95	115	No Gas	227.096	ppb	1.5	1062451.00	250	90.84	90	110	
Ag	107	115	No Gas	22.981	ppb	1.3	250623.29	25	91.92	90	110	
Cd	111	115	No Gas	237.959	ppb	0.5	505196.85	250	95.18	90	110	
Sn	118	115	No Gas	233.624	ppb	0.1	1451073.90	250	93.45	90	110	
Sb	123	115	No Gas	45.930	ppb	0.5	350348.61	50	91.86	90	110	
Ba	137	115	No Gas	480.937	ppb	0.7	1562042.51	500	96.19	90	110	
W	182	159	No Gas	24.601	ppb	2.8	168198.32	25	98.4	90	110	
Hg	201	159	No Gas	2.447	ppb	1.6	2539.59	2.5	97.88	90	110	
Hg	201	159	He	2.511	ppb	2.0	2410.73	2.5	100.44	90	110	
Tl	205	159	No Gas	245.810	ppb	3.1	3353665.35	250	98.32	90	110	
Pb	208	159	No Gas	243.249	ppb	0.8	4620473.55	250	97.3	90	110	

TH 2/16/23

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	238.713	ppb	2.5	3906347.76	250	95.49	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1402464.53	0.3	1689242.95	83.02	70	120	
Sc	45	No Gas	4700713.50	0.6	5352659.5	87.82	70	120	
Sc	45	H2	3634007.50	0.6	4170882.25	87.13	70	120	
Sc	45	He	603461.00	0.5	685896.04	87.98	70	120	
Ge	72	No Gas	1002773.42	0.9	1096669.96	91.44	70	120	
Ge	72	H2	923195.06	0.3	1017378.04	90.74	70	120	
Ge	72	He	330767.85	0.6	362987.96	91.12	70	120	
In	115	No Gas	5020842.06	1.7	5696579.81	88.14	70	120	
Tb	159	No Gas	6422468.49	0.5	7225243.32	88.89	70	120	
Tb	159	He	5336073.17	0.8	6016916.67	88.68	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB12
File Name	H6B03130.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 19:31:14
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.030	ppb	267.9	83085.96	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	18.89	0.08	
B	11	6	No Gas	3.091	ppb	11.7	13394.16	4	
Na	23	45	H2	78.939	ppb	1.0	1051080.42	40	>LOD
Mg	24	45	No Gas	4.106	ppb	24.7	57424.44	10	
Al	27	45	No Gas	1.797	ppb	54.5	49248.14	15	
Si	28	45	H2	12.420	ppb	5.9	25655.65	8	>LOD
P	31	45	No Gas	9.205	ppb	3.7	57793.15	10	
K	39	45	He	36.570	ppb	27.6	134394.79	20	>LOD
Ca	40	45	H2	4.723	ppb	6.7	247150.86	25	
Ti	47	45	No Gas	0.077	ppb	21.5	366.67	0.5	
V	51	45	He	0.053	ppb	19.5	1552.75	0.5	
Cr	52	45	He	0.009	ppb	216.8	1884.80	0.2	
Mn	55	45	No Gas	0.219	ppb	32.3	14615.22	0.2	>LOD
Fe	56	45	H2	1.059	ppb	10.0	54643.92	10	
Co	59	45	No Gas	0.020	ppb	52.8	851.36	0.15	
Ni	60	45	He	0.019	ppb	46.8	207.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1376.74	0.4	
Zn	66	72	No Gas	0.021	ppb	210.5	2842.96	2	
As	75	72	He	0.017	ppb	31.2	152.00	0.2	
Se	78	72	H2	0.054	ppb	26.4	67.33	0.2	
Sr	88	72	No Gas	0.042	ppb	26.2	1983.49	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	173.33	2	
Mo	95	115	No Gas	0.025	ppb	65.6	255.56	0.2	
Ag	107	115	No Gas	0.004	ppb	83.2	85.56	0.08	
Cd	111	115	No Gas	0.012	ppb	117.7	115.97	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1106.71	0.2	
Sb	123	115	No Gas	0.033	ppb	14.8	461.12	0.4	
Ba	137	115	No Gas	0.058	ppb	47.7	408.90	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	93.33	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	31.17	0.1	
Hg	201	159	He	<0.000	ppb	N/A	22.00	0.1	
Tl	205	159	No Gas	0.016	ppb	90.2	1171.17	0.1	
Pb	208	159	No Gas	0.013	ppb	94.0	1148.91	0.1	

HC 2/6/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.020	ppb	37.8	655.57	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1441448.70	0.6	1689242.95	85.33	70	120	
Sc	45	No Gas	4624981.17	0.2	5352659.5	86.41	70	120	
Sc	45	H2	3616454.92	0.2	4170882.25	86.71	70	120	
Sc	45	He	599112.94	0.7	685896.04	87.35	70	120	
Ge	72	No Gas	972232.08	1.1	1096669.96	88.65	70	120	
Ge	72	H2	906116.39	1.2	1017378.04	89.06	70	120	
Ge	72	He	325511.49	0.4	362987.96	89.68	70	120	
In	115	No Gas	5077133.62	0.9	5696579.81	89.13	70	120	
Tb	159	No Gas	6323571.69	1.0	7225243.32	87.52	70	120	
Tb	159	He	5360074.33	0.6	6016916.67	89.08	70	120	

Sample Report

Sample Name	L226-07T
File Name	H6B03134.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 19:41:44
Sample Type	Sample
Total Dilution	100.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	437.723	4.377	ppb	3.7	127557.13	50	
Be	9	6	No Gas	0.066	0.001	ppb	1559.0	34.44	50	
B	11	6	No Gas	1865.589	18.656	ppb	3.8	43095.95	100	
Na	23	45	H2	2338195.826	23381.958	ppb	0.6	109428890.67	50000	
Mg	24	45	No Gas	96178.609	961.786	ppb	0.6	9734974.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	32418.00	50000	
Si	28	45	H2	1585.934	15.859	ppb	1.6	35086.15	5000	
P	31	45	No Gas	96.278	0.963	ppb	49.2	59292.19	500	
K	39	45	He	16355.296	163.553	ppb	4.3	260644.64	50000	
Ca	40	45	H2	30349.961	303.500	ppb	0.4	3687417.42	50000	
Ti	47	45	No Gas	3.201	0.032	ppb	17.1	347.33	500	
V	51	45	He	2.504	0.025	ppb	32.8	1571.43	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	2012.15	500	
Mn	55	45	No Gas	49.452	0.495	ppb	3.0	24499.24	3000	
Fe	56	45	H2	5.192	0.052	ppb	55.5	45863.39	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	379.34	500	
Ni	60	45	He	7.984	0.080	ppb	20.1	386.01	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1349.40	500	
Zn	66	72	No Gas	397.937	3.979	ppb	1.3	16266.40	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	130.33	500	
Se	78	72	H2	5.847	0.058	ppb	24.9	78.33	500	
Sr	88	72	No Gas	2100.684	21.007	ppb	2.0	559693.96	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	143.33	50	
Mo	95	115	No Gas	24.589	0.246	ppb	5.6	1473.42	500	
Ag	107	115	No Gas	0.449	0.004	ppb	17.2	100.00	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	36.35	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	896.70	500	
Sb	123	115	No Gas	1.682	0.017	ppb	13.5	385.56	100	
Ba	137	115	No Gas	42.342	0.423	ppb	8.1	1826.80	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	100.00	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	18.50	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	13.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	488.90	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	821.12	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	324.45	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1656084.09	0.6	1689242.95	98.04	70	120	
Sc	45	No Gas	5375917.00	0.6	5352659.5	100.43	70	120	
Sc	45	H2	4136732.83	0.5	4170882.25	99.18	70	120	
Sc	45	He	679304.88	0.6	685896.04	99.04	70	120	
Ge	72	No Gas	1111586.96	0.7	1096669.96	101.36	70	120	
Ge	72	H2	1027073.48	0.2	1017378.04	100.95	70	120	
Ge	72	He	365800.73	0.4	362987.96	100.77	70	120	
In	115	No Gas	5762221.26	1.0	5696579.81	101.15	70	120	
Tb	159	No Gas	7316930.54	0.5	7225243.32	101.27	70	120	
Tb	159	He	6117469.17	0.9	6016916.67	101.67	70	120	

Sample Report

L226 1H2/7/23

Sample Name	~~L226~~09I
File Name	H6B03135.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 19:44:22
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	120.107	12.011	ppb	1.1	153067.53	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	15.55	50	
B	11	6	No Gas	371.935	37.194	ppb	2.6	63334.56	100	
Na	23	45	H2	254111.209	25411.121	ppb	0.3	103524885.33	50000	
Mg	24	45	No Gas	7496.296	749.630	ppb	1.4	6475273.83	50000	
Al	27	45	No Gas	0.893	0.089	ppb	46.0	28983.58	50000	
Si	28	45	H2	12586.103	1258.610	ppb	1.6	1837602.50	5000	
P	31	45	No Gas	95.304	9.530	ppb	6.1	57554.89	500	
K	39	45	He	6574.519	657.452	ppb	1.3	594418.10	50000	
Ca	40	45	H2	38851.766	3885.177	ppb	1.1	38761920.00	50000	
Ti	47	45	No Gas	1.096	0.110	ppb	30.5	412.01	500	
V	51	45	He	19.639	1.964	ppb	0.2	12904.74	500	
Cr	52	45	He	41.571	4.157	ppb	3.8	28829.62	500	
Mn	55	45	No Gas	2.927	0.293	ppb	7.2	16201.59	3000	
Fe	56	45	H2	11.495	1.149	ppb	3.6	55748.67	50000	
Co	59	45	No Gas	0.312	0.031	ppb	8.4	1058.71	500	
Ni	60	45	He	26.879	2.688	ppb	0.9	6017.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1246.06	500	
Zn	66	72	No Gas	14.443	1.444	ppb	1.3	7184.57	500	
As	75	72	He	18.613	1.861	ppb	1.8	2388.54	500	
Se	78	72	H2	1.725	0.172	ppb	17.7	121.33	500	
Sr	88	72	No Gas	561.778	56.178	ppb	1.6	1354379.36	500	
Zr	90	72	No Gas	0.004	0.000	ppb	611.9	186.67	50	
Mo	95	115	No Gas	12.752	1.275	ppb	2.2	6085.83	500	
Ag	107	115	No Gas	0.024	0.002	ppb	82.3	64.44	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	28.79	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	570.01	500	
Sb	123	115	No Gas	0.163	0.016	ppb	4.5	331.12	100	
Ba	137	115	No Gas	130.790	13.079	ppb	1.0	42596.36	1000	
W	182	159	No Gas	5.489	0.549	ppb	6.0	3823.93	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	15.50	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	10.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	287.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	533.34	500	
U	238	159	No Gas	5.168	0.517	ppb	1.9	8668.63	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1378207.68	1.3	1689242.95	81.59	70	120	
Sc	45	No Gas	4584673.17	0.4	5352659.5	85.65	70	120	
Sc	45	H2	3603244.17	1.0	4170882.25	86.39	70	120	
Sc	45	He	592518.31	1.0	685896.04	86.39	70	120	
Ge	72	No Gas	1006976.08	1.0	1096669.96	91.82	70	120	
Ge	72	H2	934586.92	0.9	1017378.04	91.86	70	120	
Ge	72	He	333815.87	0.3	362987.96	91.96	70	120	
In	115	No Gas	5009466.51	1.2	5696579.81	87.94	70	120	
Tb	159	No Gas	6327973.91	0.7	7225243.32	87.58	70	120	
Tb	159	He	5387545.17	1.0	6016916.67	89.54	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6B03139.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 19:54:50
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.310	ppb	24.2	93019.90	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	16.67	0.4	-50	50	
B	11	6	No Gas	1.177	ppb	21.4	11429.09	10	-50	50	
Na	23	45	H2	111180.055	ppb	0.9	511405632.00	100000	80	120	
Mg	24	45	No Gas	105069.807	ppb	1.5	1040530282.67	100000	80	120	
Al	27	45	No Gas	105060.907	ppb	2.0	1404973685.73	100000	80	120	
Si	28	45	H2	6.621	ppb	2.7	19444.26	50	-50	50	
P	31	45	No Gas	93643.064	ppb	2.7	87926912.00	100000	80	120	
K	39	45	He	108317.547	ppb	0.9	89325421.33	100000	80	120	
Ca	40	45	H2	109251.044	ppb	0.5	1231271253.33	100000	80	120	
Ti	47	45	No Gas	2150.328	ppb	1.5	3696302.58	2000	80	120	
V	51	45	He	0.054	ppb	17.9	1712.11	1	-50	50	
Cr	52	45	He	2.309	ppb	0.1	18633.33	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.445	ppb	4.5	22691.46	1	-50	50	
Fe	56	45	H2	106728.634	ppb	1.2	1744434176.00	100000	80	120	
Co	59	45	No Gas	0.164	ppb	6.3	4050.60	0.75	-50	50	
Ni	60	45	He	0.469	ppb	1.6	1313.40	1	-50	50	
Cu	63	45	He	0.043	ppb	9.4	2534.90	2	-50	50	
Zn	66	72	No Gas	4.940	ppb	2.5	19058.03	20	-50	50	
As	75	72	He	0.086	ppb	21.1	253.00	1	-50	50	
Se	78	72	H2	0.085	ppb	26.1	88.00	1	-50	50	
Sr	88	72	No Gas	0.917	ppb	1.0	25045.64	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.148	ppb	7.1	2716.96	10	-50	50	
Mo	95	115	No Gas	2104.717	ppb	2.2	10654921.24	2000	80	120	
Ag	107	115	No Gas	0.079	ppb	4.1	967.82	0.4	-50	50	
Cd	111	115	No Gas	0.042	ppb	41.3	192.20	1	-50	50	
Sn	118	115	No Gas	<0.000	ppb	N/A	1098.93	1	-50	50	
Sb	123	115	No Gas	0.071	ppb	5.6	812.25	1	-50	50	
Ba	137	115	No Gas	0.674	ppb	4.1	2603.60	1	-50	50	> +/- 20%
W	182	159	No Gas	0.153	ppb	8.7	1300.07	1	-50	50	
Hg	201	159	No Gas	<0.000	ppb	N/A	18.83	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	12.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	373.34	0.5	-50	50	
Pb	208	159	No Gas	0.037	ppb	14.9	1794.50	0.5	-50	50	

1H2/6/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.001	ppb	221.2	394.45	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1579566.00	0.9	1689242.95	93.51	70	120	
Sc	45	No Gas	5272982.00	1.1	5352659.5	98.51	70	120	
Sc	45	H2	4090578.83	0.9	4170882.25	98.07	70	120	
Sc	45	He	656541.65	0.7	685896.04	95.72	70	120	
Ge	72	No Gas	1090653.79	0.2	1096669.96	99.45	70	120	
Ge	72	H2	991289.83	0.5	1017378.04	97.44	70	120	
Ge	72	He	353084.97	0.8	362987.96	97.27	70	120	
In	115	No Gas	5433827.48	0.6	5696579.81	95.39	70	120	
Tb	159	No Gas	7105562.22	1.9	7225243.32	98.34	70	120	
Tb	159	He	5988868.00	0.6	6016916.67	99.53	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6B03140.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 19:57:28
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.840	ppb	3.0	197954.21	20	80	120	
Be	9	6	No Gas	20.777	ppb	1.1	45320.57	20	80	120	
B	11	6	No Gas	19.172	ppb	3.1	34977.91	20	80	120	
Na	23	45	H2	101736.668	ppb	0.6	416532234.67	100000	80	120	
Mg	24	45	No Gas	97021.506	ppb	3.1	839240192.00	100000	80	120	
Al	27	45	No Gas	97512.398	ppb	2.3	1138903503.03	100000	80	120	
Si	28	45	H2	218.066	ppb	0.6	327941.75	200	80	120	
P	31	45	No Gas	95406.895	ppb	2.6	78235512.00	100000	80	120	
K	39	45	He	100418.856	ppb	1.0	74925858.67	100000	80	120	
Ca	40	45	H2	102570.348	ppb	1.0	1028751360.00	100000	80	120	
Ti	47	45	No Gas	2039.077	ppb	2.3	3061335.50	2000	80	120	
V	51	45	He	20.088	ppb	1.5	121016.95	20	80	120	
Cr	52	45	He	23.319	ppb	1.3	153816.89	20	80	120	
Mn	55	45	No Gas	20.586	ppb	1.1	490027.23	20	80	120	
Fe	56	45	H2	100483.231	ppb	0.4	1461661568.00	100000	80	120	
Co	59	45	No Gas	20.694	ppb	2.0	386167.14	20	80	120	
Ni	60	45	He	21.162	ppb	1.2	46368.65	20	80	120	
Cu	63	45	He	20.745	ppb	1.3	119684.62	20	80	120	
Zn	66	72	No Gas	23.666	ppb	1.6	71611.67	20	80	120	
As	75	72	He	20.305	ppb	0.5	23880.73	20	80	120	
Se	78	72	H2	20.940	ppb	0.7	9067.38	20	80	120	
Sr	88	72	No Gas	21.002	ppb	3.1	494777.50	20	80	120	
Zr	90	72	No Gas	16.150	ppb	5.3	247310.52	20	80	120	
Mo	95	115	No Gas	2013.056	ppb	2.5	8881013.81	2000	80	120	
Ag	107	115	No Gas	20.075	ppb	1.8	206503.20	20	80	120	
Cd	111	115	No Gas	20.930	ppb	2.2	41986.73	20	80	120	
Sn	118	115	No Gas	20.304	ppb	2.3	120032.07	20	80	120	
Sb	123	115	No Gas	19.987	ppb	1.2	143898.13	20	80	120	
Ba	137	115	No Gas	21.296	ppb	2.2	65434.29	20	80	120	
W	182	159	No Gas	19.288	ppb	1.1	127785.55	20	80	120	
Hg	201	159	No Gas	1.937	ppb	4.1	1956.49	2	80	120	
Hg	201	159	He	1.952	ppb	1.7	1853.80	2	80	120	
Tl	205	159	No Gas	19.958	ppb	1.8	264656.23	20	80	120	
Pb	208	159	No Gas	20.139	ppb	2.2	371412.41	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.510	ppb	1.7	325459.22	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1315858.07	0.8	1689242.95	77.9	70	120	
Sc	45	No Gas	4605225.33	1.0	5352659.5	86.04	70	120	
Sc	45	H2	3640277.17	0.4	4170882.25	87.28	70	120	
Sc	45	He	594035.27	1.4	685896.04	86.61	70	120	
Ge	72	No Gas	982793.14	0.6	1096669.96	89.62	70	120	
Ge	72	H2	916504.75	0.4	1017378.04	90.08	70	120	
Ge	72	He	322469.08	0.5	362987.96	88.84	70	120	
In	115	No Gas	4735314.02	0.7	5696579.81	83.13	70	120	
Tb	159	No Gas	6222794.06	1.0	7225243.32	86.13	70	120	
Tb	159	He	5257035.83	0.4	6016916.67	87.37	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV13
File Name	H6B03141.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B03.b
Acq Time	2023-02-03 20:00:06
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.982	ppb	3.0	219680.05	25	95.93	90	110	
Be	9	6	No Gas	24.673	ppb	4.1	54624.79	25	98.69	90	110	
B	11	6	No Gas	48.101	ppb	4.4	77038.40	50	96.2	90	110	
Na	23	45	H2	25035.513	ppb	0.5	103249317.33	25000	100.14	90	110	
Mg	24	45	No Gas	24044.533	ppb	1.8	210435504.00	25000	96.18	90	110	
Al	27	45	No Gas	23639.427	ppb	3.6	279373929.17	25000	94.56	90	110	
Si	28	45	H2	2415.760	ppb	0.3	3563259.33	2500	96.63	90	110	
P	31	45	No Gas	246.185	ppb	1.9	254700.37	250	98.47	90	110	
K	39	45	He	24539.722	ppb	1.4	18588725.33	25000	98.16	90	110	
Ca	40	45	H2	24716.194	ppb	0.3	248517994.67	25000	98.86	90	110	
Ti	47	45	No Gas	235.565	ppb	3.6	358037.16	250	94.23	90	110	
V	51	45	He	240.405	ppb	1.5	1450477.42	250	96.16	90	110	
Cr	52	45	He	244.165	ppb	1.1	1610700.08	250	97.67	90	110	
Mn	55	45	No Gas	1455.918	ppb	2.9	34401283.33	1500	97.06	90	110	
Fe	56	45	H2	24585.373	ppb	0.4	358331104.00	25000	98.34	90	110	
Co	59	45	No Gas	238.105	ppb	3.5	4490209.67	250	95.24	90	110	
Ni	60	45	He	249.672	ppb	1.1	551210.48	250	99.87	90	110	
Cu	63	45	He	247.233	ppb	1.0	1419222.83	250	98.89	90	110	
Zn	66	72	No Gas	242.101	ppb	2.9	714629.85	250	96.84	90	110	
As	75	72	He	243.028	ppb	0.7	291661.73	250	97.21	90	110	
Se	78	72	H2	247.144	ppb	0.3	108578.15	250	98.86	90	110	
Sr	88	72	No Gas	246.316	ppb	3.1	5857747.13	250	98.53	90	110	
Zr	90	72	No Gas	24.157	ppb	1.7	374026.11	25	96.63	90	110	
Mo	95	115	No Gas	228.220	ppb	3.5	1045562.60	250	91.29	90	110	
Ag	107	115	No Gas	23.220	ppb	2.1	247995.27	25	92.88	90	110	
Cd	111	115	No Gas	239.111	ppb	1.4	497114.60	250	95.64	90	110	
Sn	118	115	No Gas	235.132	ppb	2.0	1430259.25	250	94.05	90	110	
Sb	123	115	No Gas	46.091	ppb	0.8	344288.08	50	92.18	90	110	
Ba	137	115	No Gas	479.539	ppb	2.4	1525307.37	500	95.91	90	110	
W	182	159	No Gas	24.453	ppb	3.1	162710.17	25	97.81	90	110	
Hg	201	159	No Gas	2.507	ppb	2.7	2531.09	2.5	100.28	90	110	
Hg	201	159	He	2.463	ppb	0.7	2350.89	2.5	98.52	90	110	
Tl	205	159	No Gas	246.145	ppb	1.7	3268439.66	250	98.46	90	110	
Pb	208	159	No Gas	243.056	ppb	1.8	4493507.61	250	97.22	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	240.780	ppb	2.4	3834672.34	250	96.31	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1336017.32	0.9	1689242.95	79.09	70	120	
Sc	45	No Gas	4660032.50	0.5	5352659.5	87.06	70	120	
Sc	45	H2	3647087.58	0.2	4170882.25	87.44	70	120	
Sc	45	He	600443.17	1.0	685896.04	87.54	70	120	
Ge	72	No Gas	993993.79	0.1	1096669.96	90.64	70	120	
Ge	72	H2	934114.35	0.7	1017378.04	91.82	70	120	
Ge	72	He	330714.96	0.2	362987.96	91.11	70	120	
In	115	No Gas	4916704.96	0.6	5696579.81	86.31	70	120	
Tb	159	No Gas	6251435.86	0.7	7225243.32	86.52	70	120	
Tb	159	He	5302620.33	0.3	6016916.67	88.13	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB13
File Name	H6B03142.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B03.b
Acq Time	2023-02-03 20:02:45
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B03003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.049	ppb	246.5	80620.58	0.4	
Be	9	6	No Gas	0.002	ppb	354.4	31.11	0.08	
B	11	6	No Gas	0.405	ppb	38.9	8948.41	4	
Na	23	45	H2	51.437	ppb	5.2	934037.92	40	>LOD
Mg	24	45	No Gas	4.829	ppb	27.1	63859.14	10	
Al	27	45	No Gas	4.006	ppb	33.0	75333.25	15	
Si	28	45	H2	1.675	ppb	10.3	9914.20	8	
P	31	45	No Gas	5.438	ppb	11.9	54855.31	10	
K	39	45	He	40.203	ppb	28.7	137023.00	20	>LOD
Ca	40	45	H2	2.861	ppb	11.9	227281.05	25	
Ti	47	45	No Gas	0.110	ppb	15.4	417.34	0.5	
V	51	45	He	0.025	ppb	57.5	1387.40	0.5	
Cr	52	45	He	0.009	ppb	175.4	1878.13	0.2	
Mn	55	45	No Gas	0.196	ppb	38.3	14120.70	0.2	
Fe	56	45	H2	3.553	ppb	4.0	90164.11	10	
Co	59	45	No Gas	0.025	ppb	32.1	946.03	0.15	
Ni	60	45	He	0.014	ppb	59.4	196.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1413.41	0.4	
Zn	66	72	No Gas	0.037	ppb	113.6	2871.64	2	
As	75	72	He	0.016	ppb	58.9	148.33	0.2	
Se	78	72	H2	0.076	ppb	38.9	76.00	0.2	
Sr	88	72	No Gas	0.026	ppb	53.8	1606.77	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	156.67	2	
Mo	95	115	No Gas	0.115	ppb	12.2	670.02	0.2	
Ag	107	115	No Gas	0.004	ppb	66.9	83.33	0.08	
Cd	111	115	No Gas	0.012	ppb	94.3	114.61	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1176.72	0.2	
Sb	123	115	No Gas	0.032	ppb	28.4	453.34	0.4	
Ba	137	115	No Gas	0.053	ppb	64.5	386.67	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	86.67	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	35.67	0.1	
Hg	201	159	He	<0.000	ppb	N/A	23.83	0.1	
Tl	205	159	No Gas	0.018	ppb	87.0	1187.84	0.1	
Pb	208	159	No Gas	0.022	ppb	58.8	1288.92	0.1	

mc 2/6/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.025	ppb	43.5	724.47	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1396662.47	0.3	1689242.95	82.68	70	120	
Sc	45	No Gas	4638893.33	0.9	5352659.5	86.67	70	120	
Sc	45	H2	3596062.42	1.1	4170882.25	86.22	70	120	
Sc	45	He	598570.75	0.9	685896.04	87.27	70	120	
Ge	72	No Gas	966527.34	0.9	1096669.96	88.13	70	120	
Ge	72	H2	900085.58	0.4	1017378.04	88.47	70	120	
Ge	72	He	321948.65	0.7	362987.96	88.69	70	120	
In	115	No Gas	5007124.59	0.7	5696579.81	87.9	70	120	
Tb	159	No Gas	6219611.84	1.0	7225243.32	86.08	70	120	
Tb	159	He	5369394.00	1.0	6016916.67	89.24	70	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 2/7/23 13:25

End Date: 2/7/23 20:24

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

Micropipette ID: C42761702
C42750334
B42787098

see analytical sequence

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	1H6B05
Analytical Sequence:	H6B05
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-22080 1	MRL1 (1)	SM6B-26-9502
S1	0901 ~~0802~~ 0803	MRL2 (0.1)	9601
S2	0802	MRL3 (CRI)	9602
S3	0902	MRL4	N/A
S4	1001	MRL5	↓
S5	1002	MRL6	↓
S6	N/A	Internal Standard	SM6B-26-6701
S7	↓	Post-Spike 1	SM6A-23-02-03
ICV	SM6B-2671-01	Post-Spike 2	↓ 0204
CCV	SM6B-27-11-01	Post-Spike 3	N/A
ICSA	↓ 1102	Post-Spike 4	↓
ICSAB	↓ 1201		
6020 TUNE SOLN.	SM6B-269701		
200.8 TUNE SOLN.	↓ 9701		

Analyzed By: TH

Date: 2/7/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6B05
InstrumentID: H6

		ICV				ICSA			ICSAB		
Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6B05009				H6B05014			H6B05015		
DateAnalyed :		02/07/2313:42				02/07/2314:17			02/07/2314:19		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.77	30	2.5	93	0.019897	0	>0	20.177	20	101
Beryllium	T	29.70	30	3.7	99	0.0014640	0	<.2	20.538	20	103
Boron	T	28.83	30	4.9	96	0.87863	0	<5	19.246	20	96
Sodium	T	31070	30000	1.2	104	98165	100000	98	99010	100000	99
Magnesium	T	30330	30000	1.7	101	94048	100000	94	95548	100000	96
Aluminum	T	30930	30000	1.7	103	93730	100000	94	94966	100000	95
Silicon		3137	3000	0.9	105	3.9749	0	<20	210.25	200	105
Phosphorus		286.4	300	6.3	95	94617	100000	95	95165	100000	95
Potassium	T	31150	30000	0.7	104	97066	100000	97	97256	100000	97
Calcium	T	30890	30000	0.4	103	99112	100000	99	100060	100000	100
Titanium		305.9	300	1.9	102	2004.8	2000	100	2035.5	2000	102
Vanadium	T	307.6	300	0.9	103	0.038204	0	<.5	20.072	20	100
Chromium	T	307.6	300	0.6	103	2.1005	0	>.3	22.789	20	114
Manganese	T	1995	2000	1.6	100	0.47232	0	<.5	20.089	20	100
Iron	T	30770	30000	0.4	103	96728	100000	97	99582	100000	100
Cobalt	T	302.6	300	2.3	101	0.15351	0	<.2	20.428	20	102
Nickel	T	310.6	300	0.7	104	0.42951	0	<.5	20.983	20	105
Copper	T	322.0	300	0.7	107	0.46245	0	<1	20.204	20	101
Zinc	T	308.5	300	3.7	103	3.5653	0	<10	22.865	20	114
Arsenic	T	305.9	300	1.0	102	0.079608	0	<.25	20.299	20	101
Selenium	T	306.0	300	1.4	102	0.074981	0	<.3	20.814	20	104
Strontium		302.4	300	3.1	101	0.77538	0	<1.0	20.604	20	103
Zirconium		30.82	30	2.9	103	0.25738	0	<2.0	13.983	20	70*
Molybdenum	T	306.2	300	0.8	102	1997.3	2000	100	2039.5	2000	102
Silver	T	31.25	30	0.6	104	0.079021	0	<.2	20.646	20	103
Cadmium	T	304.4	300	0.6	101	0.075056	0	<.3	20.636	20	103
Tin		304.9	300	0.8	102	0.11479	0	<0.2	20.370	20	102
Antimony	T	56.76	60	0.6	95	0.060382	0	<.5	19.758	20	99
Barium	T	305.6	300	0.4	102	0.53160	0	>.5	21.343	20	107
Tungsten		30.85	30	0.5	103	0.13924	0	<1.0	19.160	20	96
Mercury		2.928	3	4.8	98	0.0055082	0	<0.1	1.9798	2	99
Thallium	T	307.2	300	2.2	102	0.0089424	0	<.2	19.989	20	100
Lead	T	307.2	300	1.7	102	0.033845	0	<.2	20.489	20	102
Uranium		307.7	300	1.8	103	0.0073237	0	<0.1	20.586	20	103

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : METHOD SW6020A (DISSOLVED)
Sequence : IH6B05
Instrument ID: H6

CCV SampleID		CCV1				CCV2		
CCV DataFileID		H6B05017				H6B05024		
CCV DateTime		02/07/23 14:25				02/07/23 16:53		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.2	97	1.1	24.5	98	4.1
Beryllium	T	25	25.1	100	3.8	24.3	97	3.9
Boron	T	50	49.7	99	3.8	48.3	97	5.8
Sodium	T	25000	24700	99	1.5	24900	100	1.5
Magnesium	T	25000	24500	98	2.3	24800	99	2.8
Aluminum	T	25000	24400	98	2.2	24800	99	1.1
Silicon		2500	2460	98	1.5	2430	97	1.2
Phosphorus		250	251	100	1.7	246	98	2.6
Potassium	T	25000	24500	98	0.4	25200	101	0.6
Calcium	T	25000	24600	98	1.8	25100	100	1.4
Titanium		250	242	97	2.5	247	99	1.4
Vanadium	T	250	244	97	1.0	254	102	0.9
Chromium	T	250	244	97	0.9	253	101	1.2
Manganese	T	1500	1460	98	3.0	1480	99	1.9
Iron	T	25000	24800	99	2.0	25700	103	0.7
Cobalt	T	250	246	98	1.4	248	99	2.3
Nickel	T	250	251	100	0.2	264	106	1.3
Copper	T	250	248	99	0.9	261	104	0.3
Zinc	T	250	254	102	0.6	246	98	1.9
Arsenic	T	250	247	99	0.9	248	99	0.9
Selenium	T	250	251	100	1.8	247	99	1.2
Strontium		250	244	98	1.3	240	96	2.8
Zirconium		25	24.6	99	1.9	24.1	96	2.7
Molybdenum	T	250	242	97	2.2	251	100	2.0
Silver	T	25	24.8	99	0.4	25.0	100	2.3
Cadmium	T	250	248	99	0.9	251	100	1.7
Tin		250	240	96	0.6	243	97	1.6
Antimony	T	50	48.6	97	1.5	49.4	99	1.0
Barium	T	500	495	99	1.7	499	100	1.8
Tungsten		25	25.2	101	0.5	25.7	103	1.7
Mercury		2.5	2.52	101	3.8	2.60	104	2.0
Thallium	T	250	250	100	2.6	251	100	1.2
Lead	T	250	251	100	1.5	252	101	1.8
Uranium		250	244	97	2.6	245	98	1.0

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L226
Method : SW6020A (DISSOLVED)
Sequence : IH6B05
Instrument ID: H6

CB SampleID		: ICB		CCB1		CCB2	
CB DataFileID		: H6B05010		H6B05018		H6B05025	
CB DateTime		: 02/07/2313:45		02/07/2314:27		02/07/2316:56	
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.09	>0	0.1	>0	0.3	>0
Beryllium	T	.2	0.01	<.2	0.002	<.2	0.010	<.2
Boron	T	5	2	<5	0.6	<5	0.8	<5
Sodium	T	50	40	<50	2	<50	70	>50
Magnesium	T	20	4	<20	4	<20	1	<20
Aluminum	T	100	3	<100	4	<100	0.9	<100
Silicon		20	3	<20	1	<20	8	<20
Phosphorus		25	9	<25	0.07	<25	4	<25
Potassium	T	25	30	>25	5	<25	40	>25
Calcium	T	60	2	<60	5	<60	1	<60
Titanium		0.5	0.05	<0.5	0.04	<0.5	0.008	<0.5
Vanadium	T	.5	0.03	<.5	0.02	<.5	0.0004	<.5
Chromium	T	.3	0.1	<.3	0.05	<.3	0.1	<.3
Manganese	T	.5	0.4	<.5	0.2	<.5	0.2	<.5
Iron	T	50	1	<50	4	<50	0.3	<50
Cobalt	T	.2	0.06	<.2	0.03	<.2	0.03	<.2
Nickel	T	.5	0.04	<.5	0.04	<.5	0.006	<.5
Copper	T	1	0.3	<1	0.6	<1	1	>1
Zinc	T	10	0.07	<10	0.07	<10	0.03	<10
Arsenic	T	.25	0.05	<.25	0.04	<.25	0.02	<.25
Selenium	T	.3	0.07	<.3	0.05	<.3	0.07	<.3
Strontium		1.0	0.05	<1.0	0.04	<1.0	0.03	<1.0
Zirconium		2.0	0.004	<2.0	0.007	<2.0	0.006	<2.0
Molybdenum	T	.5	0.05	<.5	0.06	<.5	0.02	<.5
Silver	T	.2	0.005	<.2	0.003	<.2	0.003	<.2
Cadmium	T	.3	0.08	<.3	0.05	<.3	0.06	<.3
Tin		0.2	0.2	<0.2	0.09	<0.2	0.10	<0.2
Antimony	T	.5	0.01	<.5	0.01	<.5	0.02	<.5
Barium	T	.5	0.06	<.5	0.07	<.5	0.04	<.5
Tungsten		1.0	0.01	<1.0	0.003	<1.0	0.001	<1.0
Mercury		0.1	0.05	<0.1	0.02	<0.1	0.04	<0.1
Thallium	T	.2	0.1	<.2	0.07	<.2	0.08	<.2
Lead	T	.2	0.06	<.2	0.03	<.2	0.04	<.2
Uranium		0.1	0.06	<0.1	0.04	<0.1	0.03	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		CalBlk	BLANK		1101	H6B05001.d		1
2		CalBlk	BLANK		1101	H6B05002.d		1
3		CalBlk	S0		1102	H6B05003.d		1
4		CalStd	S1		1103	H6B05004.d		2
5		CalStd	S2		1104	H6B05005.d		3
6		CalStd	S3		1105	H6B05006.d		4
7		CalStd	S4		1106	H6B05007.d		5
8		CalStd	S5		1107	H6B05008.d		6
9		ICV	ICV		1204	H6B05009.d	1	
10		ICB	ICB		1102	H6B05010.d	1	
11		LLCCV	MRLB0701	1/100/10 ppb ↑Na Zn K	1306	H6B05011.d	1	
12		LLCCV2	MRLB0702	0.4/40/4 ppb	1307	H6B05012.d	1	
13		Sample	MRLB0703	20 ppb Zn ✓	1301	H6B05013.d	1	
14		ICS-A	ICSA		1304	H6B05014.d	1	
15		ICSB	ICSAB		1305	H6B05015.d	1	
16		Sample	MRLB0704	500 ppb CAT Na ✓	1207	H6B05016.d	1	
17		CCV	CCV1		1206	H6B05017.d	1	
18		CCB	CCB1		1102	H6B05018.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1		Blank	IMA016WB	Mn > ½ LOQ	2101	H6B05019.d	1	
2		LCSW	IMA016WL		2102	H6B05020.d	1	
3		LCSW	IMA016WC		2103	H6B05021.d	1	
4		Sample	B015-01		2104	H6B05022.d	1	
5		Sample	L226-08G	Burn only	2105	H6B05023.d	5	
6		CCV	CCV2		1206	H6B05024.d	1	
7		CCB	CCB2		1102	H6B05025.d	1	
8		LLCCV	MRLB0705	1/100/10 ppb	1302	H6B05026.d	1	
9		LLCCV2	MRLB0706	0.4/40/4 ppb	1307	H6B05027.d	1	
10		Sample	MRLB0707	20 ppb Zn	1301	H6B05028.d	1	
11		ICS-A	ICSA2		1304	H6B05029.d	1	
12		ICSB	ICSAB2		1305	H6B05030.d	1	
13		Blank	IMA016WB	REPREP ✓	2101	H6B05031.d	1	
14		CCV	CCV3		1206	H6B05032.d	1	
15		CCB	CCB3		1102	H6B05033.d	1	
16		Sample	A061-02I		2203	H6B05034.d	10	
17		Sample	A061-03G		2204	H6B05035.d	5	
18		Sample	A061-04G		2205	H6B05036.d	5	
19		Sample	A061-05G		2206	H6B05037.d	5	
20		Sample	A061-06G		2207	H6B05038.d	5	

Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
21	CCV	CCV4		1206	H6B05039.d	1	
22	CCB	CCB4		1102	H6B05040.d	1	
23	Sample	A077-01A		2208	H6B05041.d	5	
24	Sample	A077-01G		2209	H6B05042.d	5	
25	Sample	A077-01J		2210	H6B05043.d	25	
26	Sample	A077-01M		2211	H6B05044.d	5	
27	Sample	A077-01S		2212	H6B05045.d	5	
28	Sample	A077-02G		2301	H6B05046.d	5	
29	Sample	A077-06I		2302	H6B05047.d	10	
30	Sample	A077-07I		2303	H6B05048.d	10	
31	Sample	A077-08G		2304	H6B05049.d	5	
32	Sample	A077-09G		2305	H6B05050.d	5	
33	CCV	CCV5		1206	H6B05051.d	1	
34	CCB	CCB5		1102	H6B05052.d	1	
35	Sample	A077-10I		2306	H6B05053.d	10	
36	Sample	A077-11G		2307	H6B05054.d	5	
37	Sample	A098-02G		2308	H6B05055.d	5	
38	Sample	A098-05G		2309	H6B05056.d	5	
39	Sample	A098-06I		2310	H6B05057.d	10	
40	Sample	A098-07I		2311	H6B05058.d	10	
41	Sample	A098-08G	↑Ca	2312	H6B05059.d	5	
42	Sample	A098-10I		2401	H6B05060.d	10	
43	CCV	CCV6		1206	H6B05061.d	1	
44	CCB	CCB6		1102	H6B05062.d	1	
45	Blank	IMA031WB		2402	H6B05063.d	1	
46	LCSW	IMA031WL		2403	H6B05064.d	1	
47	LCSW	IMA031WC		2404	H6B05065.d	1	
48	Sample	A331-03N	↑Na	2405	H6B05066.d	1	
49	Sample	A331-04N	↓	2406	H6B05067.d	1	
50	Sample	A331-04I		2407	H6B05068.d	1	
51	LLCCV	MRLB0707	1/100/10 ppb ↑Na	1306	H6B05069.d	1	
52	LLCCV2	MRLB0708	0.4/40/4 ppb	1307	H6B05070.d	1	
53	Sample	MRLB0704	500 ppb CAT Na ✓	1207	H6B05071.d	1	
54	CCV	CCV7		1206	H6B05072.d	1	
55	CCB	CCB7		1102	H6B05073.d	1	
56	Blank	IMA023WB		2408	H6B05074.d	1	
57	LCSW	IMA023WL		2409	H6B05075.d	1	
58	LCSW	IMA023WC		2410	H6B05076.d	1	
59	Sample	A207-02		2411	H6B05077.d	1	
60	Sample	A207-03		2412	H6B05078.d	1	
61	Sample	A207-04		2501	H6B05079.d	1	
62	Sample	A207-05		2502	H6B05080.d	1	
63	Sample	A207-06		2503	H6B05081.d	1	
64	Sample	A207-07		2504	H6B05082.d	1	
65	CCV	CCV8	↓Be As	1206	H6B05083.d	1	
66	CCB	CCB8		1102	H6B05084.d	1	
67	Sample	A207-08A		2505	H6B05085.d	1	
68	Sample	A207-08		2506	H6B05086.d	1	
69	Sample	A207-08J		2507	H6B05087.d	5	
70	Sample	A207-08M		2508	H6B05088.d	1	
71	Sample	A207-08S		2509	H6B05089.d	1	
72	Sample	A207-09		2510	H6B05090.d	1	
73	Sample	A207-11		2511	H6B05091.d	1	

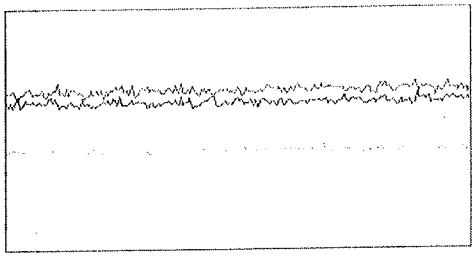
Sample List

	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
74		Sample	A207-12		2512	H6B05092.d	1	
75		Sample	A207-14		3101	H6B05093.d	1	
76		Sample	A207-15		3102	H6B05094.d	1	
77		CCV	CCV9	JB 2 AS	1206	H6B05095.d	1	
78		CCB	CCB9		1102	H6B05096.d	1	
79		Sample	A207-16		3103	H6B05097.d	1	
80		Sample	A207-20		3104	H6B05098.d	1	
81		Sample	A939-01N		3105	H6B05099.d	1	
82		CCV	CCV10	JAS	1206	H6B05100.d	1	
83		CCB	CCB10		1102	H6B05101.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-02-07 10:19:35
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



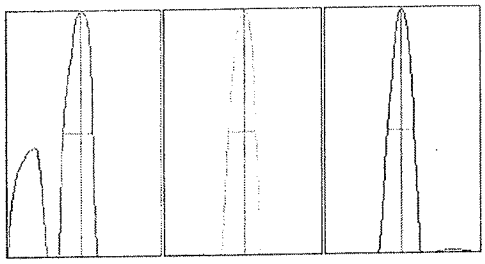
Mass	Range	Count	RSD%	Background
7	10000	6600	2.045	0.200
89	50000	20427	1.629	1.500
205	20000	12201	1.943	6.950

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.166 %
Doubly Charged	70 / 140 1.730 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	6591.12	7.00	0.59	0.72
89	20248.97	89.05	0.55	0.71
205	12139.58	205.00	0.53	0.74

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.0 V	Deflect	12.8 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.5 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.3 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9993
Mass Offset	125	Axis Offset	-0.02

EM

Discriminator	3.3 mV	Analog HV	2830 V	Pulse HV	1542 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.99	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	6.71E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	29.3	°C
Nebulizer Gas(DP)	5.45E+0	kPa
MU./Dil. Gas(DP)	-4.24E-2	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.70E+2	kPa
MU./Dil. Gas(BP)	2.89E-1	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.32E+1	kPa
S/C Temp (H)	16.4	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.40E+2	Pa
Analyzer Press	7.47E-5	Pa
IG HV	178	V
IG Emission	4.96	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.1	%
TMP Current	2.73	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	202.7	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.95	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.1	V
+U Voltage	412.8	V

Name	Value	Unit
-U Voltage	-417.1	V
V Voltage	1800.0	V
QPRF Fader	1.3	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	608.6	V
-120V	-130.0	V
-720V	-738.0	V
Prefilter Bias	-4.96	V
Pickup Heater I	0.08	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2834	V
Pulse HV	1557	V
EM Gate	-37.1	V
Pulse Gate	323.2	V
EM Entrance	0.2	V
EM HV Gain	-1504.7	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.0	V
RF PS +48V	48.0	V
Forward Power	1549	W
Reflected Power	4	W
Plasma Freq.	26.73	MHz
Drain I 1	11.38	A
Drain I 2	10.86	A
Drain I 3	10.76	A
Drain I 4	10.13	A
Temp Sensor	2.8	V
Driver I	5.59	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.46	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	2.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.71E+2	kPa
He Gas Press	1.60E+0	kPa
ORS AMFC Temp	30.2	°C
Atmospheric Press	1.02E+2	kPa
Extract 1	-0.1	V
Extract 2	-200.3	V
Omega Bias	-110.1	V
Omega Lens	7.0	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	12.7	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.8	°C
Internal Temp	34.5	°C
+24V	23.6	V
Water Temp	18.3	°C
Water RF/WC/IF	1.41	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

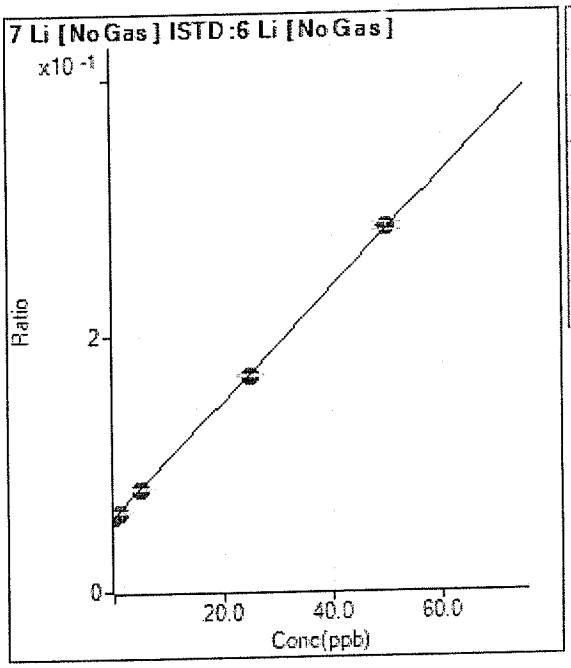
Performance Report History

Sensitivity

Calibration for H6B05099.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b\
Analysis File: IH6B05.batch.bin
DA Date-Time: 2023-02-07 20:20:51
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

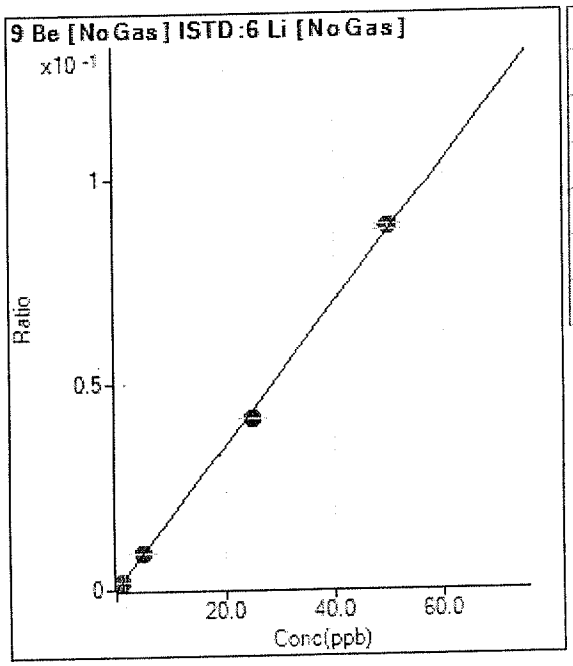
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6B05003.d	S0	2023-02-07 13:25:27
2	H6B05004.d	S1	2023-02-07 13:28:18
3	H6B05005.d	S2	2023-02-07 13:31:09
4	H6B05006.d	S3	2023-02-07 13:34:00
5	H6B05007.d	S4	2023-02-07 13:37:03
6	H6B05008.d	S5	2023-02-07 13:39:53



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	89086.85	0.0587	P	0.6
2	☐	0.500	0.280	76996.19	0.0599	P	1.3
3	☐	1.000	0.731	80862.20	0.0620	P	1.8
4	☐	5.000	4.758	101404.11	0.0800	P	2.0
5	☐	25.000	24.517	248971.95	0.1682	P	0.9
6	☐	50.000	50.273	350561.68	0.2833	P	2.3

y = 0.0045 * x + 0.0587
R = 0.9999
DL = 0.218
BEC = 13.14

Weight: <None>
Min Conc: 0

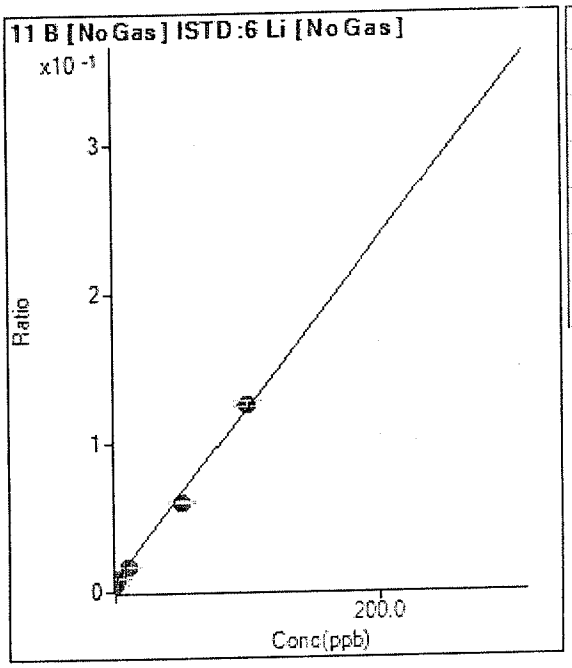


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28.89	0.0000	P	13.4
2	☐	0.500	0.512	1171.16	0.0009	P	5.7
3	☐	1.000	1.001	2302.41	0.0018	P	6.4
4	☐	5.000	5.145	11407.96	0.0090	P	1.4
5	☐	25.000	23.785	61434.69	0.0415	P	0.4
6	☐	50.000	50.593	109250.52	0.0683	P	1.6

y = 0.0017 * x + 1.9037E-005
R = 0.9996
DL = 0.004394
BEC = 0.01091

Weight: <None>
Min Conc: 0

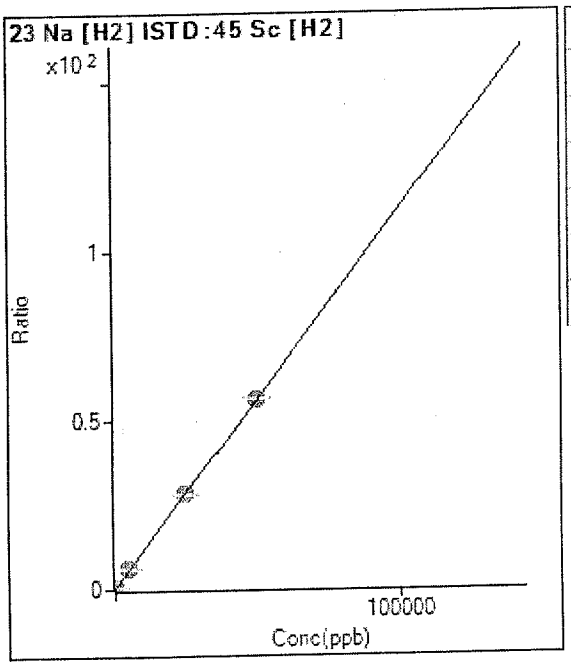
Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12111.89	0.0080	P	2.0
2	☐	0.500	-2.108	7141.82	0.0056	P	1.9
3	☐	1.000	0.775	11575.88	0.0089	P	2.4
4	☐	10.000	8.080	21888.14	0.0173	P	1.1
5	☐	50.000	45.266	88728.63	0.0600	P	1.5
6	☐	100.000	102.574	155644.89	0.1258	P	2.5

y = 0.0011 * x + 0.0080
R = 0.9984
DL = 0.4067
BEC = 6.951

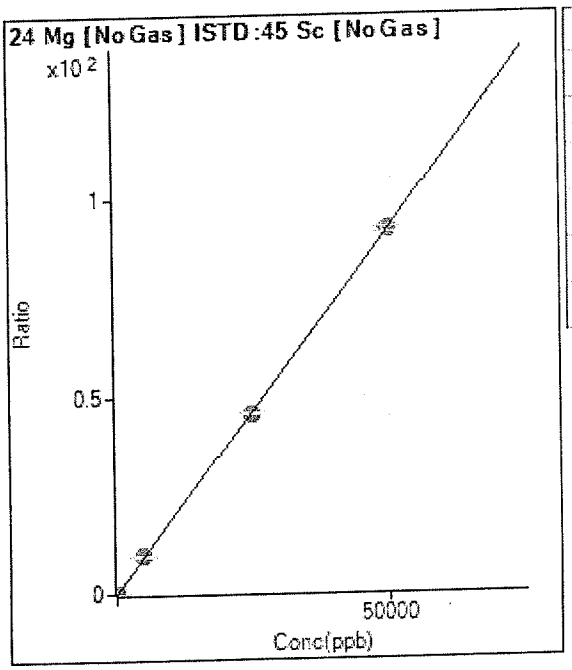
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	921568.34	0.2245	A	0.2
2	☐	50.000	87.163	1159613.13	0.3222	A	0.8
3	☐	100.000	139.315	1360003.71	0.3806	A	1.4
4	☐	5000.000	5149.134	21349603.33	5.9934	A	1.3
5	☐	25000.000	24943.270	115904314.67	28.1700	A	1.1
6	☐	50000.000	50013.336	202650368.00	56.2576	A	1.3

y = 0.0011 * x + 0.2245
R = 1.0000
DL = 1.322
BEC = 200.4

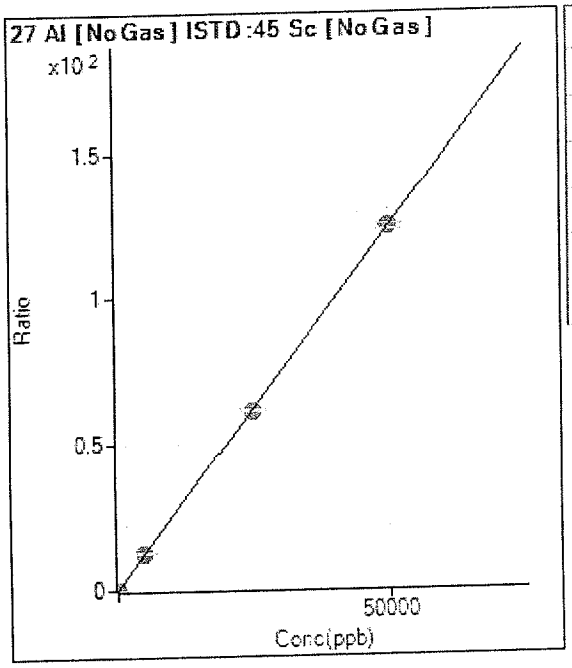
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	41564.43	0.0076	P	1.5
2	☐	50.000	51.157	474183.56	0.1016	P	0.4
3	☐	100.000	102.021	915628.12	0.1950	A	0.5
4	☐	5000.000	5193.114	44262522.67	9.5515	A	1.1
5	☐	25000.000	24796.465	250607056.00	45.5785	A	1.7
6	☐	50000.000	50082.451	434622528.00	92.0490	A	1.3

y = 0.0018 * x + 0.0076
R = 1.0000
DL = 0.1908
BEC = 4.109

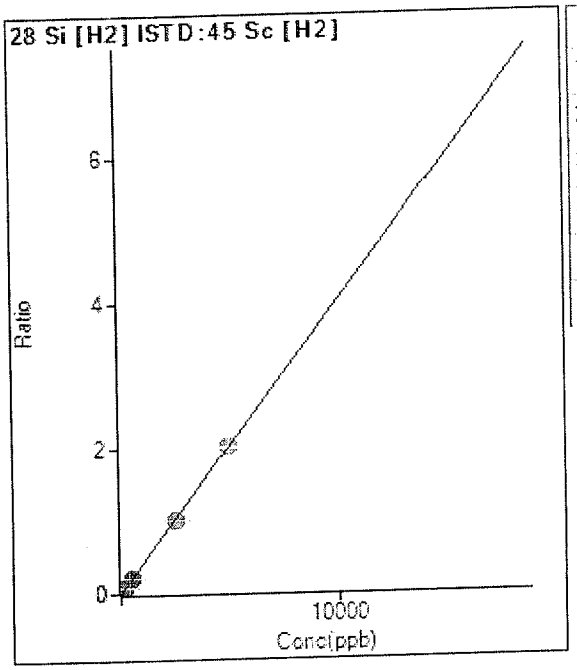
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45721.66	0.0083	P	2.1
2	☐	50.000	50.831	627997.95	0.1345	P	2.3
3	☐	100.000	101.401	1220931.73	0.2601	A	1.0
4	☐	5000.000	5132.434	59091655.79	12.7522	A	1.7
5	☐	25000.000	24750.455	337996201.63	61.4639	A	0.7
6	☐	50000.000	50111.526	587541084.58	124.4357	A	1.6

y = 0.0025 * x + 0.0083
R = 1.0000
DL = 0.2111
BEC = 3.346

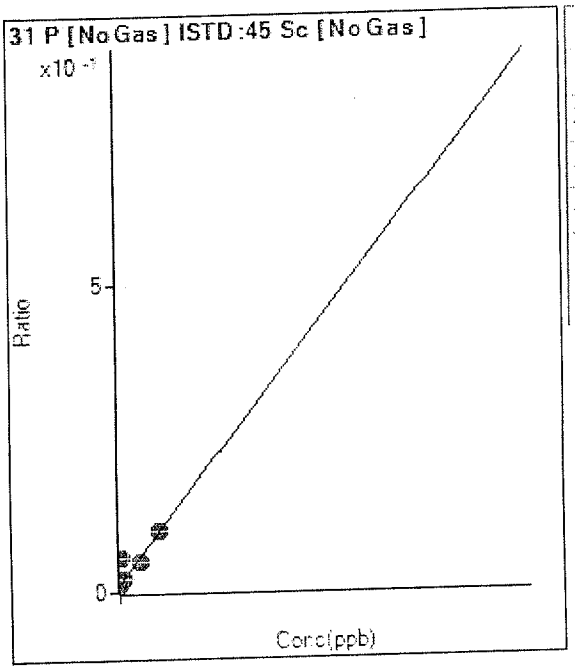
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	6096.67	0.0015	P	1.3
2	☐	100.000	102.041	153115.07	0.0425	P	1.1
3	☐	200.000	208.937	305704.26	0.0855	P	0.6
4	☐	500.000	522.327	753858.10	0.2116	P	2.3
5	☐	2500.000	2488.779	4126108.25	1.0028	A	0.4
6	☐	5000.000	5002.979	7256408.00	2.0144	A	1.0

y = 4.0234E-004 * x + 0.0015
R = 1.0000
DL = 0.1491
BEC = 3.692

Weight: <None>
Min Conc: 0

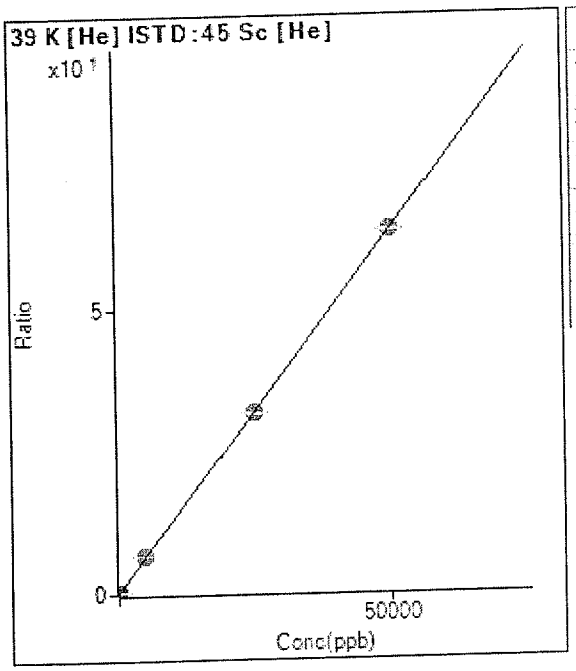


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66303.68	0.0120	P	1.0
2	☐	25.000	254.206	263899.22	0.0565	P	1.3
3	☐	40.000	48.432	96335.23	0.0205	P	1.3
4	☐	50.000	60.423	104816.08	0.0226	P	0.6
5	☐	250.000	221.799	279630.98	0.0509	P	1.7
6	☐	500.000	500.923	470770.74	0.0997	P	1.6

y = 1.7498E-004 * x + 0.0120
R = 0.8773
DL = 2.085
BEC = 68.84

Weight: <None>
Min Conc: 0

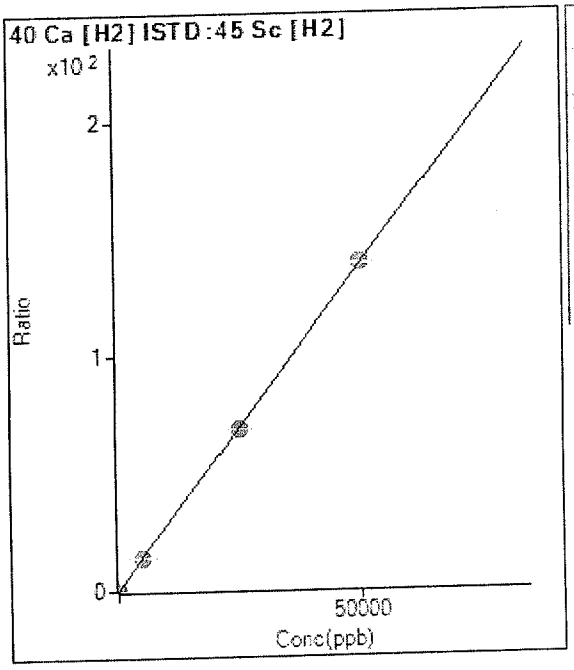
Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117042.86	0.1726	P	3.3
2	☐	50.000	76.014	162400.30	0.2687	P	3.8
3	☐	100.000	125.692	200658.33	0.3316	P	2.3
4	☐	5000.000	5109.346	3958171.50	6.6361	A	0.6
5	☐	25000.000	24811.980	20096990.67	31.5609	A	0.6
6	☐	50000.000	50082.998	37990268.00	63.5299	A	0.6

y = 0.0013 * x + 0.1726
R = 1.0000
DL = 13.63
BEC = 136.4

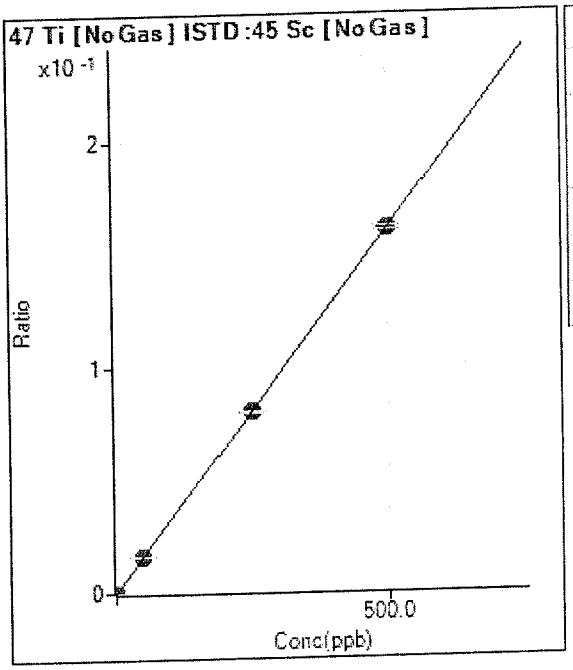
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	224923.86	0.0548	P	0.9
2	☐	50.000	54.356	738918.15	0.2053	P	0.8
3	☐	100.000	102.462	1209594.13	0.3385	A	1.0
4	☐	5000.000	5091.208	50410721.33	14.1514	A	0.9
5	☐	25000.000	24754.070	282225610.67	68.5940	A	0.5
6	☐	50000.000	50113.835	500029205.33	138.8103	A	0.4

y = 0.0028 * x + 0.0548
R = 1.0000
DL = 0.5419
BEC = 19.79

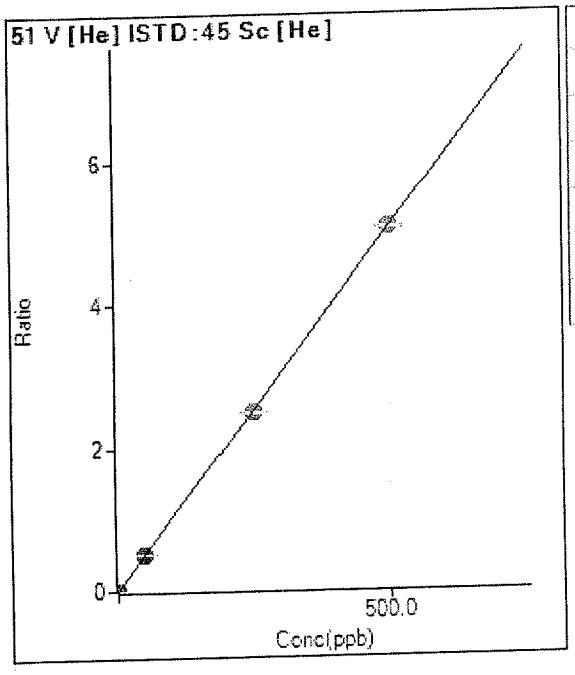
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	382.01	0.0001	P	3.7
2	☐	0.500	0.610	1238.72	0.0003	P	2.4
3	☐	1.000	1.075	1946.81	0.0004	P	4.8
4	☐	50.000	51.441	76907.04	0.0166	P	0.4
5	☐	250.000	248.179	438789.95	0.0798	P	1.9
6	☐	500.000	500.766	759985.48	0.1610	P	1.0

y = 3.2128E-004 * x + 6.9416E-005
R = 1.0000
DL = 0.02367
BEC = 0.2161

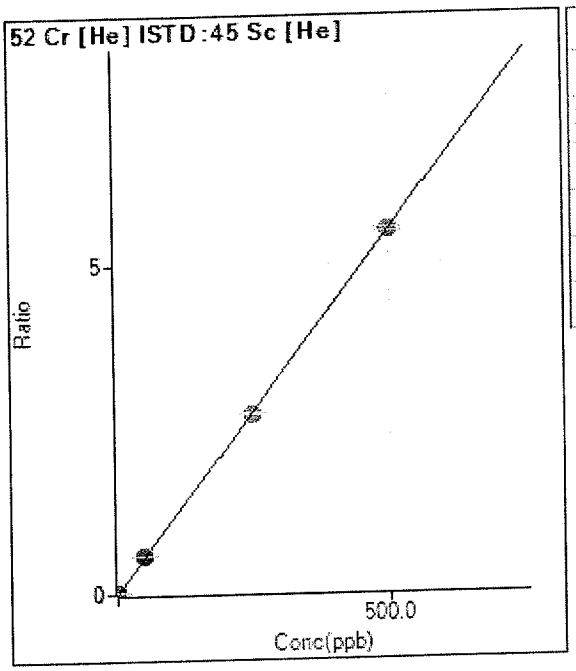
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1418.74	0.0021	P	4.8
2	☐	0.500	0.528	4496.07	0.0074	P	1.8
3	☐	1.000	0.970	7211.90	0.0119	P	1.3
4	☐	50.000	51.152	310303.12	0.5202	P	0.9
5	☐	250.000	246.877	1594347.29	2.5029	A	1.2
6	☐	500.000	501.446	3038755.50	5.0816	A	0.7

y = 0.0101 * x + 0.0021
R = 1.0000
DL = 0.02988
BEC = 0.2065

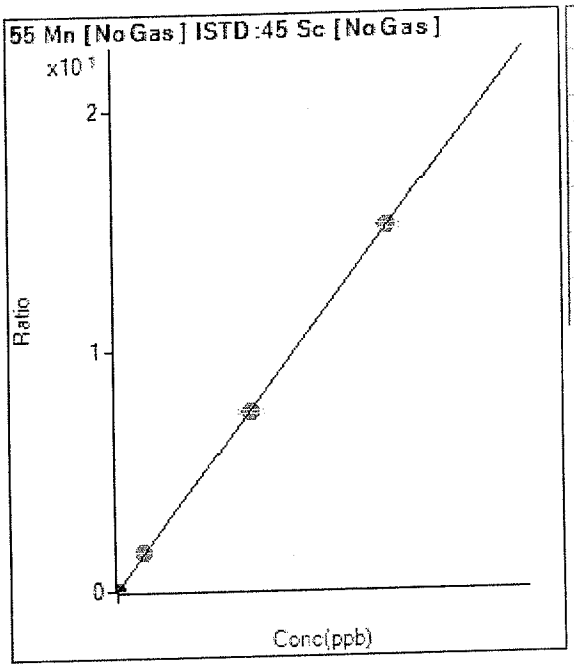
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1880.80	0.0028	P	8.0
2	☐	0.500	0.629	5871.26	0.0097	P	1.1
3	☐	1.000	1.141	9299.82	0.0154	P	1.0
4	☐	50.000	52.545	347578.37	0.5827	P	1.0
5	☐	250.000	247.863	1744526.54	2.7386	A	1.3
6	☐	500.000	500.814	3307179.67	5.5305	A	1.1

y = 0.0110 * x + 0.0028
R = 1.0000
DL = 0.06018
BEC = 0.2512

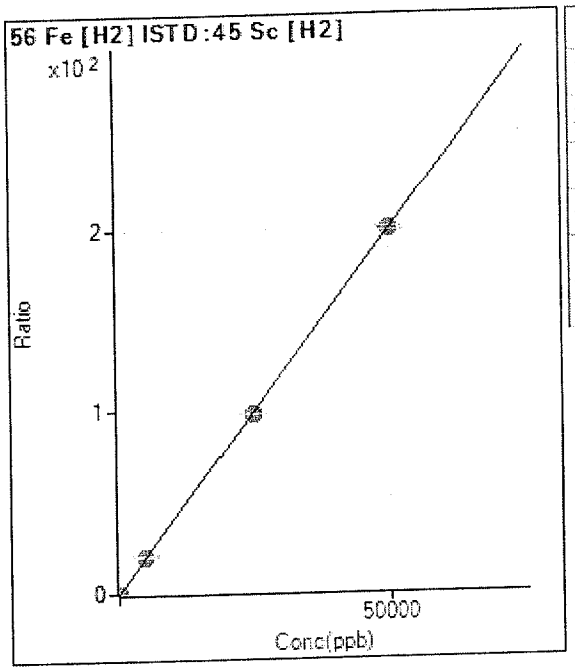
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11806.43	0.0021	P	0.9
2	☐	0.500	0.562	23173.61	0.0050	P	1.9
3	☐	1.000	1.086	35644.33	0.0076	P	0.2
4	☐	300.000	312.932	7282210.67	1.5715	A	0.8
5	☐	1500.000	1486.324	40994298.67	7.4560	A	2.1
6	☐	3000.000	3005.545	71178349.33	15.0749	A	1.4

y = 0.0050 * x + 0.0021
R = 1.0000
DL = 0.01154
BEC = 0.4277

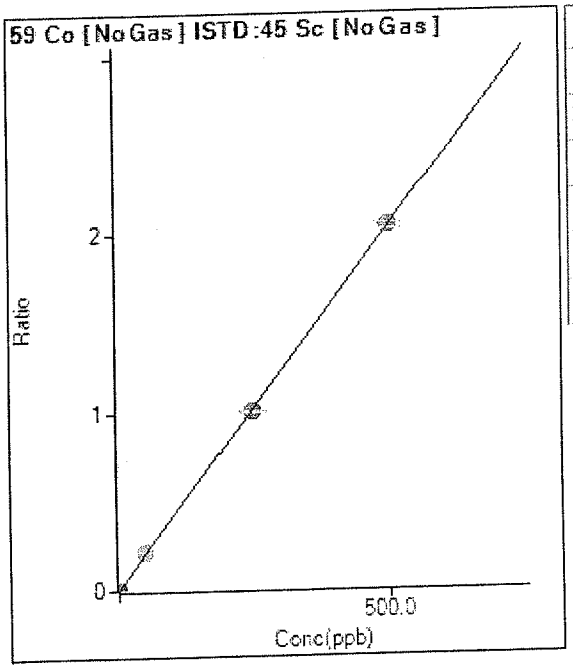
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	68086.35	0.0166	P	1.3
2	☐	50.000	53.056	818600.48	0.2274	P	0.5
3	☐	100.000	102.631	1516811.34	0.4245	A	1.0
4	☐	5000.000	5163.322	73154032.00	20.5359	A	0.9
5	☐	25000.000	24733.041	404489973.33	98.3070	A	0.5
6	☐	50000.000	50117.139	717502400.00	199.1848	A	0.9

y = 0.0040 * x + 0.0166
R = 1.0000
DL = 0.1634
BEC = 4.174

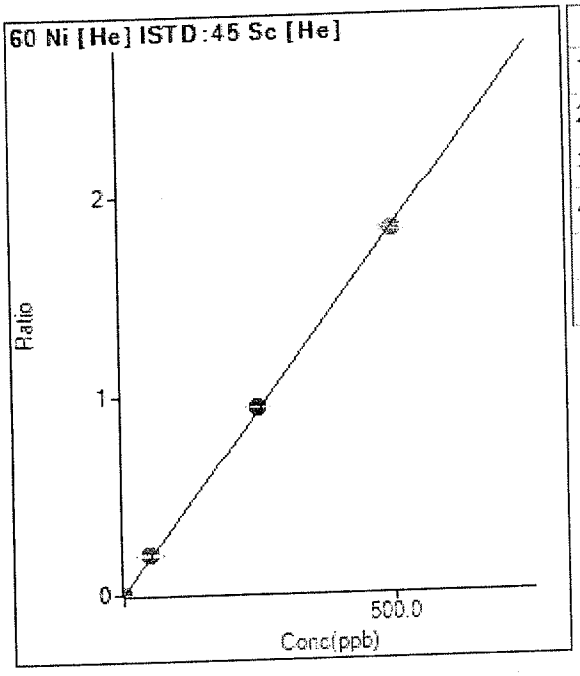
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.01	0.0001	P	2.3
2	☐	0.500	0.534	10641.49	0.0023	P	2.5
3	☐	1.000	1.070	20930.02	0.0045	P	1.1
4	☐	50.000	52.680	993611.46	0.2144	M	0.8
5	☐	250.000	246.133	5505901.33	1.0014	A	2.0
6	☐	500.000	501.665	9636027.00	2.0409	A	1.9

y = 0.0041 * x + 1.0538E-004
R = 0.9999
DL = 0.001804
BEC = 0.0259

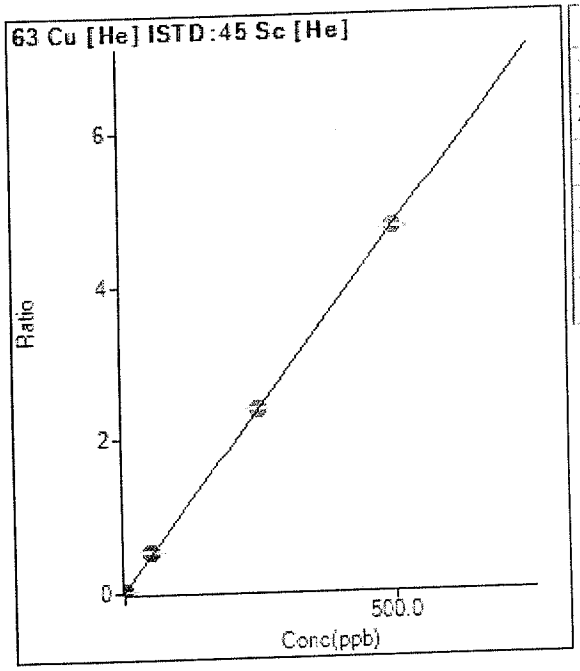
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	248.67	0.0004	P	9.1
2	☐	0.500	0.567	1479.41	0.0024	P	1.5
3	☐	1.000	1.080	2623.59	0.0043	P	3.5
4	☐	50.000	53.946	118426.33	0.1985	P	0.9
5	☐	250.000	255.361	597506.56	0.9385	P	0.3
6	☐	500.000	496.925	1091897.83	1.8259	A	1.1

y = 0.0037 * x + 3.6672E-004
R = 0.9999
DL = 0.02723
BEC = 0.09982

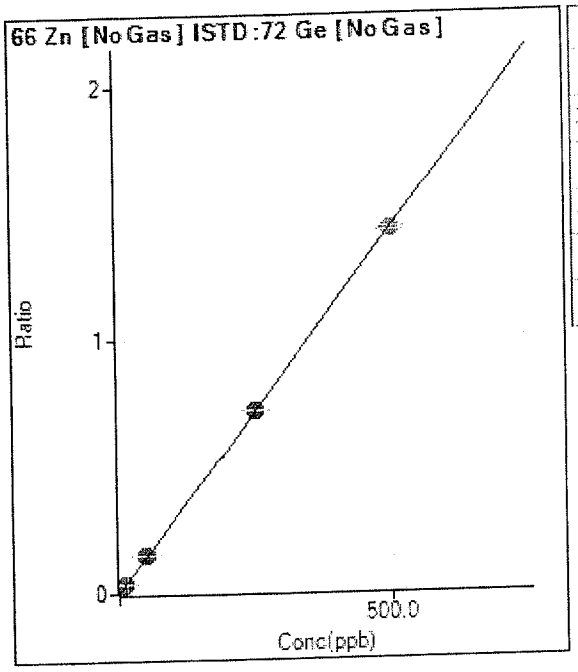
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11045.81	0.0163	P	1.5
2	☐	0.500	1.184	16620.13	0.0275	P	1.2
3	☐	1.000	1.233	16925.85	0.0280	P	1.8
4	☐	50.000	55.255	321915.67	0.5397	P	0.4
5	☐	250.000	251.132	1525421.25	2.3952	A	1.2
6	☐	500.000	498.907	2835871.67	4.7423	A	0.7

y = 0.0095 * x + 0.0163
R = 0.9999
DL = 0.07611
BEC = 1.719

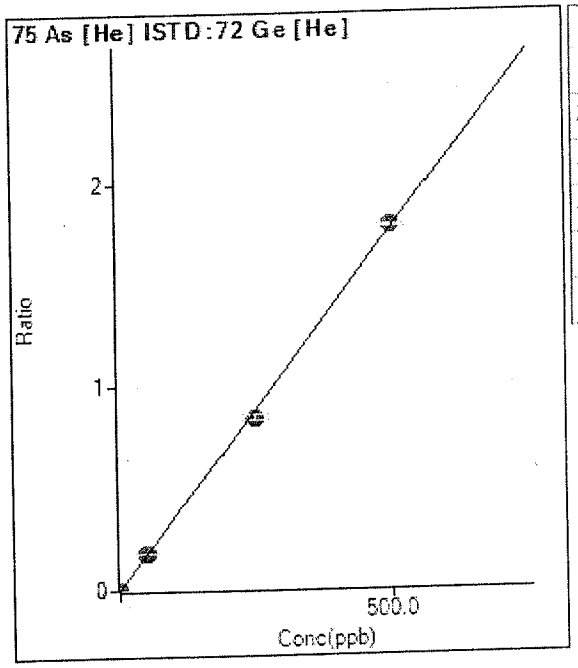
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3118.36	0.0028	P	3.5
2	☐	1.000	1.359	6840.39	0.0067	P	2.3
3	☐	10.000	11.133	35775.68	0.0346	P	0.4
4	☐	50.000	52.620	158372.30	0.1535	P	0.8
5	☐	250.000	250.848	834235.60	0.7212	P	0.4
6	☐	500.000	499.291	1472236.33	1.4328	A	0.9

y = 0.0029 * x + 0.0028
R = 1.0000
DL = 0.1002
BEC = 0.9632

Weight: <None>
Min Conc: 0

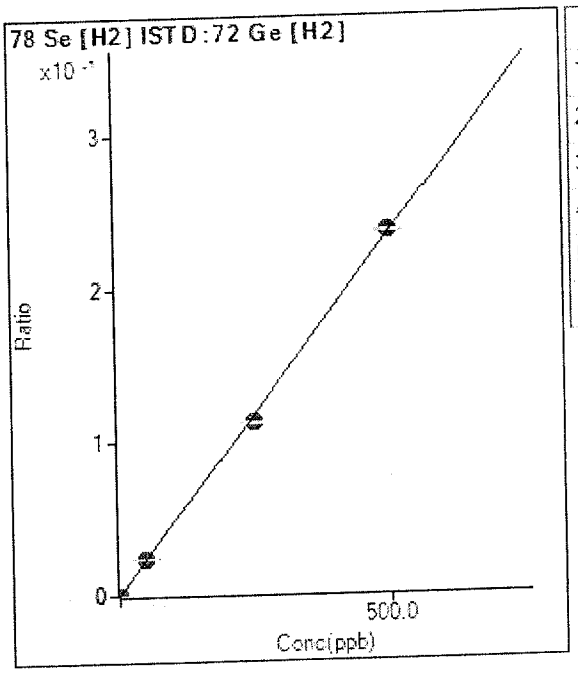


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	126.00	0.0003	P	4.9
2	☐	0.500	0.516	733.69	0.0022	P	3.3
3	☐	1.000	0.991	1310.06	0.0039	P	5.6
4	☐	50.000	50.687	61160.32	0.1796	P	1.1
5	☐	250.000	239.390	300910.61	0.8468	P	3.4
6	☐	500.000	505.236	597803.23	1.7868	P	0.8

y = 0.0035 * x + 3.4856E-004
R = 0.9997
DL = 0.01454
BEC = 0.09858

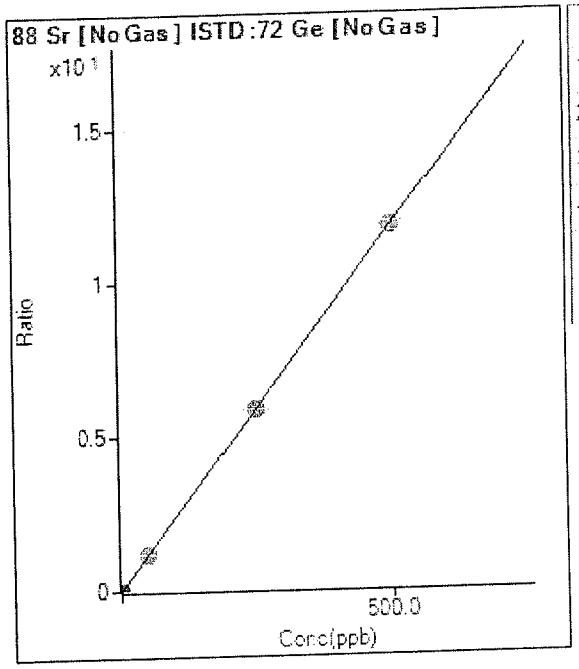
Weight: <None>
Min Conc: 0

Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0001	P	6.7
2	☐	0.500	0.451	251.67	0.0003	P	3.6
3	☐	1.000	0.967	478.01	0.0005	P	1.5
4	☐	50.000	50.859	22456.00	0.0239	P	0.4
5	☐	250.000	239.703	115342.91	0.1126	P	0.9
6	☐	500.000	505.063	219244.20	0.2371	P	0.9

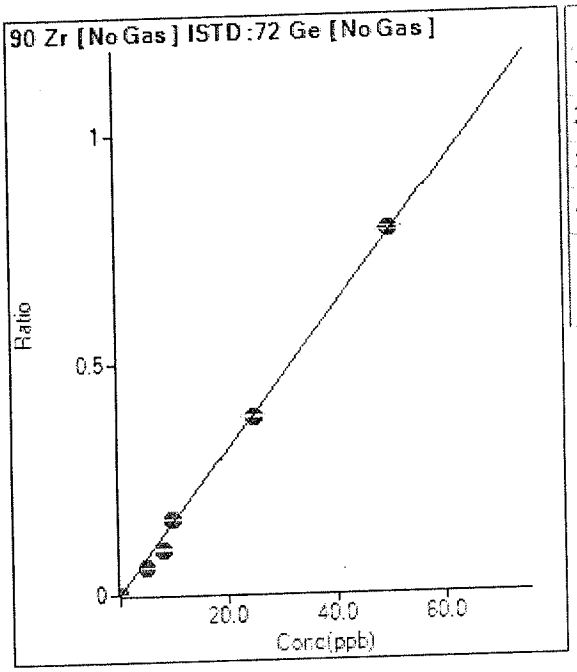
y = 4.6933E-004 * x + 5.6398E-005
R = 0.9997
DL = 0.02427
BEC = 0.1202
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1003.37	0.0009	P	10.5
2	☐	0.500	0.499	13029.67	0.0127	P	1.0
3	☐	1.000	1.003	25342.85	0.0245	P	0.1
4	☐	50.000	49.769	1212783.49	1.1752	A	0.1
5	☐	250.000	249.168	6801583.34	5.8802	A	0.7
6	☐	500.000	500.439	12134059.52	11.8090	A	2.4

y = 0.0236 * x + 8.8705E-004
R = 1.0000
DL = 0.01187
BEC = 0.03759
Weight: <None>
Min Conc: 0

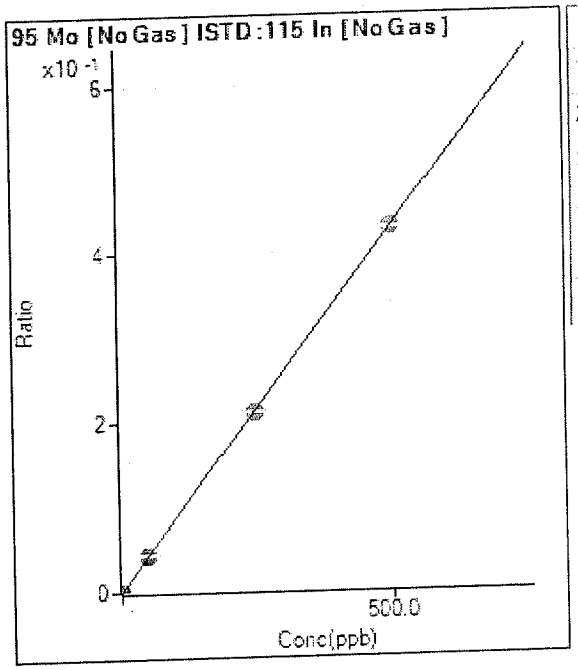
Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	350.01	0.0003	P	28.5
2	☐	5.000	3.614	58320.31	0.0567	P	1.1
3	☐	8.000	6.223	100617.28	0.0974	P	1.9
4	☐	10.000	10.445	168556.14	0.1633	P	0.6
5	☐	25.000	24.691	446114.37	0.3857	P	0.7
6	☐	50.000	50.489	810022.77	0.7683	P	1.0

y = 0.0156 * x + 3.0926E-004
R = 0.9990
DL = 0.01693
BEC = 0.01981

Weight: <None>
Min Conc: 0

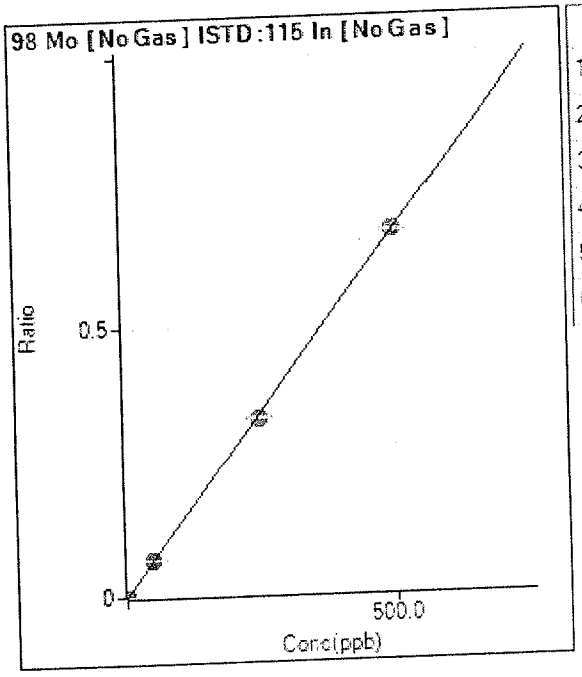


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	327.78	0.0001	P	6.6
2	☐	0.500	0.483	2513.58	0.0005	P	3.4
3	☐	1.000	0.961	4729.73	0.0009	P	1.0
4	☐	50.000	51.122	230629.12	0.0439	P	2.5
5	☐	250.000	248.154	1271331.72	0.2131	A	1.0
6	☐	500.000	500.811	2216928.25	0.4300	A	0.2

y = 8.5848E-004 * x + 5.3253E-005
R = 1.0000
DL = 0.01236
BEC = 0.06203

Weight: <None>
Min Conc: 0

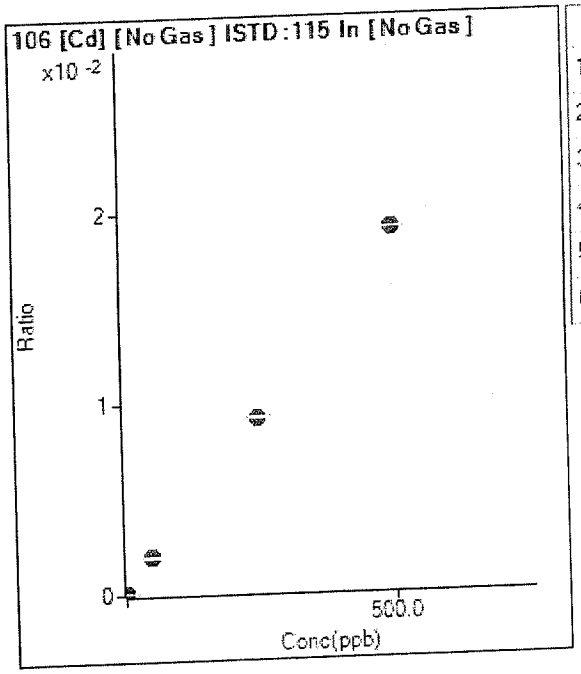
Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	730.02	0.0001	P	3.8
2	☐	0.500	0.443	3826.11	0.0007	P	4.8
3	☐	1.000	0.941	7429.86	0.0014	P	2.0
4	☐	50.000	50.551	356372.11	0.0679	P	2.[illegible]
5	☐	250.000	245.938	1967779.57	0.3298	A	[illegible].4
6	☐	500.000	501.976	3470151.95	0.6731	A	0.7

y = 0.0013 * x + 1.1861E-004
R = 1.0000
DL = 0.01019
BEC = 0.08848

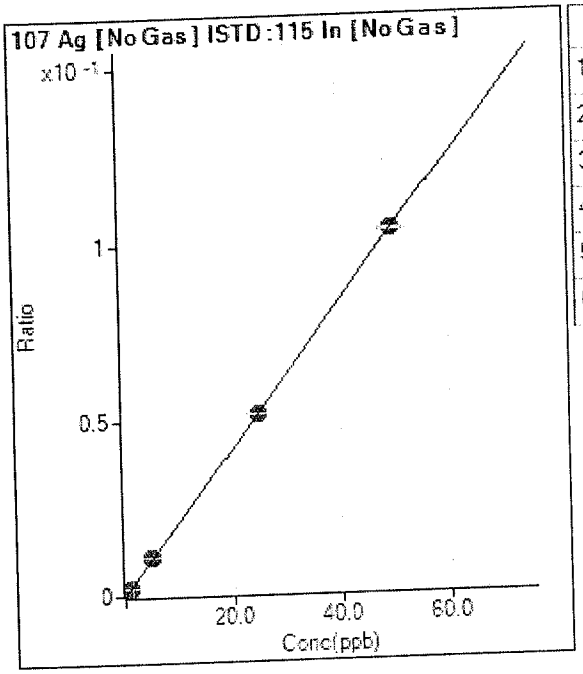
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		7.33	0.0000	P	39.8
2	☐	0.500		310.00	0.0001	P	3.7
3	☐	1.000		503.01	0.0001	P	6.2
4	☐	50.000		10420.76	0.0020	P	1.6
5	☐	250.000		55254.15	0.0093	P	0.6
6	☐	500.000		98500.34	0.0191	P	0.1

Excluded

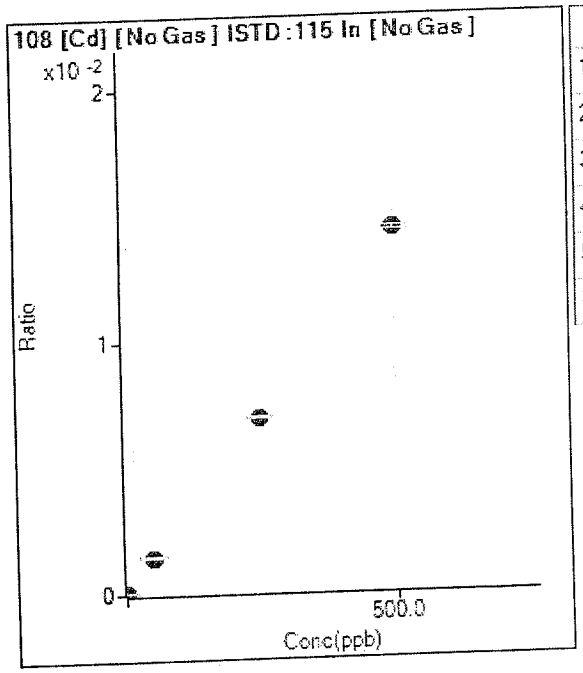
Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	68.89	0.0000	P	10.0
2	☐	0.500	0.620	6954.05	0.0013	P	2.5
3	☐	1.000	1.144	12799.53	0.0024	P	2.9
4	☐	5.000	5.201	56532.61	0.0108	P	0.3
5	☐	25.000	24.959	308073.27	0.0516	P	0.3
6	☐	50.000	49.996	533188.40	0.1034	P	0.4

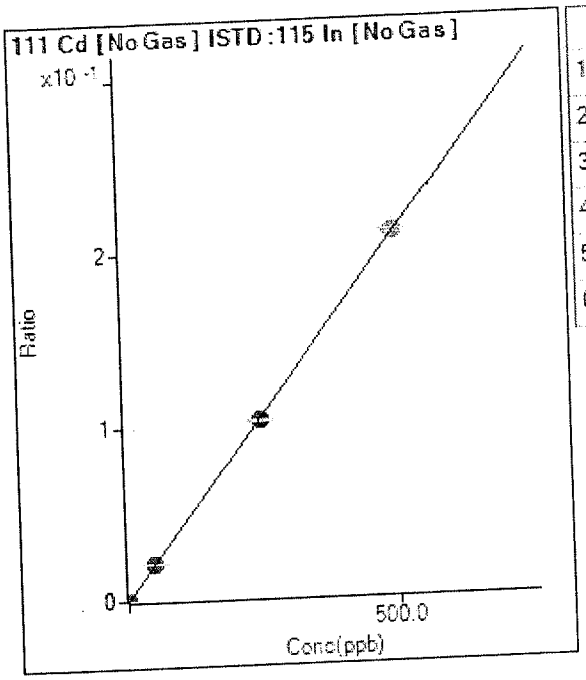
y = 0.0021 * x + 1.1191E-005
R = 1.0000
DL = 0.001623
BEC = 0.005411

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		10.67	0.0000	P	57.7
2	☐	0.500		165.00	0.0000	P	4.1
3	☐	1.000		299.00	0.0001	P	6.6
4	☐	50.000		7727.92	0.0015	P	2.3
5	☐	250.000		41679.78	0.0070	P	1.1
6	☐	500.000		74267.27	0.0144	P	1.0

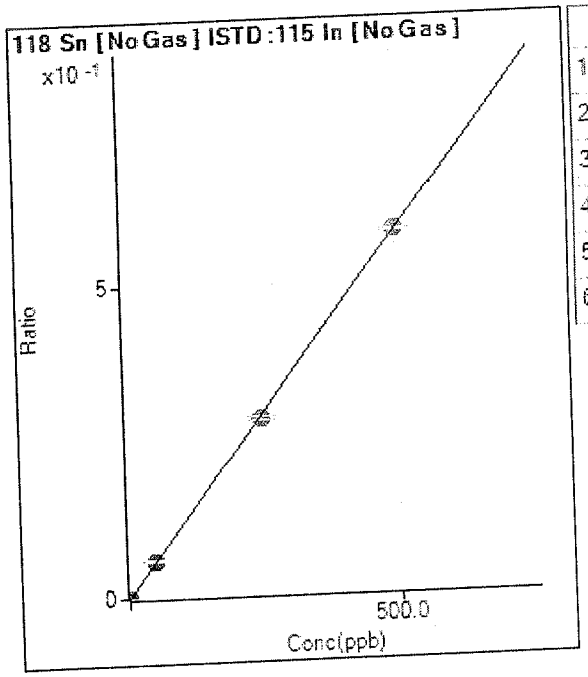
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	61.49	0.0000	P	14.2
2	☐	0.500	0.542	1268.19	0.0002	P	2.5
3	☐	1.000	1.058	2431.35	0.0005	P	0.2
4	☐	50.000	50.850	111412.17	0.0212	P	0.5
5	☐	250.000	246.139	612663.66	0.1027	P	0.6
6	☐	500.000	501.845	1079307.90	0.2094	M	0.9

y = 4.1714E-004 * x + 9.9873E-006
R = 1.0000
DL = 0.01023
BEC = 0.02394

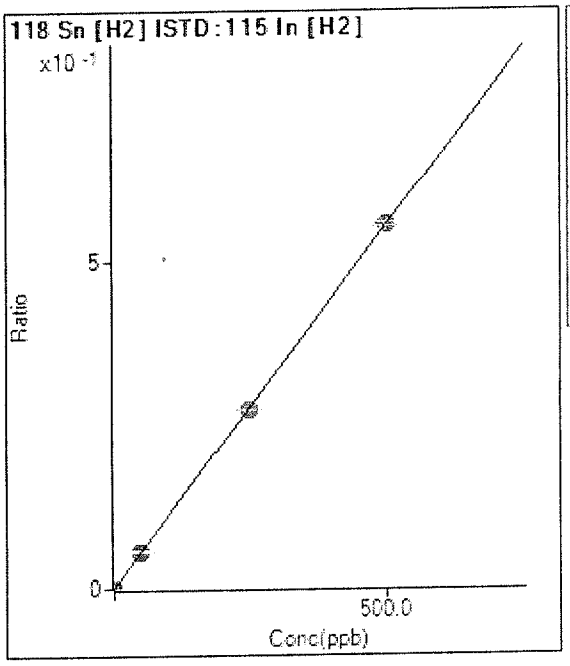
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1083.38	0.0002	P	1.5
2	☐	0.500	0.521	4196.23	0.0008	P	4.3
3	☐	1.000	0.964	6976.30	0.0013	P	1.7
4	☐	50.000	51.469	314782.21	0.0600	P	1.2
5	☐	250.000	245.213	1700533.72	0.2850	A	1.6
6	☐	500.000	502.247	3008887.45	0.5836	A	0.8

y = 0.0012 * x + 1.7599E-004
R = 0.9999
DL = 0.006749
BEC = 0.1515

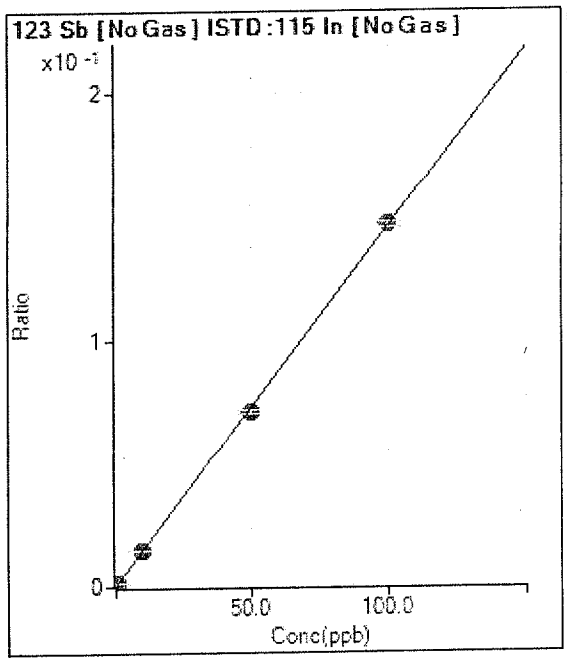
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1154.49	0.0002	P	8.5
2	☐	0.500	0.530	4740.86	0.0008	P	2.4
3	☐	1.000	0.970	7791.21	0.0012	P	0.9
4	☐	50.000	51.085	352670.01	0.0568	P	2.4
5	☐	250.000	247.072	1902632.49	0.2743	A	0.8
6	☐	500.000	501.356	3400666.60	0.5565	A	1.1

y = 0.0011 * x + 1.6176E-004
R = 1.0000
DL = 0.03728
BEC = 0.1458

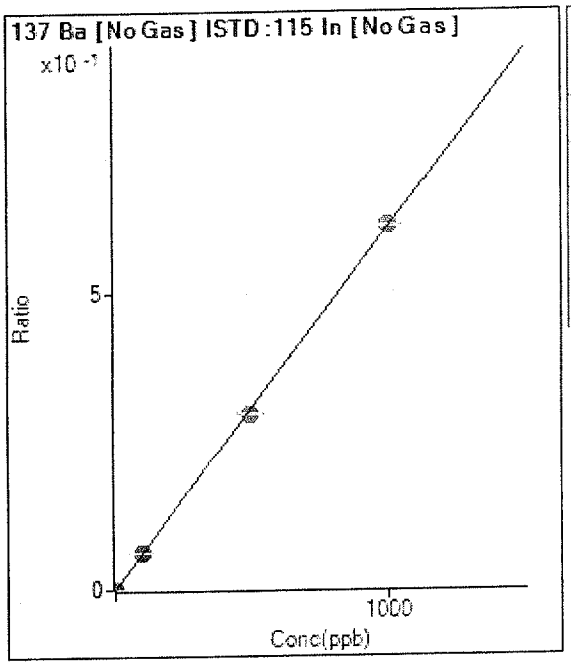
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	200.00	0.0000	P	6.8
2	☐	0.500	0.484	3968.38	0.0007	P	1.9
3	☐	1.000	0.980	7869.04	0.0015	P	2.0
4	☐	10.000	9.988	76643.09	0.0146	P	2.1
5	☐	50.000	48.399	421349.13	0.0706	P	2.1
6	☐	100.000	100.802	758161.51	0.1471	P	1.9

y = 0.0015 * x + 3.2484E-005
R = 0.9998
DL = 0.004551
BEC = 0.02227

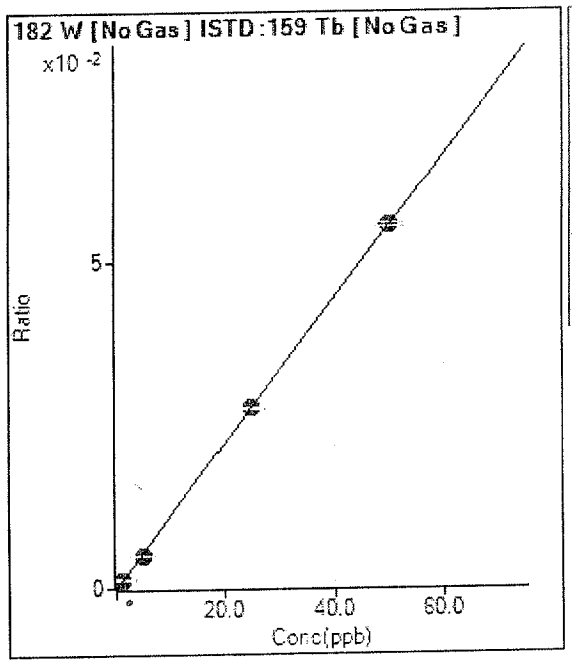
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.00	0.0000	P	12.9
2	☐	0.500	0.519	1884.58	0.0004	P	3.2
3	☐	1.000	0.988	3429.35	0.0006	P	2.1
4	☐	100.000	102.017	326780.44	0.0622	P	1.5
5	☐	500.000	487.259	1773082.08	0.2972	A	1.3
6	☐	1000.000	1006.169	3163734.94	0.6137	A	0.8

y = 6.0985E-004 * x + 3.4096E-005
R = 0.9999
DL = 0.02166
BEC = 0.05591

Weight: <None>
Min Conc: 0

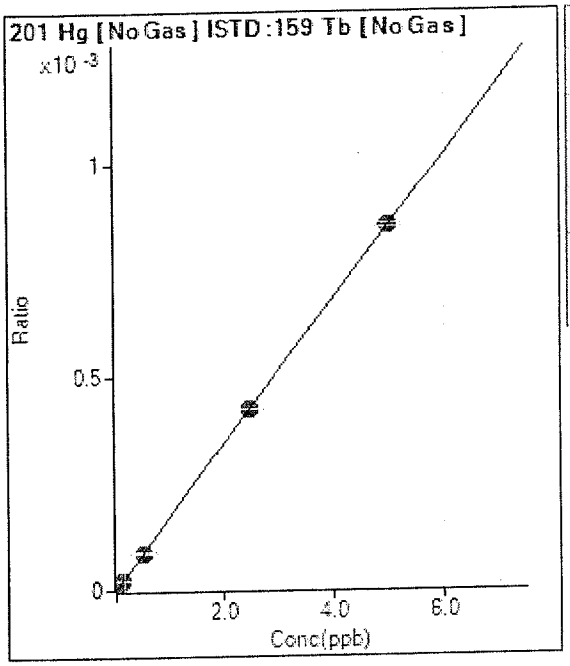


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0000	P	30.8
2	☐	0.500	0.279	2093.52	0.0003	P	5.6
3	☐	1.000	1.154	8332.78	0.0013	P	6.8
4	☐	5.000	4.486	31739.89	0.0050	P	3.9
5	☐	25.000	24.895	206172.23	0.0276	P	0.6
6	☐	50.000	50.103	357729.78	0.0555	P	1.1

y = 0.0011 * x + 1.8063E-005
R = 0.9999
DL = 0.01507
BEC = 0.01631

Weight: <None>
Min Conc: 0

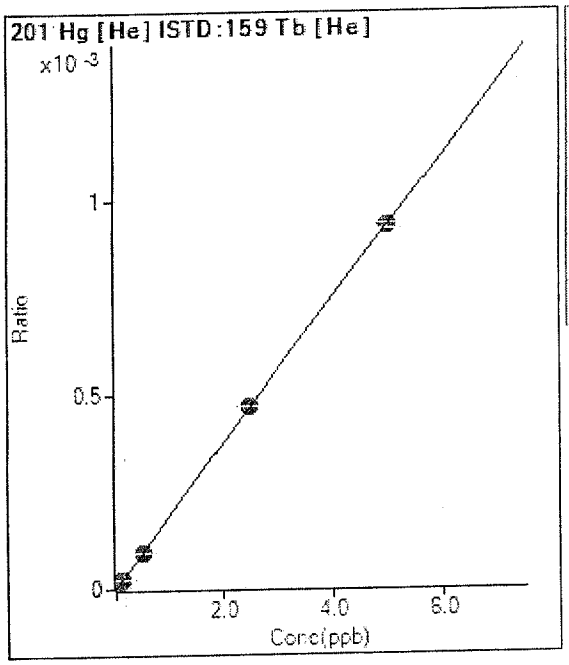
Calibration for H6B05099.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24.33	0.0000	P	21.7
2	☐	0.050	0.055	80.17	0.0000	P	6.5
3	☐	0.100	0.115	145.83	0.0000	P	6.4
4	☐	0.500	0.495	555.18	0.0001	P	2.5
5	☐	2.500	2.484	3176.07	0.0004	P	0.5
6	☐	5.000	5.008	5500.71	0.0009	P	1.2

y = 1.6976E-004 * x + 3.2119E-006
R = 1.0000
DL = 0.01231
BEC = 0.01892

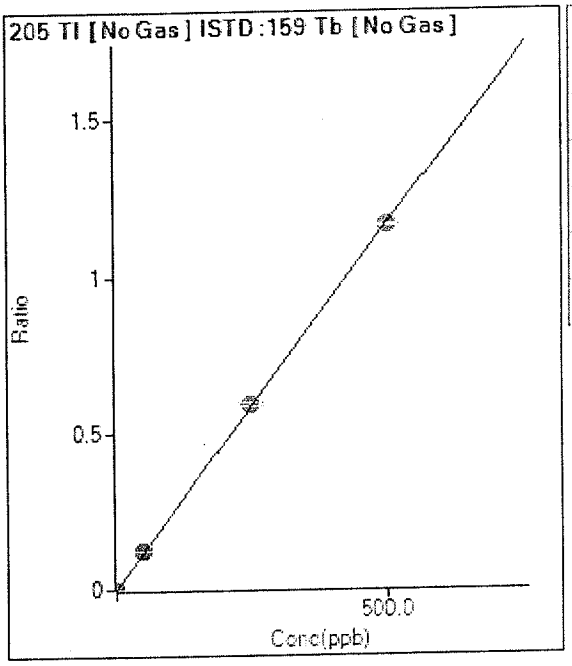
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21.00	0.0000	P	16.3
2	☐	0.050	0.053	68.17	0.0000	P	1.8
3	☐	0.100	0.108	121.00	0.0000	P	3.5
4	☐	0.500	0.485	470.51	0.0001	P	4.7
5	☐	2.500	2.498	2528.76	0.0005	P	0.1
6	☐	5.000	5.002	4723.06	0.0009	P	1.4

y = 1.8581E-004 * x + 3.6156E-006
R = 1.0000
DL = 0.00953
BEC = 0.01946

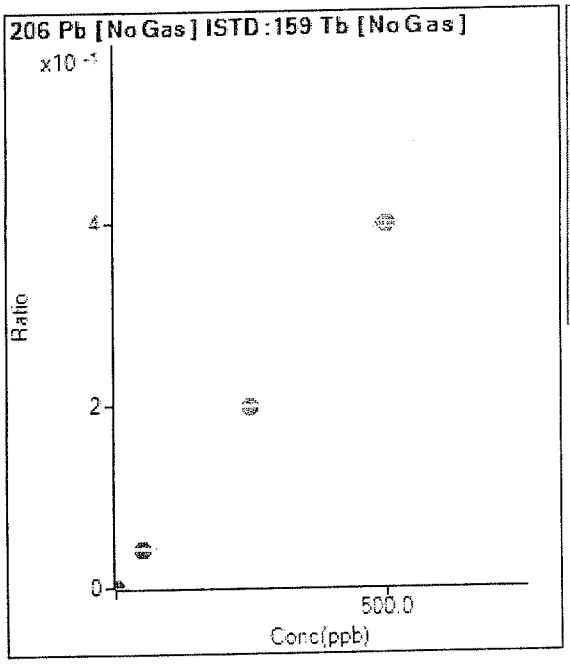
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	820.03	0.0001	P	5.8
2	☐	0.500	0.502	8189.36	0.0013	P	6.0
3	☐	1.000	1.000	15689.86	0.0024	P	3.4
4	☐	50.000	52.429	778422.11	0.1223	P	2.1
5	☐	250.000	252.701	4402951.08	0.5892	A	1.8
6	☐	500.000	498.406	7488936.92	1.1619	A	0.4

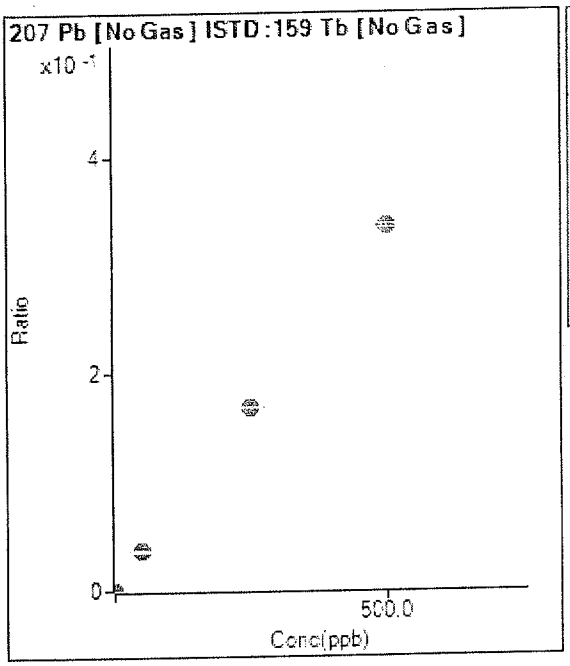
y = 0.0023 * x + 1.0827E-004
R = 1.0000
DL = 0.008122
BEC = 0.04645

Weight: <None>
Min Conc: 0



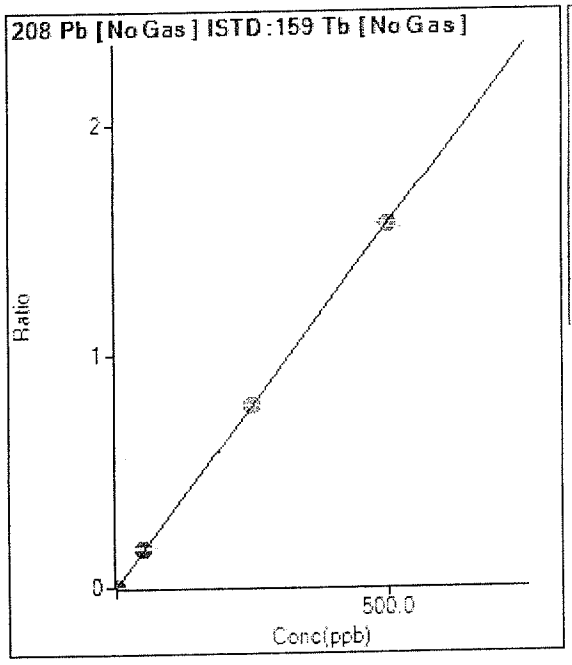
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		246.67	0.0000	P	12.8
2	☐	0.500		2990.38	0.0005	P	2.8
3	☐	1.000		5484.55	0.0009	P	2.4
4	☐	50.000		271785.31	0.0427	P	3.8
5	☐	250.000		1487194.61	0.1990	A	0.3
6	☐	500.000		2562672.83	0.3976	A	1.8

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		256.67	0.0000	P	29.1
2	☐	0.500		2573.61	0.0004	P	8.6
3	☐	1.000		4934.34	0.0008	P	3.9
4	☐	50.000		232454.60	0.0365	P	2.3
5	☐	250.000		1261877.22	0.1688	A	0.7
6	☐	500.000		2159142.21	0.3350	A	1.0

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1030.01	0.0001	P	9.7
2	☐	0.500	0.541	11711.07	0.0018	P	2.6
3	☐	1.000	1.064	22297.90	0.0035	P	0.5
4	☐	50.000	53.710	1070703.31	0.1682	P	2.6
5	☐	250.000	250.705	5865613.93	0.7848	A	0.3
6	☐	500.000	499.276	10073627.74	1.5628	A	1.3

y = 0.0031 * x + 1.3601E-004

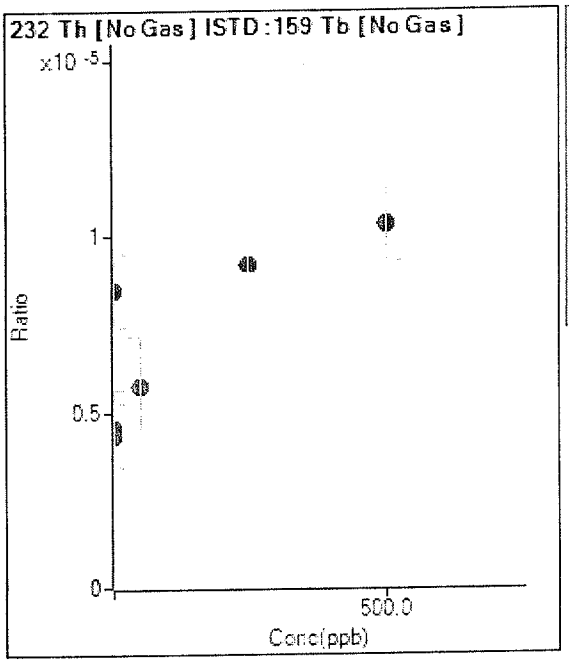
R = 1.0000

DL = 0.01269

BEC = 0.04346

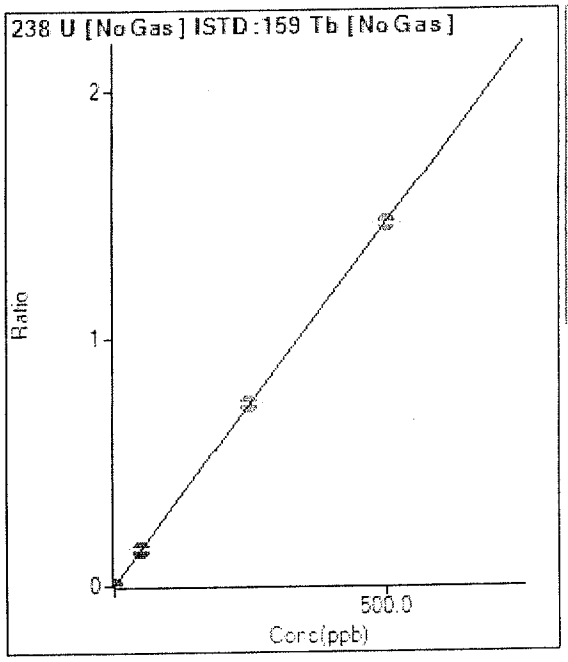
Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		34.44	0.0000	P	47.9
2	☐	0.500		54.45	0.0000	P	23.9
3	☐	1.000		27.78	0.0000	P	43.3
4	☐	50.000		36.67	0.0000	P	48.0
5	☐	250.000		68.89	0.0000	P	5.3
6	☐	500.000		66.67	0.0000	P	19.3

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	256.67	0.0000	P	8.3
2	☐	0.500	0.506	9710.52	0.0015	P	1.9
3	☐	1.000	1.024	19511.08	0.0030	P	0.6
4	☐	50.000	51.453	958913.29	0.1507	P	1.5
5	☐	250.000	251.682	5511159.22	0.7374	A	1.3
6	☐	500.000	498.914	9414739.90	1.4607	A	0.5

y = 0.0029 * x + 3.3901E-005

R = 1.0000

DL = 0.002885

BEC = 0.01158

Weight: <None>

Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq. Date-Time	2023-02-07 10:34:11
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

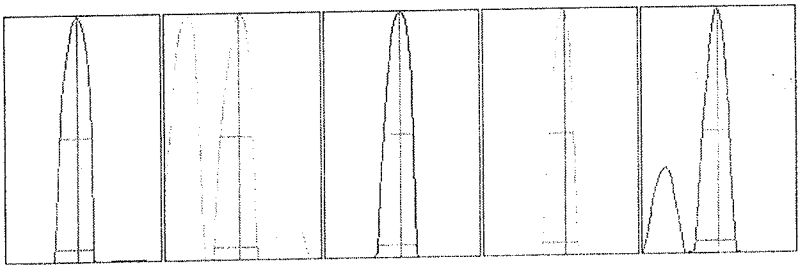
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	24602	246022.50			1.747	5.000
24	10.00	108833	1088328.16			1.118	5.000
59	10.00	228839	2288390.96			1.246	5.000
115	10.00	260974	2609742.25			3.019	5.000
208	10.00	131139	1311392.69			3.712	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	24523	23896	24738	24885	24969
24	107392	108881	108482	108654	110754
59	225205	226419	230229	230606	231737
115	257155	249168	263318	267049	268180
208	131075	122782	133182	133887	134771

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	44545.41	8.95	8.90 - 9.10	
24	192531.27	23.95	23.90 - 24.10	
59	420605.52	59.00	58.90 - 59.10	
115	555080.58	115.10	114.90 - 115.10	
208	266576.45	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.732	0.900	
24	0.60	0.818	0.900	
59	0.57	0.738	0.900	
115	0.48	0.685	0.900	
208	0.52	0.768	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.3 V	Deflect	13.8 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-105 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9993	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.02		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	-0.3 mm		

EM

Discriminator	3.3 mV	Analog HV	2830 V	Pulse HV	1542 V

Calibration Blank Report

Sample Name	S0
File Name	H6B05003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:25:27
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	89086.85	0.5
Be	9	6	No Gas	28.89	13.3
B	11	6	No Gas	12111.89	1.3
Na	23	45	H2	921568.34	0.1
Mg	24	45	No Gas	41564.43	0.7
Al	27	45	No Gas	45721.66	1.2
Si	28	45	H2	6096.67	1.3
P	31	45	No Gas	66303.68	0.6
K	39	45	He	117042.86	4.1
Ca	40	45	H2	224923.86	0.6
Ti	47	45	No Gas	382.01	2.7
V	51	45	He	1418.74	5.2
Cr	52	45	He	1880.80	8.3
Mn	55	45	No Gas	11806.43	1.5
Fe	56	45	H2	68086.35	1.1
Co	59	45	No Gas	580.01	1.9
Ni	60	45	He	248.67	8.9
Cu	63	45	He	11045.81	1.7
Zn	66	72	No Gas	3118.36	2.9
As	75	72	He	126.00	5.2
Se	78	72	H2	56.67	6.7
Sr	88	72	No Gas	1003.37	11.2
Zr	90	72	No Gas	350.01	29.0
Mo	95	115	No Gas	327.78	6.5
Mo	98	115	No Gas	730.02	3.2
[Cd]	106	115	No Gas	7.33	39.4
Ag	107	115	No Gas	68.89	10.1
[Cd]	108	115	No Gas	10.67	57.3
Cd	111	115	No Gas	61.49	14.5
Sn	118	115	No Gas	1083.38	1.9
Sn	118	115	H2	1154.49	7.0
Sb	123	115	No Gas	200.00	7.3
Ba	137	115	No Gas	210.00	13.6
W	182	159	No Gas	136.67	30.5
Hg	201	159	No Gas	24.33	22.0

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	21.00	16.7
Tl	205	159	No Gas	820.03	6.1
Pb	206	159	No Gas	246.67	13.0
Pb	207	159	No Gas	256.67	29.2
Pb	208	159	No Gas	1030.01	9.7
Th	232	159	No Gas	34.44	47.7
U	238	159	No Gas	256.67	7.9

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	1517743.01	0.7
Sc	45	No Gas	5504431.83	0.9
Sc	45	H2	4104371.25	0.4
Sc	45	He	678180.27	0.8
Ge	72	No Gas	1130532.75	0.7
Ge	72	H2	1004803.81	0.6
Ge	72	He	361451.28	0.3
In	115	No Gas	6155607.56	0.6
Tb	159	No Gas	7572873.03	0.4
Tb	159	He	5805701.67	0.4

Calibration Standard Report

Sample Name	S1
File Name	H6B05004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:28:18
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	76996.19	0.6
Be	9	6	No Gas	1171.16	5.1
B	11	6	No Gas	7141.82	1.2
Na	23	45	H2	1159613.13	0.8
Mg	24	45	No Gas	474183.56	0.2
Al	27	45	No Gas	627997.95	2.0
Si	28	45	H2	153115.07	1.3
P	31	45	No Gas	263899.22	1.0
K	39	45	He	162400.30	3.9
Ca	40	45	H2	738918.15	0.6
Ti	47	45	No Gas	1238.72	2.4
V	51	45	He	4496.07	1.6
Cr	52	45	He	5871.26	0.8
Mn	55	45	No Gas	23173.61	1.7
Fe	56	45	H2	818600.48	0.9
Co	59	45	No Gas	10641.49	2.8
Ni	60	45	He	1479.41	1.7
Cu	63	45	He	16620.13	0.9
Zn	66	72	No Gas	6840.39	1.8
As	75	72	He	733.69	2.9
Se	78	72	H2	251.67	3.8
Sr	88	72	No Gas	13029.67	1.4
Zr	90	72	No Gas	58320.31	0.4
Mo	95	115	No Gas	2513.58	3.8
Ag	107	115	No Gas	6954.05	2.0
Cd	111	115	No Gas	1268.19	3.0
Sn	118	115	No Gas	4196.23	3.9
Sb	123	115	No Gas	3968.38	2.4
Ba	137	115	No Gas	1884.58	3.7
W	182	159	No Gas	2093.52	7.4
Hg	201	159	He	68.17	1.8
Tl	205	159	No Gas	8189.36	4.6
Pb	208	159	No Gas	11711.07	2.0
U	238	159	No Gas	9710.52	3.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1284450.16	0.7	1517743.01	84.63	70	120	
Sc	45	No Gas	4668647.17	0.4	5504431.83	84.82	70	120	
Sc	45	H2	3599286.67	1.0	4104371.25	87.69	70	120	
Sc	45	He	604330.96	0.3	678180.27	89.11	70	120	
Ge	72	No Gas	1028492.85	1.2	1130532.75	90.97	70	120	
Ge	72	H2	939596.42	0.2	1004803.81	93.51	70	120	
Ge	72	He	337434.60	0.5	361451.28	93.36	70	120	
In	115	No Gas	5374117.23	0.5	6155607.56	87.3	70	120	
Tb	159	No Gas	6407274.19	1.8	7572873.03	84.61	70	120	
Tb	159	He	5078993.33	0.1	5805701.67	87.48	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6B05005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:31:09
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	80862.20	0.9
Be	9	6	No Gas	2302.41	5.5
B	11	6	No Gas	11575.88	2.1
Na	23	45	H2	1360003.71	0.5
Mg	24	45	No Gas	915628.12	0.6
Al	27	45	No Gas	1220931.73	0.8
Si	28	45	H2	305704.26	1.0
P	31	45	No Gas	96335.23	1.6
K	39	45	He	200658.33	2.4
Ca	40	45	H2	1209594.13	1.2
Ti	47	45	No Gas	1946.81	5.0
V	51	45	He	7211.90	1.2
Cr	52	45	He	9299.82	1.1
Mn	55	45	No Gas	35644.33	0.3
Fe	56	45	H2	1516811.34	1.7
Co	59	45	No Gas	20930.02	0.8
Ni	60	45	He	2623.59	3.5
Cu	63	45	He	16925.85	1.6
Zn	66	72	No Gas	35775.68	0.6
As	75	72	He	1310.06	5.8
Se	78	72	H2	478.01	1.1
Sr	88	72	No Gas	25342.85	0.6
Zr	90	72	No Gas	100617.28	2.4
Mo	95	115	No Gas	4729.73	1.7
Ag	107	115	No Gas	12799.53	3.5
Cd	111	115	No Gas	2431.35	0.6
Sn	118	115	No Gas	6976.30	2.3
Sb	123	115	No Gas	7869.04	2.3
Ba	137	115	No Gas	3429.35	2.2
W	182	159	No Gas	8332.78	5.5
Hg	201	159	He	121.00	3.4
Tl	205	159	No Gas	15689.86	2.6
Pb	208	159	No Gas	22297.90	1.7
U	238	159	No Gas	19511.08	1.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1305099.74	1.0	1517743.01	85.99	70	120	
Sc	45	No Gas	4694402.50	0.3	5504431.83	85.28	70	120	
Sc	45	H2	3573753.33	1.8	4104371.25	87.07	70	120	
Sc	45	He	605177.23	0.2	678180.27	89.24	70	120	
Ge	72	No Gas	1032611.46	0.7	1130532.75	91.34	70	120	
Ge	72	H2	937095.67	1.9	1004803.81	93.26	70	120	
Ge	72	He	340113.29	0.8	361451.28	94.1	70	120	
In	115	No Gas	5384724.83	0.7	6155607.56	87.48	70	120	
Tb	159	No Gas	6433436.27	1.2	7572873.03	84.95	70	120	
Tb	159	He	5108709.67	0.1	5805701.67	87.99	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6B05006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B05.b
Acq Time	2023-02-07 13:34:00
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Ll	7	6	No Gas	101404.11	2.4
Be	9	6	No Gas	11407.96	1.7
B	11	6	No Gas	21888.14	1.4
Na	23	45	H2	21349603.33	0.6
Mg	24	45	No Gas	44262522.67	1.4
Al	27	45	No Gas	59091655.79	1.4
Si	28	45	H2	753858.10	1.4
P	31	45	No Gas	104816.08	0.6
K	39	45	He	3958171.50	0.4
Ca	40	45	H2	50410721.33	0.3
Ti	47	45	No Gas	76907.04	0.3
V	51	45	He	310303.12	0.7
Cr	52	45	He	347578.37	0.8
Mn	55	45	No Gas	7282210.67	0.7
Fe	56	45	H2	73154032.00	0.2
Co	59	45	No Gas	993611.46	1.2
Ni	60	45	He	118426.33	0.6
Cu	63	45	He	321915.67	0.6
Zn	66	72	No Gas	158372.30	0.0
As	75	72	He	61160.32	0.3
Se	78	72	H2	22456.00	1.0
Sr	88	72	No Gas	1212783.49	0.7
Zr	90	72	No Gas	168556.14	0.3
Mo	95	115	No Gas	230629.12	0.9
Ag	107	115	No Gas	56532.61	1.4
Cd	111	115	No Gas	111412.17	1.3
Sn	118	115	No Gas	314782.21	0.5
Sb	123	115	No Gas	76643.09	0.6
Ba	137	115	No Gas	326780.44	1.1
W	182	159	No Gas	31739.89	4.9
Hg	201	159	He	470.51	4.3
Tl	205	159	No Gas	778422.11	1.0
Pb	208	159	No Gas	1070703.31	1.9
U	238	159	No Gas	958913.29	1.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1268194.86	0.5	1517743.01	83.56	70	120	
Sc	45	No Gas	4634032.33	0.6	5504431.83	84.19	70	120	
Sc	45	H2	3562495.67	1.1	4104371.25	86.8	70	120	
Sc	45	He	596465.14	0.3	678180.27	87.95	70	120	
Ge	72	No Gas	1031975.62	0.7	1130532.75	91.28	70	120	
Ge	72	H2	938548.39	0.7	1004803.81	93.41	70	120	
Ge	72	He	340607.30	0.9	361451.28	94.23	70	120	
In	115	No Gas	5250221.33	1.7	6155607.56	85.29	70	120	
Tb	159	No Gas	6364857.11	1.1	7572873.03	84.05	70	120	
Tb	159	He	5017154.50	0.4	5805701.67	86.42	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6B05007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:37:03
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	248971.95	1.1
Be	9	6	No Gas	61434.69	0.4
B	11	6	No Gas	88728.63	1.4
Na	23	45	H2	115904314.67	1.1
Mg	24	45	No Gas	250607056.00	0.2
Al	27	45	No Gas	337996201.63	1.3
Si	28	45	H2	4126108.25	0.1
P	31	45	No Gas	279630.98	0.3
K	39	45	He	20096990.67	7.1
Ca	40	45	H2	282225610.67	0.1
Ti	47	45	No Gas	438789.95	0.7
V	51	45	He	1594347.29	7.9
Cr	52	45	He	1744526.54	8.0
Mn	55	45	No Gas	40994298.67	0.6
Fe	56	45	H2	404489973.33	0.9
Co	59	45	No Gas	5505901.33	0.3
Ni	60	45	He	597506.56	6.8
Cu	63	45	He	1525421.25	7.5
Zn	66	72	No Gas	834235.60	0.8
As	75	72	He	300910.61	1.7
Se	78	72	H2	115342.91	0.7
Sr	88	72	No Gas	6801583.34	1.1
Zr	90	72	No Gas	446114.37	0.9
Mo	95	115	No Gas	1271331.72	0.2
Ag	107	115	No Gas	308073.27	1.1
Cd	111	115	No Gas	612663.66	0.6
Sn	118	115	No Gas	1700533.72	1.3
Sb	123	115	No Gas	421349.13	1.0
Ba	137	115	No Gas	1773082.08	0.4
W	182	159	No Gas	206172.23	0.6
Hg	201	159	He	2528.76	6.8
Tl	205	159	No Gas	4402951.08	1.5
Pb	208	159	No Gas	5865613.93	1.0
U	238	159	No Gas	5511159.22	0.8

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1479886.26	0.2	1517743.01	97.51	70	120	
Sc	45	No Gas	5499560.67	1.9	5504431.83	99.91	70	120	
Sc	45	H2	4114496.92	0.4	4104371.25	100.25	70	120	
Sc	45	He	636674.84	6.8	678180.27	93.88	70	120	
Ge	72	No Gas	1156680.42	0.4	1130532.75	102.31	70	120	
Ge	72	H2	1024775.48	0.5	1004803.81	101.99	70	120	
Ge	72	He	355750.46	5.0	361451.28	98.42	70	120	
In	115	No Gas	5966653.17	1.1	6155607.56	96.93	70	120	
Tb	159	No Gas	7473747.20	0.7	7572873.03	98.69	70	120	
Tb	159	He	5406022.17	6.9	5805701.67	93.12	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6B05008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:39:53
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	350561.68	1.0
Be	9	6	No Gas	109250.52	1.6
B	11	6	No Gas	155644.89	2.8
Na	23	45	H2	202650368.00	1.0
Mg	24	45	No Gas	434622528.00	0.5
Al	27	45	No Gas	587541084.58	1.0
Si	28	45	H2	7256408.00	0.9
P	31	45	No Gas	470770.74	1.8
K	39	45	He	37990268.00	0.3
Ca	40	45	H2	500029205.33	0.1
Ti	47	45	No Gas	759985.48	0.4
V	51	45	He	3038755.50	0.6
Cr	52	45	He	3307179.67	0.9
Mn	55	45	No Gas	71178349.33	0.7
Fe	56	45	H2	717502400.00	0.5
Co	59	45	No Gas	9636027.00	0.7
Ni	60	45	He	1091897.83	1.1
Cu	63	45	He	2835871.67	0.6
Zn	66	72	No Gas	1472236.33	1.2
As	75	72	He	597803.23	0.8
Se	78	72	H2	219244.20	1.2
Sr	88	72	No Gas	12134059.52	2.5
Zr	90	72	No Gas	810022.77	1.3
Mo	95	115	No Gas	2216928.25	1.0
Ag	107	115	No Gas	533188.40	1.1
Cd	111	115	No Gas	1079307.90	0.1
Sn	118	115	No Gas	3008887.45	0.8
Sb	123	115	No Gas	758161.51	1.5
Ba	137	115	No Gas	3163734.94	0.6
W	182	159	No Gas	357729.78	0.6
Hg	201	159	He	4723.06	1.2
Tl	205	159	No Gas	7488936.92	0.5
Pb	208	159	No Gas	10073627.74	1.7
U	238	159	No Gas	9414739.90	0.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1237640.05	1.3	1517743.01	81.54	70	120	
Sc	45	No Gas	4722118.83	1.2	5504431.83	85.79	70	120	
Sc	45	H2	3602291.50	0.4	4104371.25	87.77	70	120	
Sc	45	He	597998.23	0.4	678180.27	88.18	70	120	
Ge	72	No Gas	1027499.96	0.4	1130532.75	90.89	70	120	
Ge	72	H2	924688.60	0.5	1004803.81	92.03	70	120	
Ge	72	He	334572.41	0.9	361451.28	92.56	70	120	
In	115	No Gas	5155769.12	0.8	6155607.56	83.76	70	120	
Tb	159	No Gas	6445575.30	0.7	7572873.03	85.11	70	120	
Tb	159	He	5061870.33	0.4	5805701.67	87.19	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6B05009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:42:39
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.772	ppb	2.5	250737.62	30	92.57	90	110	
Be	9	6	No Gas	29.697	ppb	3.7	71038.15	30	98.99	90	110	
B	11	6	No Gas	28.835	ppb	4.9	56303.78	30	96.12	90	110	
Na	23	45	H2	31073.293	ppb	1.2	126611768.00	30000	103.58	90	110	
Mg	24	45	No Gas	30328.746	ppb	1.7	283445493.33	30000	101.1	90	110	
Al	27	45	No Gas	30927.844	ppb	1.7	390291127.52	30000	103.09	90	110	
Si	28	45	H2	3136.789	ppb	0.9	4566035.50	3000	104.56	90	110	
P	31	45	No Gas	286.347	ppb	6.3	315297.50	300	95.45	90	110	
K	39	45	He	31153.722	ppb	0.7	23783598.67	30000	103.85	90	110	
Ca	40	45	H2	30894.086	ppb	0.4	309314901.33	30000	102.98	90	110	
Ti	47	45	No Gas	305.860	ppb	1.9	499546.19	300	101.95	90	110	
V	51	45	He	307.619	ppb	0.9	1873512.92	300	102.54	90	110	
Cr	52	45	He	307.645	ppb	0.6	2041905.12	300	102.55	90	110	
Mn	55	45	No Gas	1994.606	ppb	1.6	50835625.33	2000	99.73	90	110	
Fe	56	45	H2	30773.530	ppb	0.4	442006240.00	30000	102.58	90	110	
Co	59	45	No Gas	302.595	ppb	2.3	6252834.17	300	100.86	90	110	
Ni	60	45	He	310.632	ppb	0.7	685885.94	300	103.54	90	110	
Cu	63	45	He	321.961	ppb	0.7	1842259.12	300	107.32	90	110	
Zn	66	72	No Gas	308.523	ppb	3.7	964338.69	300	102.84	90	110	
As	75	72	He	305.916	ppb	1.0	361042.84	300	101.97	90	110	
Se	78	72	H2	305.945	ppb	1.4	133044.15	300	101.98	90	110	
Sr	88	72	No Gas	302.374	ppb	3.1	7765079.42	300	100.79	90	110	
Zr	90	72	No Gas	30.824	ppb	2.9	523916.75	30	102.75	90	110	
Mo	95	115	No Gas	306.187	ppb	0.8	1456798.42	300	102.06	90	110	
Ag	107	115	No Gas	31.245	ppb	0.6	357988.08	30	104.15	90	110	
Cd	111	115	No Gas	304.383	ppb	0.6	703335.19	300	101.46	90	110	
Sn	118	115	No Gas	304.873	ppb	0.8	1962410.69	300	101.62	90	110	
Sb	123	115	No Gas	56.762	ppb	0.6	458756.04	60	94.6	90	110	
Ba	137	115	No Gas	305.557	ppb	0.4	1032380.34	300	101.85	90	110	
W	182	159	No Gas	30.850	ppb	0.5	238055.30	30	102.83	90	110	
Hg	201	159	No Gas	2.928	ppb	4.8	3477.81	3	97.6	90	110	
Hg	201	159	He	2.864	ppb	2.6	2742.13	3	95.47	90	110	
Tl	205	159	No Gas	307.205	ppb	2.2	4986260.49	300	102.4	90	110	
Pb	208	159	No Gas	307.180	ppb	1.7	6697143.01	300	102.39	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	307.728	ppb	1.8	6275485.86	300	102.58	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1373106.54	8.1	1517743.01	90.47	70	120	
Sc	45	No Gas	5084052.17	6.5	5504431.83	92.36	70	120	
Sc	45	H2	3613770.50	0.7	4104371.25	88.05	70	120	
Sc	45	He	600847.75	0.4	678180.27	88.6	70	120	
Ge	72	No Gas	1089566.65	6.1	1130532.75	96.38	70	120	
Ge	72	H2	926207.46	0.9	1004803.81	92.18	70	120	
Ge	72	He	333700.80	1.4	361451.28	92.32	70	120	
In	115	No Gas	5539806.35	4.6	6155607.56	90	70	120	
Tb	159	No Gas	6964983.20	6.2	7572873.03	91.97	70	120	
Tb	159	He	5117330.50	0.7	5805701.67	88.14	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6B05010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:45:16
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	75044.01	0.4	
Be	9	6	No Gas	0.014	ppb	32.1	56.67	0.08	
B	11	6	No Gas	1.677	ppb	18.5	12744.67	4	
Na	23	45	H2	38.628	ppb	4.0	960505.83	40	
Mg	24	45	No Gas	3.531	ppb	46.1	65105.00	10	
Al	27	45	No Gas	3.241	ppb	52.1	75781.11	15	
Si	28	45	H2	3.121	ppb	3.7	9830.81	8	
P	31	45	No Gas	9.341	ppb	17.9	63561.68	10	
K	39	45	He	32.596	ppb	21.2	128556.97	20	>LOD
Ca	40	45	H2	1.807	ppb	12.7	214497.87	25	
Ti	47	45	No Gas	0.048	ppb	123.9	394.01	0.5	
V	51	45	He	0.030	ppb	25.6	1440.08	0.5	
Cr	52	45	He	0.100	ppb	11.1	2330.87	0.2	
Mn	55	45	No Gas	0.439	ppb	28.0	20149.77	0.2	>LOD
Fe	56	45	H2	1.441	ppb	4.4	80042.94	10	
Co	59	45	No Gas	0.059	ppb	30.5	1607.43	0.15	
Ni	60	45	He	0.042	ppb	20.9	313.33	0.2	
Cu	63	45	He	0.269	ppb	11.7	11321.37	0.4	
Zn	66	72	No Gas	0.069	ppb	83.0	2942.99	2	
As	75	72	He	0.053	ppb	8.6	175.00	0.2	
Se	78	72	H2	0.070	ppb	54.5	81.00	0.2	
Sr	88	72	No Gas	0.049	ppb	30.5	2017.94	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	240.00	2	
Mo	95	115	No Gas	0.047	ppb	50.0	496.68	0.2	
Ag	107	115	No Gas	0.005	ppb	28.5	116.67	0.08	
Cd	111	115	No Gas	0.084	ppb	36.4	238.24	0.2	
Sn	118	115	No Gas	0.183	ppb	16.4	2063.50	0.2	
Sb	123	115	No Gas	0.015	ppb	12.5	287.78	0.4	
Ba	137	115	No Gas	0.061	ppb	29.2	378.90	0.2	
W	182	159	No Gas	0.014	ppb	54.3	213.33	0.3	
Hg	201	159	No Gas	0.046	ppb	33.7	71.50	0.1	
Hg	201	159	He	0.026	ppb	4.9	43.33	0.1	
Tl	205	159	No Gas	0.127	ppb	37.3	2610.28	0.1	>LOD
Pb	208	159	No Gas	0.065	ppb	37.4	2188.96	0.1	

TH 2/8/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.055	ppb	27.0	1264.52	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1287214.67	2.6	1517743.01	84.81	70	120	
Sc	45	No Gas	4647791.83	2.9	5504431.83	84.44	70	120	
Sc	45	H2	3586678.33	1.2	4104371.25	87.39	70	120	
Sc	45	He	601192.33	0.8	678180.27	88.65	70	120	
Ge	72	No Gas	997021.00	3.8	1130532.75	88.19	70	120	
Ge	72	H2	908488.31	1.0	1004803.81	90.41	70	120	
Ge	72	He	326536.19	1.0	361451.28	90.34	70	120	
In	115	No Gas	5319040.38	2.9	6155607.56	86.41	70	120	
Tb	159	No Gas	6485429.46	3.7	7572873.03	85.64	70	120	
Tb	159	He	5099703.00	0.6	5805701.67	87.84	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLB0701
File Name	H6B05011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 13:59:43
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	1.035	ppb	16.0	81332.69	1	103.5	80	120	
Be	9	6	No Gas	0.937	ppb	3.0	2123.50	1	93.7	80	120	
B	11	6	No Gas	8.515	ppb	7.2	22811.86	10	85.15	80	120	
Na	23	45	H2	133.105	ppb	1.5	1330106.67	100	133.1	80	120	> +/- 20%
Mg	24	45	No Gas	97.284	ppb	2.7	868500.67	100	97.28	80	120	
Al	27	45	No Gas	96.014	ppb	5.2	1149780.87	100	96.01	80	120	
Si	28	45	H2	100.010	ppb	1.5	148530.06	100	100.01	80	120	
P	31	45	No Gas	56.499	ppb	3.4	102227.35	50	113	80	120	
K	39	45	He	127.747	ppb	8.8	200076.16	100	127.75	80	120	> +/- 20%
Ca	40	45	H2	113.847	ppb	1.9	1317146.54	100	113.85	80	120	
Ti	47	45	No Gas	0.964	ppb	5.5	1766.78	1	96.4	80	120	
V	51	45	He	1.006	ppb	1.7	7354.64	1	100.6	80	120	
Cr	52	45	He	1.093	ppb	2.6	8881.55	1	109.3	80	120	
Mn	55	45	No Gas	1.030	ppb	1.5	34078.39	1	103	80	120	
Fe	56	45	H2	99.198	ppb	0.5	1462296.87	100	99.2	80	120	
Co	59	45	No Gas	1.023	ppb	3.3	19894.53	1	102.3	80	120	
Ni	60	45	He	1.070	ppb	4.9	2574.24	1	107	80	120	
Cu	63	45	He	1.082	ppb	5.2	15889.26	1	108.2	80	120	
Zn	66	72	No Gas	12.321	ppb	2.2	38649.01	10	123.21	80	120	> +/- 20%
As	75	72	He	0.977	ppb	2.2	1285.39	1	97.7	80	120	
Se	78	72	H2	0.915	ppb	7.2	453.34	1	91.5	80	120	
Sr	88	72	No Gas	2.127	ppb	1.4	51887.15	2	106.35	80	120	
Zr	90	72	No Gas	4.675	ppb	0.4	74423.43	5	93.5	80	120	
Mo	95	115	No Gas	0.914	ppb	1.7	4430.74	1	91.4	80	120	
Ag	107	115	No Gas	0.079	ppb	0.7	918.92	1	7.9	80	120	> +/- 20%
Cd	111	115	No Gas	1.017	ppb	2.4	2296.12	1	101.7	80	120	
Sn	118	115	No Gas	0.984	ppb	2.3	6974.08	1	98.4	80	120	
Sb	123	115	No Gas	0.900	ppb	1.3	7114.16	1	90	80	120	
Ba	137	115	No Gas	0.982	ppb	4.3	3349.32	1	98.2	80	120	
W	182	159	No Gas	1.741	ppb	2.4	12412.83	2	87.05	80	120	
Hg	201	159	No Gas	0.104	ppb	3.0	132.83	0.1	104	80	120	
Hg	201	159	He	0.098	ppb	4.8	111.17	0.1	98	80	120	
Tl	205	159	No Gas	0.984	ppb	1.3	15313.85	1	98.4	80	120	
Pb	208	159	No Gas	1.027	ppb	2.7	21369.51	1	102.7	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	0.978	ppb	1.7	18482.85	1	97.8	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1284464.44	0.3	1517743.01	84.63	70	120	
Sc	45	No Gas	4661315.00	0.6	5504431.83	84.68	70	120	
Sc	45	H2	3559656.42	0.9	4104371.25	86.73	70	120	
Sc	45	He	598771.90	0.8	678180.27	88.29	70	120	
Ge	72	No Gas	1015709.71	1.0	1130532.75	89.84	70	120	
Ge	72	H2	934026.87	1.4	1004803.81	92.96	70	120	
Ge	72	He	338047.34	1.4	361451.28	93.53	70	120	
In	115	No Gas	5289215.57	1.3	6155607.56	85.93	70	120	
Tb	159	No Gas	6378079.05	1.9	7572873.03	84.22	70	120	
Tb	159	He	5094527.17	0.2	5805701.67	87.75	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLB0702
File Name	H6B05012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 14:11:37
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.147	ppb	66.2	77142.43	0.4	36.75	80	120	> +/- 20%
Be	9	6	No Gas	0.327	ppb	12.0	766.69	0.4	81.75	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	10061.40	0.4	-52	80	120	> +/- 20%
Na	23	45	H2	74.208	ppb	5.8	1091366.04	40	185.52	80	120	> +/- 20%
Mg	24	45	No Gas	34.302	ppb	2.8	327259.79	40	85.76	80	120	
Al	27	45	No Gas	34.126	ppb	3.4	431388.38	40	85.32	80	120	
K	39	45	He	66.270	ppb	14.1	153839.36	40	165.68	80	120	> +/- 20%
Ca	40	45	H2	65.681	ppb	1.7	839520.69	40	164.2	80	120	> +/- 20%
Ti	47	45	No Gas	0.392	ppb	1.9	905.36	0.4	98	80	120	
V	51	45	He	0.422	ppb	2.1	3820.53	0.4	105.5	80	120	
Cr	52	45	He	0.449	ppb	3.9	4635.45	0.4	112.25	80	120	
Mn	55	45	No Gas	0.562	ppb	1.4	23007.33	0.4	140.5	80	120	> +/- 20%
Fe	56	45	H2	36.129	ppb	1.5	568152.86	40	90.32	80	120	
Co	59	45	No Gas	0.364	ppb	3.3	7353.32	0.4	91	80	120	
Ni	60	45	He	0.506	ppb	0.6	1334.73	0.4	126.5	80	120	> +/- 20%
Cu	63	45	He	0.468	ppb	15.0	12437.01	0.4	117	80	120	
Zn	66	72	No Gas	6.574	ppb	1.1	21447.59	4	164.35	80	120	> +/- 20%
As	75	72	He	0.349	ppb	7.7	522.34	0.4	87.25	80	120	
Se	78	72	H2	0.362	ppb	16.7	203.67	0.4	90.5	80	120	
Sr	88	72	No Gas	0.376	ppb	2.2	9690.18	0.4	94	80	120	
Mo	95	115	No Gas	0.275	ppb	6.1	1528.98	0.4	68.75	80	120	> +/- 20%
Ag	107	115	No Gas	0.360	ppb	3.2	3989.49	0.4	90	80	120	
Cd	111	115	No Gas	0.340	ppb	7.9	801.11	0.4	85	80	120	
Sn	118	115	No Gas	0.388	ppb	8.1	3305.98	0.4	97	80	120	
Sb	123	115	No Gas	0.337	ppb	1.4	2769.19	0.4	84.25	80	120	
Ba	137	115	No Gas	0.404	ppb	5.0	1480.09	0.4	101	80	120	
Tl	205	159	No Gas	0.342	ppb	2.3	5755.77	0.4	85.5	80	120	
Pb	208	159	No Gas	0.370	ppb	3.5	8227.76	0.4	92.5	80	120	
U	238	159	No Gas	0.338	ppb	2.4	6507.29	0.4	84.5	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1299687.68	0.6	1517743.01	85.63	70	120	
Sc	45	No Gas	4635387.33	1.7	5504431.83	84.21	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3547803.08	1.8	4104371.25	86.44	70	120	
Sc	45	He	600196.33	1.0	678180.27	88.5	70	120	
Ge	72	No Gas	993490.66	1.4	1130532.75	87.88	70	120	
Ge	72	H2	900244.48	0.7	1004803.81	89.59	70	120	
Ge	72	He	329880.32	1.3	361451.28	91.27	70	120	
In	115	No Gas	5278144.53	0.8	6155607.56	85.75	70	120	
Tb	159	No Gas	6359337.94	0.6	7572873.03	83.98	70	120	
Tb	159	He	5050882.83	0.5	5805701.67	87	70	120	

Sample Report

Sample Name	MRLB0703
File Name	H6B05013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 14:14:39
Sample Type	Sample
Total Dilution	1.0000
Comment	20 ppb Zn
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	75044.47	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	17.78	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	10066.95	100	
Na	23	45	H2	34.766	34.766	ppb	3.7	938942.31	50000	
Mg	24	45	No Gas	<0.000	<0.000	ppb	N/A	27958.00	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	24211.11	50000	
Si	28	45	H2	3.925	3.925	ppb	5.2	10922.30	5000	
P	31	45	No Gas	8.432	8.432	ppb	5.6	63343.32	500	
K	39	45	He	26.881	26.881	ppb	37.0	124457.54	50000	
Ca	40	45	H2	13.528	13.528	ppb	0.4	328771.55	50000	
Ti	47	45	No Gas	0.008	0.008	ppb	275.8	337.33	500	
V	51	45	He	0.050	0.050	ppb	17.8	1568.09	500	
Cr	52	45	He	0.075	0.075	ppb	4.8	2169.51	500	
Mn	55	45	No Gas	0.077	0.077	ppb	9.4	11867.14	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	40520.22	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	391.34	500	
Ni	60	45	He	0.035	0.035	ppb	25.9	298.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	8978.30	500	
Zn	66	72	No Gas	20.123	20.123	ppb	3.2	60438.29	500	
As	75	72	He	0.002	0.002	ppb	860.6	118.00	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	45.67	500	
Sr	88	72	No Gas	0.009	0.009	ppb	30.1	1107.82	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	230.00	50	
Mo	95	115	No Gas	<0.000	<0.000	ppb	N/A	90.00	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	48.89	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	28.79	500	
Sn	118	115	No Gas	0.004	0.004	ppb	230.9	966.70	500	
Sb	123	115	No Gas	<0.000	<0.000	ppb	N/A	171.11	100	
Ba	137	115	No Gas	0.040	0.040	ppb	12.7	314.45	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	20.00	50	
Hg	201	159	No Gas	0.000	0.000	ppb	1491.1	20.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	12.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	498.90	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	733.34	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	53.33	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1291028.97	1.2	1517743.01	85.06	70	120	
Sc	45	No Gas	4684825.17	1.1	5504431.83	85.11	70	120	
Sc	45	H2	3563623.83	0.6	4104371.25	86.83	70	120	
Sc	45	He	602461.41	0.4	678180.27	88.83	70	120	
Ge	72	No Gas	1000815.58	0.4	1130532.75	88.53	70	120	
Ge	72	H2	906073.44	0.9	1004803.81	90.17	70	120	
Ge	72	He	330381.28	1.0	361451.28	91.4	70	120	
In	115	No Gas	5363045.57	1.8	6155607.56	87.12	70	120	
Tb	159	No Gas	6383752.39	1.3	7572873.03	84.3	70	120	
Tb	159	He	5094161.17	1.0	5805701.67	87.74	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6B05014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 14:17:14
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.020	ppb	365.0	72632.11	2	-50	50	
Be	9	6	No Gas	0.001	ppb	319.3	26.67	0.4	-50	50	
B	11	6	No Gas	0.879	ppb	32.7	11104.39	10	-50	50	
Na	23	45	H2	98164.745	ppb	0.9	451455157.33	100000	80	120	
Mg	24	45	No Gas	94048.267	ppb	2.7	798683797.33	100000	80	120	
Al	27	45	No Gas	93729.710	ppb	2.3	1075405637.31	100000	80	120	
Si	28	45	H2	3.975	ppb	7.5	12638.44	50	-50	50	
P	31	45	No Gas	94617.006	ppb	2.0	76546826.67	100000	80	120	
K	39	45	He	97065.849	ppb	0.8	81669176.00	100000	80	120	
Ca	40	45	H2	99112.364	ppb	0.6	1124397781.33	100000	80	120	
Ti	47	45	No Gas	2004.823	ppb	0.9	2976002.25	2000	80	120	
V	51	45	He	0.038	ppb	16.9	1646.10	1	-50	50	
Cr	52	45	He	2.101	ppb	0.7	17240.16	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.472	ppb	1.6	20851.22	1	-50	50	
Fe	56	45	H2	96727.749	ppb	0.2	1574783189.33	100000	80	120	
Co	59	45	No Gas	0.154	ppb	0.5	3371.75	0.75	-50	50	
Ni	60	45	He	0.430	ppb	7.9	1291.40	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	7906.97	2	-50	50	
Zn	66	72	No Gas	3.565	ppb	3.8	13217.11	20	-50	50	
As	75	72	He	0.080	ppb	23.1	229.33	1	-50	50	
Se	78	72	H2	0.075	ppb	31.6	93.33	1	-50	50	
Sr	88	72	No Gas	0.775	ppb	2.8	19552.07	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.257	ppb	14.9	4410.76	10	-50	50	
Mo	95	115	No Gas	1997.251	ppb	2.8	8587619.66	2000	80	120	
Ag	107	115	No Gas	0.079	ppb	0.8	874.47	0.4	-50	50	
Cd	111	115	No Gas	0.075	ppb	16.6	206.97	1	-50	50	
Sn	118	115	No Gas	0.115	ppb	17.7	1550.10	1	-50	50	
Sb	123	115	No Gas	0.060	ppb	12.3	603.35	1	-50	50	
Ba	137	115	No Gas	0.532	ppb	7.1	1794.57	1	-50	50	> +/- 20%
W	182	159	No Gas	0.139	ppb	13.9	1080.05	1	-50	50	
Hg	201	159	No Gas	0.006	ppb	59.6	26.00	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	15.67	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	547.79	0.5	-50	50	
Pb	208	159	No Gas	0.034	ppb	6.3	1516.71	0.5	-50	50	

1H2/8/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.007	ppb	26.4	346.67	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1235507.18	0.9	1517743.01	81.4	70	120	
Sc	45	No Gas	4619444.50	1.9	5504431.83	83.92	70	120	
Sc	45	H2	4096574.92	0.7	4104371.25	99.81	70	120	
Sc	45	He	664198.33	1.0	678180.27	97.94	70	120	
Ge	72	No Gas	1018978.08	1.6	1130532.75	90.13	70	120	
Ge	72	H2	1019127.58	0.5	1004803.81	101.43	70	120	
Ge	72	He	363944.08	0.5	361451.28	100.69	70	120	
In	115	No Gas	5007367.78	1.4	6155607.56	81.35	70	120	
Tb	159	No Gas	6270921.83	2.1	7572873.03	82.81	70	120	
Tb	159	He	5735087.83	0.8	5805701.67	98.78	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6B05015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B05.b
Acq Time	2023-02-07 14:19:51
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.177	ppb	1.7	183477.52	20	80	120	
Be	9	6	No Gas	20.538	ppb	2.4	44194.87	20	80	120	
B	11	6	No Gas	19.246	ppb	1.7	37078.83	20	80	120	
Na	23	45	H2	99010.297	ppb	0.4	401339050.67	100000	80	120	
Mg	24	45	No Gas	95547.998	ppb	1.9	836195242.67	100000	80	120	
Al	27	45	No Gas	94965.601	ppb	1.8	1122871876.60	100000	80	120	
Si	28	45	H2	210.246	ppb	1.7	310790.00	200	80	120	
P	31	45	No Gas	95165.004	ppb	1.4	79345373.33	100000	80	120	
K	39	45	He	97256.465	ppb	0.3	73977717.33	100000	80	120	
Ca	40	45	H2	100064.409	ppb	0.7	1000573290.67	100000	80	120	
Ti	47	45	No Gas	2035.488	ppb	2.1	3114463.92	2000	80	120	
V	51	45	He	20.072	ppb	0.8	123345.04	20	80	120	
Cr	52	45	He	22.789	ppb	0.8	152703.83	20	80	120	
Mn	55	45	No Gas	20.089	ppb	1.4	489882.54	20	80	120	
Fe	56	45	H2	99581.681	ppb	0.5	1429000789.33	100000	80	120	
Co	59	45	No Gas	20.428	ppb	1.9	396224.19	20	80	120	
Ni	60	45	He	20.983	ppb	1.1	46506.46	20	80	120	
Cu	63	45	He	20.204	ppb	0.6	124694.63	20	80	120	
Zn	66	72	No Gas	22.865	ppb	1.2	70215.19	20	80	120	
As	75	72	He	20.299	ppb	0.7	23800.60	20	80	120	
Se	78	72	H2	20.814	ppb	2.1	9114.75	20	80	120	
Sr	88	72	No Gas	20.604	ppb	0.7	501064.60	20	80	120	
Zr	90	72	No Gas	13.983	ppb	1.1	224845.77	20	80	120	> +/- 20%
Mo	95	115	No Gas	2039.518	ppb	0.6	8888502.42	2000	80	120	
Ag	107	115	No Gas	20.646	ppb	1.9	216869.77	20	80	120	
Cd	111	115	No Gas	20.636	ppb	0.2	43749.45	20	80	120	
Sn	118	115	No Gas	20.370	ppb	1.3	121040.48	20	80	120	
Sb	123	115	No Gas	19.758	ppb	0.8	146473.42	20	80	120	
Ba	137	115	No Gas	21.343	ppb	0.9	66258.46	20	80	120	
W	182	159	No Gas	19.160	ppb	1.7	136285.02	20	80	120	
Hg	201	159	No Gas	1.980	ppb	1.0	2176.52	2	80	120	
Hg	201	159	He	1.965	ppb	1.6	1880.14	2	80	120	
Tl	205	159	No Gas	19.989	ppb	1.6	299715.79	20	80	120	
Pb	208	159	No Gas	20.489	ppb	0.1	412297.58	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.586	ppb	1.2	386802.72	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1232553.37	1.4	1517743.01	81.21	70	120	
Sc	45	No Gas	4760621.17	2.1	5504431.83	86.49	70	120	
Sc	45	H2	3610771.17	0.5	4104371.25	87.97	70	120	
Sc	45	He	600440.87	0.8	678180.27	88.54	70	120	
Ge	72	No Gas	1028657.02	2.1	1130532.75	90.99	70	120	
Ge	72	H2	927622.04	0.7	1004803.81	92.32	70	120	
Ge	72	He	329984.75	0.3	361451.28	91.29	70	120	
In	115	No Gas	5076418.85	2.6	6155607.56	82.47	70	120	
Tb	159	No Gas	6415653.77	2.9	7572873.03	84.72	70	120	
Tb	159	He	5098641.50	0.3	5805701.67	87.82	70	120	

Sample Report

Sample Name	MRLB0704
File Name	H6B05016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 14:22:29
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	75206.68	50	
Be	9	6	No Gas	0.007	0.007	ppb	37.8	40.00	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	7108.47	100	
Na	23	45	H2	575.417	575.417	ppb	1.8	3165020.58	50000	
Mg	24	45	No Gas	535.945	535.945	ppb	0.9	4782115.50	50000	
Al	27	45	No Gas	537.731	537.731	ppb	0.9	6473829.07	50000	
Si	28	45	H2	3.586	3.586	ppb	1.4	10664.08	5000	
P	31	45	No Gas	16.279	16.279	ppb	19.8	71747.43	500	
K	39	45	He	583.788	583.788	ppb	2.3	538508.04	50000	
Ca	40	45	H2	549.588	549.588	ppb	2.1	5740830.83	50000	
Ti	47	45	No Gas	0.405	0.405	ppb	17.2	960.70	500	
V	51	45	He	0.030	0.030	ppb	18.6	1417.41	500	
Cr	52	45	He	0.303	0.303	ppb	3.0	3615.15	500	
Mn	55	45	No Gas	0.184	0.184	ppb	2.4	14771.97	3000	
Fe	56	45	H2	549.362	549.362	ppb	1.5	8009890.17	50000	
Co	59	45	No Gas	0.017	0.017	ppb	27.6	838.69	500	
Ni	60	45	He	0.071	0.071	ppb	9.4	372.01	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	7711.52	500	
Zn	66	72	No Gas	1.339	1.339	ppb	4.8	6688.32	500	
As	75	72	He	0.015	0.015	ppb	14.1	130.00	500	
Se	78	72	H2	0.004	0.004	ppb	63.0	53.33	500	
Sr	88	72	No Gas	0.042	0.042	ppb	13.3	1912.36	500	
Zr	90	72	No Gas	0.010	0.010	ppb	12.5	466.68	50	
Mo	95	115	No Gas	0.370	0.370	ppb	29.9	2002.38	500	
Ag	107	115	No Gas	0.077	0.077	ppb	2.7	924.48	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	39.42	500	
Sn	118	115	No Gas	0.044	0.044	ppb	13.2	1224.50	500	
Sb	123	115	No Gas	0.019	0.019	ppb	17.4	323.34	100	
Ba	137	115	No Gas	0.105	0.105	ppb	20.2	531.13	1000	
W	182	159	No Gas	0.012	0.012	ppb	57.7	206.67	50	
Hg	201	159	No Gas	0.009	0.009	ppb	25.1	30.83	5	
Hg	201	159	He	0.002	0.002	ppb	160.6	20.50	5	
Tl	205	159	No Gas	0.007	0.007	ppb	82.7	818.92	500	
Pb	208	159	No Gas	0.014	0.014	ppb	51.2	1175.58	500	
U	238	159	No Gas	0.005	0.005	ppb	38.9	312.23	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1311607.42	0.4	1517743.01	86.42	70	120	
Sc	45	No Gas	4818321.83	1.2	5504431.83	87.54	70	120	
Sc	45	H2	3641575.67	1.1	4104371.25	88.72	70	120	
Sc	45	He	591067.94	0.6	678180.27	87.15	70	120	
Ge	72	No Gas	1014347.58	1.1	1130532.75	89.72	70	120	
Ge	72	H2	914456.90	1.2	1004803.81	91.01	70	120	
Ge	72	He	325010.71	1.9	361451.28	89.92	70	120	
In	115	No Gas	5401467.42	0.8	6155607.56	87.75	70	120	
Tb	159	No Gas	6535912.93	0.5	7572873.03	86.31	70	120	
Tb	159	He	5099359.67	1.7	5805701.67	87.83	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6B05017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 14:25:05
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.164	ppb	1.1	207737.38	25	96.66	90	110	
Be	9	6	No Gas	25.078	ppb	3.8	54574.76	25	100.31	90	110	
B	11	6	No Gas	49.737	ppb	3.8	81162.11	50	99.47	90	110	
Na	23	45	H2	24659.895	ppb	1.5	102039050.67	25000	98.64	90	110	
Mg	24	45	No Gas	24508.864	ppb	2.3	216480112.00	25000	98.04	90	110	
Al	27	45	No Gas	24425.959	ppb	2.2	291508862.32	25000	97.7	90	110	
Si	28	45	H2	2458.164	ppb	1.5	3628873.25	2500	98.33	90	110	
P	31	45	No Gas	250.520	ppb	1.7	268518.75	250	100.21	90	110	
K	39	45	He	24549.407	ppb	0.4	19086484.67	25000	98.2	90	110	
Ca	40	45	H2	24591.997	ppb	1.8	249641189.33	25000	98.37	90	110	
Ti	47	45	No Gas	241.965	ppb	2.5	373901.28	250	96.79	90	110	
V	51	45	He	243.698	ppb	1.0	1510020.21	250	97.48	90	110	
Cr	52	45	He	243.563	ppb	0.9	1644757.17	250	97.43	90	110	
Mn	55	45	No Gas	1464.870	ppb	3.0	35306836.00	1500	97.66	90	110	
Fe	56	45	H2	24830.613	ppb	2.0	361548117.33	25000	99.32	90	110	
Co	59	45	No Gas	245.505	ppb	1.4	4799692.50	250	98.2	90	110	
Ni	60	45	He	250.716	ppb	0.2	563168.48	250	100.29	90	110	
Cu	63	45	He	248.248	ppb	0.9	1447211.88	250	99.3	90	110	
Zn	66	72	No Gas	253.943	ppb	0.6	752052.77	250	101.58	90	110	
As	75	72	He	247.002	ppb	0.9	294190.28	250	98.8	90	110	
Se	78	72	H2	250.976	ppb	1.8	110465.15	250	100.39	90	110	
Sr	88	72	No Gas	244.397	ppb	1.3	5941477.40	250	97.76	90	110	
Zr	90	72	No Gas	24.637	ppb	1.9	396458.95	25	98.55	90	110	
Mo	95	115	No Gas	242.437	ppb	2.2	1079181.66	250	96.97	90	110	
Ag	107	115	No Gas	24.847	ppb	0.4	266405.74	25	99.39	90	110	
Cd	111	115	No Gas	248.172	ppb	0.9	536615.49	250	99.27	90	110	
Sn	118	115	No Gas	240.079	ppb	0.6	1446312.20	250	96.03	90	110	
Sb	123	115	No Gas	48.593	ppb	1.5	367561.71	50	97.19	90	110	
Ba	137	115	No Gas	494.841	ppb	1.7	1564536.47	500	98.97	90	110	
W	182	159	No Gas	25.217	ppb	0.5	180136.35	25	100.87	90	110	
Hg	201	159	No Gas	2.523	ppb	3.8	2782.64	2.5	100.92	90	110	
Hg	201	159	He	2.537	ppb	2.9	2439.24	2.5	101.48	90	110	
Tl	205	159	No Gas	249.832	ppb	2.6	3755169.01	250	99.93	90	110	
Pb	208	159	No Gas	250.778	ppb	1.5	5060172.18	250	100.31	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	243.717	ppb	2.6	4599181.34	250	97.49	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1246389.79	2.0	1517743.01	82.12	70	120	
Sc	45	No Gas	4805058.83	1.8	5504431.83	87.29	70	120	
Sc	45	H2	3664339.58	2.2	4104371.25	89.28	70	120	
Sc	45	He	611189.46	0.3	678180.27	90.12	70	120	
Ge	72	No Gas	1030011.77	1.5	1130532.75	91.11	70	120	
Ge	72	H2	937516.02	1.5	1004803.81	93.3	70	120	
Ge	72	He	336712.04	0.2	361451.28	93.16	70	120	
In	115	No Gas	5182880.60	1.5	6155607.56	84.2	70	120	
Tb	159	No Gas	6446302.24	1.5	7572873.03	85.12	70	120	
Tb	159	He	5135162.83	0.2	5805701.67	88.45	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6B05018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 14:27:42
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	88537.20	0.4	
Be	9	6	No Gas	0.002	ppb	104.1	34.44	0.08	
B	11	6	No Gas	0.620	ppb	39.0	13234.00	4	
Na	23	45	H2	2.392	ppb	66.4	933950.85	40	
Mg	24	45	No Gas	3.541	ppb	20.7	77474.59	10	
Al	27	45	No Gas	3.520	ppb	15.7	93937.74	15	
Si	28	45	H2	1.378	ppb	7.1	8384.52	8	
P	31	45	No Gas	0.075	ppb	3150.5	66443.14	10	
K	39	45	He	5.295	ppb	150.8	122382.52	20	
Ca	40	45	H2	4.918	ppb	7.7	281232.42	25	
Tl	47	45	No Gas	0.039	ppb	40.2	452.01	0.5	
V	51	45	He	0.024	ppb	45.4	1596.10	0.5	
Cr	52	45	He	0.051	ppb	8.4	2276.19	0.2	
Mn	55	45	No Gas	0.214	ppb	22.9	17752.22	0.2	>LOD
Fe	56	45	H2	4.084	ppb	8.0	134906.07	10	
Co	59	45	No Gas	0.026	ppb	23.4	1168.05	0.15	
Ni	60	45	He	0.036	ppb	56.9	340.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	7320.64	0.4	
Zn	66	72	No Gas	0.074	ppb	53.2	3315.74	2	
As	75	72	He	0.036	ppb	22.2	170.67	0.2	
Se	78	72	H2	0.055	ppb	14.6	82.33	0.2	
Sr	88	72	No Gas	0.037	ppb	17.0	1953.48	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	230.00	2	
Mo	95	115	No Gas	0.062	ppb	10.7	651.13	0.2	
Ag	107	115	No Gas	0.003	ppb	25.4	111.11	0.08	
Cd	111	115	No Gas	0.046	ppb	22.4	179.74	0.2	
Sn	118	115	No Gas	0.087	ppb	16.7	1696.78	0.2	
Sb	123	115	No Gas	0.015	ppb	20.6	332.23	0.4	
Ba	137	115	No Gas	0.068	ppb	6.4	462.23	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	110.00	0.3	
Hg	201	159	No Gas	0.024	ppb	28.2	54.83	0.1	
Hg	201	159	He	0.012	ppb	20.0	35.17	0.1	
Tl	205	159	No Gas	0.071	ppb	23.1	2055.73	0.1	
Pb	208	159	No Gas	0.031	ppb	24.8	1755.62	0.1	

TH 2/8/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.038	ppb	20.0	1096.72	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1523002.25	2.4	1517743.01	100.35	70	120	
Sc	45	No Gas	5512042.17	1.9	5504431.83	100.14	70	120	
Sc	45	H2	4110606.67	0.8	4104371.25	100.15	70	120	
Sc	45	He	682892.48	1.0	678180.27	100.69	70	120	
Ge	72	No Gas	1116673.33	2.0	1130532.75	98.77	70	120	
Ge	72	H2	1002008.92	1.0	1004803.81	99.72	70	120	
Ge	72	He	359640.37	1.0	361451.28	99.5	70	120	
In	115	No Gas	6132562.05	2.5	6155607.56	99.63	70	120	
Tb	159	No Gas	7517924.98	2.9	7572873.03	99.27	70	120	
Tb	159	He	5929743.83	1.5	5805701.67	102.14	70	120	

Sample Report

Sample Name	L226-08G
File Name	H6B05023.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\H6B05.b
Acq Time	2023-02-07 15:51:50
Sample Type	Sample
Total Dilution	5.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	105.379	21.076	ppb	2.7	177123.36	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	18.89	50	
B	11	6	No Gas	297.056	59.411	ppb	6.3	88257.05	100	
Na	23	45	H2	222325.744	44465.149	ppb	0.7	165340778.67	50000	
Mg	24	45	No Gas	6744.640	1348.928	ppb	2.2	10502549.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	28833.28	50000	
Si	28	45	H2	11034.974	2206.995	ppb	0.8	2938588.58	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	45279.63	500	
K	39	45	He	5665.282	1133.056	ppb	1.2	777881.56	50000	
Ca	40	45	H2	34612.913	6922.583	ppb	1.6	63493210.67	50000	
Ti	47	45	No Gas	0.349	0.070	ppb	18.2	388.01	500	
V	51	45	He	20.337	4.067	ppb	1.3	20972.70	500	
Cr	52	45	He	88.386	17.677	ppb	0.0	95847.88	500	
Mn	55	45	No Gas	10.588	2.118	ppb	1.2	53903.41	3000	
Fe	56	45	H2	301.399	60.280	ppb	1.1	846211.81	50000	
Co	59	45	No Gas	1.480	0.296	ppb	1.1	5527.79	500	
Ni	60	45	He	35.035	7.007	ppb	2.2	12646.54	500	
Cu	63	45	He	252.044	50.409	ppb	3.2	239091.41	500	
Zn	66	72	No Gas	8.015	1.603	ppb	3.5	7011.15	500	
As	75	72	He	19.080	3.816	ppb	2.9	3997.93	500	
Se	78	72	H2	1.014	0.203	ppb	9.7	131.67	500	
Sr	88	72	No Gas	496.653	99.331	ppb	2.0	2236771.71	500	
Zr	90	72	No Gas	0.038	0.008	ppb	70.6	410.01	50	
Mo	95	115	No Gas	13.493	2.699	ppb	3.5	11704.04	500	
Ag	107	115	No Gas	0.081	0.016	ppb	11.4	221.11	50	
Cd	111	115	No Gas	0.062	0.012	ppb	74.9	74.80	500	
Sn	118	115	No Gas	0.111	0.022	ppb	15.2	996.70	500	
Sb	123	115	No Gas	0.138	0.028	ppb	35.0	358.90	100	
Ba	137	115	No Gas	120.012	24.002	ppb	2.4	72468.18	1000	
W	182	159	No Gas	5.229	1.046	ppb	3.3	7218.77	50	
Hg	201	159	No Gas	0.001	0.000	ppb	688.1	19.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.17	5	
Tl	205	159	No Gas	0.157	0.031	ppb	18.6	1114.50	500	
Pb	208	159	No Gas	0.061	0.012	ppb	23.8	1066.68	500	
U	238	159	No Gas	5.017	1.003	ppb	3.2	18231.37	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1158673.30	2.1	1517743.01	76.34	70	120	
Sc	45	No Gas	4222483.42	2.0	5504431.83	76.71	70	120	
Sc	45	H2	3304508.00	4.1	4104371.25	80.51	70	120	
Sc	45	He	484363.52	1.8	678180.27	71.42	70	120	
Ge	72	No Gas	953999.62	2.3	1130532.75	84.38	70	120	
Ge	72	H2	867661.58	3.5	1004803.81	86.35	70	120	
Ge	72	He	288933.44	1.9	361451.28	79.94	70	120	
In	115	No Gas	4939284.82	1.0	6155607.56	80.24	70	120	
Tb	159	No Gas	6135559.48	2.0	7572873.03	81.02	70	120	
Tb	159	He	4432650.50	1.5	5805701.67	76.35	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV2
File Name	H6B05024.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 16:53:50
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.542	ppb	4.1	180506.79	25	98.17	90	110	
Be	9	6	No Gas	24.265	ppb	3.9	45405.32	25	97.06	90	110	
B	11	6	No Gas	48.313	ppb	5.8	68035.59	50	96.63	90	110	
Na	23	45	H2	24950.284	ppb	1.5	86551634.67	25000	99.8	90	110	
Mg	24	45	No Gas	24827.370	ppb	2.8	182179104.00	25000	99.31	90	110	
Al	27	45	No Gas	24813.916	ppb	1.1	245981749.67	25000	99.26	90	110	
Si	28	45	H2	2429.019	ppb	1.2	3006653.25	2500	97.16	90	110	
P	31	45	No Gas	245.786	ppb	2.6	219770.55	250	98.31	90	110	
K	39	45	He	25173.099	ppb	0.6	16155977.33	25000	100.69	90	110	
Ca	40	45	H2	25114.422	ppb	1.4	213765781.33	25000	100.46	90	110	
Ti	47	45	No Gas	246.508	ppb	1.4	316416.01	250	98.6	90	110	
V	51	45	He	254.115	ppb	0.9	1299936.71	250	101.65	90	110	
Cr	52	45	He	252.927	ppb	1.2	1410105.05	250	101.17	90	110	
Mn	55	45	No Gas	1484.756	ppb	1.9	29731369.33	1500	98.98	90	110	
Fe	56	45	H2	25740.884	ppb	0.7	314301056.00	25000	102.96	90	110	
Co	59	45	No Gas	247.771	ppb	2.3	4024018.50	250	99.11	90	110	
Ni	60	45	He	263.818	ppb	1.3	489245.57	250	105.53	90	110	
Cu	63	45	He	260.552	ppb	0.3	1253621.21	250	104.22	90	110	
Zn	66	72	No Gas	246.063	ppb	1.9	628894.50	250	98.43	90	110	
As	75	72	He	248.331	ppb	0.9	253951.26	250	99.33	90	110	
Se	78	72	H2	246.637	ppb	1.2	95026.11	250	98.65	90	110	
Sr	88	72	No Gas	240.388	ppb	2.8	5042808.69	250	96.16	90	110	
Zr	90	72	No Gas	24.096	ppb	2.7	334597.35	25	96.38	90	110	
Mo	95	115	No Gas	251.003	ppb	2.0	952567.39	250	100.4	90	110	
Ag	107	115	No Gas	25.031	ppb	2.3	228862.84	25	100.12	90	110	
Cd	111	115	No Gas	250.827	ppb	1.7	462468.73	250	100.33	90	110	
Sn	118	115	No Gas	243.403	ppb	1.6	1250414.50	250	97.36	90	110	
Sb	123	115	No Gas	49.429	ppb	1.0	318777.13	50	98.86	90	110	
Ba	137	115	No Gas	499.269	ppb	1.8	1345858.80	500	99.85	90	110	
W	182	159	No Gas	25.666	ppb	1.7	156553.35	25	102.66	90	110	
Hg	201	159	No Gas	2.604	ppb	2.0	2451.24	2.5	104.16	90	110	
Hg	201	159	He	2.589	ppb	1.2	2138.68	2.5	103.56	90	110	
Tl	205	159	No Gas	250.652	ppb	1.2	3216541.68	250	100.26	90	110	
Pb	208	159	No Gas	252.039	ppb	1.8	4343070.15	250	100.82	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	244.885	ppb	1.0	3946283.87	250	97.95	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1072245.90	0.6	1517743.01	70.65	70	120	
Sc	45	No Gas	3991645.42	0.8	5504431.83	72.52	70	120	
Sc	45	H2	3072126.08	1.7	4104371.25	74.85	70	120	
Sc	45	He	504591.62	0.4	678180.27	74.4	70	120	
Ge	72	No Gas	888858.02	1.7	1130532.75	78.62	70	120	
Ge	72	H2	820596.25	1.3	1004803.81	81.67	70	120	
Ge	72	He	289098.80	0.1	361451.28	79.98	70	120	
In	115	No Gas	4419320.00	0.7	6155607.56	71.79	70	120	
Tb	159	No Gas	5503756.73	1.3	7572873.03	72.68	70	120	
Tb	159	He	4412450.67	0.6	5805701.67	76	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB2
File Name	H6B05025.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 16:56:27
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	63592.88	0.4	
Be	9	6	No Gas	0.010	ppb	45.5	40.00	0.08	
B	11	6	No Gas	0.755	ppb	74.2	9803.42	4	
Na	23	45	H2	72.598	ppb	2.6	927653.21	40	~~>LOD~~
Mg	24	45	No Gas	1.119	ppb	109.0	37942.22	10	
Al	27	45	No Gas	0.932	ppb	149.8	41907.84	15	
Si	28	45	H2	7.702	ppb	4.2	13901.61	8	
P	31	45	No Gas	<0.000	ppb	N/A	44710.47	10	
K	39	45	He	37.543	ppb	26.7	112471.32	20	~~>LOD~~
Ca	40	45	H2	<0.000	ppb	N/A	155582.69	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	264.67	0.5	
V	51	45	He	0.000	ppb	1812.3	1071.38	0.5	
Cr	52	45	He	0.134	ppb	5.0	2171.51	0.2	
Mn	55	45	No Gas	0.213	ppb	36.0	12696.61	0.2	~~>LOD~~
Fe	56	45	H2	<0.000	ppb	N/A	46900.33	10	
Co	59	45	No Gas	0.033	ppb	41.9	950.70	0.15	
Ni	60	45	He	0.006	ppb	50.1	199.33	0.2	
Cu	63	45	He	1.233	ppb	3.2	14296.17	0.4	>LOD
Zn	66	72	No Gas	<0.000	ppb	N/A	2260.19	2	
As	75	72	He	0.016	ppb	56.6	113.67	0.2	
Se	78	72	H2	0.070	ppb	14.7	69.00	0.2	
Sr	88	72	No Gas	0.025	ppb	50.9	1263.40	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	186.67	2	
Mo	95	115	No Gas	0.018	ppb	65.9	308.89	0.2	
Ag	107	115	No Gas	0.003	ppb	148.0	75.56	0.08	
Cd	111	115	No Gas	0.060	ppb	27.3	158.99	0.2	
Sn	118	115	No Gas	0.099	ppb	5.5	1317.85	0.2	
Sb	123	115	No Gas	0.018	ppb	26.5	266.67	0.4	
Ba	137	115	No Gas	0.042	ppb	67.8	268.89	0.2	
W	182	159	No Gas	0.001	ppb	95.7	106.67	0.3	
Hg	201	159	No Gas	0.039	ppb	21.3	54.17	0.1	
Hg	201	159	He	0.024	ppb	6.7	35.67	0.1	
Tl	205	159	No Gas	0.078	ppb	25.6	1590.11	0.1	
Pb	208	159	No Gas	0.036	ppb	27.9	1356.70	0.1	

HC 2/7/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.033	ppb	33.7	717.80	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1109159.92	2.4	1517743.01	73.08	70	120	
Sc	45	No Gas	3957604.08	1.4	5504431.83	71.9	70	120	
Sc	45	H2	3032979.25	1.1	4104371.25	73.9	70	120	
Sc	45	He	511172.41	0.4	678180.27	75.37	70	120	
Ge	72	No Gas	850066.46	1.9	1130532.75	75.19	70	120	
Ge	72	H2	773340.40	1.4	1004803.81	76.96	70	120	
Ge	72	He	280934.56	1.5	361451.28	77.72	70	120	
In	115	No Gas	4526802.48	1.6	6155607.56	73.54	70	120	
Tb	159	No Gas	5495752.98	1.7	7572873.03	72.57	70	120	
Tb	159	He	4386260.33	0.6	5805701.67	75.55	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6B05029.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 17:06:50
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.048	ppb	229.8	72854.17	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	20.00	0.4	-50	50	
B	11	6	No Gas	<0.000	ppb	N/A	9508.78	10	-50	50	
Na	23	45	H2	98837.119	ppb	0.8	389450794.67	100000	80	120	
Mg	24	45	No Gas	98369.613	ppb	2.3	814901376.00	100000	80	120	
Al	27	45	No Gas	98953.164	ppb	2.0	1107478463.50	100000	80	120	
Si	28	45	H2	8.007	ppb	11.5	16519.81	50	-50	50	
P	31	45	No Gas	86325.653	ppb	2.3	68144142.67	100000	80	120	
K	39	45	He	99735.922	ppb	0.8	70532978.67	100000	80	120	
Ca	40	45	H2	101616.053	ppb	0.7	987692522.67	100000	80	120	
Ti	47	45	No Gas	2030.510	ppb	1.6	2940850.58	2000	80	120	
V	51	45	He	0.027	ppb	44.3	1318.73	1	-50	50	
Cr	52	45	He	2.264	ppb	1.4	15497.42	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.423	ppb	3.1	19228.84	1	-50	50	
Fe	56	45	H2	99802.892	ppb	0.9	1392120533.33	100000	80	120	
Co	59	45	No Gas	0.156	ppb	0.1	3328.41	0.75	-50	50	
Ni	60	45	He	0.424	ppb	6.0	1074.71	1	-50	50	
Cu	63	45	He	0.392	ppb	14.1	11162.58	2	-50	50	
Zn	66	72	No Gas	3.455	ppb	0.4	12463.72	20	-50	50	
As	75	72	He	0.076	ppb	14.6	191.33	1	-50	50	
Se	78	72	H2	0.063	ppb	39.6	75.00	1	-50	50	
Sr	88	72	No Gas	0.793	ppb	2.2	19311.73	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.214	ppb	10.3	3590.50	10	-50	50	
Mo	95	115	No Gas	2040.805	ppb	2.5	8583589.10	2000	80	120	
Ag	107	115	No Gas	0.079	ppb	18.0	853.36	0.4	-50	50	
Cd	111	115	No Gas	0.068	ppb	70.6	187.79	1	-50	50	
Sn	118	115	No Gas	0.174	ppb	6.1	1852.36	1	-50	50	
Sb	123	115	No Gas	0.071	ppb	16.5	670.02	1	-50	50	
Ba	137	115	No Gas	0.550	ppb	2.7	1810.13	1	-50	50	> +/- 20%
W	182	159	No Gas	0.141	ppb	5.6	1096.72	1	-50	50	
Hg	201	159	No Gas	0.006	ppb	33.5	26.17	0.5	-50	50	
Hg	201	159	He	0.003	ppb	105.3	20.33	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	598.91	0.5	-50	50	
Pb	208	159	No Gas	0.040	ppb	5.3	1651.16	0.5	-50	50	

TH 2/8/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.010	ppb	7.3	407.78	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1236669.82	0.5	1517743.01	81.48	70	120	
Sc	45	No Gas	4507057.33	1.1	5504431.83	81.88	70	120	
Sc	45	H2	3509867.92	0.4	4104371.25	85.52	70	120	
Sc	45	He	558275.71	0.6	678180.27	82.32	70	120	
Ge	72	No Gas	984925.61	1.7	1130532.75	87.12	70	120	
Ge	72	H2	872544.81	1.0	1004803.81	86.84	70	120	
Ge	72	He	309605.78	1.2	361451.28	85.66	70	120	
In	115	No Gas	4899482.25	1.6	6155607.56	79.59	70	120	
Tb	159	No Gas	6308655.31	1.1	7572873.03	83.31	70	120	
Tb	159	He	4925345.33	0.8	5805701.67	84.84	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6B05030.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\B\IH6B05.b
Acq Time	2023-02-07 17:09:28
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6B05003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.802	ppb	3.8	161192.19	20	80	120	
Be	9	6	No Gas	20.734	ppb	1.4	38469.19	20	80	120	
B	11	6	No Gas	18.007	ppb	2.3	30460.78	20	80	120	
Na	23	45	H2	99179.399	ppb	0.8	347798816.00	100000	80	120	
Mg	24	45	No Gas	98452.090	ppb	1.9	719511552.00	100000	80	120	
Al	27	45	No Gas	98068.058	ppb	1.2	968165318.91	100000	80	120	
Si	28	45	H2	214.258	ppb	1.2	273917.75	200	80	120	
P	31	45	No Gas	95365.831	ppb	1.7	66399352.00	100000	80	120	
K	39	45	He	100022.636	ppb	0.5	64056162.67	100000	80	120	
Ca	40	45	H2	101279.490	ppb	1.1	876124330.67	100000	80	120	
Ti	47	45	No Gas	2091.859	ppb	2.1	2672638.25	2000	80	120	
V	51	45	He	20.971	ppb	1.5	108446.17	20	80	120	
Cr	52	45	He	23.799	ppb	1.3	134193.54	20	80	120	
Mn	55	45	No Gas	21.061	ppb	0.5	428412.37	20	80	120	
Fe	56	45	H2	100646.008	ppb	0.8	1249460650.67	100000	80	120	
Co	59	45	No Gas	21.490	ppb	1.2	347977.28	20	80	120	
Ni	60	45	He	22.055	ppb	2.0	41143.96	20	80	120	
Cu	63	45	He	22.344	ppb	1.8	115232.62	20	80	120	
Zn	66	72	No Gas	22.946	ppb	1.9	60949.97	20	80	120	
As	75	72	He	20.170	ppb	0.6	20328.94	20	80	120	
Se	78	72	H2	20.538	ppb	1.9	7836.61	20	80	120	
Sr	88	72	No Gas	20.696	ppb	1.7	435418.63	20	80	120	
Zr	90	72	No Gas	13.418	ppb	2.3	186676.35	20	80	120	> +/- 20%
Mo	95	115	No Gas	2088.053	ppb	1.7	7745326.91	2000	80	120	
Ag	107	115	No Gas	21.099	ppb	1.3	188591.38	20	80	120	
Cd	111	115	No Gas	21.274	ppb	0.4	38379.68	20	80	120	
Sn	118	115	No Gas	21.083	ppb	1.2	106541.02	20	80	120	
Sb	123	115	No Gas	20.807	ppb	0.5	131249.36	20	80	120	
Ba	137	115	No Gas	22.219	ppb	1.2	58677.71	20	80	120	
W	182	159	No Gas	19.757	ppb	2.0	121528.35	20	80	120	
Hg	201	159	No Gas	2.047	ppb	3.7	1946.49	2	80	120	
Hg	201	159	He	2.022	ppb	2.8	1672.11	2	80	120	
Tl	205	159	No Gas	20.749	ppb	0.9	269040.30	20	80	120	
Pb	208	159	No Gas	21.278	ppb	0.7	370382.98	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	21.123	ppb	1.3	343310.99	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1062874.13	1.1	1517743.01	70.03	70	120	
Sc	45	No Gas	3975346.58	2.5	5504431.83	72.22	70	120	
Sc	45	H2	3123846.42	0.8	4104371.25	76.11	70	120	
Sc	45	He	505559.68	0.8	678180.27	74.55	70	120	
Ge	72	No Gas	889945.27	1.0	1130532.75	78.72	70	120	
Ge	72	H2	808258.02	0.9	1004803.81	80.44	70	120	
Ge	72	He	283639.43	1.2	361451.28	78.47	70	120	
In	115	No Gas	4319884.34	2.1	6155607.56	70.18	70	120	
Tb	159	No Gas	5549532.83	2.1	7572873.03	73.28	70	120	
Tb	159	He	4408158.50	0.4	5805701.67	75.93	70	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SM5A-05-01-06

ALL SAMPLES PH<2

Book #: EIM-094
Batch: IML028W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.0 °C		93.3 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-23-02-03	.15
LCS-2	↓ -02-04	.15
MS	SAMESPIKESOGUVOLAS LCS	1,2
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SW1A-011-17-09	.5+1.0
HCl	↓ -17-10	.25+.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM6A-23-02-06	.1
pH Strip (0-14)	HC160347	N/A

Digestate Location	METALS
Extract Location	N/A

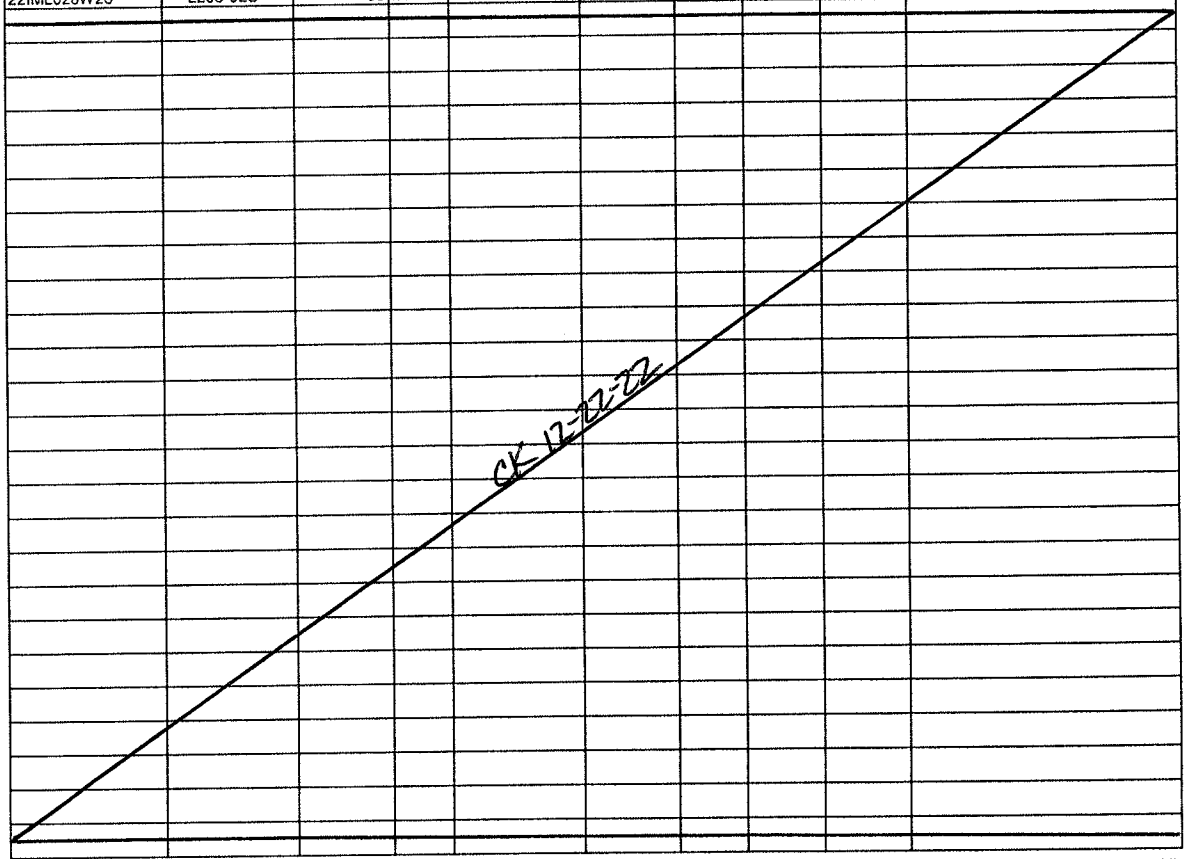
☑ Reagent Water ID: SW1A-011-19-03
☑ Thermometer ID: 21G02428/E09
☑ Pipette ID: 742766331
☐ Pipette ID:
☐ Pipette ID:
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask

Prepared By: CK
Standard Added By: CK Witnessed By: DF
Extract Rcvd By: DF Checked By: CK

EMAX LABORATORIES

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
22IML028W01	IML028WB	50	ml	12/22/22 12:26	50	50	50	1	
22IML028W02	IML028WL	50	ml	12/22/22 12:26	50	50	50	1	
22IML028W03	IML028WC	50	ml	12/22/22 12:26	50	50	50	1	
22IML028W04	L196-03	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W05	L226-01	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W06	L226-02	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W07	L226-03	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W08	L226-04	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W09	L226-06	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W10	L226-07	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W11	L226-08	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W12	L226-09	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W13	L226-10	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W14	L226-11	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W15	L226-12	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W16	L226-13	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W17	L226-14	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W18	L226-15	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W19	L247-02	50	ml	12/22/22 12:26	50	50	50	1	DISSOLVED
22IML028W20	L232-01	50	ml	12/22/22 12:26	50	50	50	1	TOTAL
22IML028W21	L232-02	50	ml	12/22/22 12:26	50	50	50	1	TOTAL
22IML028W22	L263-01	50	ml	12/22/22 12:26	50	50	50	1	TOTAL
22IML028W23	L263-02	50	ml	12/22/22 12:26	50	50	50	1	TOTAL
22IML028W24	L263-02M	50	ml	12/22/22 12:26	50	50	50	1	TOTAL
22IML028W25	L263-02S	50	ml	12/22/22 12:26	50	50	50	1	TOTAL



Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 12/22/22 16:40 Prepared By: CKaing

☑ Digestion Ended @ 12/22/22 19:10 Checked By: CK

Comments: Date 12-22-22

DISSOLVED MERCURY

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD SW7470A (DISSOLVED)
DISSOLVED MERCURY BY COLD VAPOR

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Dissolved Mercury by Cold Vapor in accordance with Method SW7470A (DISSOLVED) and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Mercury was not detected in HGA004WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HGA004WL/HGA004WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
DISSOLVED MERCURY BY COLD VAPOR

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22L226
Instrument ID : 47

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	HGA004WB	1	NA	01/04/2315:14	01/04/2311:49	M47A002012	M47A002	23HGA004W	Method Blank
LCS1W	HGA004WL	1	NA	01/04/2315:16	01/04/2311:49	M47A002013	M47A002	23HGA004W	Lab Control Sample (LCS)
LCD1W	HGA004WC	1	NA	01/04/2315:17	01/04/2311:49	M47A002014	M47A002	23HGA004W	LCS Duplicate
PGE-09N-Q422	L226-06	1	NA	01/04/2315:49	01/04/2311:49	M47A002031	M47A002	23HGA004W	Field Sample
PGE-09S-Q422	L226-07	1	NA	01/04/2315:51	01/04/2311:49	M47A002032	M47A002	23HGA004W	Field Sample
SITE B-165-Q422	L226-08	1	NA	01/04/2315:52	01/04/2311:49	M47A002033	M47A002	23HGA004W	Field Sample
SITE B-220-Q422	L226-09	1	NA	01/04/2315:58	01/04/2311:49	M47A002036	M47A002	23HGA004W	Field Sample
SITE B-285-Q422	L226-10	1	NA	01/04/2316:00	01/04/2311:49	M47A002037	M47A002	23HGA004W	Field Sample
HNWR-01A-174-Q422	L226-11	1	NA	01/04/2316:01	01/04/2311:49	M47A002038	M47A002	23HGA004W	Field Sample
HNWR-01A-98-Q422	L226-12	1	NA	01/04/2316:03	01/04/2311:49	M47A002039	M47A002	23HGA004W	Field Sample
MW-94-030-Q422	L226-13	1	NA	01/04/2316:05	01/04/2311:49	M47A002040	M47A002	23HGA004W	Field Sample
MW-94-100-Q422	L226-14	1	NA	01/04/2316:07	01/04/2311:49	M47A002041	M47A002	23HGA004W	Field Sample
MW-94-175-Q422	L226-15	1	NA	01/04/2316:08	01/04/2311:49	M47A002042	M47A002	23HGA004W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW7470A (DISSOLVED)
DISSOLVED MERCURY BY COLD VAPOR

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DILT'N FACTOR	MOIST (%)	RL (ug/L)	MDL (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGA004WB	ND	1	NA	0.500	0.200	01/04/2315:14	01/04/2311:49	M47A002012	M47A002	23HGA004W	NA	NA
LCS1W	HGA004WL	2.46	1	NA	0.500	0.200	01/04/2315:16	01/04/2311:49	M47A002013	M47A002	23HGA004W	NA	NA
LCD1W	HGA004WC	2.40	1	NA	0.500	0.200	01/04/2315:17	01/04/2311:49	M47A002014	M47A002	23HGA004W	NA	NA
PGE-09N-Q422	L226-06	ND	1	NA	0.500	0.200	01/04/2315:49	01/04/2311:49	M47A002031	M47A002	23HGA004W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07	ND	1	NA	0.500	0.200	01/04/2315:51	01/04/2311:49	M47A002032	M47A002	23HGA004W	12/14/2211:58	12/15/22
SITE B-165-Q422	L226-08	ND	1	NA	0.500	0.200	01/04/2315:52	01/04/2311:49	M47A002033	M47A002	23HGA004W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09	ND	1	NA	0.500	0.200	01/04/2315:58	01/04/2311:49	M47A002036	M47A002	23HGA004W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10	ND	1	NA	0.500	0.200	01/04/2316:00	01/04/2311:49	M47A002037	M47A002	23HGA004W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11	ND	1	NA	0.500	0.200	01/04/2316:01	01/04/2311:49	M47A002038	M47A002	23HGA004W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12	ND	1	NA	0.500	0.200	01/04/2316:03	01/04/2311:49	M47A002039	M47A002	23HGA004W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13	ND	1	NA	0.500	0.200	01/04/2316:05	01/04/2311:49	M47A002040	M47A002	23HGA004W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14	ND	1	NA	0.500	0.200	01/04/2316:07	01/04/2311:49	M47A002041	M47A002	23HGA004W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15	ND	1	NA	0.500	0.200	01/04/2316:08	01/04/2311:49	M47A002042	M47A002	23HGA004W	12/14/2209:06	12/15/22

Note: Detection limits are reported relative to sample result significant figures.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : METHOD SW7470A (DISSOLVED)

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HGA004WB	HGA004WL	HGA004WC
LAB FILE ID	: M47A002012	M47A002013	M47A002014
DATE PREPARED	: 01/04/2311:49	01/04/2311:49	01/04/2311:49
DATE ANALYZED	: 01/04/2315:14	01/04/2315:16	01/04/2315:17
PREP BATCH	: 23HGA004W	23HGA004W	23HGA004W
CALIBRATION REF	: M47A002	M47A002	M47A002

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Mercury	ND	2.50	2.46	98	2.50	2.40	96	2	75-125	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
MERCURY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/4/23 **Start Time:** 14:54

End Date: 1/4/23 **End Time:** 17:13

Comments:

QC OK

Book #: A47-133

Instrument No.: 47

Analytical Sequence/Batch: H47A002

Method File: H61

Micropipette ID: ☐ 339342032

Micropipette ID: ☑ HG-03

Micropipette ID: ☑ A42780082

Micropipette ID: ☑ HG-06

Micropipette ID: ☐

SOP #	Rev. #
☑ EMAX-7470	9
☐ EMAX-7471	10
☐ EMAX-245.1	5
☐ EMAX-	

STANDARDS ID
S1 BLANK
S2 SM3B-22-42-04
S3
S4
S5
S6
CCV
ICV SM3B-22-42-05
LCS
Analytical Spike
SM3B-22-42-06 TV 3ug/L

Analyzed By: DF

Date: 1/4/23

Disposed By:

Date:

"M47A002"

EMAX1fid	EMAX1sid	conc	Raw_resp	rsd/rf	adatetime	DF
M47A002001	STD01REP1	0	13071		01/04/2314:54	1
M47A002002	STD02REP1	.2	53190		01/04/2314:56	1
M47A002003	STD03REP1	.5	107325		01/04/2314:57	1
M47A002004	STD04REP1	1	192944		01/04/2314:59	1
M47A002005	STD05REP1	2	365505		01/04/2315:02	1
M47A002006	STD06REP1	5	859478		01/04/2315:03	1
M47A002007	ICV	2.02	361778	0	01/04/2315:05	1
M47A002008	ICB	.006	21871	0	01/04/2315:07	1
M47A002009	MRLA0401	.516	107853	0	01/04/2315:09	1
M47A002010	CCV1	2.02	360755	0	01/04/2315:11	1
M47A002011	CCB1	.006	21926	0	01/04/2315:12	1
M47A002012	HGA004WB	.012	22913	0	01/04/2315:14	1
M47A002013	HGA004WL	2.46	434956	0	01/04/2315:16	1
M47A002014	HGA004WC	2.4	425481	0	01/04/2315:17	1
M47A002015	L268-02	0	20925	0	01/04/2315:19	1
M47A002016	L268-03A	3.13	547758	0	01/04/2315:21	1
M47A002017	L268-03	-.005	19983	0	01/04/2315:23	1
M47A002018	L268-03J	-.081	7179	0	01/04/2315:25	5
M47A002019	L268-03M	2.62	462422	0	01/04/2315:26	1
M47A002020	L268-03S	2.42	428339	0	01/04/2315:28	1
M47A002021	L268-04	.003	21435	0	01/04/2315:30	1
M47A002022	CCV2	2.05	366310	0	01/04/2315:32	1
M47A002023	CCB2	-.003	20409	0	01/04/2315:34	1
M47A002024	L268-05	.006	21920	0	01/04/2315:36	1
M47A002025	L268-06	.021	24478	0	01/04/2315:37	1
M47A002026	L268-07	.002	21269	0	01/04/2315:39	1
M47A002027	L268-10	.008	22300	0	01/04/2315:42	1
M47A002028	L268-11	.004	21584	0	01/04/2315:43	1
M47A002029	L287-01	-.002	20560	0	01/04/2315:46	1
M47A002030	L296-01	.011	22742	0	01/04/2315:47	1
M47A002031	L226-06	-.018	17907	0	01/04/2315:49	1
M47A002032	L226-07	.005	21711	0	01/04/2315:51	1
M47A002033	L226-08	-.024	16748	0	01/04/2315:52	1
M47A002034	CCV3	2.02	360828	0	01/04/2315:54	1
M47A002035	CCB3	-.017	17967	0	01/04/2315:56	1
M47A002036	L226-09	-.014	18521	0	01/04/2315:58	1
M47A002037	L226-10	-.012	18824	0	01/04/2316:00	1
M47A002038	L226-11	-.006	19895	0	01/04/2316:01	1
M47A002039	L226-12	-.004	20130	0	01/04/2316:03	1
M47A002040	L226-13	-.009	19415	0	01/04/2316:05	1
M47A002041	L226-14	-.016	18104	0	01/04/2316:07	1
M47A002042	L226-15	.002	21257	0	01/04/2316:08	1
M47A002043	HGA005WB	-.005	19994	0	01/04/2316:10	1
M47A002044	HGA005WL	2.43	430887	0	01/04/2316:12	1
M47A002045	HGA005WC	2.4	425378	0	01/04/2316:15	1
M47A002046	CCV4	2.01	359229	0	01/04/2316:18	1
M47A002047	CCB4	.004	21511	0	01/04/2316:21	1
M47A002048	L210-01	-.07	9045	0	01/04/2316:23	1
M47A002049	L210-02	-.08	7423	0	01/04/2316:25	1
M47A002050	L210-03A	3.11	544712	0	01/04/2316:27	1
M47A002051	L210-03	-.103	3536	0	01/04/2316:29	1
M47A002052	L210-03J	-.108	2649	0	01/04/2316:30	5
M47A002053	L210-03M	2.43	429867	0	01/04/2316:32	1
M47A002054	L210-03S	2.39	423867	0	01/04/2316:33	1
M47A002055	L290-01	-.088	6037	0	01/04/2316:35	1
M47A002056	L290-03	-.082	6996	0	01/04/2316:37	1
M47A002057	L298-01	-.07	9089	0	01/04/2316:39	1
M47A002058	CCV5	2.05	367114	0	01/04/2316:41	1
M47A002059	CCB5	.038	27235	0	01/04/2316:42	1
M47A002060	L299-01	-.083	6903	0	01/04/2316:44	1
M47A002061	L307-01	-.087	6192	0	01/04/2316:46	1
M47A002062	L308-01	-.054	11775	0	01/04/2316:48	1
M47A002063	L312-01	-.071	8891	0	01/04/2316:50	1
M47A002064	L314-01	-.087	6205	0	01/04/2316:52	1
M47A002065	TXL010WB	-.072	8824	0	01/04/2316:55	1
M47A002066	L485-01A	2.95	517645	0	01/04/2316:56	1
M47A002067	L485-01	-.067	9575	0	01/04/2316:58	1
M47A002068	L485-01J	-.081	7270	0	01/04/2317:00	5
M47A002069	L485-01M	2.29	407269	0	01/04/2317:02	1
M47A002070	CCV6	1.97	353145	0	01/04/2317:06	1
M47A002071	CCB6	-.014	18476	0	01/04/2317:08	1
M47A002072	L485-01S	2.36	418885	0	01/04/2317:09	1
M47A002073	CCV7	1.99	355652	0	01/04/2317:11	1

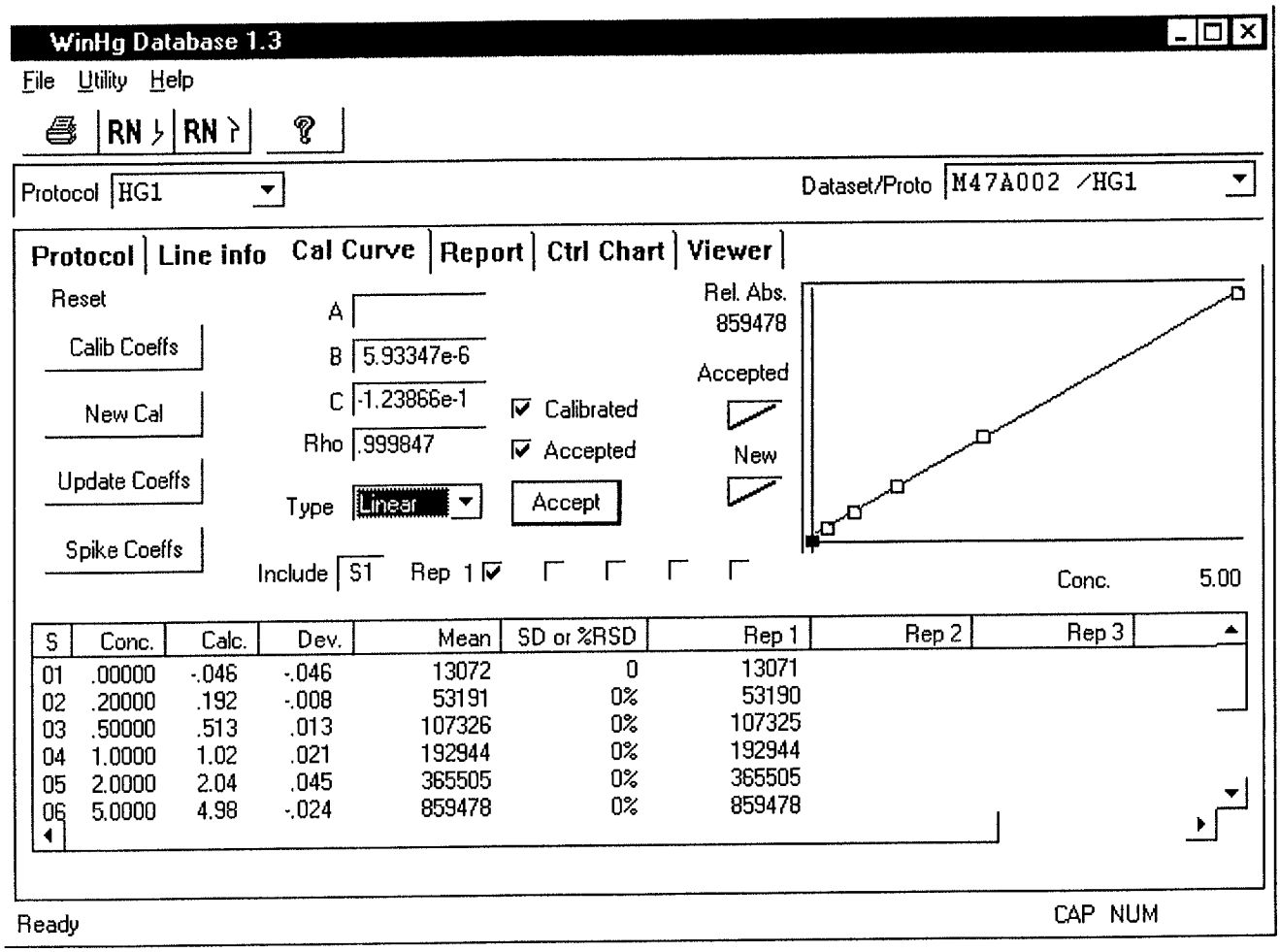
M47A002

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	ICV		1.0000	1.0000	
2	ICB		1.0000	1.0000	
3	MRLA0401	0.5	1.0000	1.0000	
4	CCV1		1.0000	1.0000	
5	CCB1		1.0000	1.0000	
6	HGA004WB		1.0000	1.0000	
7	HGA004WL		1.0000	1.0000	
8	HGA004WC		1.0000	1.0000	
9	L268-02		1.0000	1.0000	
10	L268-03A		1.0000	1.0000	
11	L268-03		1.0000	1.0000	
12	L268-03J	5X	1.0000	1.0000	
13	L268-03M		1.0000	1.0000	
14	L268-03S		1.0000	1.0000	
15	L268-04		1.0000	1.0000	
16	CCV2		1.0000	1.0000	
17	CCB2		1.0000	1.0000	
18	L268-05		1.0000	1.0000	
19	L268-06		1.0000	1.0000	
20	L268-07		1.0000	1.0000	
21	L268-10		1.0000	1.0000	
22	L268-11		1.0000	1.0000	
23	L287-01		1.0000	1.0000	
24	L296-01		1.0000	1.0000	
25	L226-06	DISS	1.0000	1.0000	
26	L226-07	DISS	1.0000	1.0000	
27	L226-08	DISS	1.0000	1.0000	
28	CCV3		1.0000	1.0000	
29	CCB3		1.0000	1.0000	
30	L226-09	DISS	1.0000	1.0000	
31	L226-10	DISS	1.0000	1.0000	
32	L226-11	DISS	1.0000	1.0000	
33	L226-12	DISS	1.0000	1.0000	
34	L226-13	DISS	1.0000	1.0000	
35	L226-14	DISS	1.0000	1.0000	
36	L226-15	DISS	1.0000	1.0000	
37	HGA005WB		1.0000	1.0000	
38	HGA005WL		1.0000	1.0000	
39	HGA005WC		1.0000	1.0000	
40	CCV4		1.0000	1.0000	
41	CCB4		1.0000	1.0000	
42	L210-01		1.0000	1.0000	
43	L210-02		1.0000	1.0000	
44	L210-03A		1.0000	1.0000	

DF 1/4/23

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	L210-03		1.0000	1.0000	
2	L210-03J	5X	1.0000	1.0000	
3	L210-03M		1.0000	1.0000	
4	L210-03S		1.0000	1.0000	
5	L290-01		1.0000	1.0000	
6	L290-03		1.0000	1.0000	
7	L298-01		1.0000	1.0000	
8	CCV5		1.0000	1.0000	
9	CCB5		1.0000	1.0000	
10	L299-01		1.0000	1.0000	
11	L307-01		1.0000	1.0000	
12	L308-01		1.0000	1.0000	
13	L312-01		1.0000	1.0000	
14	L314-01		1.0000	1.0000	
15	TXL010WB	TCLP	1.0000	1.0000	
16	L485-01A	TCLP	1.0000	1.0000	
17	L485-01	TCLP	1.0000	1.0000	
18	L485-01J	TCLP 5X	1.0000	1.0000	
19	L485-01M	TCLP	1.0000	1.0000	
20	CCV6		1.0000	1.0000	
21	CCB6		1.0000	1.0000	
22	L485-01S	TCLP	1.0000	1.0000	
23	CCV7		1.0000	1.0000	
24	CCB7		1.0000	1.0000	
25			1.0000	1.0000	
26			1.0000	1.0000	
27			1.0000	1.0000	
28			1.0000	1.0000	
29			1.0000	1.0000	
30			1.0000	1.0000	
31			1.0000	1.0000	
32			1.0000	1.0000	
33			1.0000	1.0000	
34			1.0000	1.0000	
35			1.0000	1.0000	
36			1.0000	1.0000	
37			1.0000	1.0000	
38			1.0000	1.0000	
39			1.0000	1.0000	
40			1.0000	1.0000	
41			1.0000	1.0000	
42			1.0000	1.0000	
43			1.0000	1.0000	
44			1.0000	1.0000	

DF 1/4/23


WinHg Database 1.3
File Utility Help
RN
RN
Protocol HG1
Dataset/Proto M47A002 /HG1
Protocol
Line info
Cal Curve
Report
Ctrl Chart
Viewer
Reset
Calib Coeffs
New Cal
Update Coeffs
Spike Coeffs
A
B 5.93347e-6
C -1.23866e-1
Rho .999847
Type Linear
Calibrated
Accepted
Accept
Include S1
Rep 1
Rel. Abs.
859478
Accepted
New
Conc. 5.00
S Conc. Calc. Dev. Mean SD or %RSD Rep 1 Rep 2 Rep 3
01 .00000 -.046 -.046 13072 0 13071
02 .20000 .192 -.008 53191 0% 53190
03 .50000 .513 .013 107326 0% 107325
04 1.0000 1.02 .021 192944 0% 192944
05 2.0000 2.04 .045 365505 0% 365505
06 5.0000 4.98 -.024 859478 0% 859478
Ready
CAP NUM

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Standard: 1 Rep: 1				Seq: 1		14:54:34 04 Jan 23			HG
Hg	.000	ppb	13071						
*** Standard: 2 Rep: 1				Seq: 2		14:56:14 04 Jan 23			HG
Hg	.200	ppb	53190						
*** Standard: 3 Rep: 1				Seq: 3		14:57:56 04 Jan 23			HG
Hg	.500	ppb	107325						
*** Standard: 4 Rep: 1				Seq: 4		14:59:57 04 Jan 23			HG
Hg	1.00	ppb	192944						
*** Standard: 5 Rep: 1				Seq: 5		15:02:00 04 Jan 23			HG
Hg	2.00	ppb	365505						
*** Standard: 6 Rep: 1				Seq: 6		15:03:43 04 Jan 23			HG
Hg	5.00	ppb	859478						
*** Sample ID: ICV				Seq: 7		15:05:35 04 Jan 23			HG
Hg	2.02	ppb	361778						
*** Sample ID: ICB				Seq: 8		15:07:49 04 Jan 23			HG
Hg	.006	ppb	21871						
*** Sample ID: MRLA0401				Seq: 9		15:09:27 04 Jan 23			HG
Hg	.516	ppb	0.5 107853						
*** Sample ID: CCV1				Seq: 10		15:11:06 04 Jan 23			HG
Hg	2.02	ppb	360755						
*** Sample ID: CCB1				Seq: 11		15:12:45 04 Jan 23			HG
Hg	.006	ppb	21926						
*** Sample ID: HGA004WB				Seq: 12		15:14:37 04 Jan 23			HG
Hg	.012	ppb	22913						
*** Sample ID: HGA004WL				Seq: 13		15:16:16 04 Jan 23			HG
Hg	2.46	ppb	434956						
*** Sample ID: HGA004WC				Seq: 14		15:17:57 04 Jan 23			HG
Hg	2.40	ppb	425481						
*** Sample ID: L268-02				Seq: 15		15:19:35 04 Jan 23			HG
Hg	.000	ppb	20925						

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: L268-03A				Seq: 16	15:21:39 04 Jan 23				HG
Hg	3.13	ppb	547758						
*** Sample ID: L268-03				Seq: 17	15:23:30 04 Jan 23				HG
Hg	-.005	ppb	19983						
*** Sample ID: L268-03J				Seq: 18	15:25:13 04 Jan 23				HG
Hg	-.081	ppb	5X 7179						
*** Sample ID: L268-03M				Seq: 19	15:26:53 04 Jan 23				HG
Hg	2.62	ppb	462422						
*** Sample ID: L268-03S				Seq: 20	15:28:45 04 Jan 23				HG
Hg	2.42	ppb	428339						
*** Sample ID: L268-04				Seq: 21	15:30:47 04 Jan 23				HG
Hg	.003	ppb	21435						
*** Sample ID: CCV2				Seq: 22	15:32:35 04 Jan 23				HG
Hg	2.05	ppb	366310						
*** Sample ID: CCB2				Seq: 23	15:34:14 04 Jan 23				HG
Hg	-.003	ppb	20409						
*** Sample ID: L268-05				Seq: 24	15:36:04 04 Jan 23				HG
Hg	.006	ppb	21920						
*** Sample ID: L268-06				Seq: 25	15:37:44 04 Jan 23				HG
Hg	.021	ppb	24478						
*** Sample ID: L268-07				Seq: 26	15:39:38 04 Jan 23				HG
Hg	.002	ppb	21269						
*** Sample ID: L268-10				Seq: 27	15:42:09 04 Jan 23				HG
Hg	.008	ppb	22300						
*** Sample ID: L268-11				Seq: 28	15:43:59 04 Jan 23				HG
Hg	.004	ppb	21584						
*** Sample ID: L287-01				Seq: 29	15:46:01 04 Jan 23				HG
Hg	-.002	ppb	20560						
*** Sample ID: L296-01				Seq: 30	15:47:39 04 Jan 23				HG
Hg	.011	ppb	22742						

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: L226-06				Seq: 31	15:49:21 04 Jan 23				HG
			DISS						
Hg	-.018	ppb	17907						
*** Sample ID: L226-07				Seq: 32	15:51:01 04 Jan 23				HG
			DISS						
Hg	.005	ppb	21711						
*** Sample ID: L226-08				Seq: 33	15:52:43 04 Jan 23				HG
			DISS						
Hg	-.024	ppb	16748						
*** Sample ID: CCV3				Seq: 34	15:54:37 04 Jan 23				HG
Hg	2.02	ppb	360828						
*** Sample ID: CCB3				Seq: 35	15:56:19 04 Jan 23				HG
Hg	-.017	ppb	17967						
*** Sample ID: L226-09				Seq: 36	15:58:09 04 Jan 23				HG
			DISS						
Hg	-.014	ppb	18521						
*** Sample ID: L226-10				Seq: 37	16:00:01 04 Jan 23				HG
			DISS						
Hg	-.012	ppb	18824						
*** Sample ID: L226-11				Seq: 38	16:01:51 04 Jan 23				HG
			DISS						
Hg	-.006	ppb	19895						
*** Sample ID: L226-12				Seq: 39	16:03:31 04 Jan 23				HG
			DISS						
Hg	-.004	ppb	20130						
*** Sample ID: L226-13				Seq: 40	16:05:22 04 Jan 23				HG
			DISS						
Hg	-.009	ppb	19415						
*** Sample ID: L226-14				Seq: 41	16:07:12 04 Jan 23				HG
			DISS						
Hg	-.016	ppb	18104						
*** Sample ID: L226-15				Seq: 42	16:08:53 04 Jan 23				HG
			DISS						
Hg	.002	ppb	21257						
*** Sample ID: HGA005WB				Seq: 43	16:10:36 04 Jan 23				HG
Hg	-.005	ppb	19994						
*** Sample ID: HGA005WL				Seq: 44	16:12:39 04 Jan 23				HG
Hg	2.43	ppb	430887						
*** Sample ID: HGA005WC				Seq: 45	16:15:18 04 Jan 23				HG
Hg	2.40	ppb	425378						

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: CCV4				Seq: 46	16:18:54 04 Jan 23				HG
Hg	2.01	ppb	359229						
*** Sample ID: CCB4				Seq: 47	16:21:47 04 Jan 23				HG
Hg	.004	ppb	21511						
*** Sample ID: L210-01				Seq: 48	16:23:58 04 Jan 23				HG
Hg	-.070	ppb	9045						
*** Sample ID: L210-02				Seq: 49	16:25:39 04 Jan 23				HG
Hg	-.080	ppb	7423						
*** Sample ID: L210-03A				Seq: 50	16:27:19 04 Jan 23				HG
Hg	3.11	ppb	544712						
*** Sample ID: L210-03				Seq: 51	16:29:00 04 Jan 23				HG
Hg	-.103	ppb	3536						
*** Sample ID: L210-03J				Seq: 52	16:30:40 04 Jan 23				HG
			5X						
Hg	-.108	ppb	2649						
*** Sample ID: L210-03M				Seq: 53	16:32:18 04 Jan 23				HG
Hg	2.43	ppb	429867						
*** Sample ID: L210-03S				Seq: 54	16:33:58 04 Jan 23				HG
Hg	2.39	ppb	423867						
*** Sample ID: L290-01				Seq: 55	16:35:53 04 Jan 23				HG
Hg	-.088	ppb	6037						
*** Sample ID: L290-03				Seq: 56	16:37:33 04 Jan 23				HG
Hg	-.082	ppb	6996						
*** Sample ID: L298-01				Seq: 57	16:39:18 04 Jan 23				HG
Hg	-.070	ppb	9089						
*** Sample ID: CCV5				Seq: 58	16:41:08 04 Jan 23				HG
Hg	2.05	ppb	367114						
*** Sample ID: CCB5				Seq: 59	16:42:51 04 Jan 23				HG
Hg	.038	ppb	27235						
*** Sample ID: L299-01				Seq: 60	16:44:32 04 Jan 23				HG
Hg	-.083	ppb	6903						

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID: L307-01				Seq: 61	16:46:24 04 Jan 23				HG
Hg	-.087	ppb	6192						
*** Sample ID: L308-01				Seq: 62	16:48:04 04 Jan 23				HG
Hg	-.054	ppb	11775						
*** Sample ID: L312-01				Seq: 63	16:50:09 04 Jan 23				HG
Hg	-.071	ppb	8891						
*** Sample ID: L314-01				Seq: 64	16:52:14 04 Jan 23				HG
Hg	-.087	ppb	6205						
*** Sample ID: TXL010WB				Seq: 65	16:55:14 04 Jan 23				HG
			TCLP						
Hg	-.072	ppb	8824						
*** Sample ID: L485-01A				Seq: 66	16:56:53 04 Jan 23				HG
			TCLP						
Hg	2.95	ppb	517645						
*** Sample ID: L485-01				Seq: 67	16:58:55 04 Jan 23				HG
			TCLP						
Hg	-.067	ppb	9575						
*** Sample ID: L485-01J				Seq: 68	17:00:59 04 Jan 23				HG
			TCLP 5X						
Hg	-.081	ppb	7270						
*** Sample ID: L485-01M				Seq: 69	17:02:42 04 Jan 23				HG
			TCLP						
Hg	2.29	ppb	407269						
*** Sample ID: CCV6				Seq: 70	17:06:18 04 Jan 23				HG
Hg	1.97	ppb	353145						
*** Sample ID: CCB6				Seq: 71	17:08:09 04 Jan 23				HG
Hg	-.014	ppb	18476						
*** Sample ID: L485-01S				Seq: 72	17:09:51 04 Jan 23				HG
			TCLP						
Hg	2.36	ppb	418885						
*** Sample ID: CCV7				Seq: 73	17:11:52 04 Jan 23				HG
Hg	1.99	ppb	355652						
*** Sample ID: CCB7				Seq: 74	17:13:43 04 Jan 23				HG
Hg	.012	ppb	22893						

EMAX LABORATORIES, INC.

DIGESTION LOG
for
MERCURY

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot #: 31121011

Aqua Regia Prep. Vessel Lot#: NA

SAMPLE PH = < 2

Book #: E47-130

Batch No.: H6A0044W

Matrix: water

SOP #	Rev. #
☑ EMAX-7470	9
☐ EMAX-7471	10
☐ EMAX-245.1	5
☐ EMAX-	

Standards	ID	Conc. (µg/L)	Amount Added (ml)
ICAL	SMBB-22-42-04	50	0.2, 0.5, 1, 2, 5
CCV	↓	↓	2
ICV	SM3B-22-42-05		2
LCS/MS	↓	↓	2.5
Reagent	**ID / Lot #**		
HNO_3	SW1A-011-17-09		
HCl	NA		
H_2SO_4	SW1A-011-07-04		
$KMnO_4$	SM5B-05-20-01		
$K_2S_2O_8$	DF 114123 ~~20-02~~ 19-03		
$NH_2OH \cdot HCl \cdot NaCl$	20-03		
$SnCl_2$	20-02		
Silica Sand	NA		
Reagent Water	RW1-22-003		
pH strip 0-14	HC904495		

Digestor ID/ Temp (°C) A / 96.0 & B / 94.8

Thermometer ID/LOC: 210918905 / A5

Thermometer ID/LOC: 210918915 / B18

Pipette ID: Hg-6, Hg-3, A42780082

☑ H_2SO_4 dispenser checked @ 2.5 ml with Class A graduated cylinder

☐ HCl dispenser checked @ ___ ml with Class A graduated cylinder

☐ HNO_3 dispenser checked @ ___ ml with Class A graduated cylinder

Prepared By: DF

Standard Added By: DF

Witnessed By: NT

EMAX LABORATORIES

DIGESTION LOG FOR MERCURY

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
23HGA004W01	HGA004WB	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W02	HGA004WL	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W03	HGA004WC	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W04	L268-02	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W05	L268-03	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W06	L268-03M	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W07	L268-03S	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W08	L268-04	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W09	L268-05	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W10	L268-06	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W11	L268-07	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W12	L268-10	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W13	L268-11	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W14	L287-01	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W15	L296-01	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W16	L226-06	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W17	L226-07	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W18	L226-08	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W19	L226-09	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W20	L226-10	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W21	L226-11	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W22	L226-12	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W23	L226-13	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W24	L226-14	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W25	L226-15	50	ml	1/4/23 9:46	80	50	80	1	DISS
23HGA004W26	S-0/ICB/CCB	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W27	S-0.2	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W28	S-0.5/MRL	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W29	S-1	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W30	S-2/CCV	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W31	S-5	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W32	ICV	50	ml	1/4/23 9:46	80	50	80	1	
23HGA004W33	PS WATER	50	ml	1/4/23 9:46	80	50	80	1	

DF
1/4/23

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 1/4/23 11:49 Prepared By: DFells

☑ Digestion Ended @ 1/4/23 13:49 Checked By: DFells

Comments: Date 1/4/23

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

WET CHEMICAL ANALYSES

SDG#: 22L226

HEXAVALENT CHROMIUM

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD E218.6
HEXAVALENT CHROMIUM

A total of sixteen(16) water samples were received on 12/15/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Hexavalent Chromium was not detected in HCL011WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. HCL011WL/HCL011WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD were analyzed.
- Hexavalent Chromium was within MS QC limits in L226-06M/L226-06S.
- Hexavalent Chromium was within MS QC limits in L226-07M/L226-07S.

Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Samples L226-07I, -07M and -07S were reported from 5X dilution due to matrix interference.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

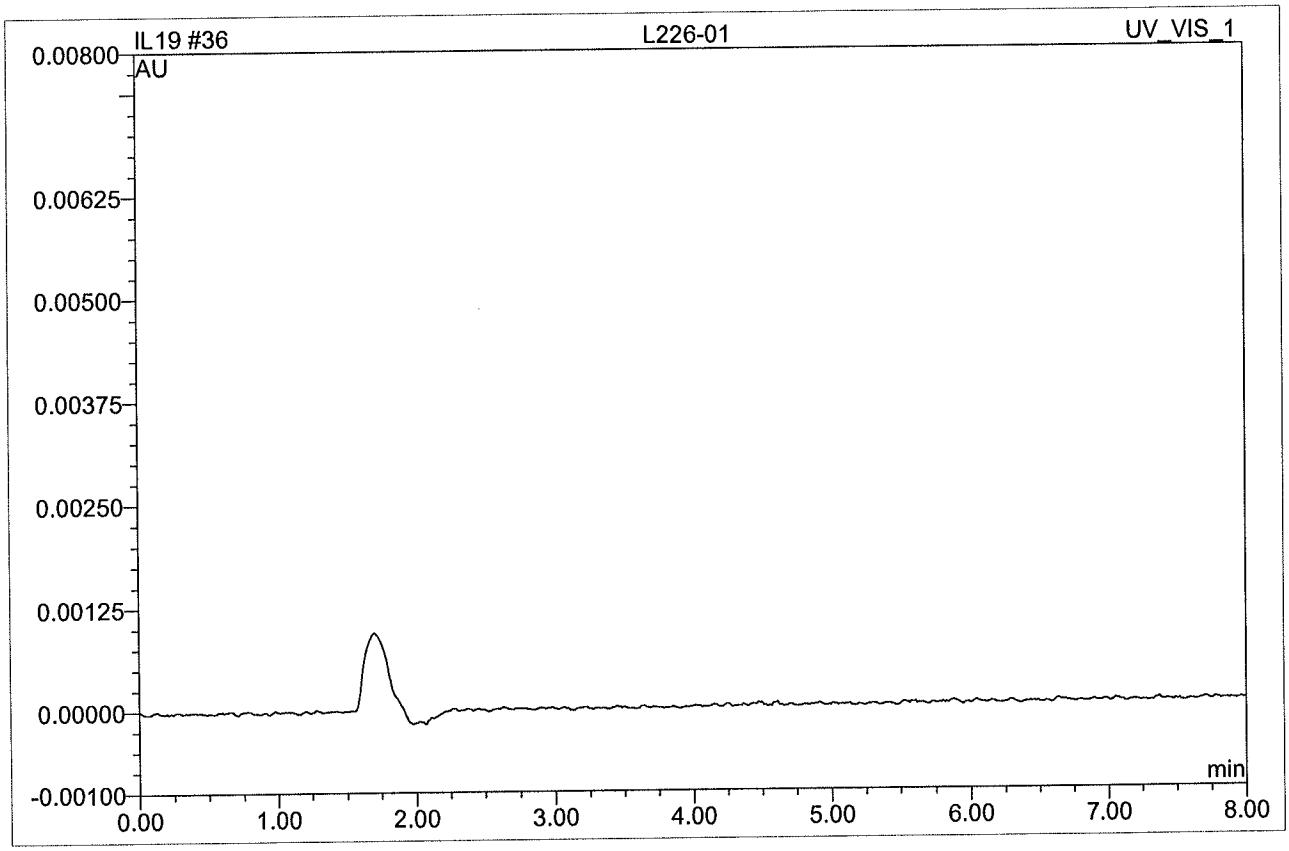
Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCL011WB	ND	1	NA	0.2	0.05	12/19/2223:35	NA	IL19033	IL19025	HCL011W	NA	NA
LCS1W	HCL011WL	2.00	1	NA	0.2	0.05	12/19/2223:46	NA	IL19034	IL19025	HCL011W	NA	NA
LCD1W	HCL011WC	2.00	1	NA	0.2	0.05	12/19/2223:56	NA	IL19035	IL19025	HCL011W	NA	NA
MW-56D-Q422	L226-01	ND	1	NA	0.2	0.05	12/20/2200:06	NA	IL19036	IL19025	HCL011W	12/14/2210:36	12/15/22
MW-56M-Q422	L226-02	ND	1	NA	0.2	0.05	12/20/2200:38	NA	IL19039	IL19037	HCL011W	12/14/2210:10	12/15/22
MW-56S-Q422	L226-03	ND	1	NA	0.2	0.05	12/20/2200:48	NA	IL19040	IL19037	HCL011W	12/14/2209:46	12/15/22
MW-929-Q422	L226-04	ND	1	NA	0.2	0.05	12/20/2200:58	NA	IL19041	IL19037	HCL011W	12/14/2209:56	12/15/22
EB-754-Q422	L226-05	ND	1	NA	0.2	0.05	12/20/2201:09	NA	IL19042	IL19037	HCL011W	12/14/2212:08	12/15/22
PGE-09N-Q422	L226-06	ND	1	NA	0.2	0.05	12/20/2201:19	NA	IL19043	IL19037	HCL011W	12/14/2211:11	12/15/22
PGE-09N-Q422MS	L226-06M	1.02	1	NA	0.2	0.05	12/20/2201:30	NA	IL19044	IL19037	HCL011W	12/14/2211:11	12/15/22
PGE-09N-Q422MSD	L226-06S	1.01	1	NA	0.2	0.05	12/20/2201:40	NA	IL19045	IL19037	HCL011W	12/14/2211:11	12/15/22
SITE B-165-Q422	L226-08I	31.4	5	NA	1	0.25	12/20/2202:53	NA	IL19052	IL19049	HCL011W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09I	31.5	5	NA	1	0.25	12/20/2203:14	NA	IL19054	IL19049	HCL011W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10I	31.6	5	NA	1	0.25	12/20/2203:34	NA	IL19056	IL19049	HCL011W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11I	13.7	5	NA	1	0.25	12/20/2203:55	NA	IL19058	IL19049	HCL011W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12I	13.9	5	NA	1	0.25	12/20/2204:16	NA	IL19060	IL19049	HCL011W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13I	19.3	5	NA	1	0.25	12/20/2204:58	NA	IL19064	IL19061	HCL011W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14	7.29	1	NA	0.2	0.05	12/20/2205:08	NA	IL19065	IL19061	HCL011W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15I	14.0	5	NA	1	0.25	12/20/2205:39	NA	IL19068	IL19061	HCL011W	12/14/2209:06	12/15/22
EB-753-Q422	L226-16	ND	1	NA	0.2	0.05	12/20/2205:50	NA	IL19069	IL19061	HCL011W	12/14/2212:00	12/15/22
PGE-09S-Q422	L226-07I	ND	5	NA	1	0.25	12/20/2210:47	NA	IL19078	IL19076	HCL011W	12/14/2211:58	12/15/22
PGE-09S-Q422MS	L226-07M	5.00	5	NA	1	0.25	12/20/2210:58	NA	IL19079	IL19076	HCL011W	12/14/2211:58	12/15/22
PGE-09S-Q422MSD	L226-07S	5.00	5	NA	1	0.25	12/20/2211:08	NA	IL19080	IL19076	HCL011W	12/14/2211:58	12/15/22

IL19 036 L226-01

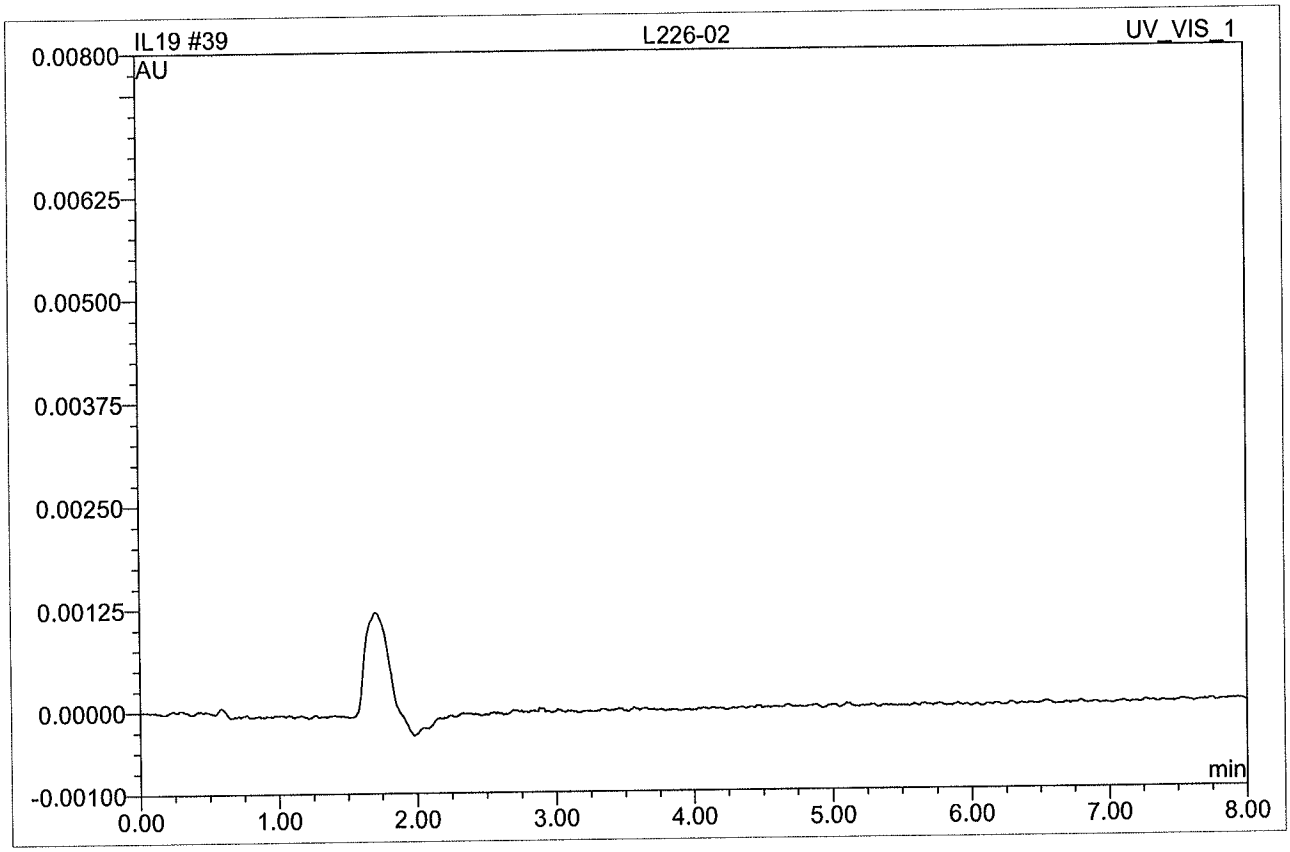
Sample Name:	**L226-01**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 039 L226-02

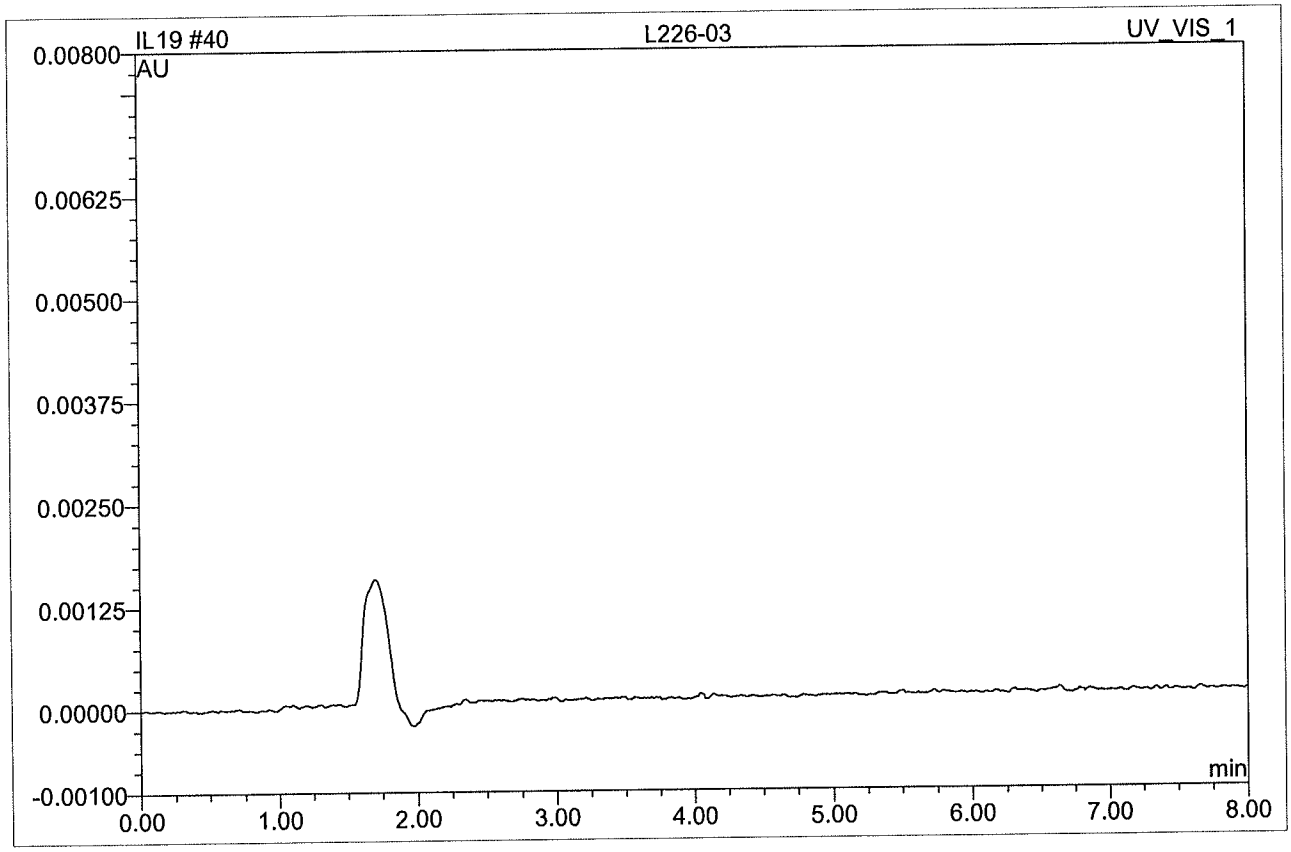
Sample Name:	**L226-02**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 040 L226-03

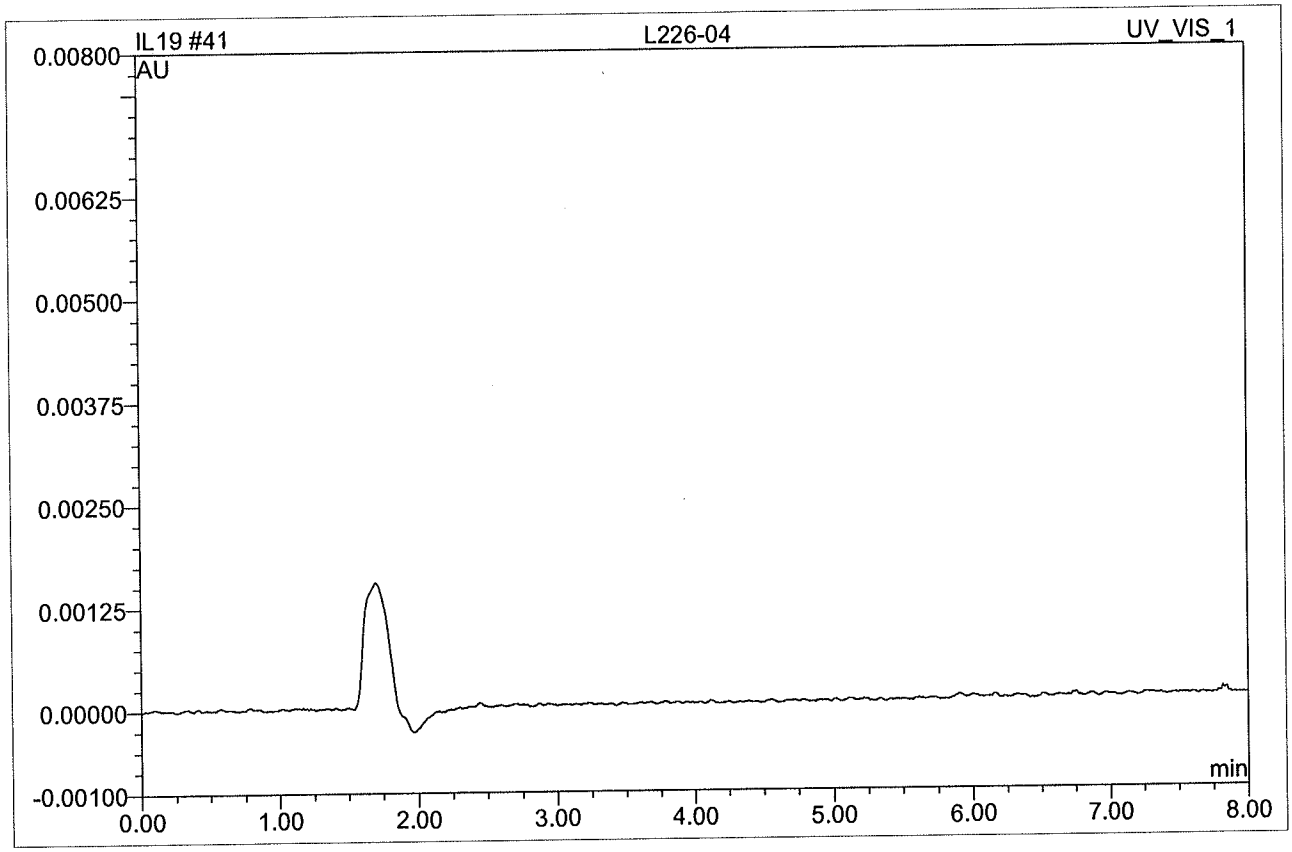
Sample Name:	**L226-03**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 041 L226-04

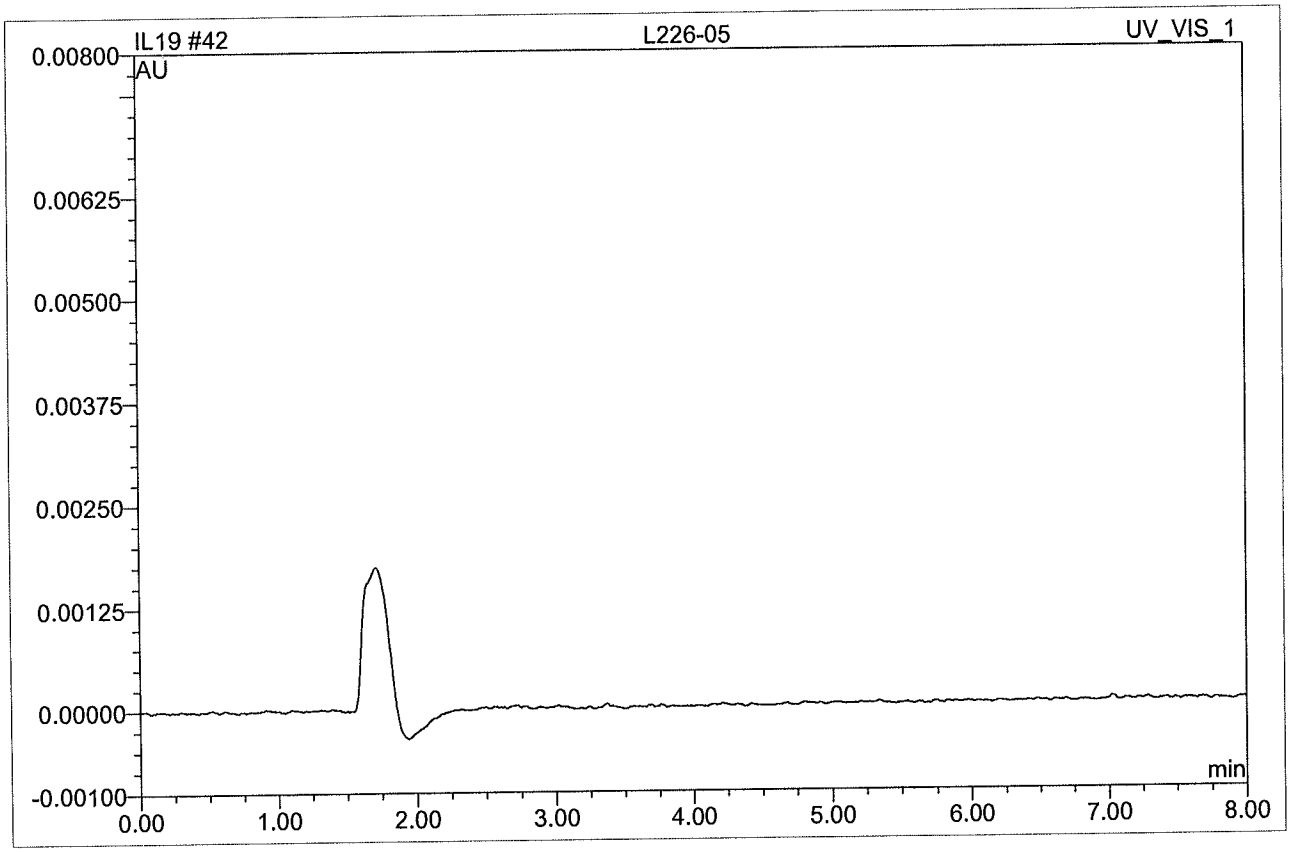
Sample Name:	**L226-04**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 042 L226-05

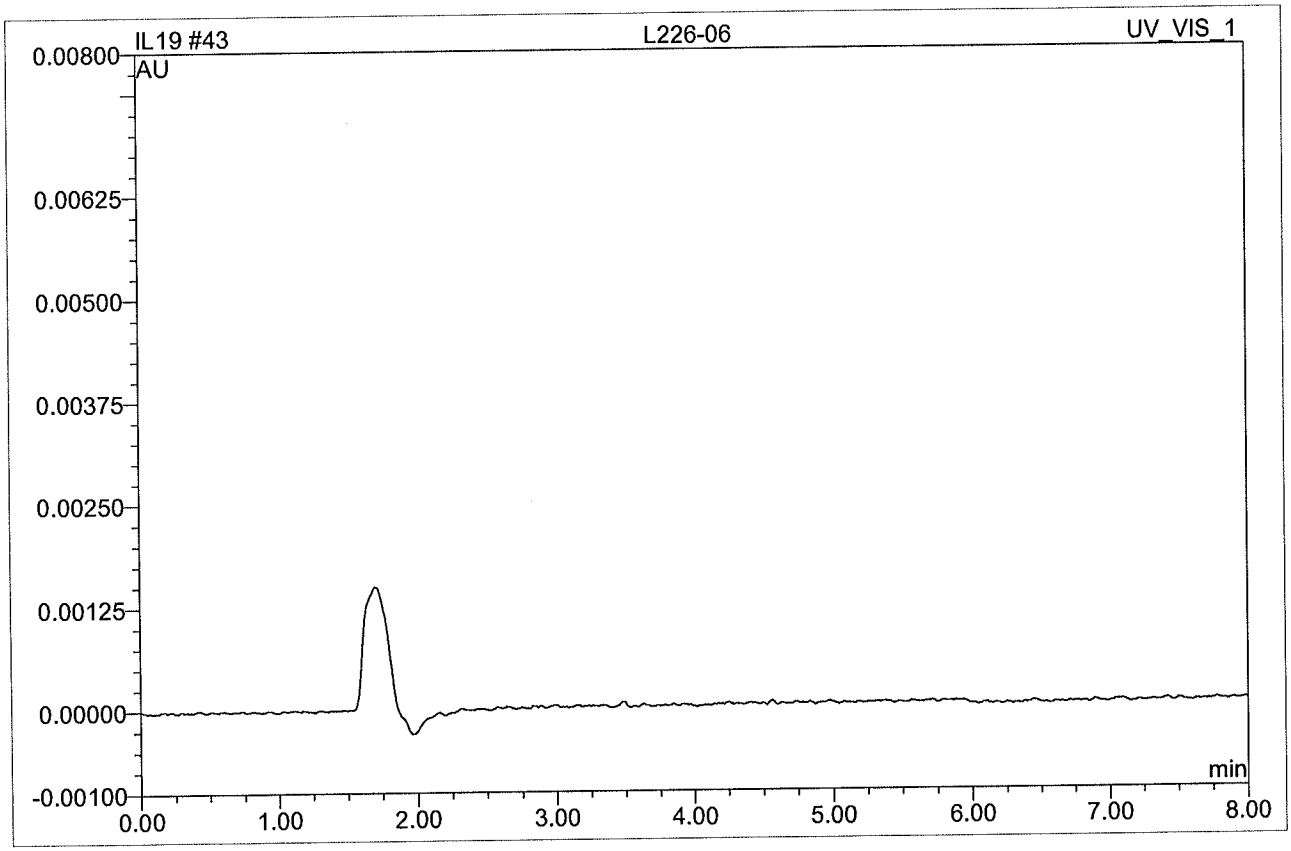
Sample Name:	**L226-05**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 1:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 043 L226-06

Sample Name:	**L226-06**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 1:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

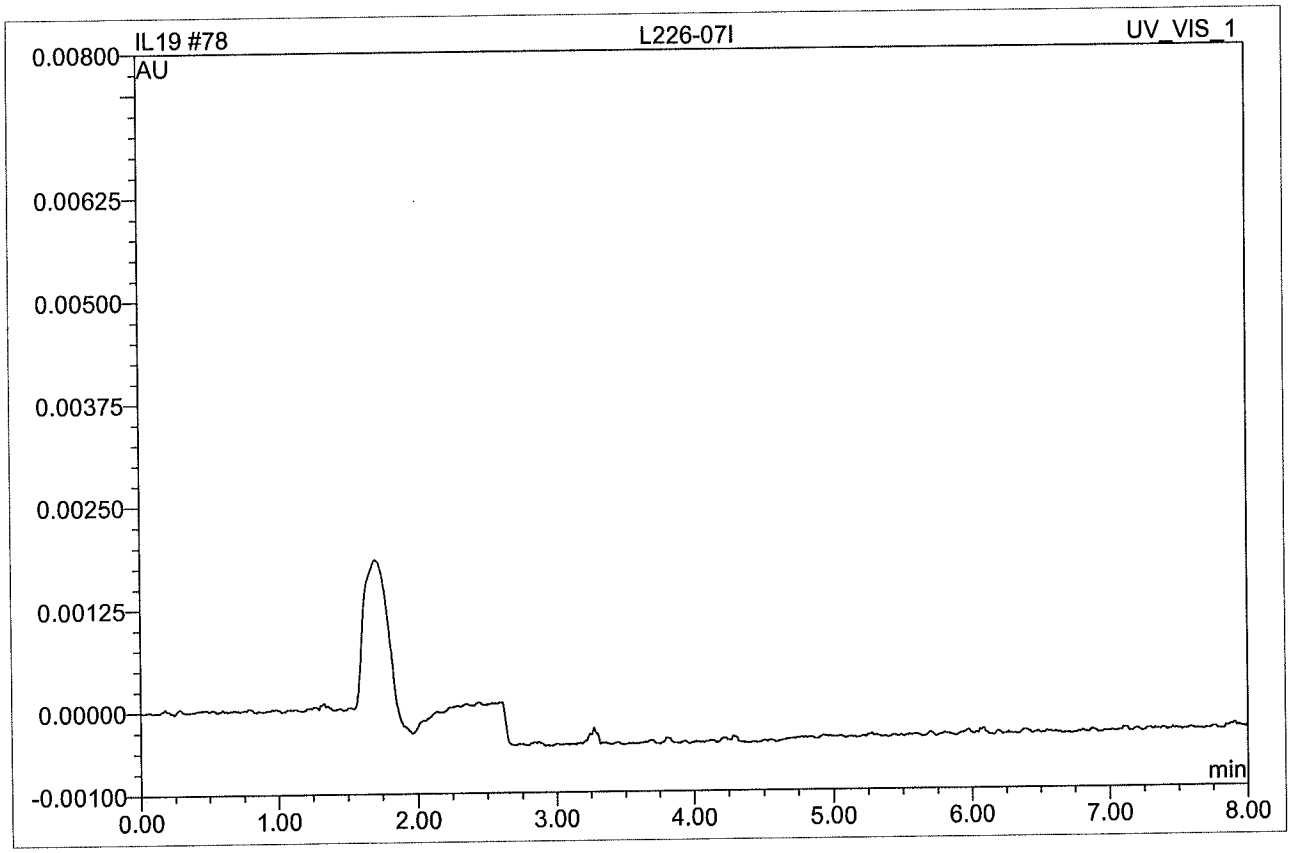


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 078 L226-07I

1mLto5mL

Sample Name:	**L226-07I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 10:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

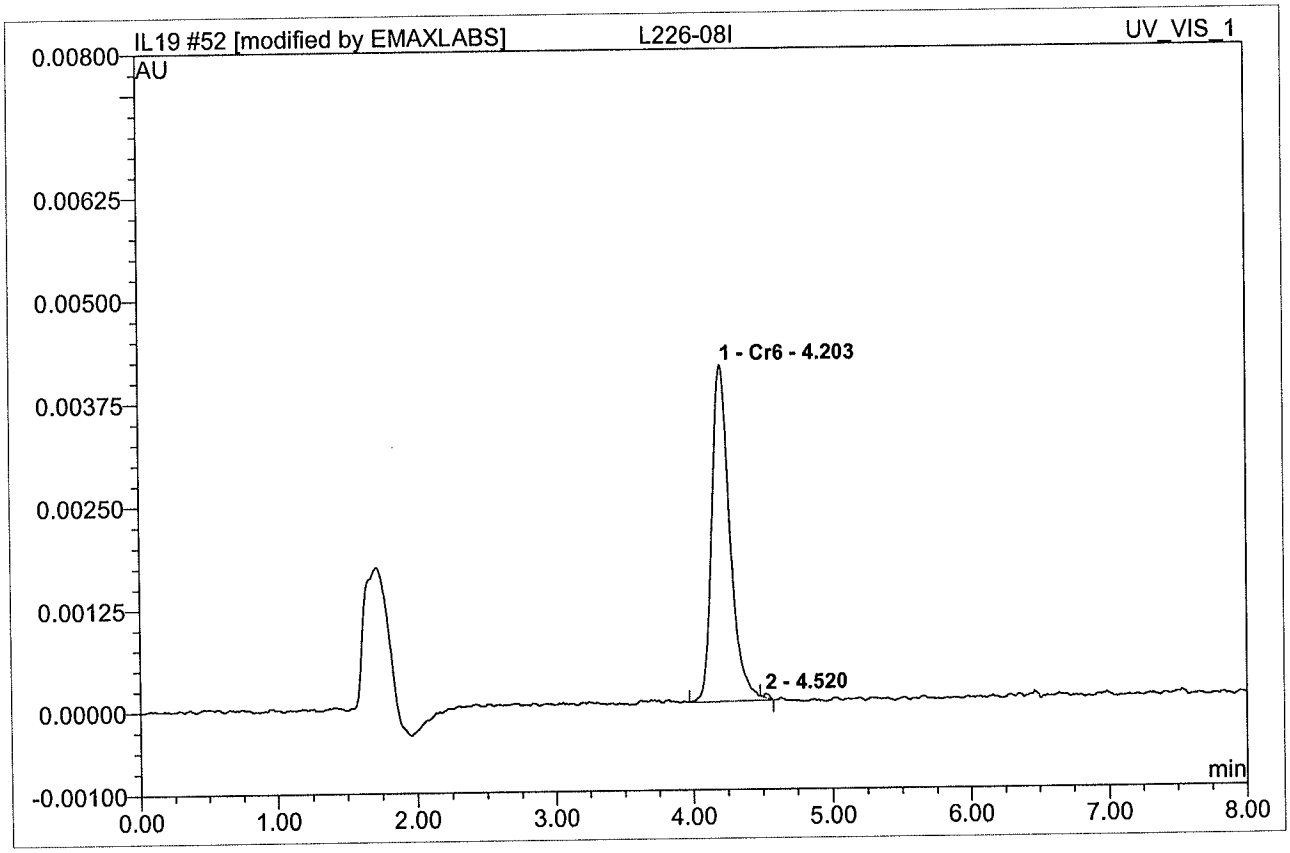


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 052 L226-08I

1mLto5mL

Sample Name:	**L226-08I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 2:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

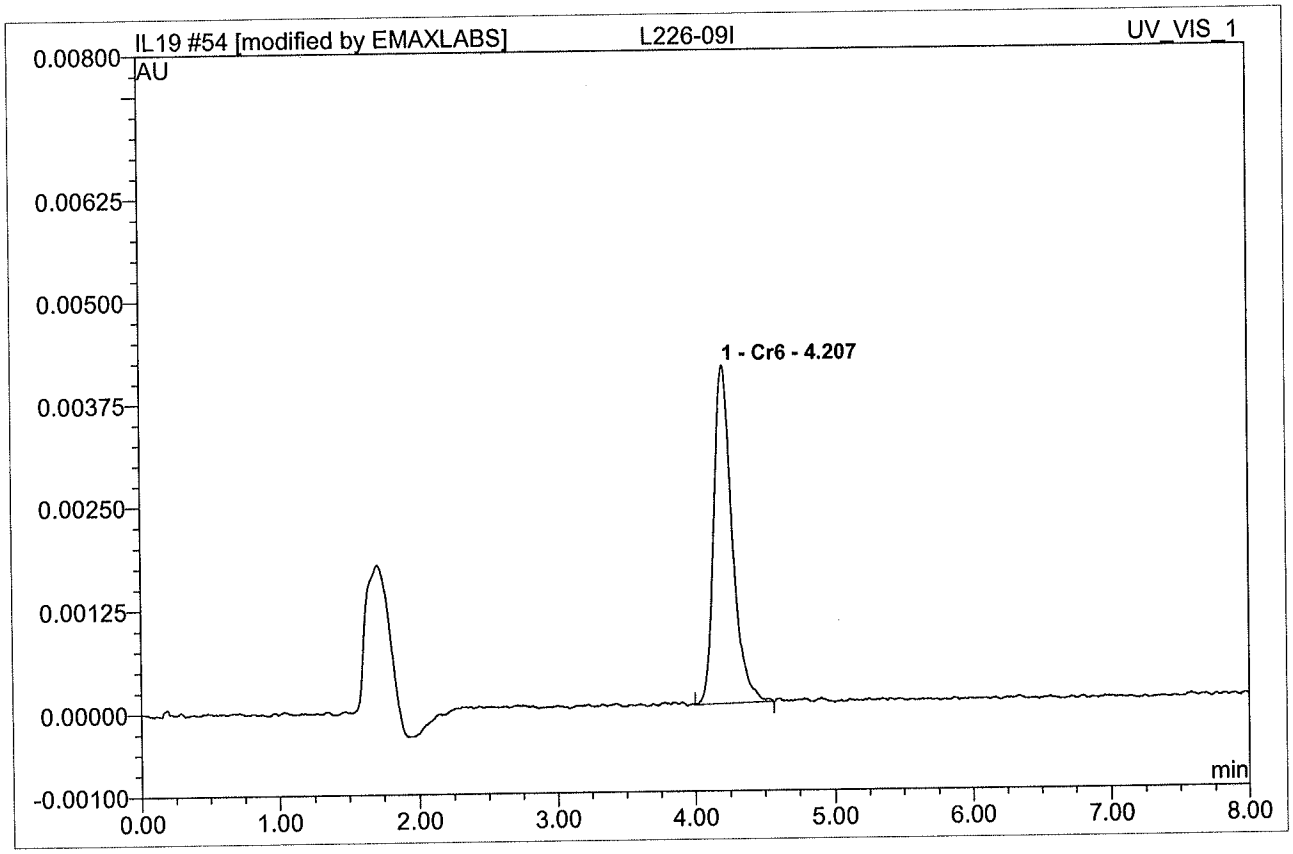


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0040920	0.0006200	99.60	31.382	BMB*
2	4.52	n.a.	0.0000490	0.0000025	0.40	n.a.	Rd*
Total:			0.004	0.001	100.00	31.382	

IL19 054 L226-09I

1mLto5mL

Sample Name:	**L226-09I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 3:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

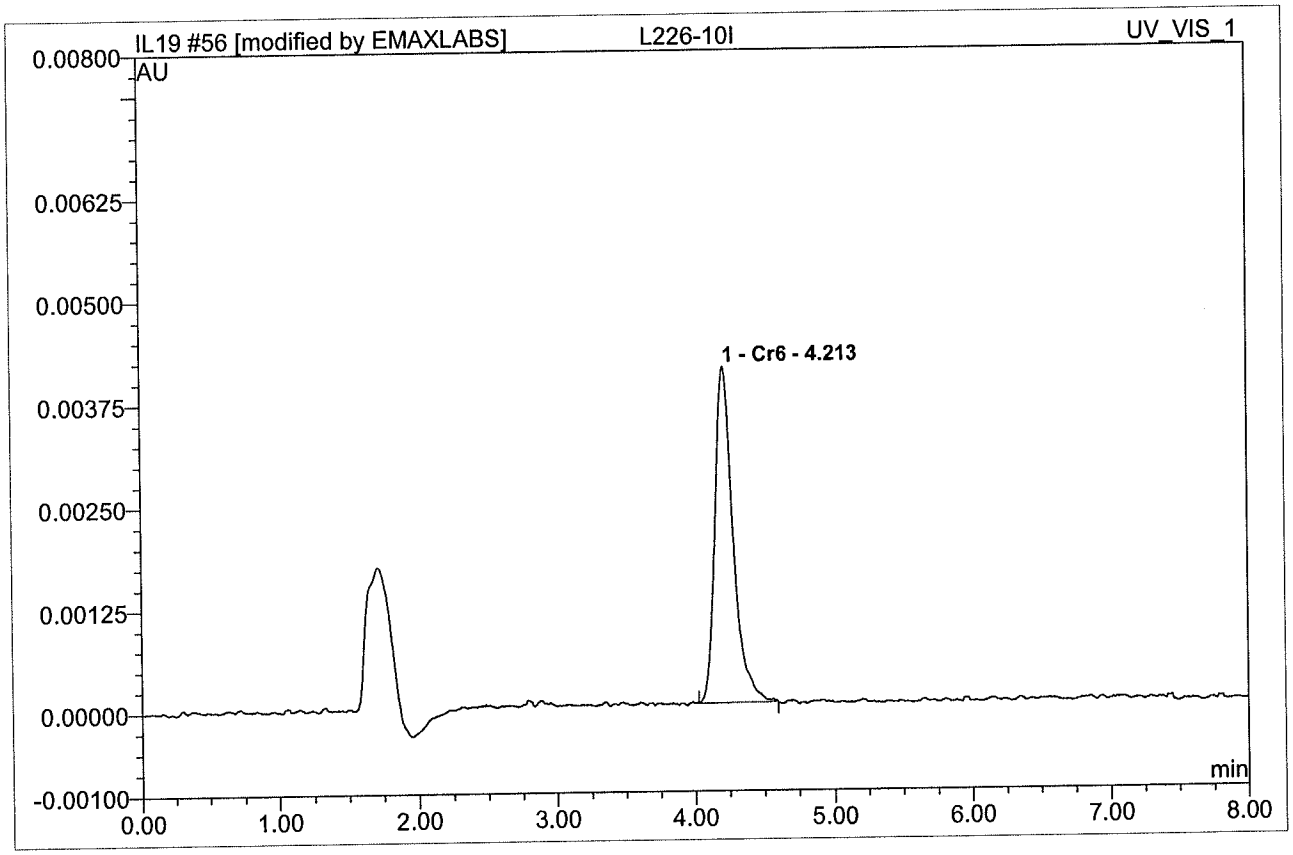


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0041060	0.0006228	100.00	31.523	BMB*
Total:			0.004	0.001	100.00	31.523	

IL19 056 L226-10I

1mLto5mL

Sample Name:	**L226-10I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 3:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

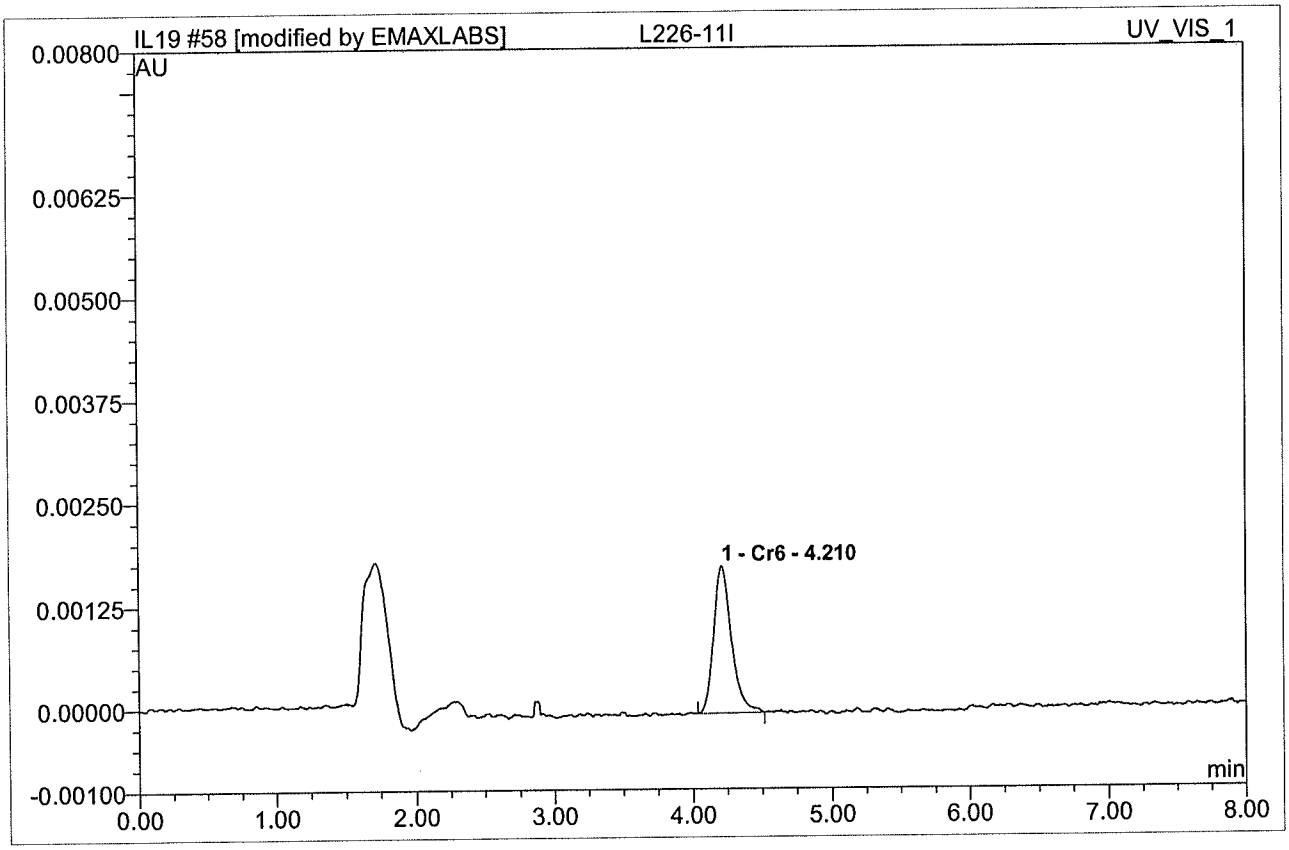


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0040870	0.0006249	100.00	31.632	BMB*
Total:			0.004	0.001	100.00	31.632	

IL19 058 L226-11I

1mLto5mL

Sample Name:	**L226-11I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 3:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

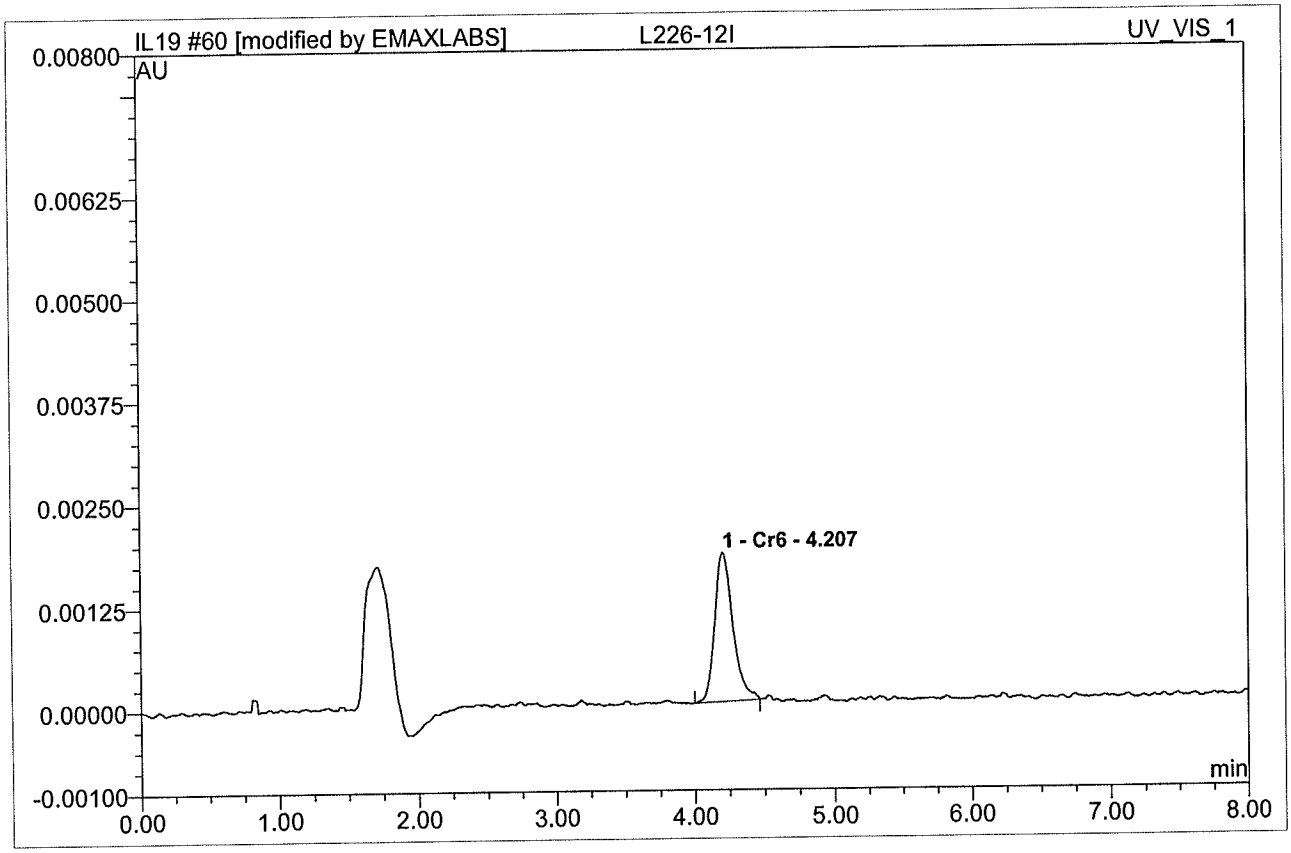


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0017930	0.0002700	100.00	13.700	BMB*
Total:			0.002	0.000	100.00	13.700	

IL19 060 L226-12I

1mLto5mL

Sample Name:	**L226-12I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 4:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

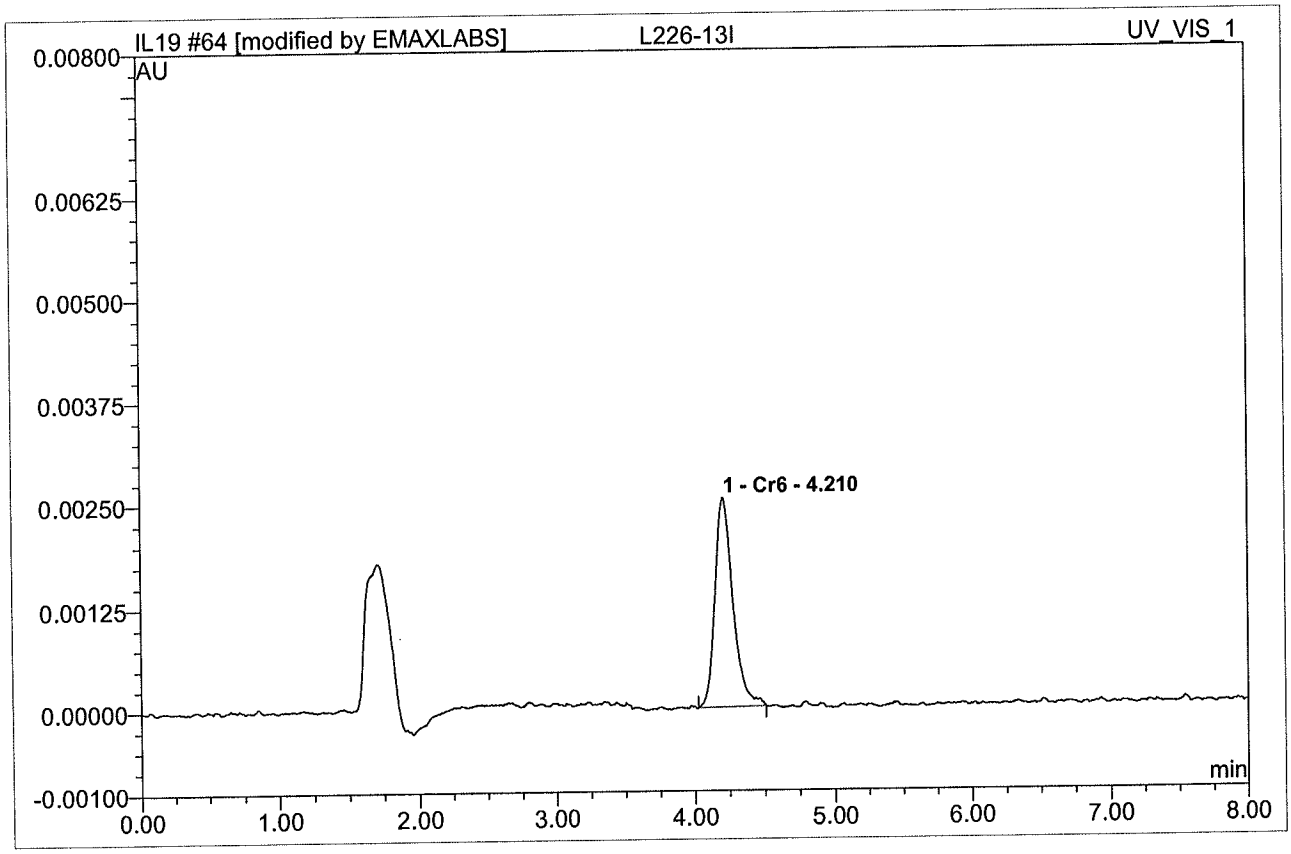


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0018120	0.0002739	100.00	13.893	BMB*
Total:			0.002	0.000	100.00	13.893	

IL19 064 L226-13I

1mLto5mL

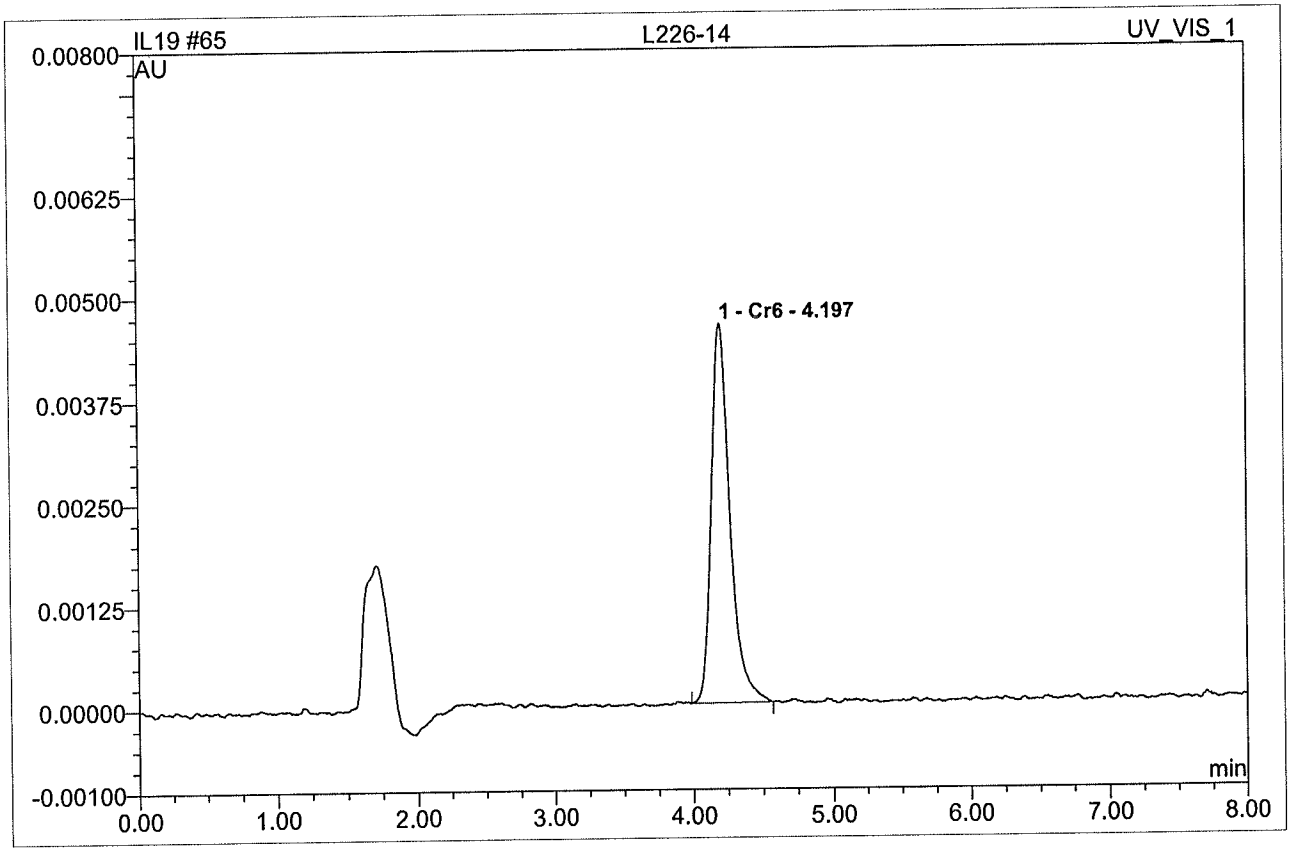
Sample Name:	**L226-13I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 4:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0025340	0.0003818	100.00	19.345	BMB*
Total:			0.003	0.000	100.00	19.345	

IL19 065 L226-14

Sample Name:	**L226-14**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 5:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

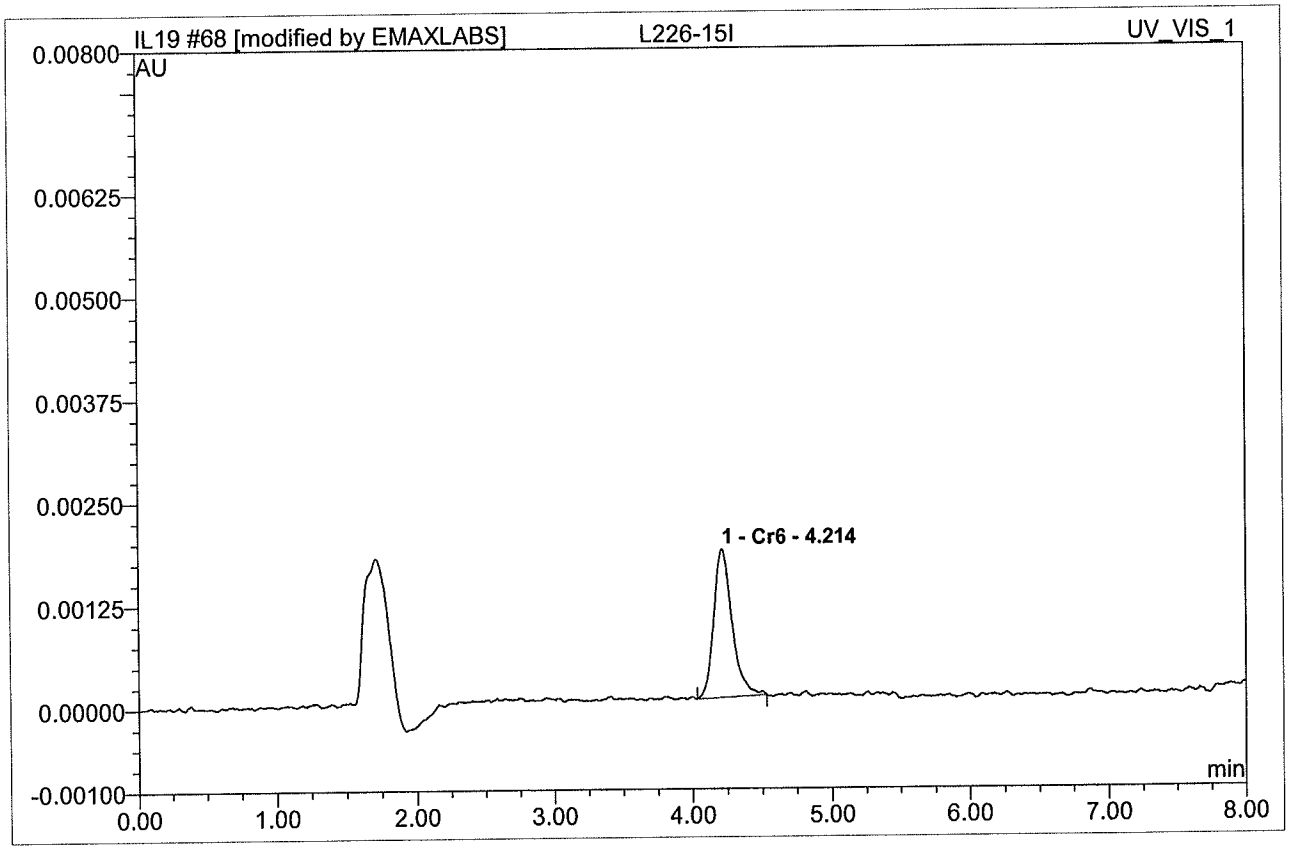


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0046160	0.0007200	100.00	7.287	BMB
Total:			0.005	0.001	100.00	7.287	

IL19 068 L226-15l

1mLto5mL

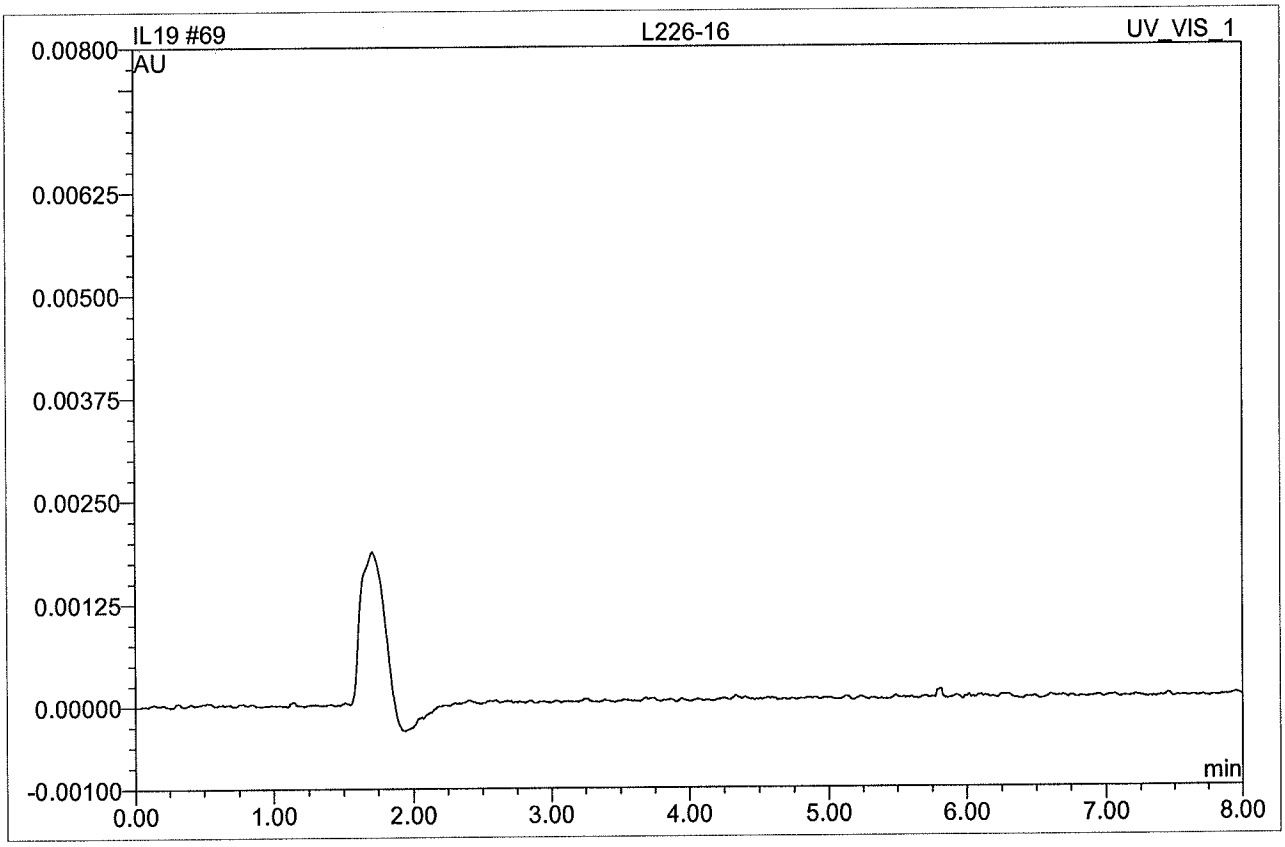
Sample Name:	**L226-15l**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 5:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0017980	0.0002758	100.00	13.988	BMB*
Total:			0.002	0.000	100.00	13.988	

IL19 069 L226-16

Sample Name:	**L226-16**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 5:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCL011WB	HCL011WL	HCL011WC
LAB FILE ID	: IL19033	IL19034	IL19035
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/19/2223:35	12/19/2223:46	12/19/2223:56
PREP BATCH	: HCL011W	HCL011W	HCL011W
CALIBRATION REF	: IL19025	IL19025	IL19025

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	2.00	100	2.00	2.00	100	0	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: PGE-09N-Q422	PGE-09N-Q422MS	PGE-09N-Q422MSD
LAB SAMPLE ID	: L226-06	L226-06M	L226-06S
LAB FILE ID	: IL19043	IL19044	IL19045
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/20/2201:19	12/20/2201:30	12/20/2201:40
PREP BATCH	: HCL011W	HCL011W	HCL011W
CALIBRATION REF	: IL19037	IL19037	IL19037

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	1.02	102	1.00	1.01	101	1	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 5	5	5
SAMPLE ID	: PGE-09S-Q422	PGE-09S-Q422MS	PGE-09S-Q422MSD
LAB SAMPLE ID	: L226-07I	L226-07M	L226-07S
LAB FILE ID	: IL19078	IL19079	IL19080
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/20/2210:47	12/20/2210:58	12/20/2211:08
PREP BATCH	: HCL011W	HCL011W	HCL011W
CALIBRATION REF	: IL19076	IL19076	IL19076

ACCESSION:

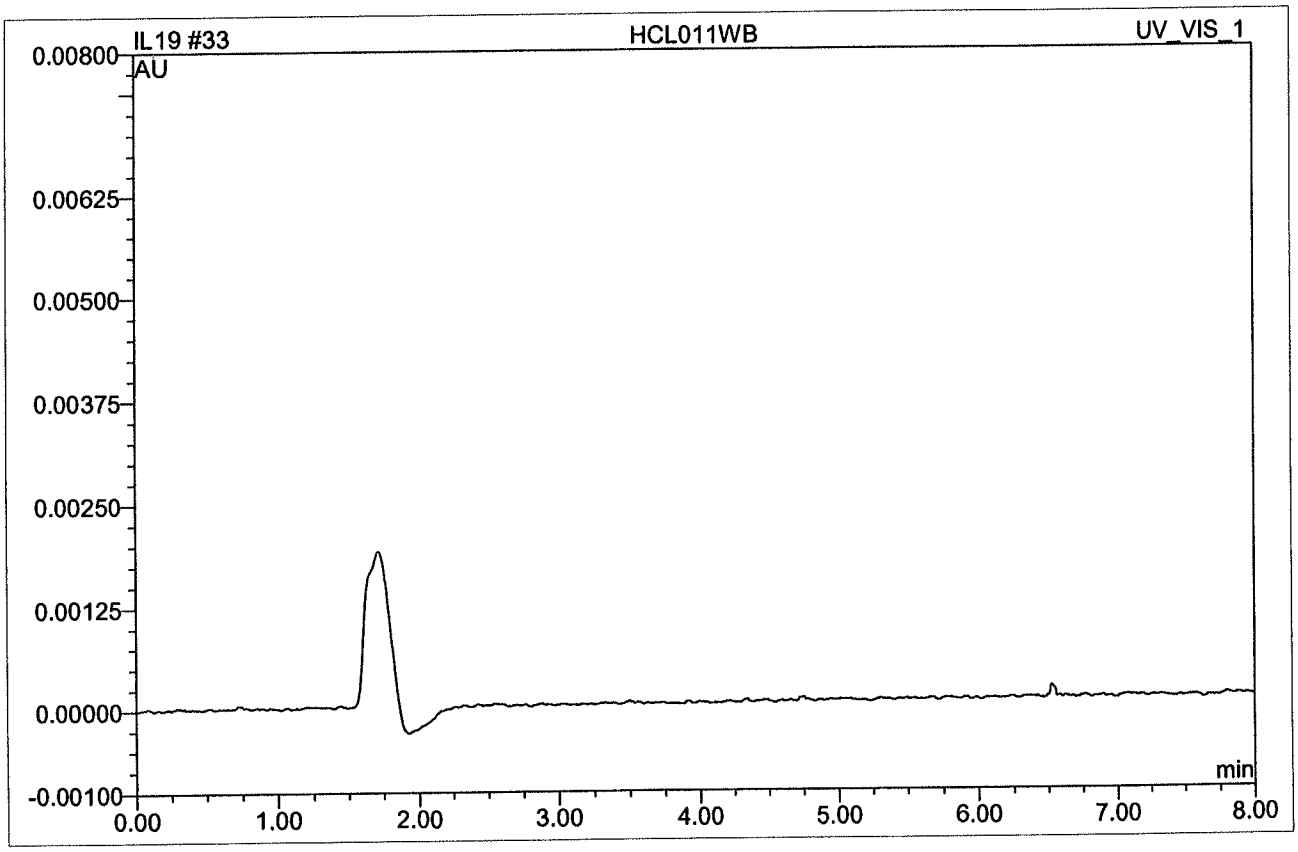
PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	5.00	5.00	100	5.00	5.00	100	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

QC DATA

IL19 033 HCL011WB

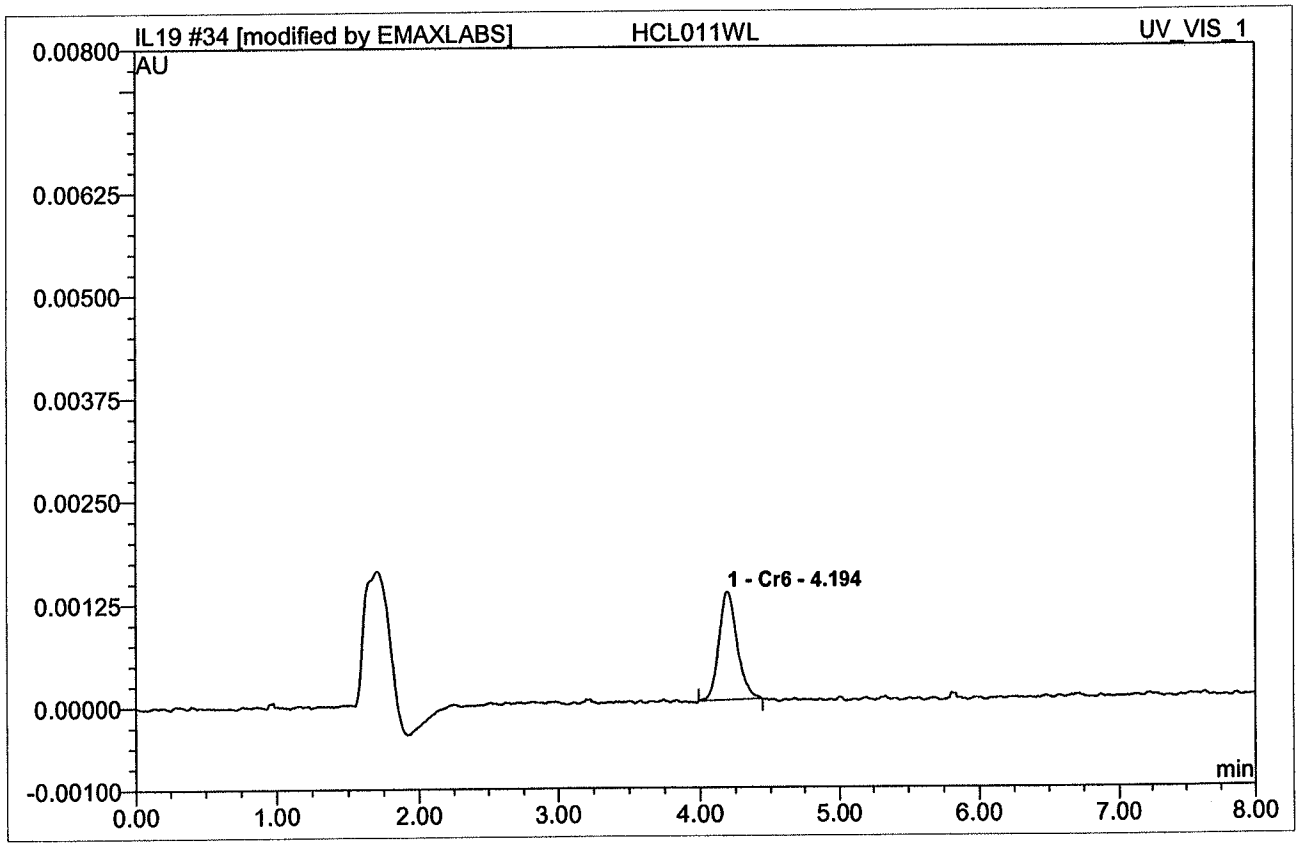
Sample Name:	**HCL011WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 23:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 034 HCL011WL

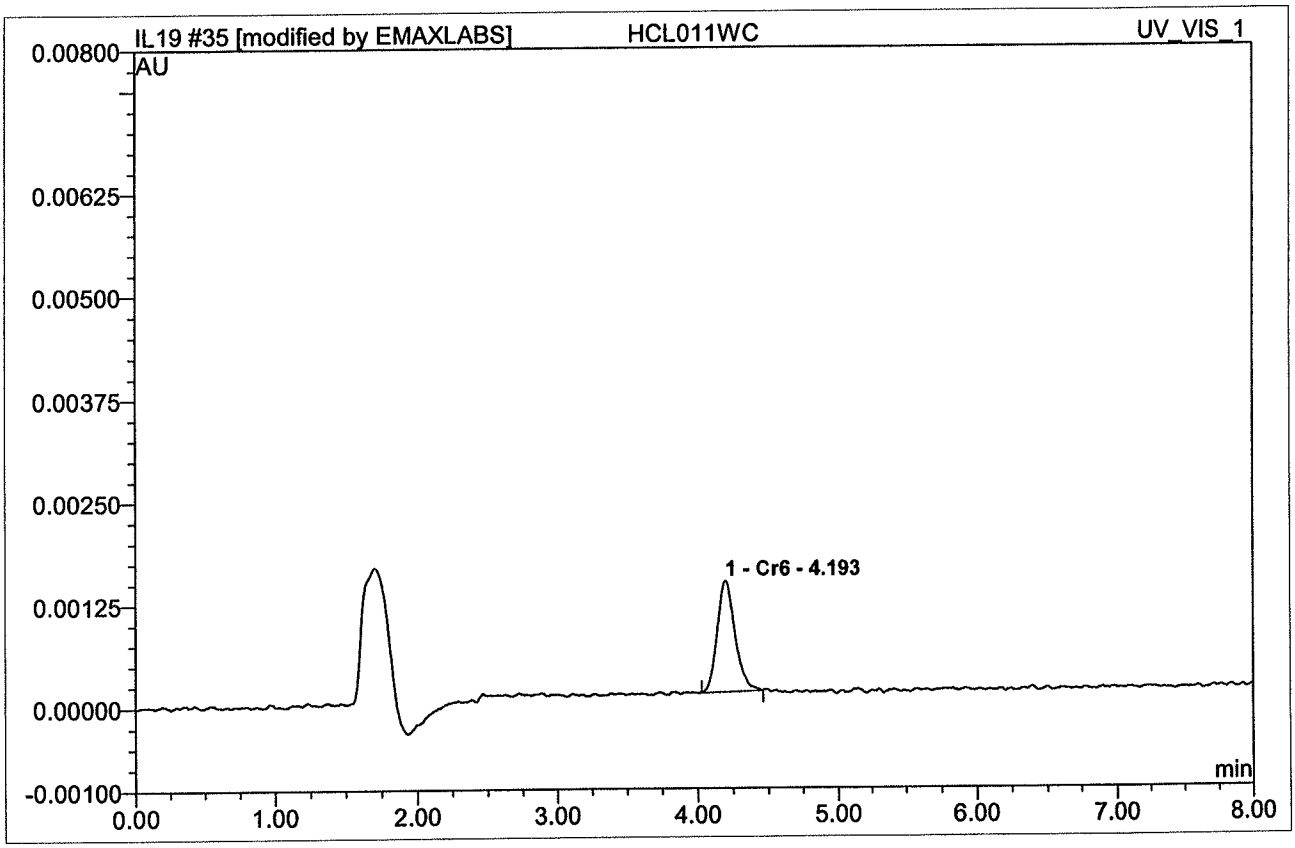
Sample Name:	**HCL011WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 23:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013170	0.0001969	100.00	2.000	BMB*
Total:			0.001	0.000	100.00	2.000	

IL19 035 HCL011WC

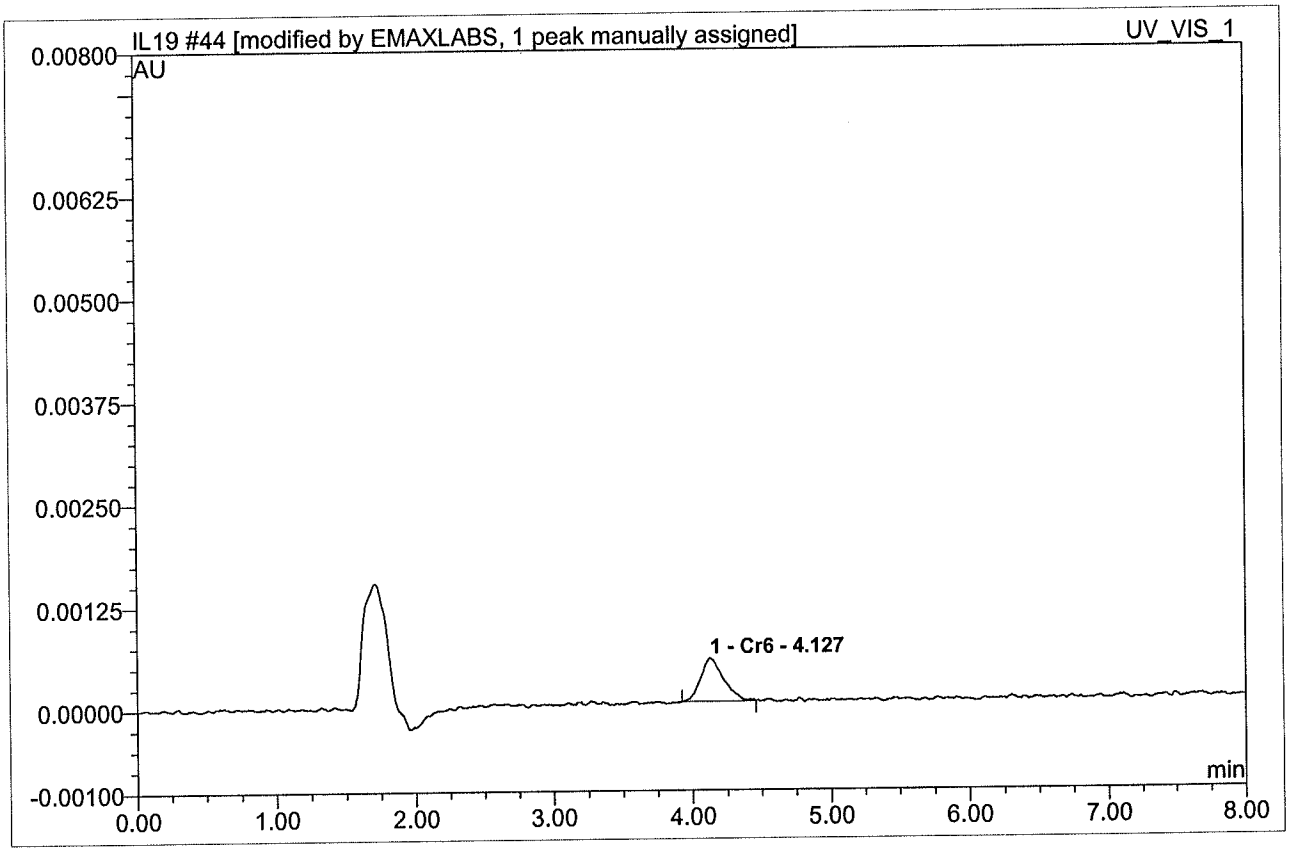
Sample Name:	**HCL011WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 23:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013530	0.0001969	100.00	2.001	BMB*
Total:			0.001	0.000	100.00	2.001	

IL19 044 L226-06M

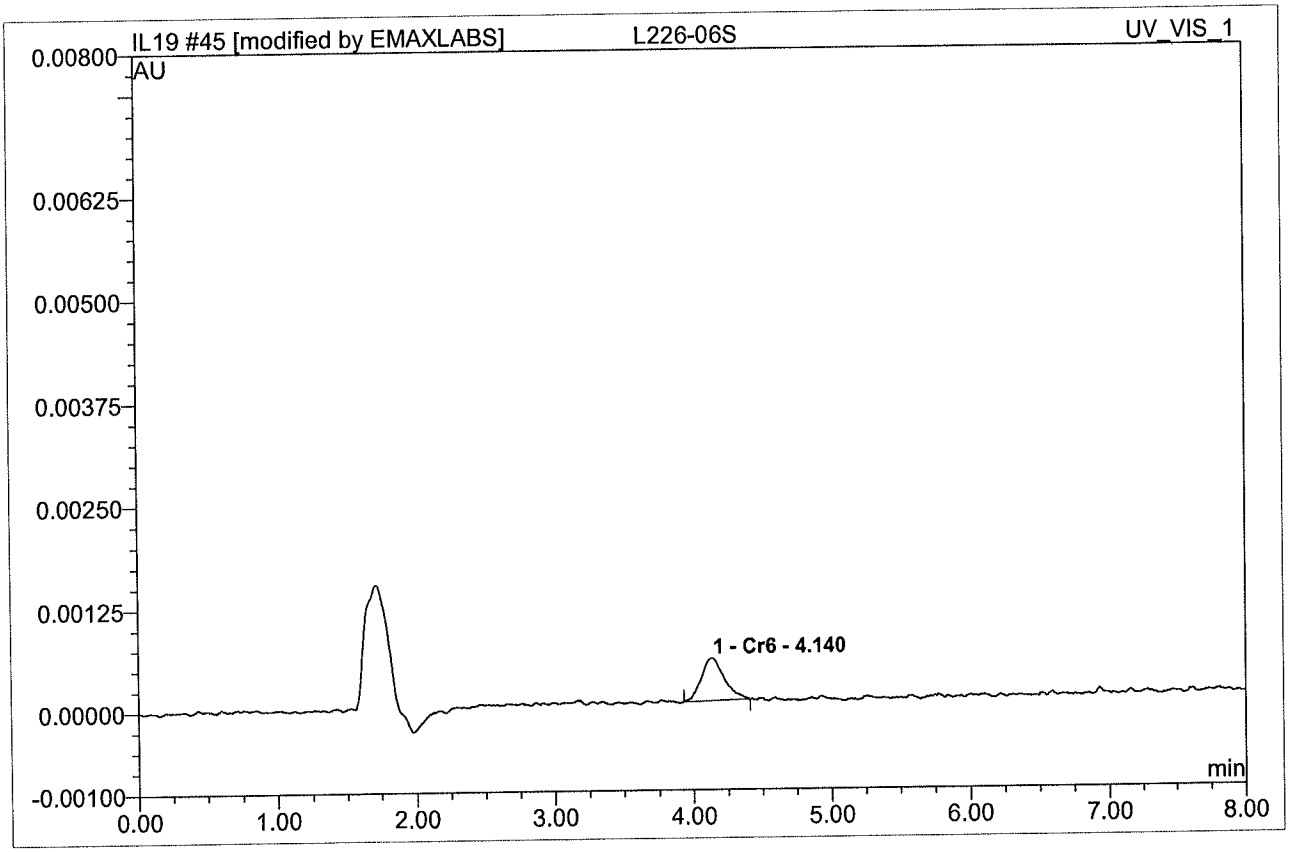
Sample Name:	**L226-06M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 1:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.13	Cr6	0.0005240	0.0000994	100.00	1.016	BMB*^
Total:			0.001	0.000	100.00	1.016	

IL19 045 L226-06S

Sample Name:	**L226-06S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 1:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

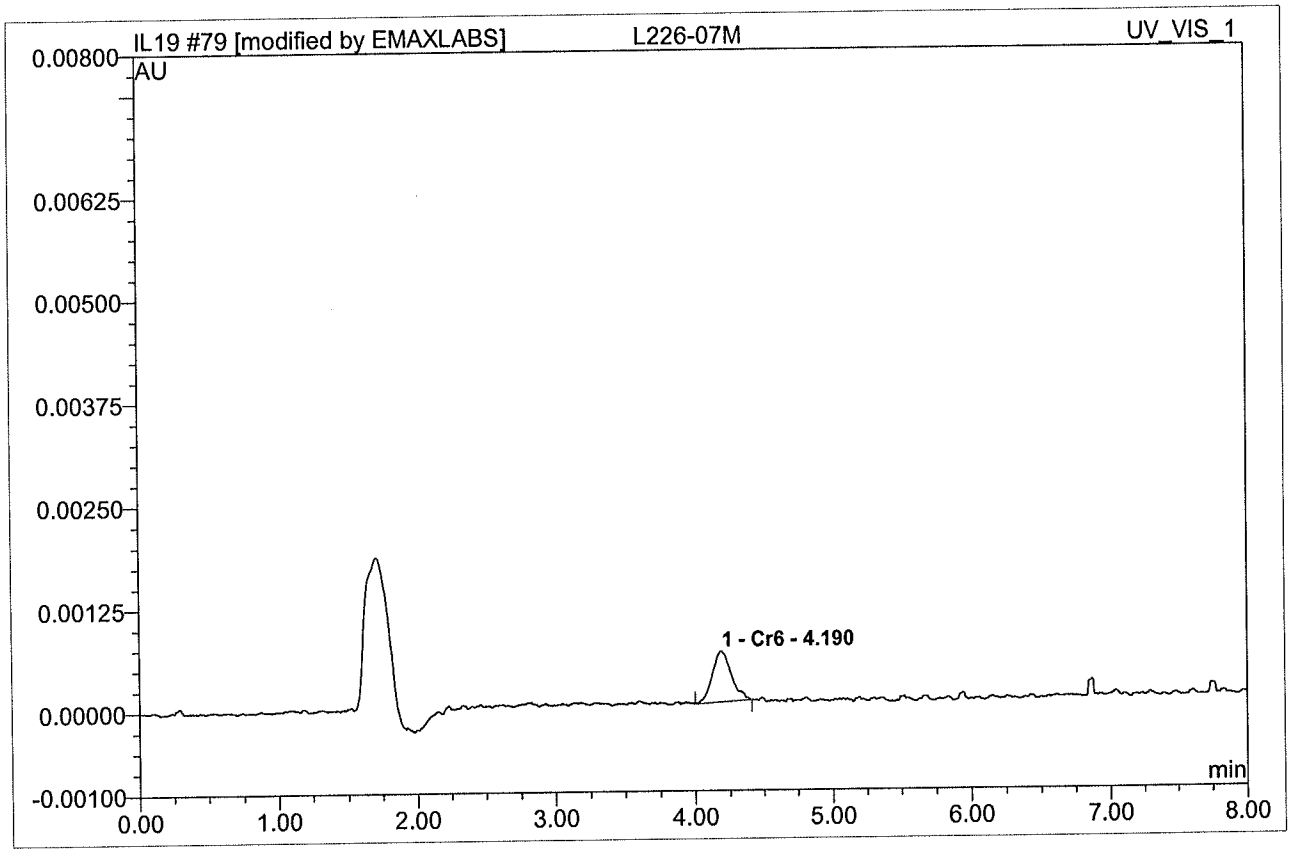


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0005160	0.0000991	100.00	1.013	BMB*
Total:			0.001	0.000	100.00	1.013	

IL19 079 L226-07M

1mLto5mL

Sample Name:	**L226-07M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 10:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

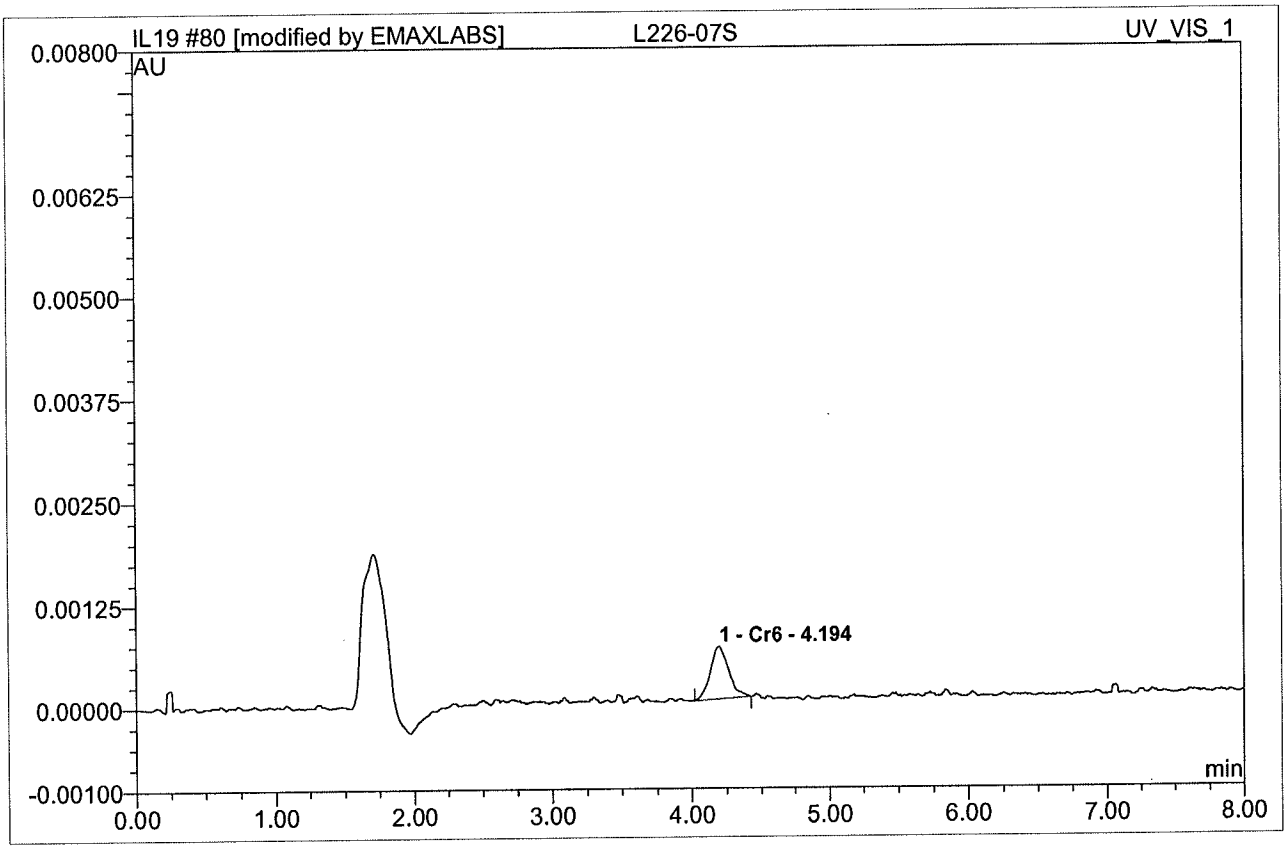


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0006150	0.0000978	100.00	4.997	BMB*
Total:			0.001	0.000	100.00	4.997	

IL19 080 L226-07S

1mLto5mL

Sample Name:	**L226-07S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 11:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0006370	0.0000978	100.00	4.995	BMB*
Total:			0.001	0.000	100.00	4.995	

INITIAL CALIBRATION

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

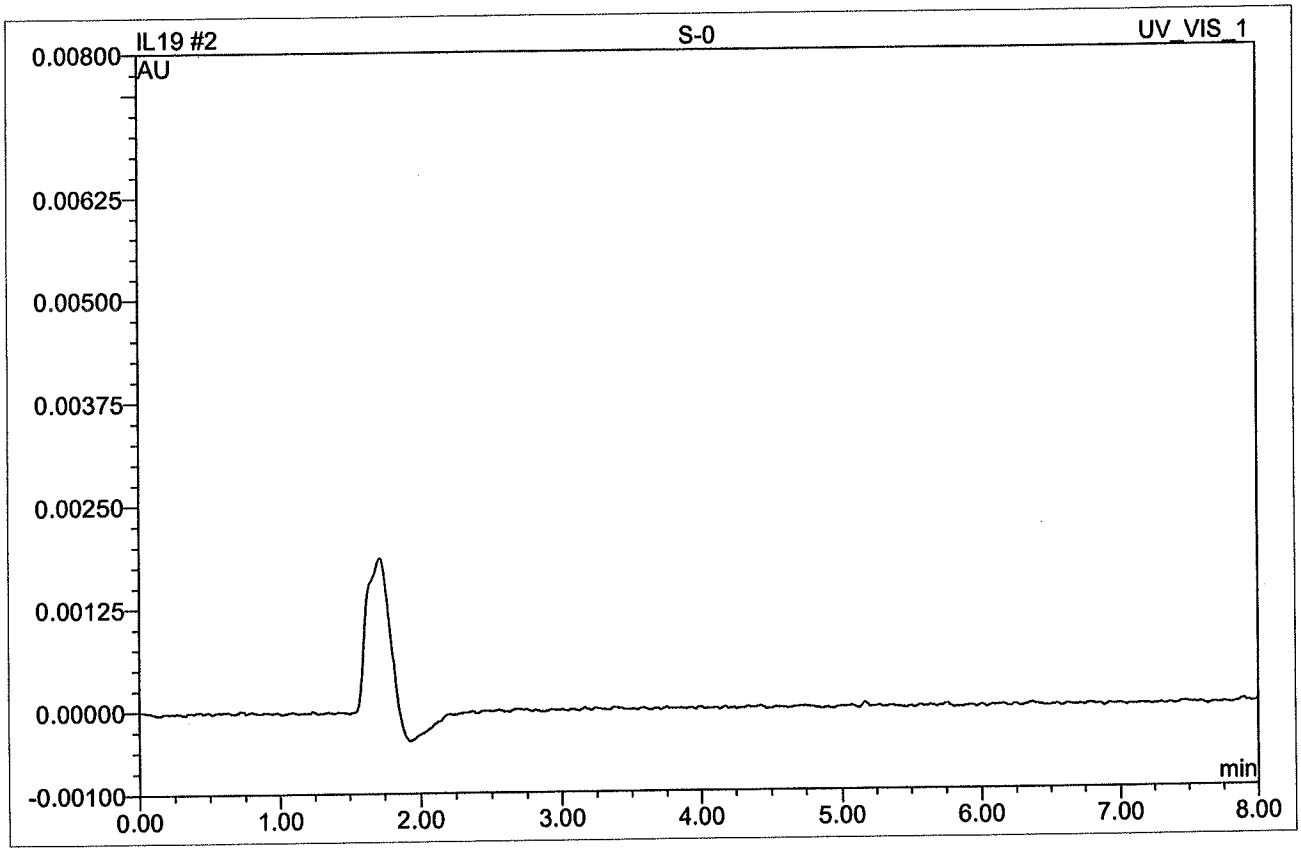
LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1

METHOD: IC59L19
SOLVENT: BUFFER (SP2-05-21-03)

12/27/22

IL19 002 S-0

Sample Name:	**S-0**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 17:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



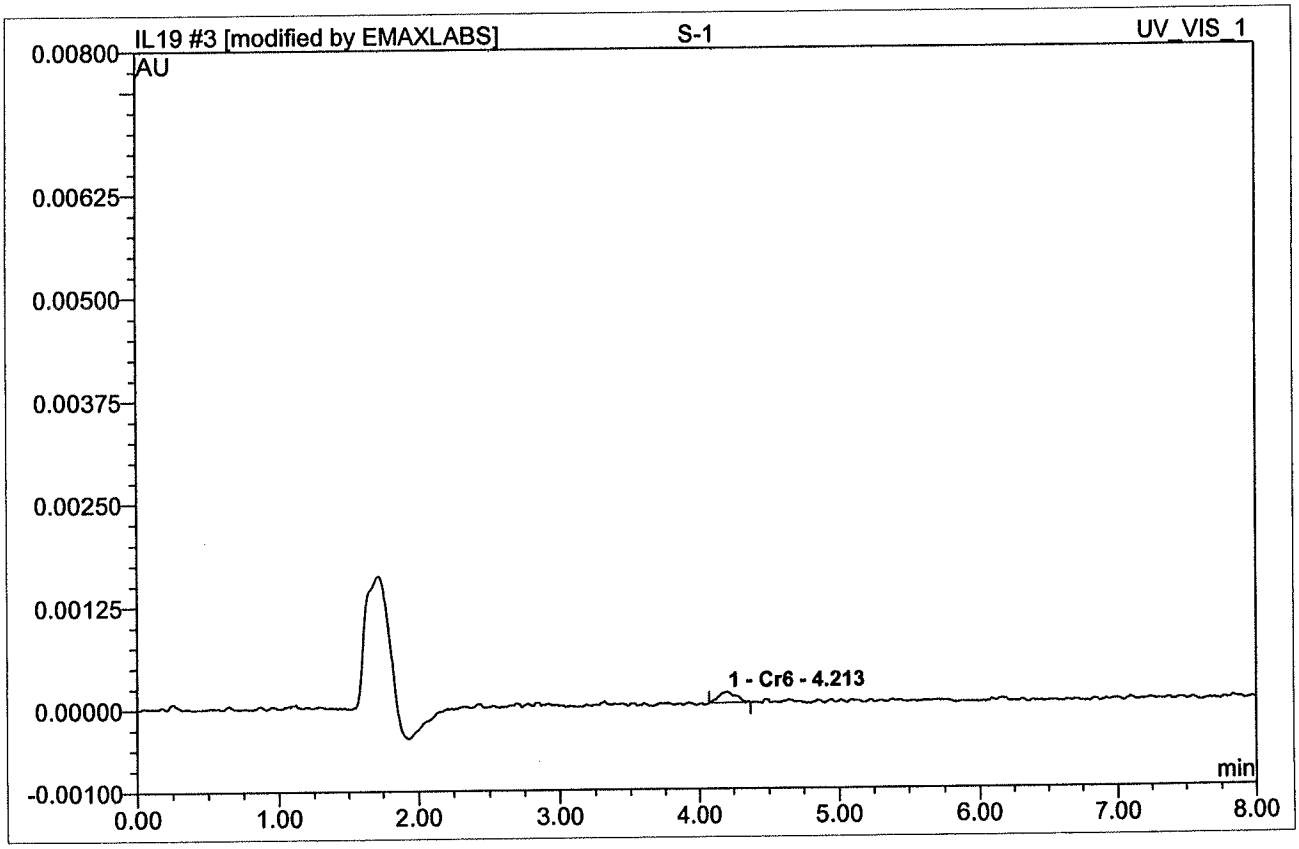
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LLB 1/27/23

IL19 003 S-1

0.2 PPB

Sample Name:	**S-1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 17:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



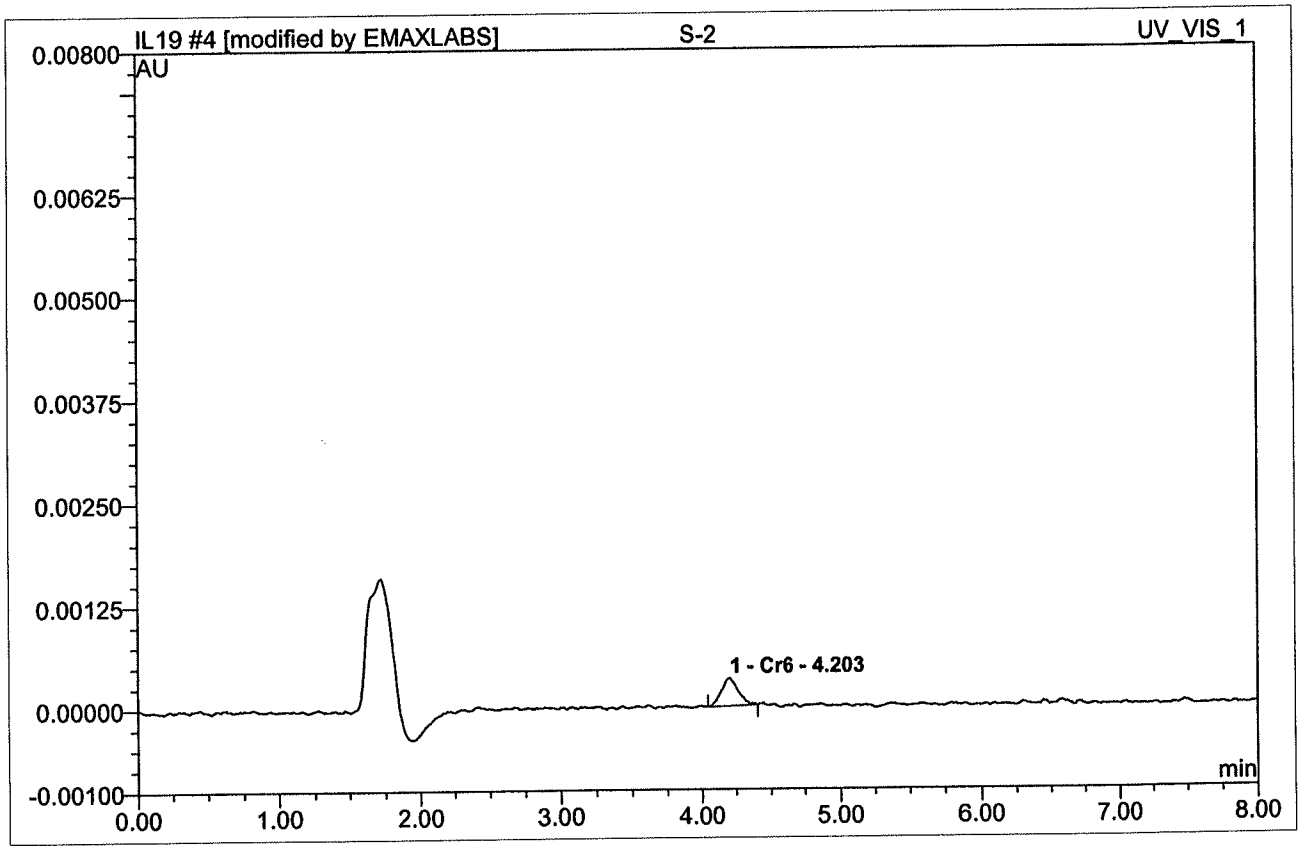
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0001310	0.0000190	100.00	0.204	BMB*
Total:			0.000	0.000	100.00	0.204	

12/27/22

IL19 004 S-2

0.5 PPB

Sample Name:	**S-2**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



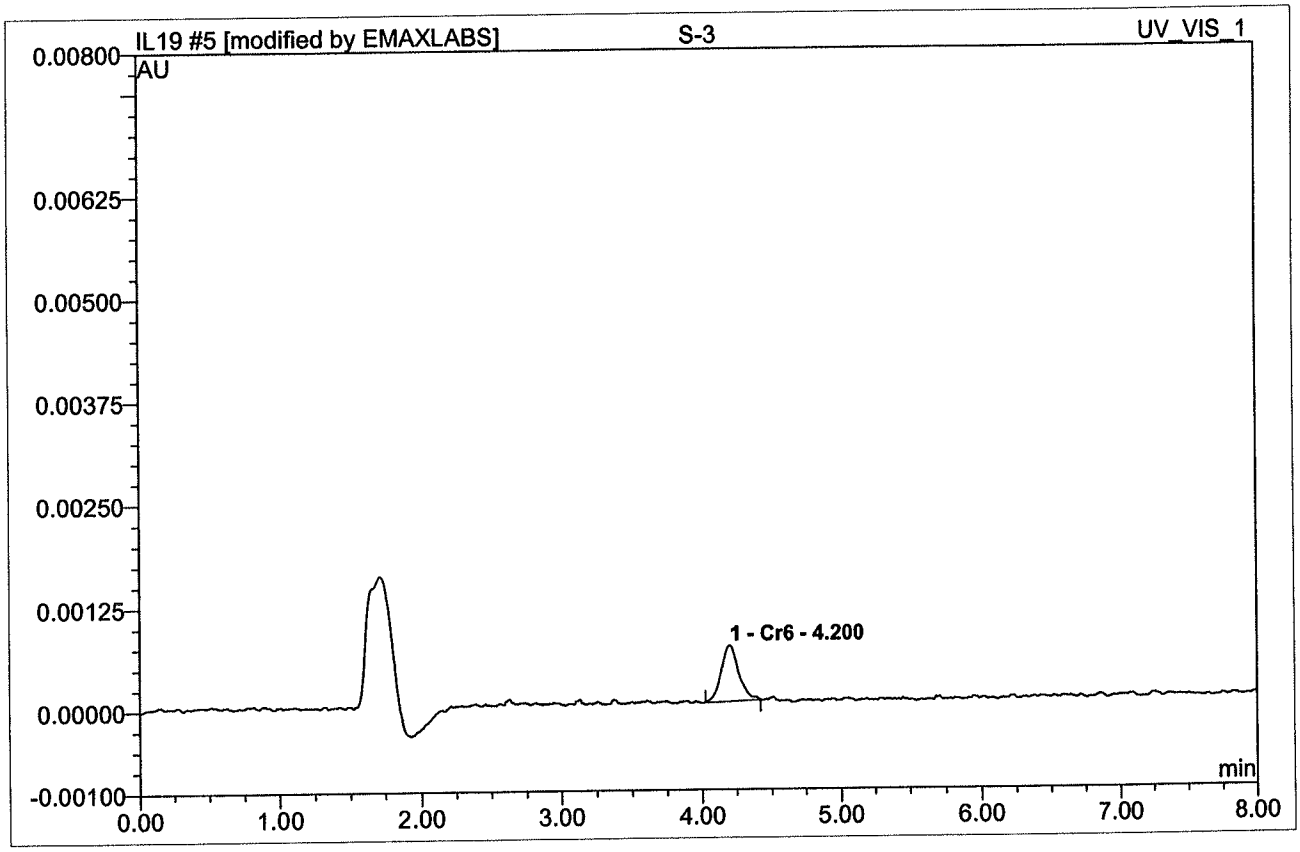
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0003400	0.0000480	100.00	0.496	BMB*
Total:			0.000	0.000	100.00	0.496	

12/29/22

IL19 005 S-3

1.0 PPB

Sample Name:	**S-3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



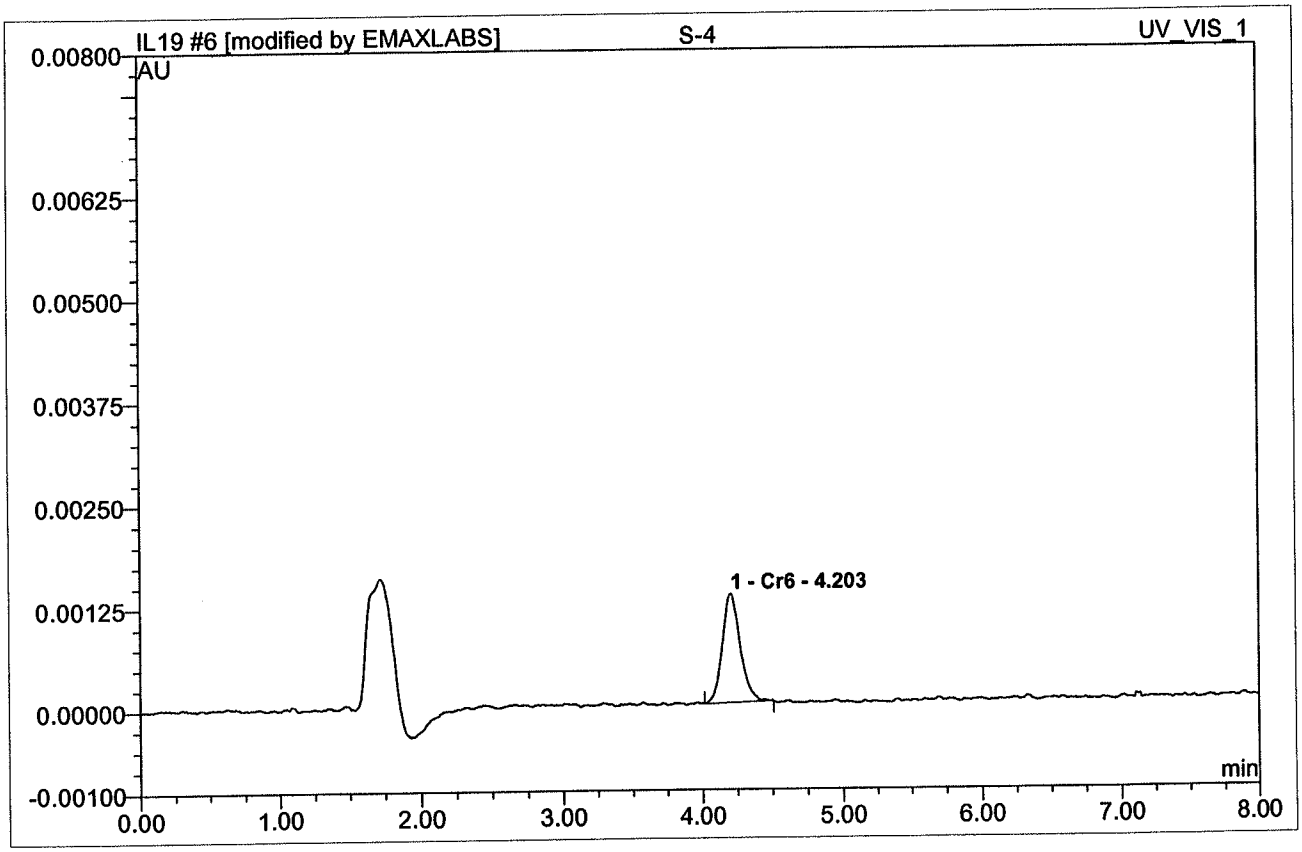
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0006780	0.0000991	100.00	1.013	BMB*
Total:			0.001	0.000	100.00	1.013	

12/27/22

IL19 006 S-4

2.0 PPB

Sample Name:	**S-4**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



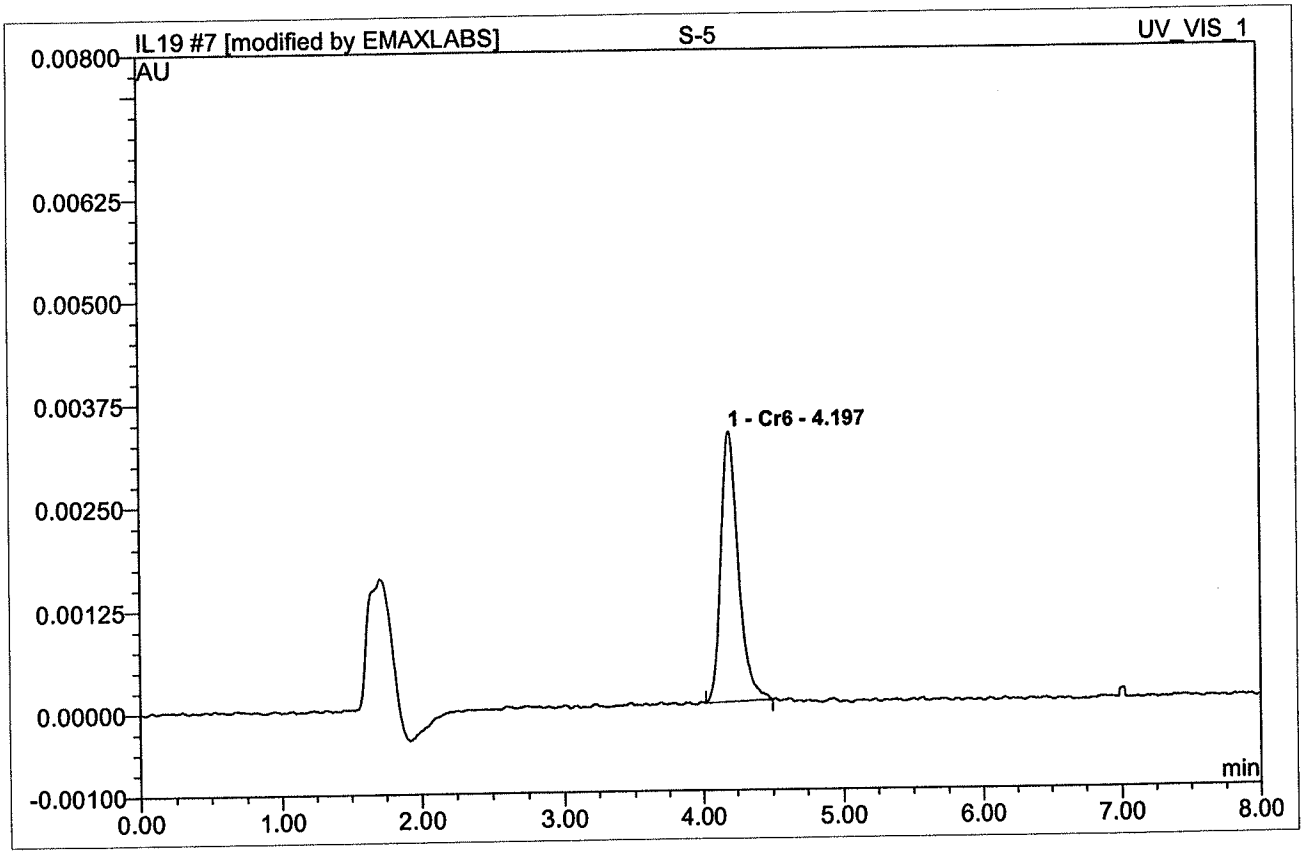
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013280	0.0001965	100.00	1.997	BMB*
Total:			0.001	0.000	100.00	1.997	

12/27/22

IL19 007 S-5

5.0 PPB

Sample Name:	**S-5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



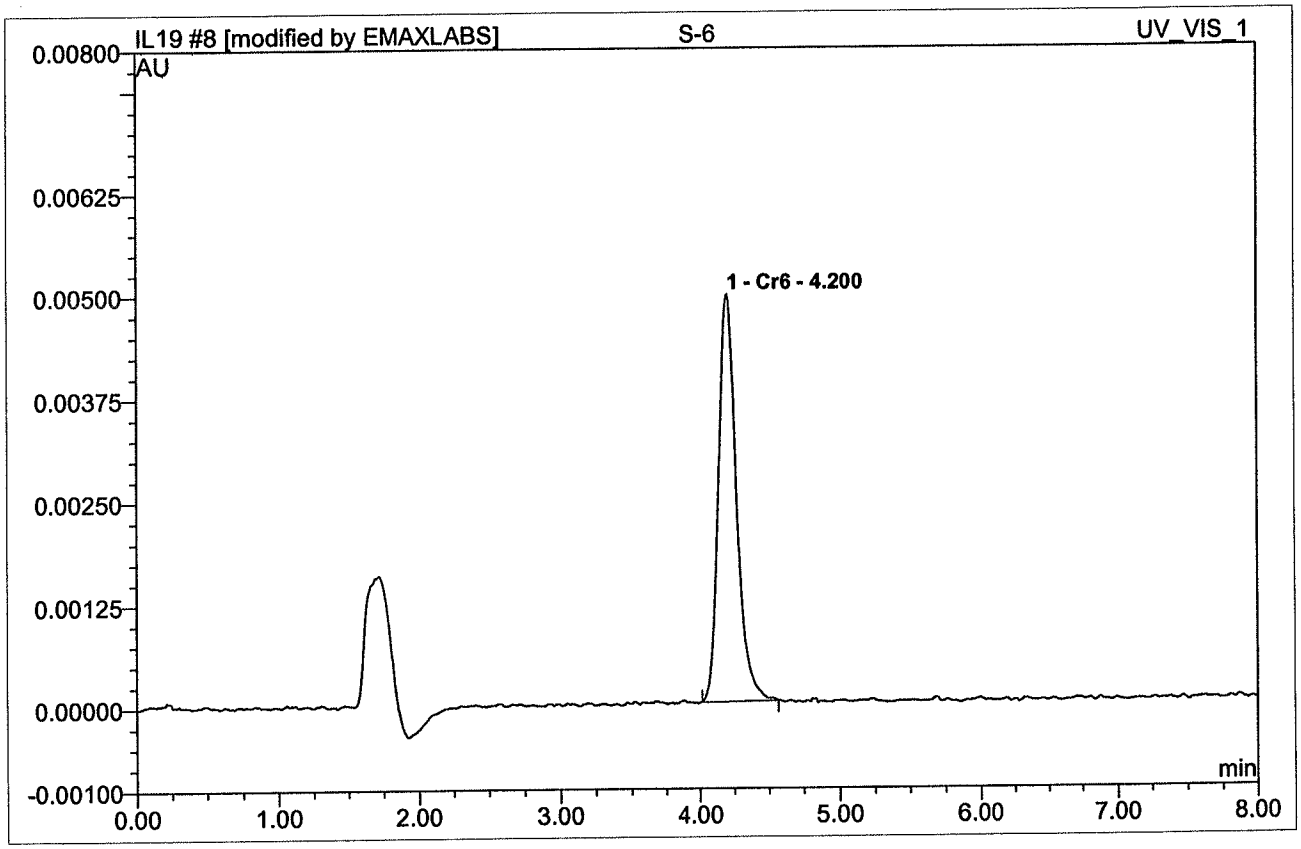
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0032810	0.0004904	100.00	4.967	BMB*
Total:			0.003	0.000	100.00	4.967	

LEP 12/27/22

IL19 008 S-6

7.5 PPB

Sample Name:	**S-6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



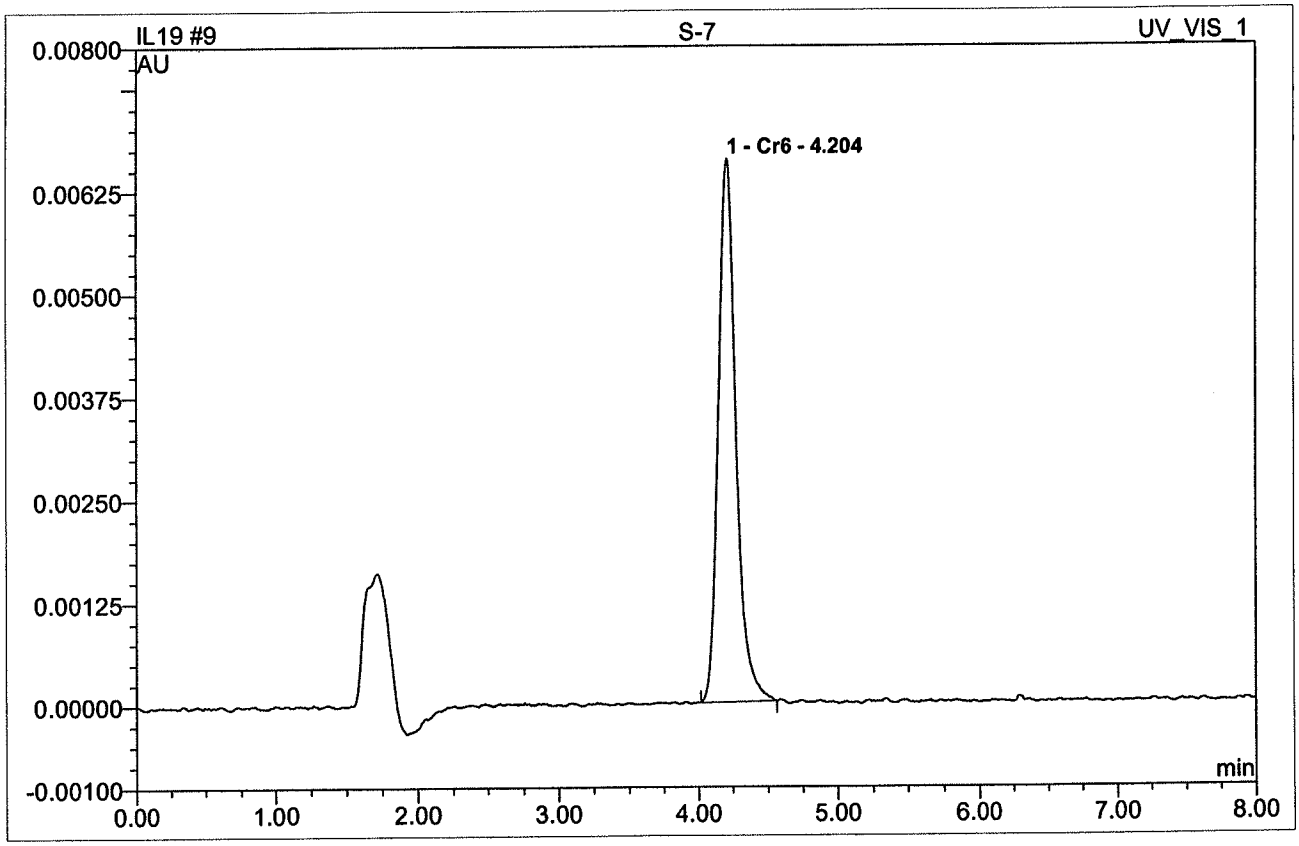
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0049460	0.0007398	100.00	7.487	BMB*
Total:			0.005	0.001	100.00	7.487	

12/27/22

IL19 009 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



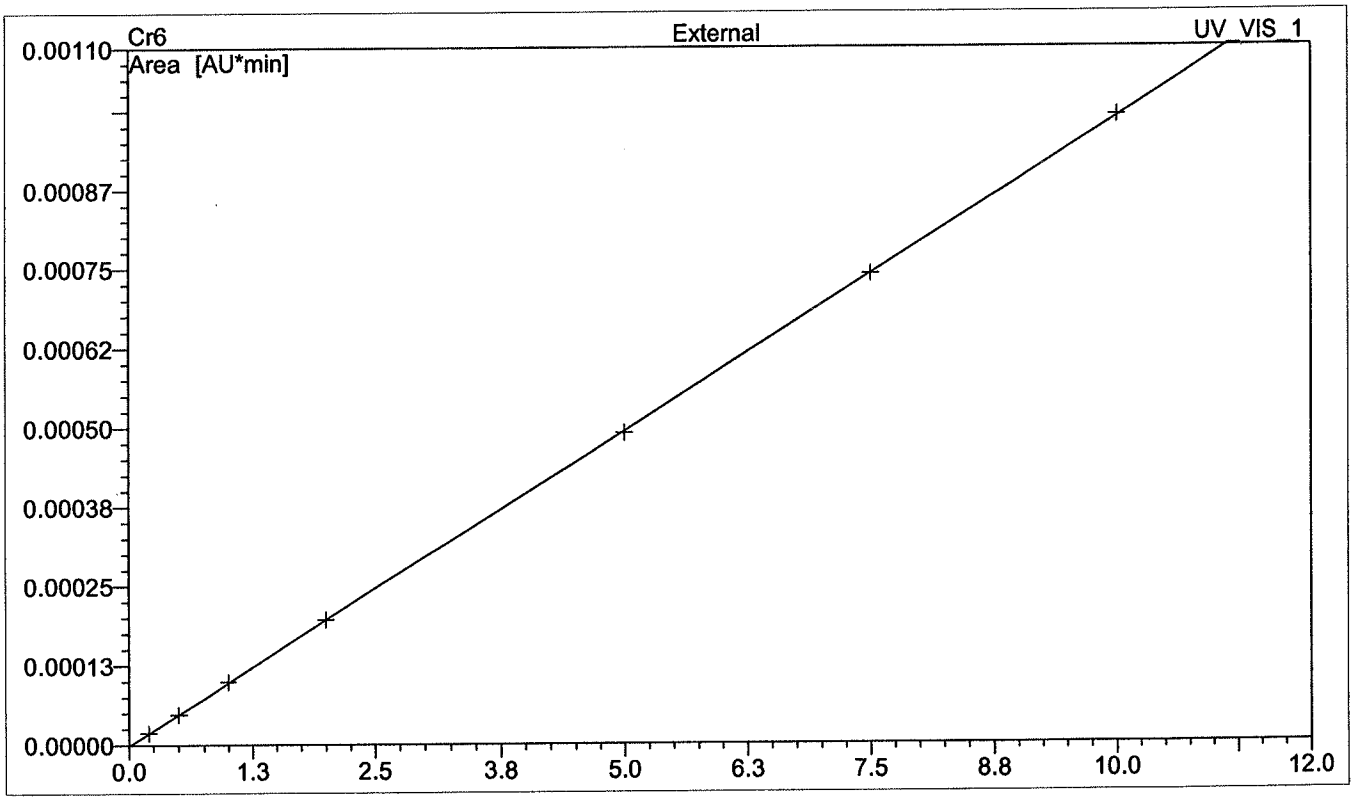
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0066050	0.0009910	100.00	10.026	BMB
Total:			0.007	0.001	100.00	10.026	

LEP 12/23/22

9 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/19/2022 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	R-Square	Offset	Slope	Curve
1	4.20	Cr6	0LOff	7	1.0000	-0.0000011	0.0000990	0.0000
Average:					1.0000	0.0000	0.0001	0.0000

12/27/22

SECOND SOURCE VERIFICATION

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1

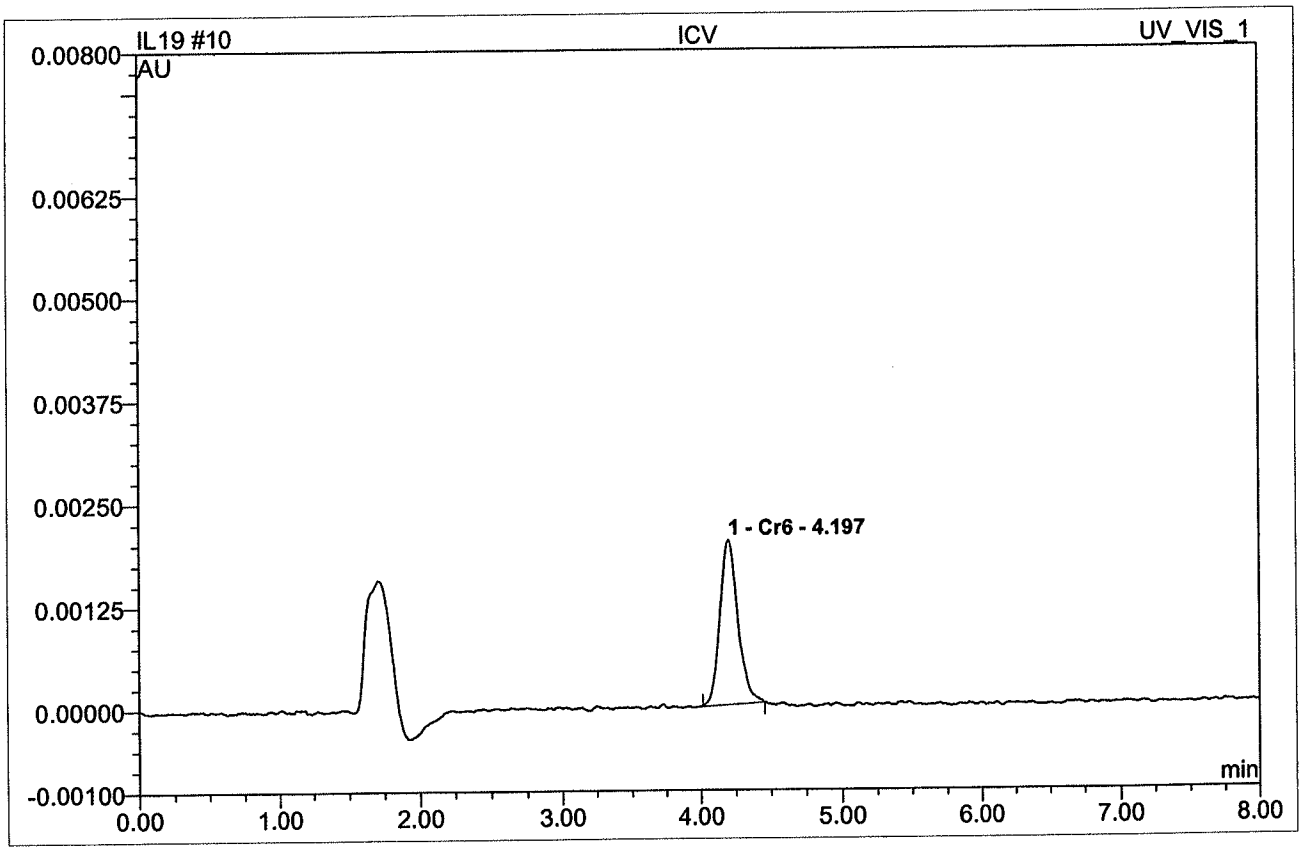
METHOD: IC59L19
SOLVENT: BUFFER (SP2-05-21-03)

12/27/22

IL19 010 ICV

3.0 PPB

Sample Name:	**ICV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0020020	0.0002970	100.00	3.012	BMB
Total:			0.002	0.000	100.00	3.012	

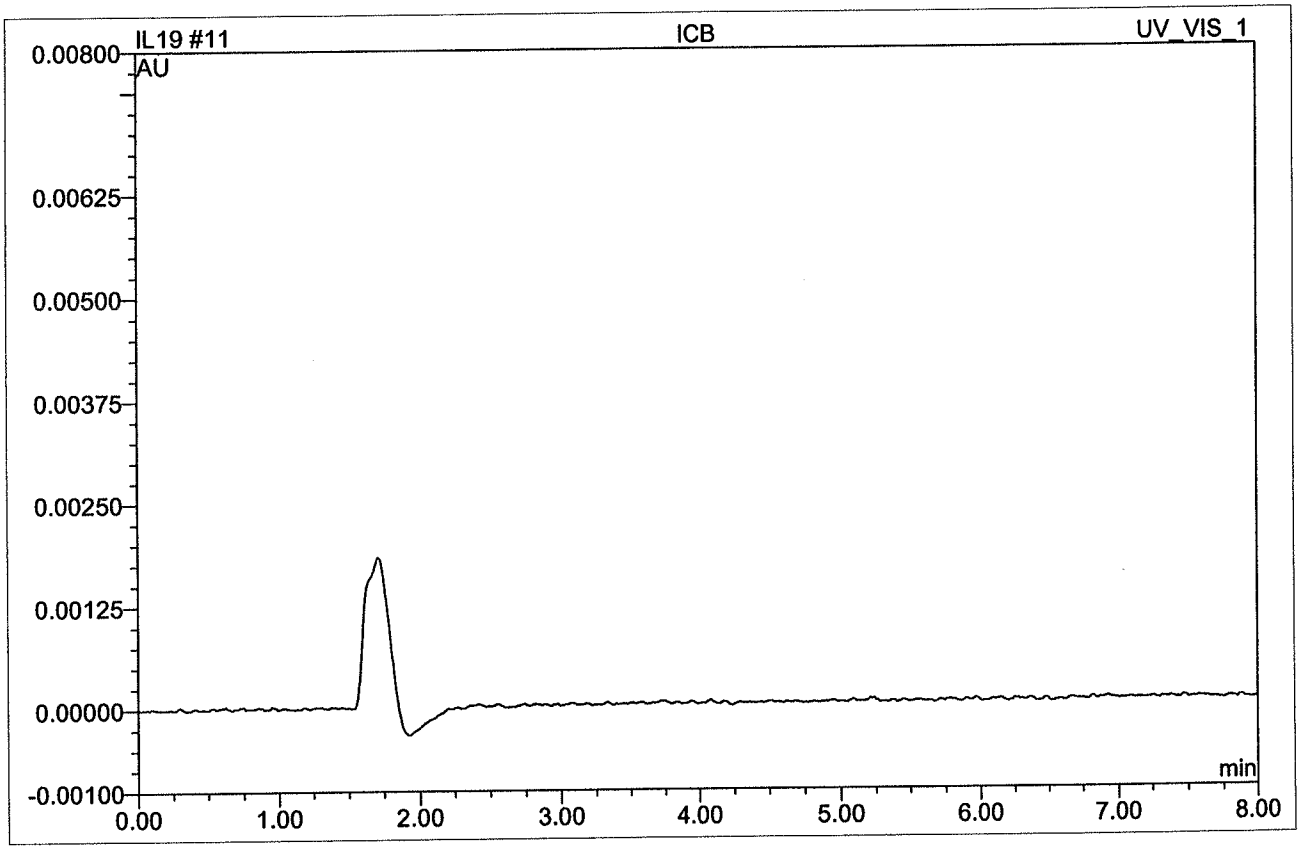
$$\text{conc.} = \frac{\text{Area} - \text{offset}}{\text{slope}}$$

$\Rightarrow$ 3.012 ppb

12/27/22

IL19 011 ICB

Sample Name:	**ICB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



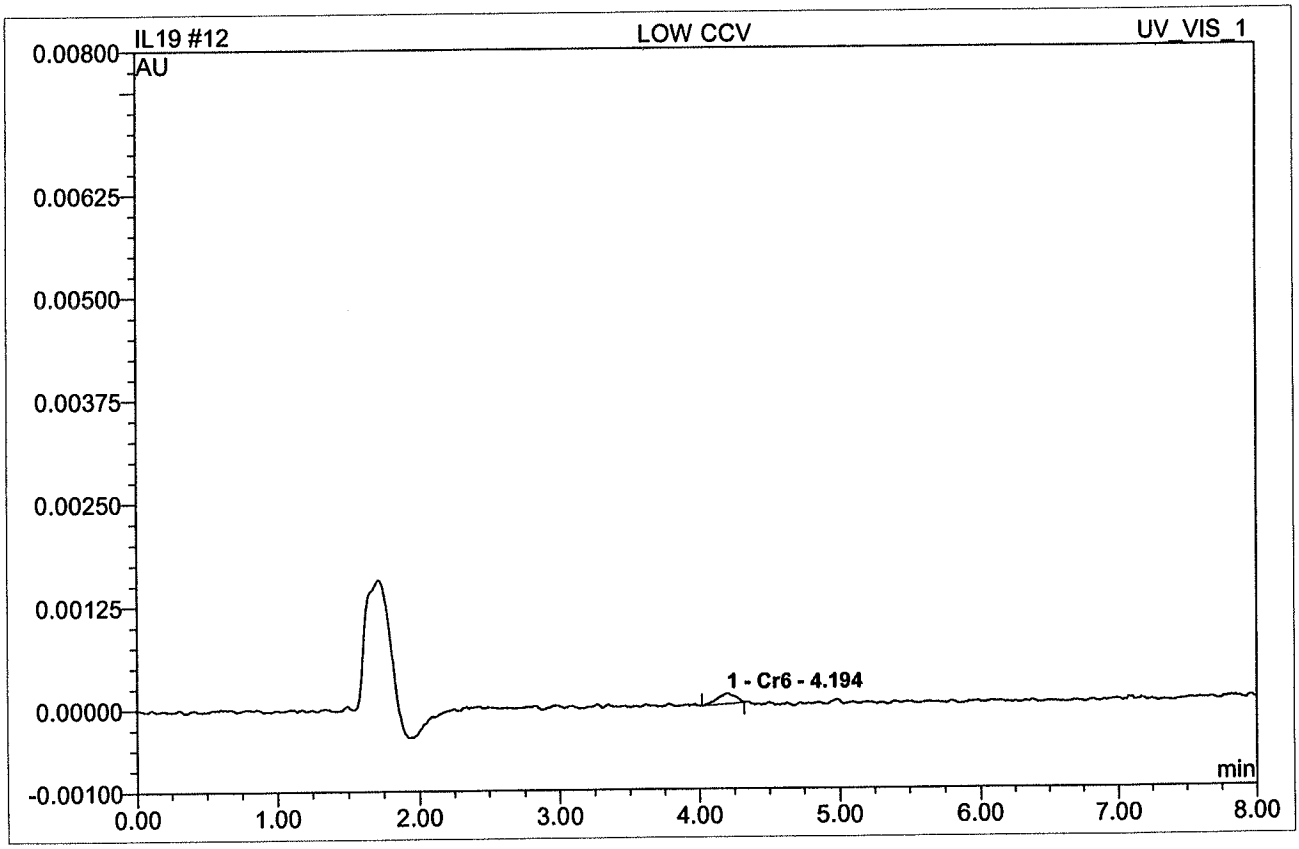
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LEE 12/27/22

IL19 012 LOW CCV

0.2 PPB

Sample Name:	**LOW CCV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0001260	0.0000186	100.00	0.199	BMB
Total:			0.000	0.000	100.00	0.199	

LEE 12/27/22

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution: **Final Volume:** 1,000 mL

1,5 Diphenylcarbohydrazide : 0.5 g SW6A-01-01-08

MeOH : 100 mL SW1A-011-18-08

H_2SO_4 : 28 mL ↓ -07-04

Eluent: **Final Volume:** 2,000 mL

$(NH_4)_2SO_4$: 66 g SW6A-02-01-06

NH_4OH : 13 mL ↓ -09

☐ **pH Adjusted Water ID #:**
(range 9.3-9.5)

☑ **Buffer*** (10 mL → 100 mL) SP2-05-21-03

Reagent Water ID #: RW1-22-003

ICAL Linear Range (ppb): S_0 - 0.00

S_1 -0.20

S_2 -0.50

S_3 -1.00

S_4 -2.00

S_5 -5.00

S_6 -7.50

S_7 -10.0

ICV -3.00

Low CCV: 0.20mL of SW6B-005-01-08 (100ppb) to final volume 100 mL using buffer* (SP2-05-21-03, 10mL→100mL) → 0.20 ppb

Column: Dionex Ionpac AS7 (4x250mm) serial: 19010232 48

Guard Column: Dionex Ionpac NG1 (4x35mm) serial: 19061 1218

Wavelength: 530 nm

Flow Rate: 1.00mL/min

Injection loop: 0.250 mL

Book #: A59-057

Instrument No.: 59

Pipette ID: SW9A-04-017

A42762405

SW9A-04-052

Balance ID: 10203192

Analytical Sequence: IL19

Method File: ICS9L19

Analytical Batch:

SOP #	Rev. #
☑ EMAX-218.6	8
☑ EMAX-7199	8
☐ EMAX-	

STANDARDS ID	
ICAL	SW6B-005-01-11
ICV	↓ -12
CCV	↓ -13

LCS/MS STANDARDS				
	Standard ID	Conc	Spike Amt	Final Vol
LCS				
MS				

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-02-01 Snap-Seal Container

0.45 µm filter lot #: 4 oz: 3112011

0.2 µm filter lot #: 1.5 oz: 05122002

Analyzed By: AS

Date: 12/19/22

Sequence: IL19
Operator: EMAXLABS

Printed: 12/19/2022 7:53:07 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 12

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/19/2022 7:52:51 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IL19	001	IB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:18:35 PM	1.0000	BUFFER
2	IL19	002	S-0	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:28:59 PM	1.0000	
3	IL19	003	S-1	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:59:10 PM	1.0000	0.2 PPB
4	IL19	004	S-2	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:09:34 PM	1.0000	0.5 PPB
5	IL19	005	S-3	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:19:58 PM	1.0000	1.0 PPB
6	IL19	006	S-4	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:30:22 PM	1.0000	2.0 PPB
7	IL19	007	S-5	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:40:46 PM	1.0000	5.0 PPB
8	IL19	008	S-6	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:51:10 PM	1.0000	7.5 PPB
9	IL19	009	S-7	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:01:34 PM	1.0000	10 PPB
10	IL19	010	ICV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:21:16 PM	1.0000	3.0 PPB
11	IL19	011	ICB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:31:40 PM	1.0000	
12	IL19	012	LOW CCV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:42:05 PM	1.0000	0.2 PPB

FINAL

RETENTION TIME WINDOW

METHOD 218.6/7199

Lab Name:	EMAX	**METHOD:**	EMAX-218.6/7199
Instrument ID:	DX500IC59	**IC COLUMN:**	AS7/AG7 / AS7/NG1
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
CHROMIUM VI	**4.20**	4.11	4.29	**0.087**

IC59L19

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L226
Method : E218.6
QuantMethod : IC59L19
InstrumentID: 59
Parameter : HEXAVALENT CHROMIUM

LFID	LSID	DF	Expected	Result	Unit	%Rec	AnalysisDateTime
IL19025	CCV3	1	2	2.003	ug/L	100	12/19/2222:12
IL19037	CCV5	1	2	2.003	ug/L	100	12/20/2200:17
IL19049	CCV7	1	2	2.021	ug/L	101	12/20/2202:22
IL19061	CCV9	1	2	1.992	ug/L	100	12/20/2204:27
IL19073	CCV11	1	2	1.992	ug/L	100	12/20/2206:31
IL19076	CCV13	1	2	1.992	ug/L	100	12/20/2207:03
IL19081	CCV15	1	2	1.995	ug/L	100	12/20/2211:19

CCV Acceptance Criteria: 95-105%

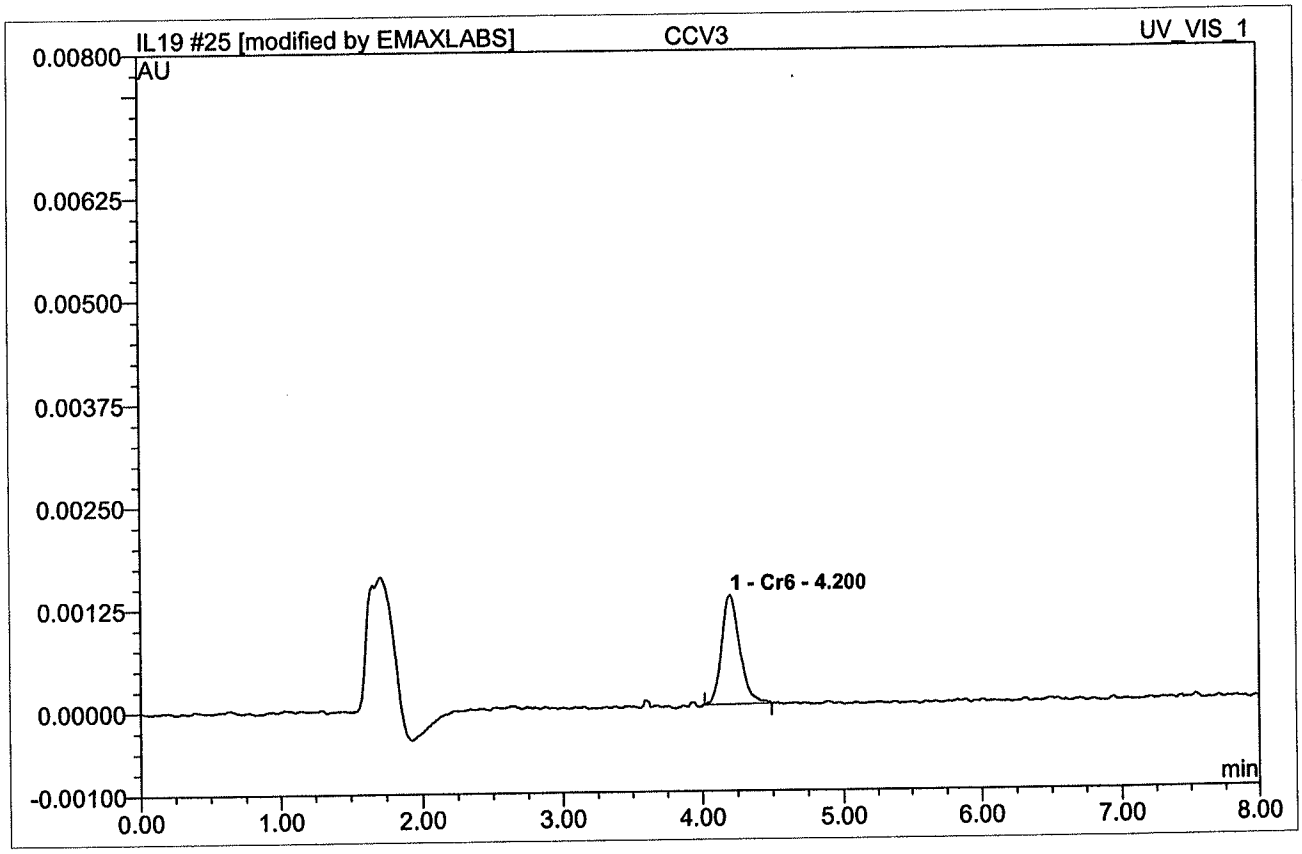
IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1
IL19013	CCV1	C	102%	12/19/2220:05	1
IL19014	CCB1	C	ND	12/19/2220:15	1
IL19015	HCL009WB	C	ND	12/19/2220:25	1
IL19016	HCL009WL	C	2.001	12/19/2220:36	1
IL19017	HCL009WC	C	2.002	12/19/2220:46	1
IL19018	L207-04	C	ND	12/19/2220:57	1
IL19019	L207-04M	C	0.987	12/19/2221:10	1
IL19020	L207-04S	C	0.994	12/19/2221:20	1
IL19021	L206-01	C	ND	12/19/2221:30	1
IL19022	L206-02	C	ND	12/19/2221:41	1
IL19023	L206-03	C	8.504	12/19/2221:51	1
IL19024	L207-01	C	6.447	12/19/2222:02	1
IL19025	CCV3	C	100%	12/19/2222:12	1
IL19026	CCB3	C	ND	12/19/2222:22	1
IL19027	L207-02	*	11.118E	12/19/2222:33	1
IL19028	L207-03	C	6.458	12/19/2222:43	1
IL19029	L207-05	C	ND	12/19/2222:54	1
IL19030	L207-06	C	ND	12/19/2223:04	1
IL19031	L207-02I	C	11.123	12/19/2223:14	2
IL19032	L867-01	C	ND	12/19/2223:25	1
IL19033	HCL011WB	C	ND	12/19/2223:35	1
IL19034	HCL011WL	C	2.000	12/19/2223:46	1
IL19035	HCL011WC	C	2.001	12/19/2223:56	1
IL19036	L226-01	C	ND	12/20/2200:06	1
IL19037	CCV5	C	100%	12/20/2200:17	1
IL19038	CCB5	C	ND	12/20/2200:27	1
IL19039	L226-02	C	ND	12/20/2200:38	1
IL19040	L226-03	C	ND	12/20/2200:48	1
IL19041	L226-04	C	ND	12/20/2200:58	1
IL19042	L226-05	C	ND	12/20/2201:09	1
IL19043	L226-06	C	ND	12/20/2201:19	1
IL19044	L226-06M	C	1.016	12/20/2201:30	1
IL19045	L226-06S	C	1.013	12/20/2201:40	1
IL19046	L226-07	C	ND	12/20/2201:50	1
IL19047	L226-07M	C	ND	12/20/2202:01	1
IL19048	L226-07S	C	ND	12/20/2202:11	1
IL19049	CCV7	C	101%	12/20/2202:22	1
IL19050	CCB7	C	ND	12/20/2202:32	1
IL19051	L226-08	*	31.628E	12/20/2202:42	1
IL19052	L226-08I	C	31.382	12/20/2202:53	5
IL19053	L226-09	*	31.498E	12/20/2203:03	1
IL19054	L226-09I	C	31.523	12/20/2203:14	5
IL19055	L226-10	*	31.591E	12/20/2203:24	1
IL19056	L226-10I	C	31.632	12/20/2203:34	5
IL19057	L226-11	*	13.769E	12/20/2203:45	1
IL19058	L226-11I	C	13.700	12/20/2203:55	5
IL19059	L226-12	*	13.995E	12/20/2204:06	1
IL19060	L226-12I	C	13.893	12/20/2204:16	5
IL19061	CCV9	C	100%	12/20/2204:27	1
IL19062	CCB9	C	ND	12/20/2204:37	1
IL19063	L226-13	*	19.337E	12/20/2204:47	1

IL19064	L226-13I	C	19.345	12/20/2204:58	5
IL19065	L226-14	C	7.287	12/20/2205:08	1
IL19066	L226-14I	C	7.291	12/20/2205:19	5
IL19067	L226-15	*	13.998E	12/20/2205:29	1
IL19068	L226-15I	C	13.988	12/20/2205:39	5
IL19069	L226-16	C	ND	12/20/2205:50	1
IL19070	L237-06	C	ND	12/20/2206:00	1
IL19071	L237-08	C	0.078	12/20/2206:11	1
IL19072	L237-10	C	ND	12/20/2206:21	1
IL19073	CCV11	C	100%	12/20/2206:31	1
IL19074	CCB11	C	ND	12/20/2206:42	1
IL19075	L237-12	C	ND	12/20/2206:52	1
IL19076	CCV13	C	100%	12/20/2207:03	1
IL19077	CCB13	C	ND	12/20/2207:13	1
IL19078	L226-07I	C	ND	12/20/2210:47	5
IL19079	L226-07M	C	4.997	12/20/2210:58	5
IL19080	L226-07S	C	4.995	12/20/2211:08	5
IL19081	CCV15	C	100%	12/20/2211:19	1
IL19082	CCB15	C	ND	12/20/2211:29	1

IL19 025 CCV3

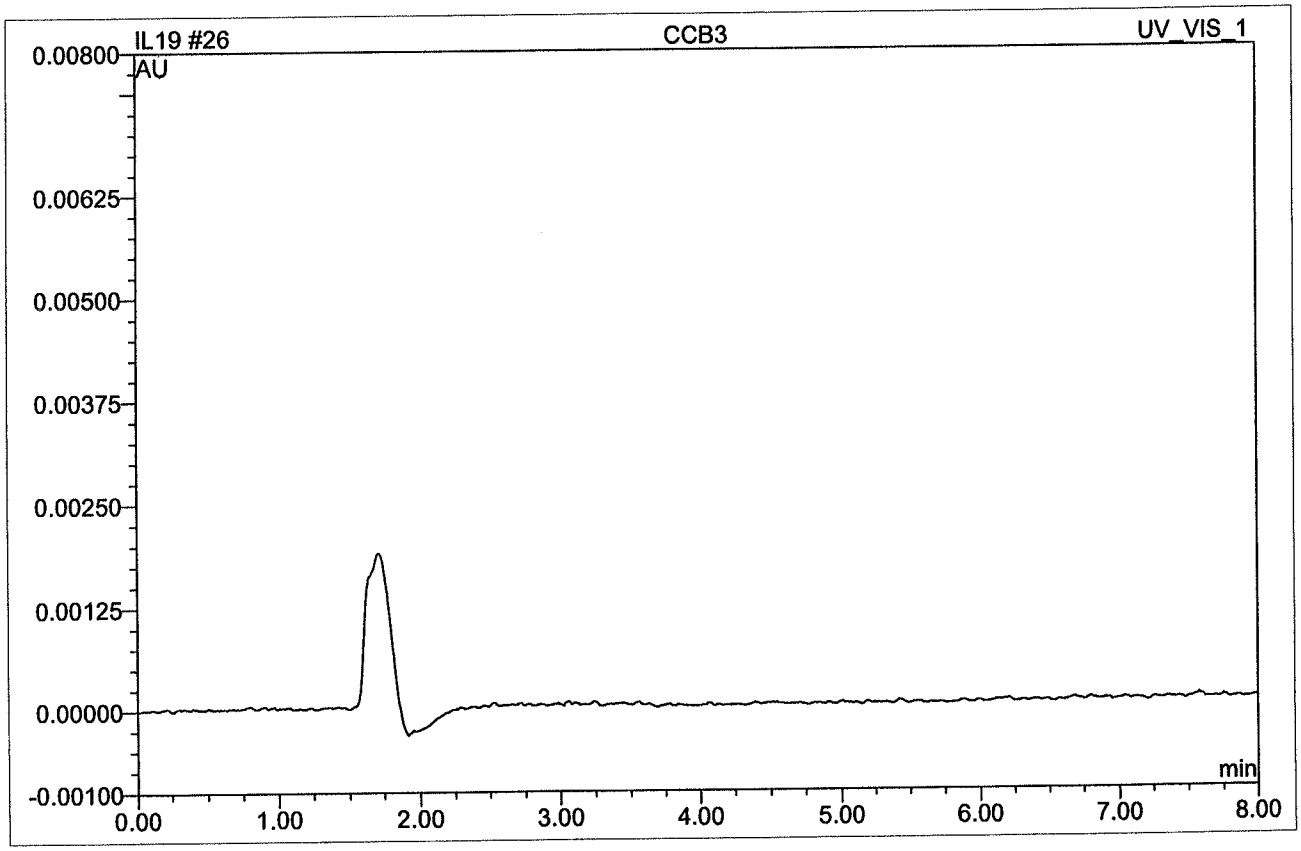
Sample Name:	**CCV3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 22:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013300	0.0001971	100.00	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL19 026 CCB3

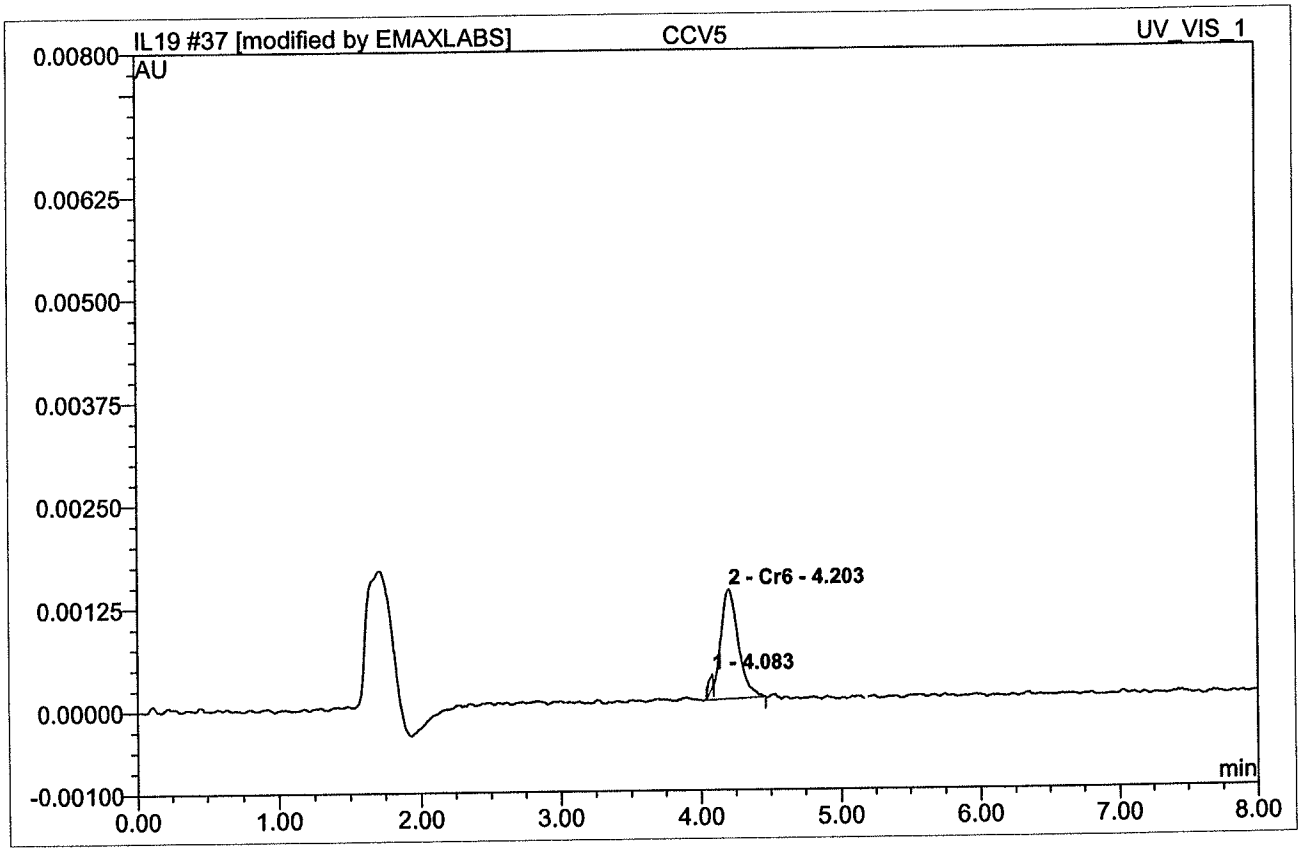
Sample Name:	**CCB3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 22:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 037 CCV5

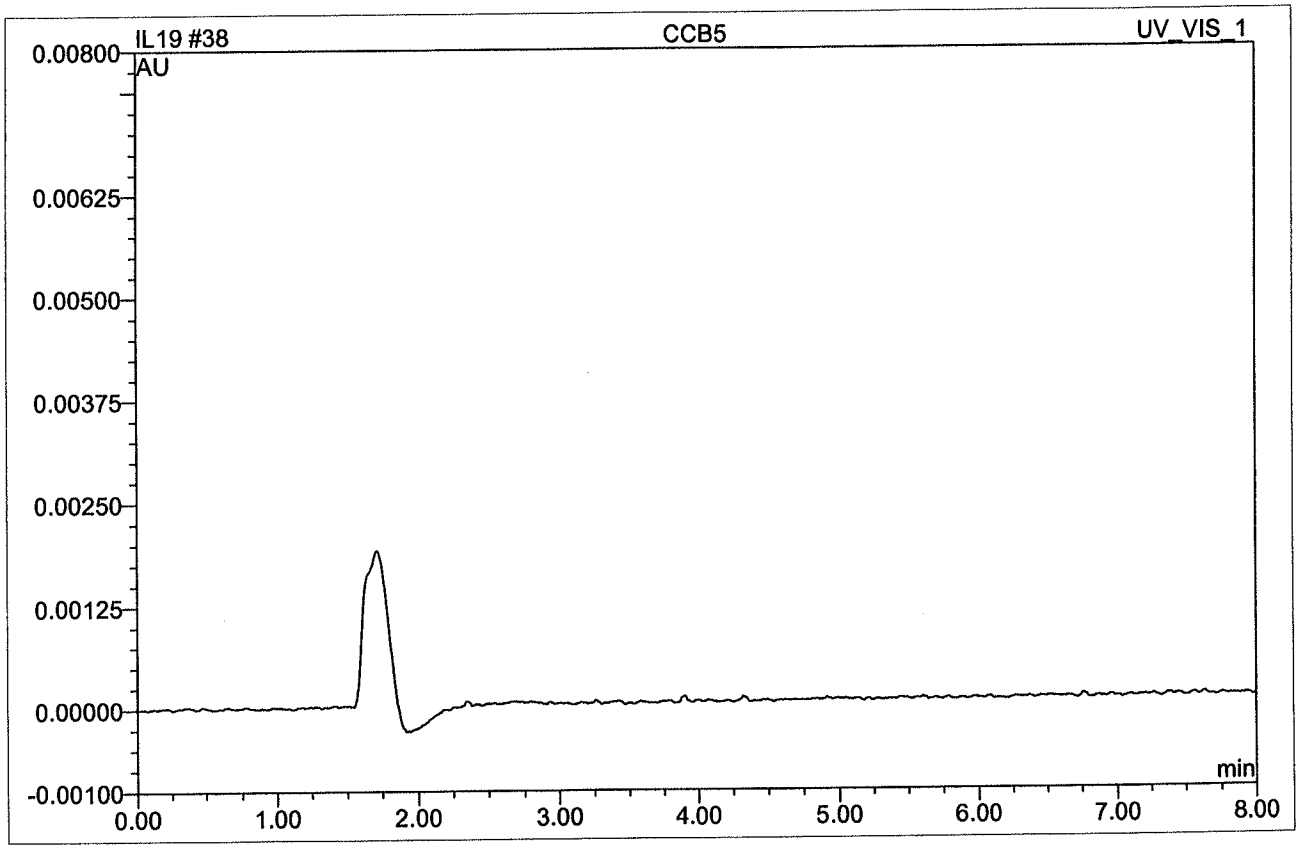
Sample Name:	**CCV5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.08	n.a.	0.0001580	0.0000067	3.27	n.a.	Ru*
2	4.20	Cr6	0.0013290	0.0001971	96.73	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL19 038 CCB5

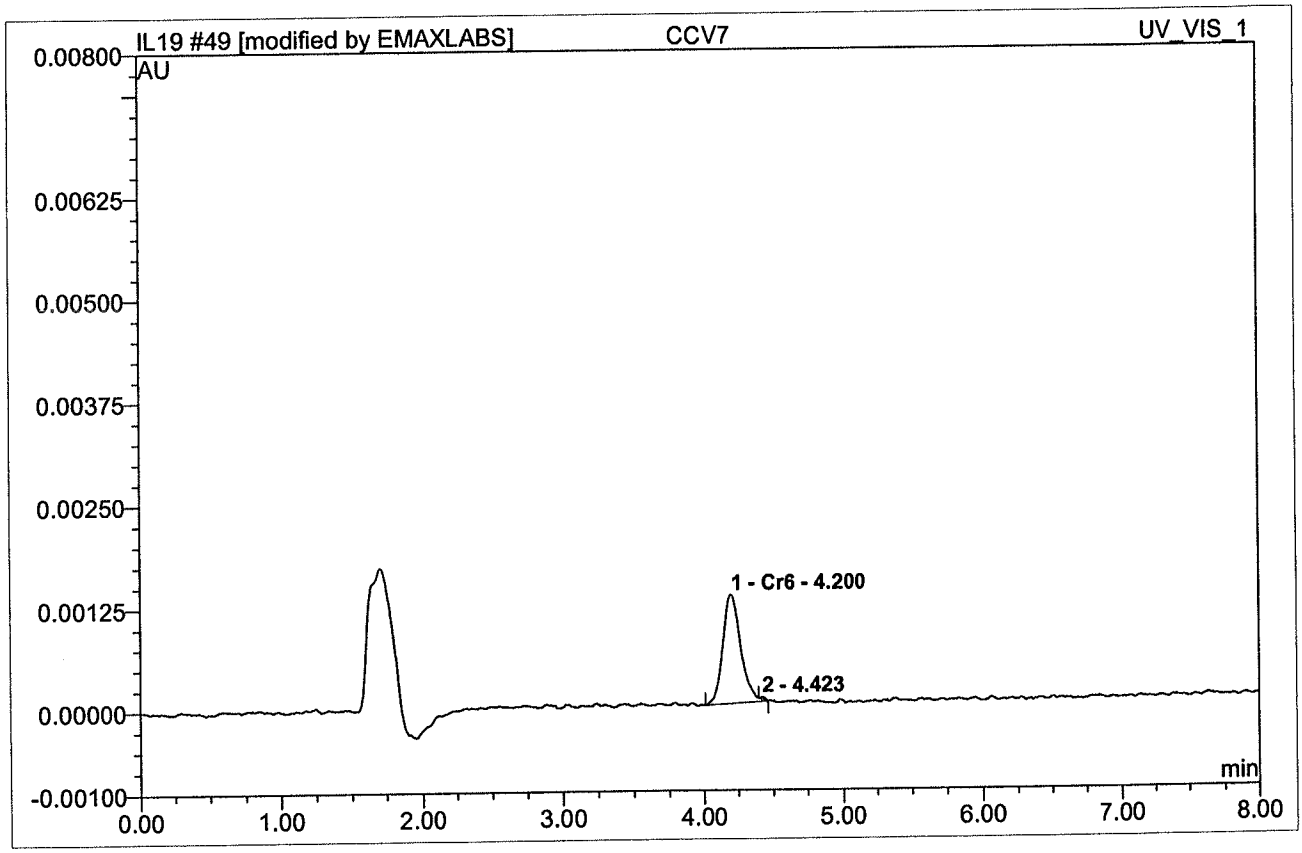
Sample Name:	**CCB5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 049 CCV7

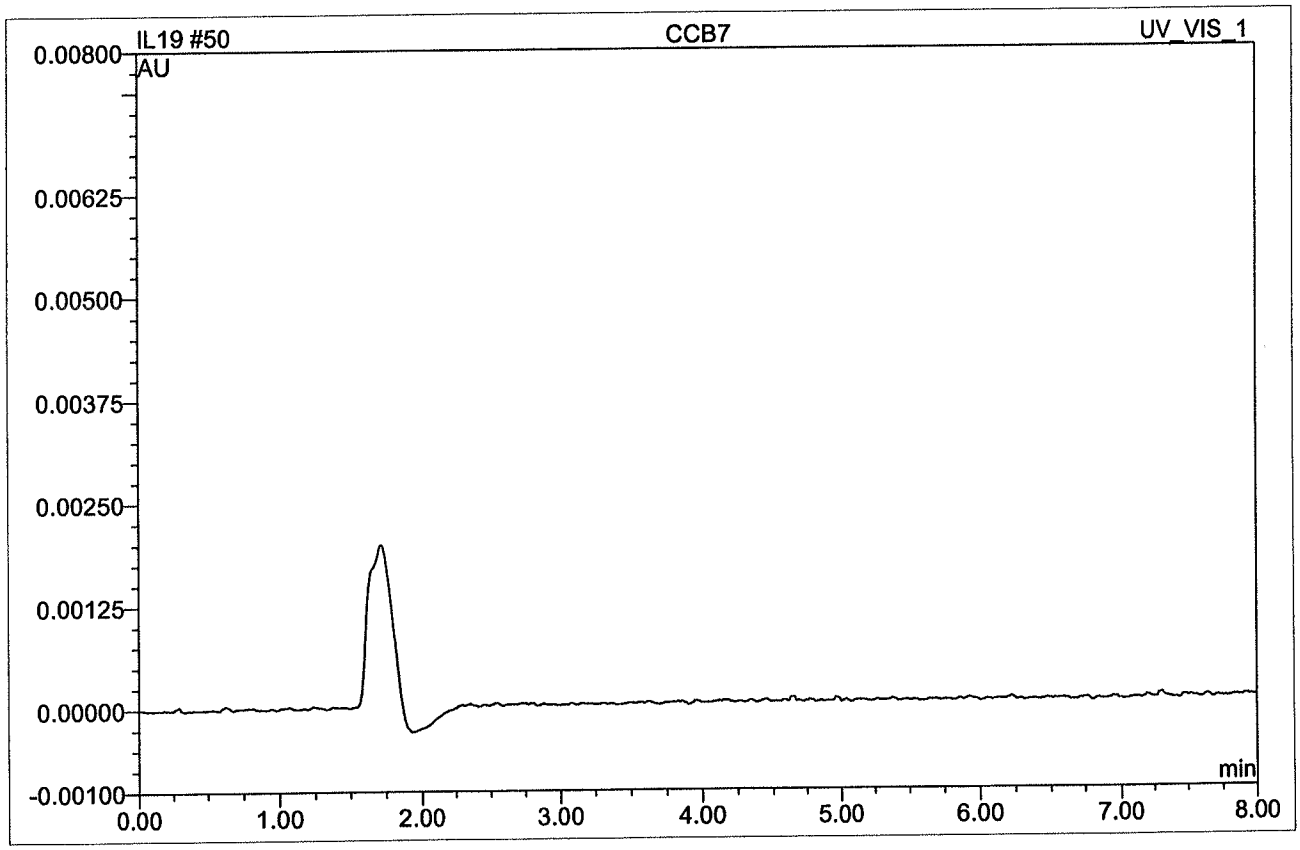
Sample Name:	**CCV7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 2:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013230	0.0001989	99.42	2.021	BMB*
2	4.42	n.a.	0.0000310	0.0000012	0.58	n.a.	Rd*
Total:			0.001	0.000	100.00	2.021	

IL19 050 CCB7

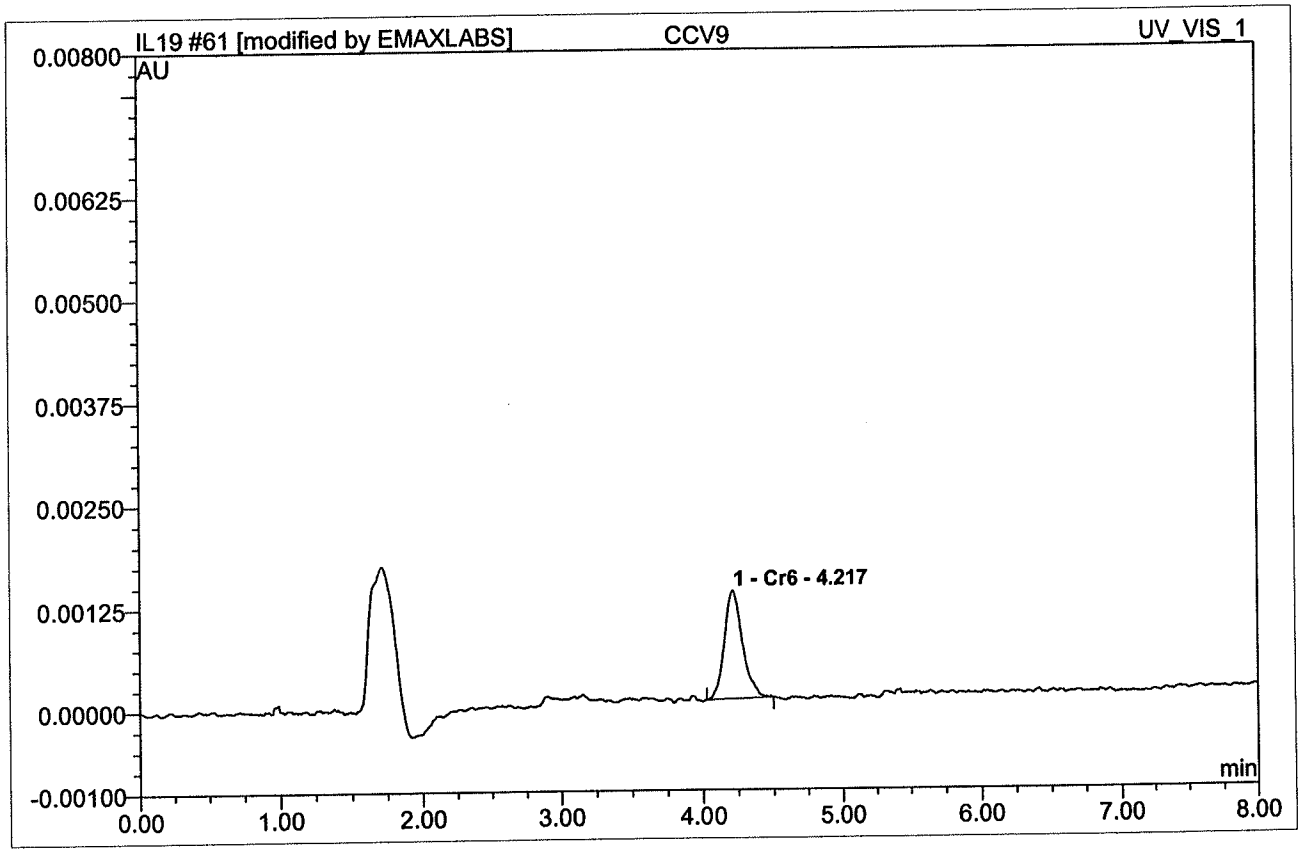
Sample Name:	**CCB7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 2:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 061 CCV9

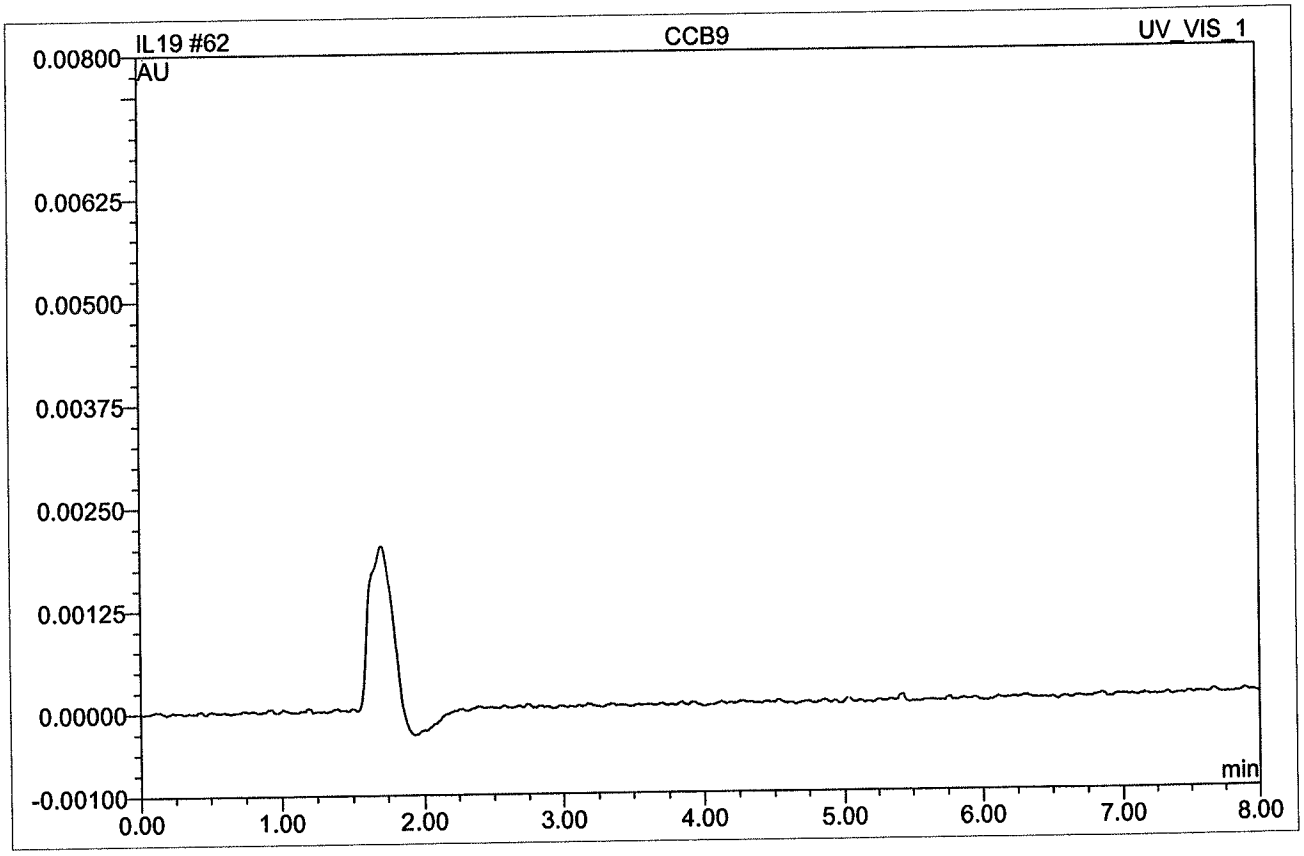
Sample Name:	**CCV9**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 4:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	Cr6	0.0013190	0.0001960	100.00	1.992	BMB*
Total:			0.001	0.000	100.00	1.992	

IL19 062 CCB9

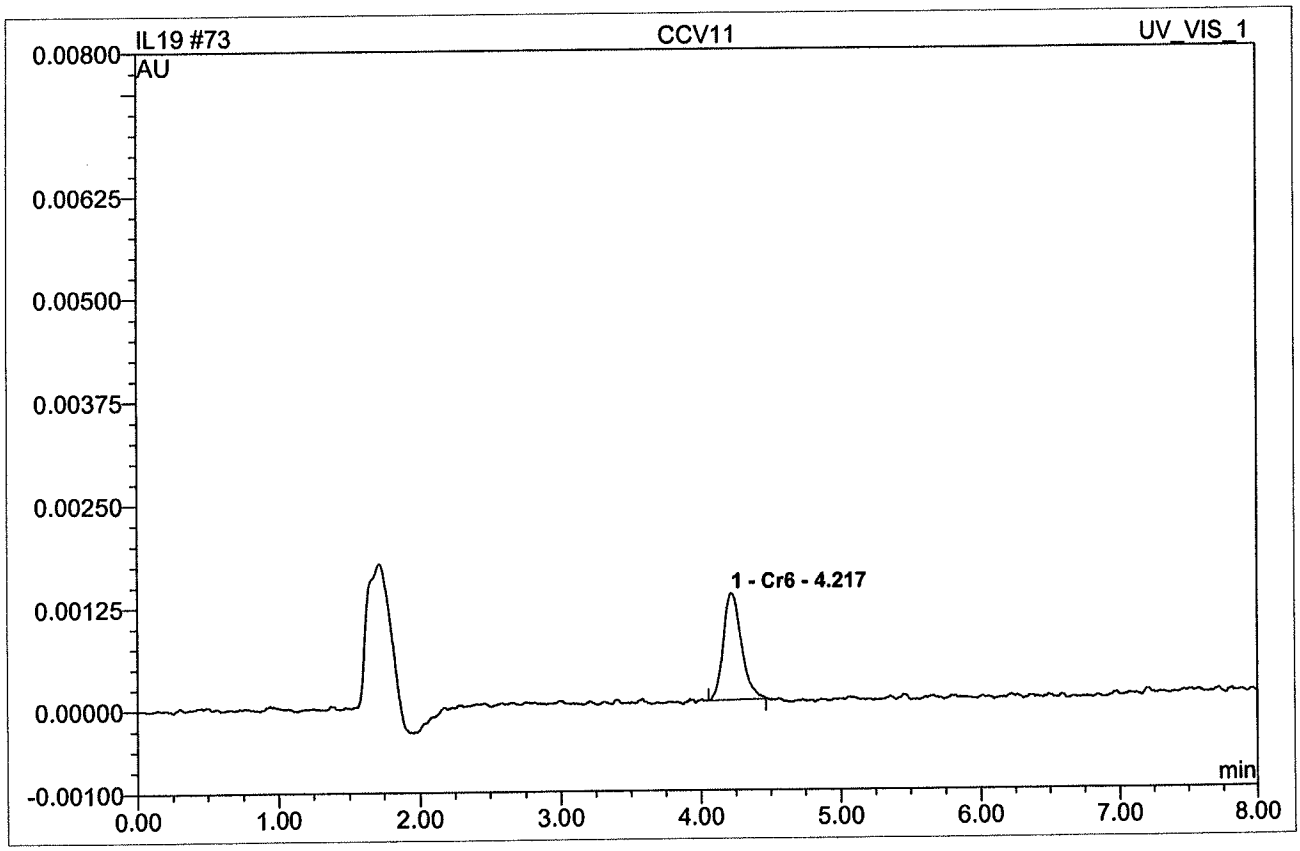
Sample Name:	**CCB9**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 4:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 073 CCV11

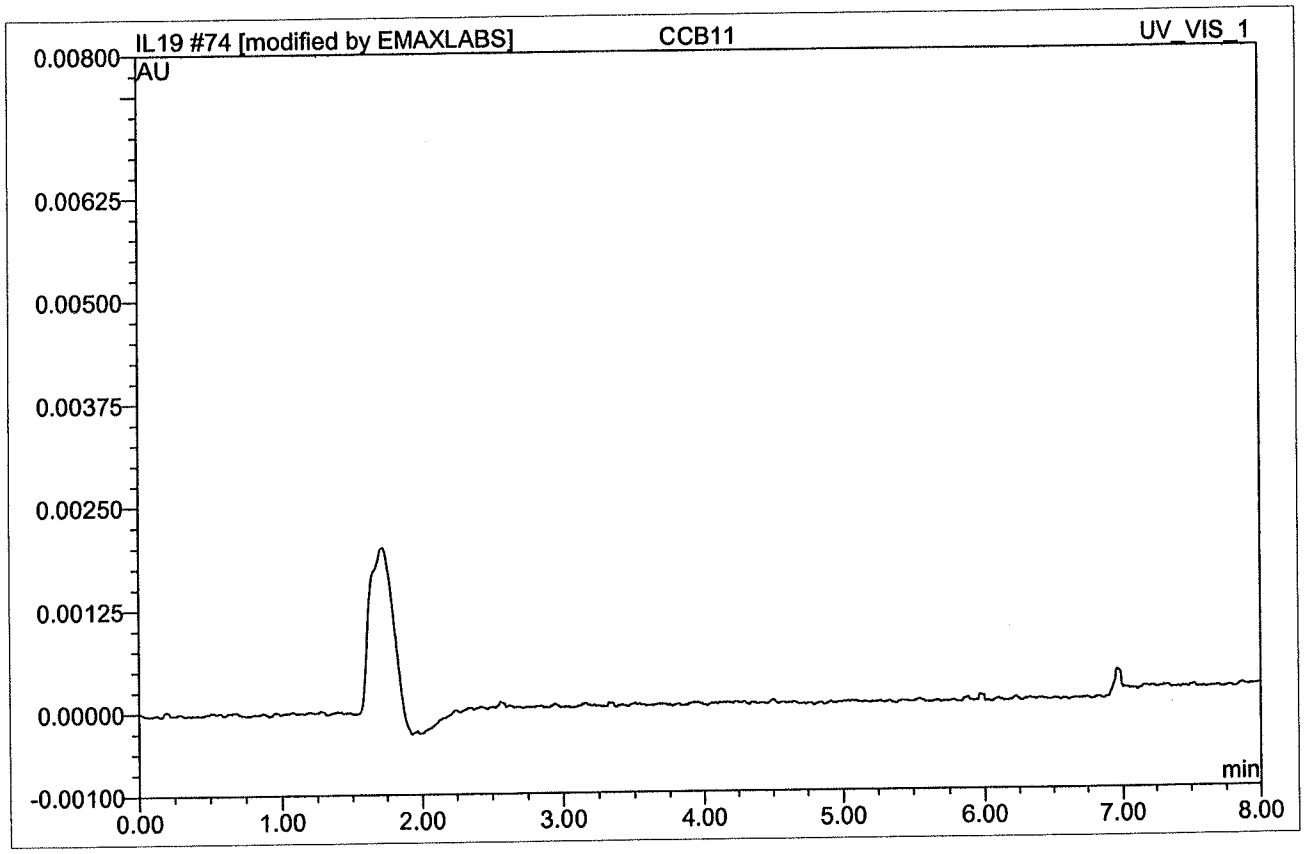
Sample Name:	**CCV11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	Cr6	0.0013040	0.0001960	100.00	1.992	BMB
Total:			0.001	0.000	100.00	1.992	

IL19 074 CCB11

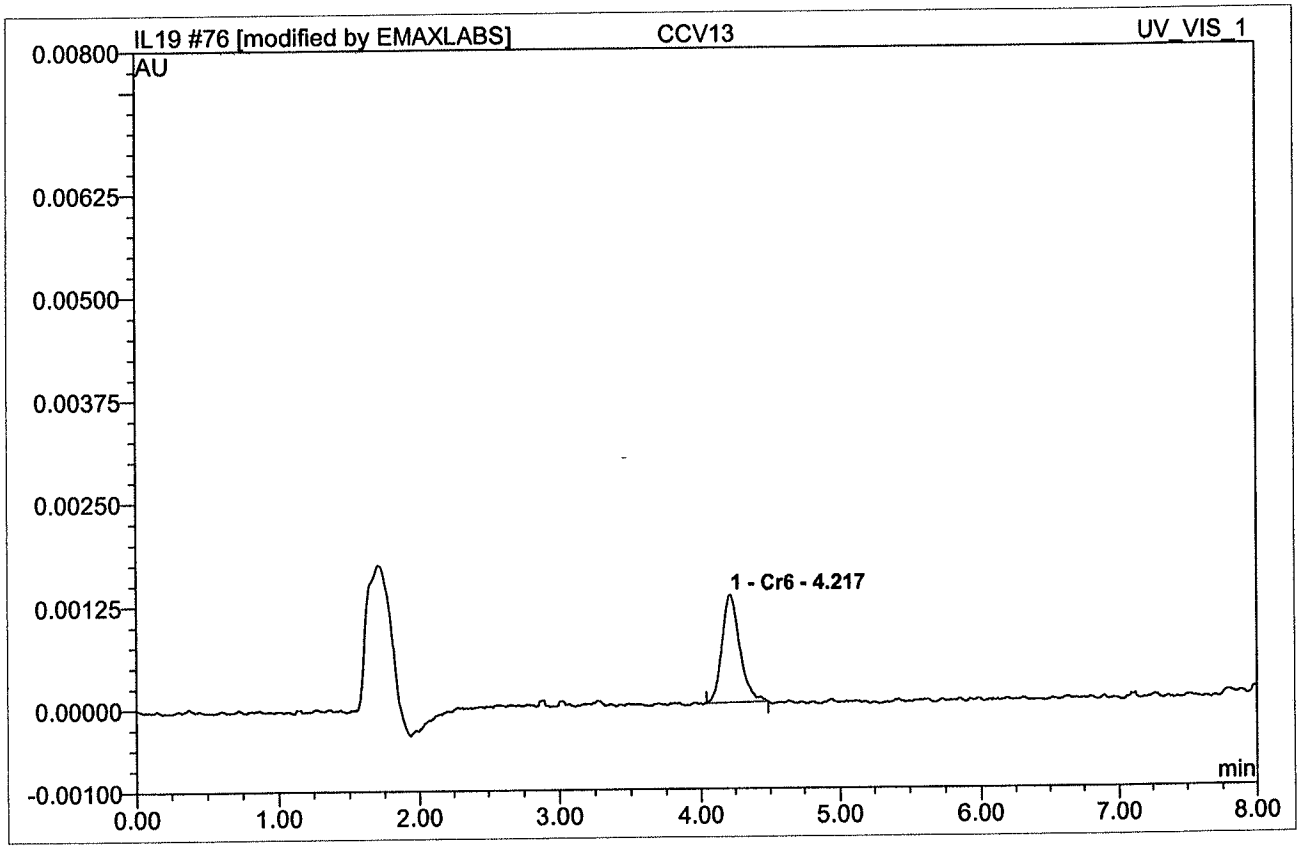
Sample Name:	**CCB11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 076 CCV13

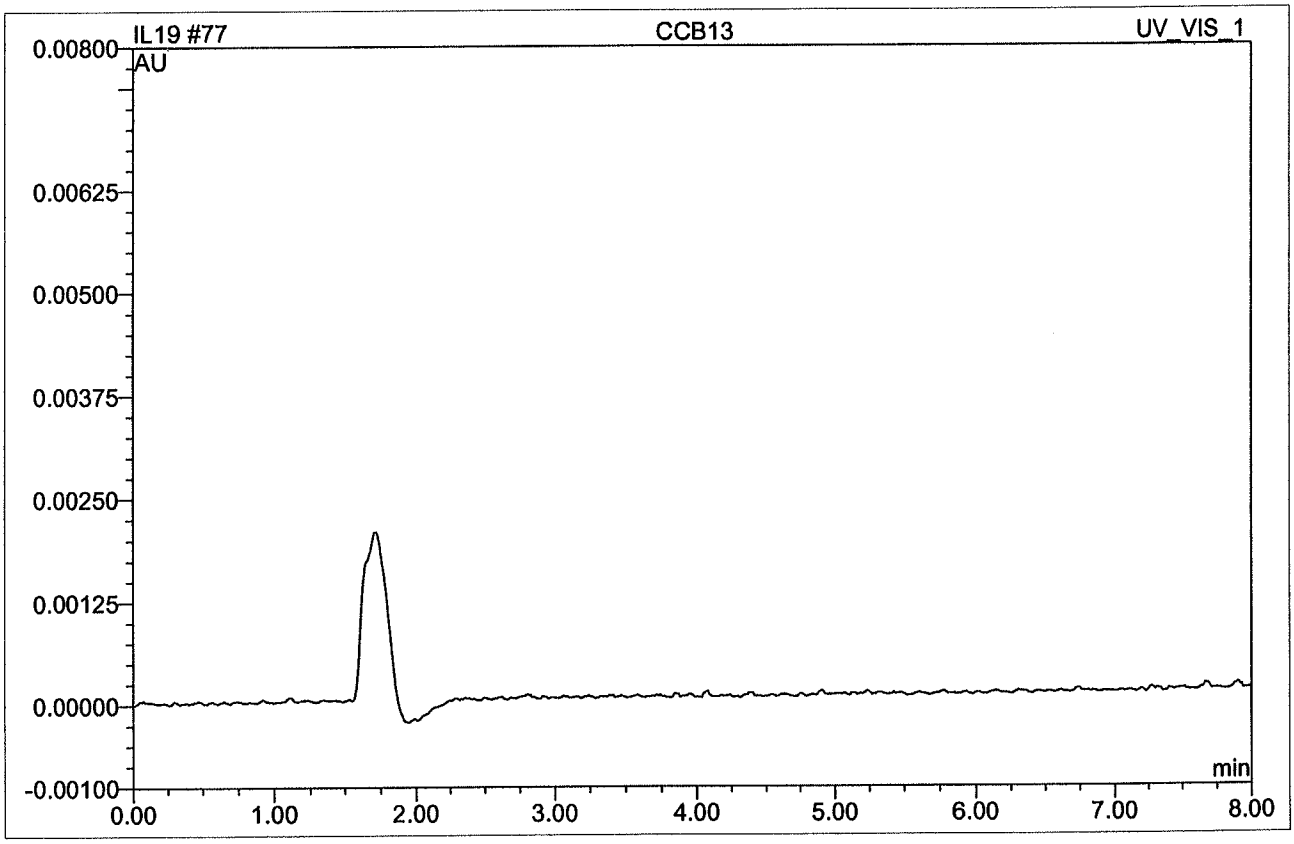
Sample Name:	**CCV13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 7:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	Cr6	0.0013110	0.0001960	100.00	1.992	BMB*
Total:			0.001	0.000	100.00	1.992	

IL19 077 CCB13

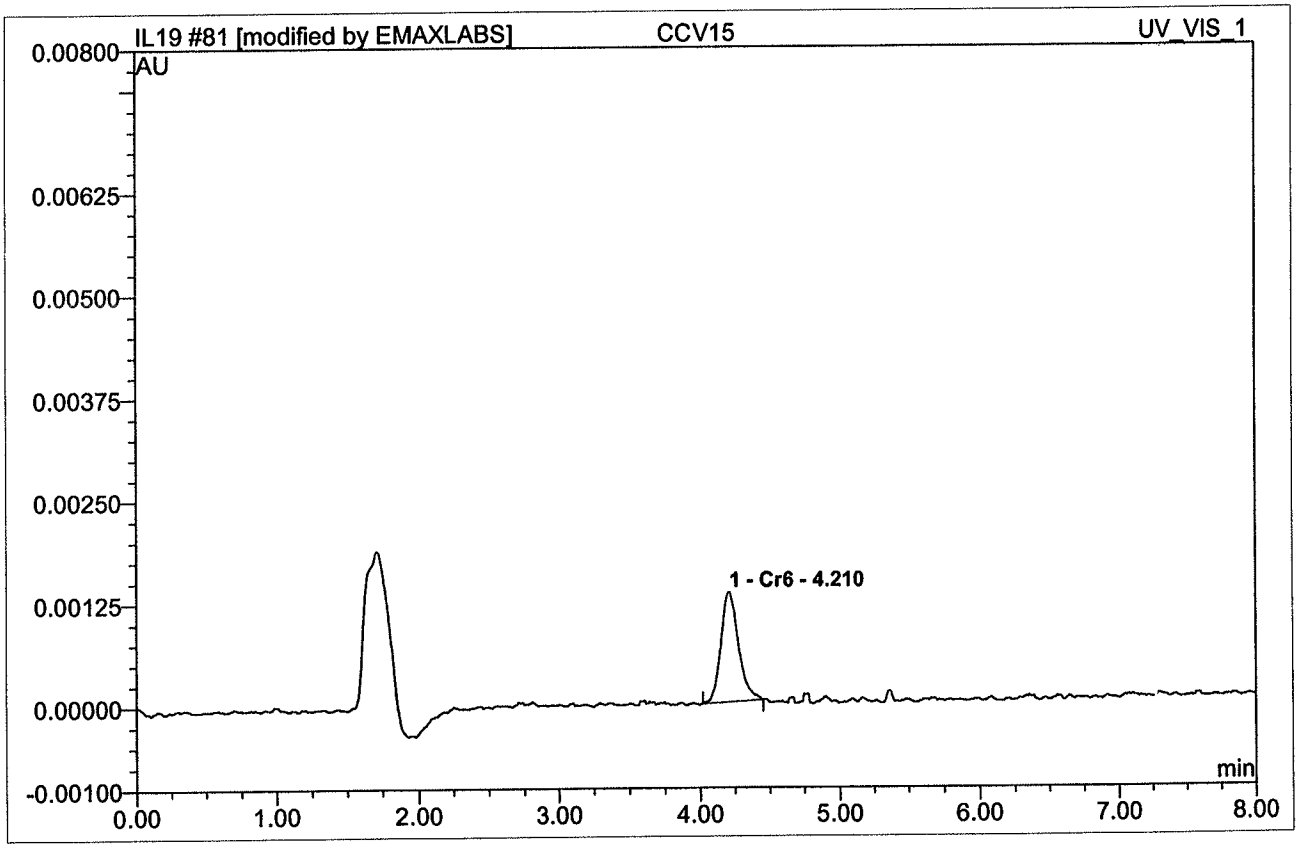
Sample Name:	**CCB13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 7:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 081 CCV15

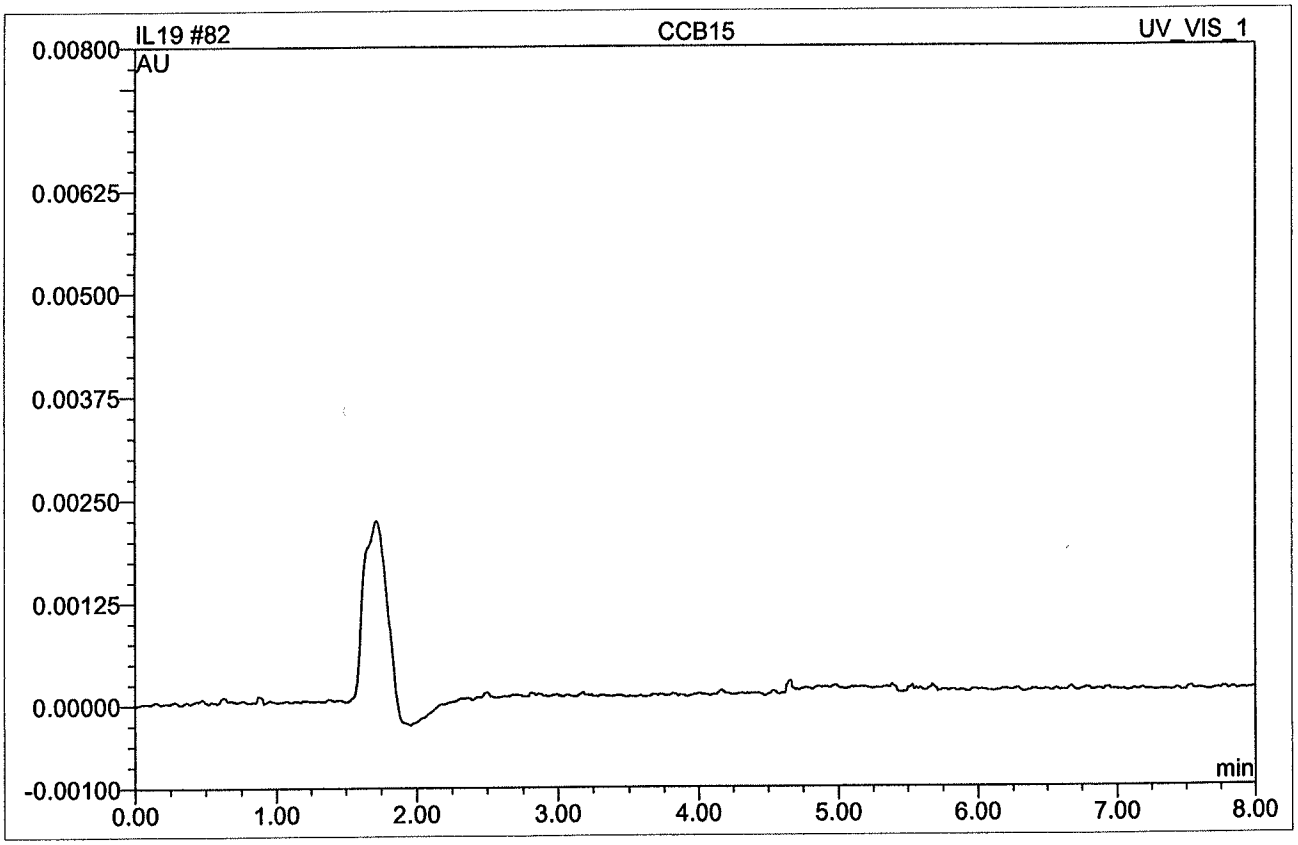
Sample Name:	**CCV15**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 11:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0013340	0.0001963	100.00	1.995	BMB*
Total:			0.001	0.000	100.00	1.995	

IL19 082 CCB15

Sample Name:	**CCB15**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 11:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution: **Final Volume:** 1,000 mL

1,5 Diphenylcarbohydrazide : 0.5 g SW6A-01-01-08

MeOH : 100 mL SW1A-011-18-08

H_2SO_4 : 28 mL ↓ -07-04

Eluent: **Final Volume:** 2,000 mL

$(NH_4)_2SO_4$: 66 g SW6A-02-01-06

NH_4OH : 13 mL ↓ -09

☐ **pH Adjusted Water ID #:**
(range 9.3-9.5)

☑ **Buffer*** (10 mL → 100 mL) SP2-05-21-03

Reagent Water ID #: RW1-22-003

ICAL Linear Range (ppb): S_0 - 0.00

S_1 - 0.20

S_2 - 0.50

S_3 - 1.00

S_4 - 2.00

S_5 - 5.00

S_6 - 7.50

S_7 - 10.0

ICV - 3.00

Low CCV: 0.20 mL of SW6B-005-01-08 (100 ppb) to final volume 100 mL using buffer* (SP2-05-21-03, 10 mL → 100 mL) → 0.20 ppb

HCL009W: L206, L207, L867

HCL011W: L226, L237

Column: Dionex Ionpac AS7 (4x250mm) serial: 19010232 48

Guard Column: Dionex Ionpac NG1 (4x35mm) serial: 19061 1218

Wavelength: 530 nm

Flow Rate: 1.00 mL/min

Injection loop: 0.250 mL

Book #: A59-057

Instrument No.: 59

Pipette ID: SW9A-04-017

A42762405

SW9A-04-052

Balance ID: 10203192

Analytical Sequence: IL19

Method File: IC59L19

Analytical Batch: HCL009W/011W

SOP #	Rev. #
☑ EMAX-218.6	8
☑ EMAX-7199	8
☐ EMAX-	

STANDARDS ID				
ICAL	SW6B-005-01-11			
ICV	↓ -12			
CCV	↓ -13			
LCS/MS STANDARDS				
	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-005-01-04	100 ppb	0.100 mL	5 mL
MS	↓	↓	0.050 mL	↓

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-02-01 Snap-Seal Container

0.45 µm filter lot #: 211029103 4 oz: 31121011

0.2 µm filter lot #: 1.5 oz: 05122002

Analyzed By: AS

Date: 12/19/22

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IL19	001	IB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:18:35 PM	1.0000	BUFFER
2	IL19	002	S-0	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:28:59 PM	1.0000	
3	IL19	003	S-1	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:59:10 PM	1.0000	0.2 PPB
4	IL19	004	S-2	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:09:34 PM	1.0000	0.5 PPB
5	IL19	005	S-3	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:19:58 PM	1.0000	1.0 PPB
6	IL19	006	S-4	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:30:22 PM	1.0000	2.0 PPB
7	IL19	007	S-5	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:40:46 PM	1.0000	5.0 PPB
8	IL19	008	S-6	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:51:10 PM	1.0000	7.5 PPB
9	IL19	009	S-7	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:01:34 PM	1.0000	10 PPB
10	IL19	010	ICV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:21:16 PM	1.0000	3.0 PPB
11	IL19	011	ICB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:31:40 PM	1.0000	
12	IL19	012	LOW CCV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:42:05 PM	1.0000	0.2 PPB
13	IL19	013	CCV1	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:05:02 PM	1.0000	
14	IL19	014	CCB1	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:15:26 PM	1.0000	
15	IL19	015	HCL009WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:25:51 PM	1.0000	
16	IL19	016	HCL009WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:36:15 PM	1.0000	
17	IL19	017	HCL009WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:46:39 PM	1.0000	
18	IL19	018	L207-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:57:03 PM	1.0000	
19	IL19	019	L207-04M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:10:05 PM	1.0000	
20	IL19	020	L207-04S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:20:29 PM	1.0000	
21	IL19	021	L206-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:30:53 PM	1.0000	
22	IL19	022	L206-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:41:17 PM	1.0000	
23	IL19	023	L206-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:51:41 PM	1.0000	
24	IL19	024	L207-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:02:06 PM	1.0000	
25	IL19	025	CCV3	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:12:30 PM	1.0000	
26	IL19	026	CCB3	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:22:54 PM	1.0000	
27	IL19	027	L207-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:33:18 PM	1.0000	OVER RANGE

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IL19	028	L207-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:43:42 PM	1.0000	
29	IL19	029	L207-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:54:06 PM	1.0000	
30	IL19	030	L207-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:04:31 PM	1.0000	
31	IL19	031	L207-02I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:14:55 PM	2.0000	2.5mLto5mL
32	IL19	032	L867-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:25:19 PM	1.0000	
33	IL19	033	HCL011WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:35:43 PM	1.0000	
34	IL19	034	HCL011WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:46:07 PM	1.0000	
35	IL19	035	HCL011WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:56:31 PM	1.0000	
36	IL19	036	L226-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:06:55 AM	1.0000	
37	IL19	037	CCV5	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:17:20 AM	1.0000	
38	IL19	038	CCB5	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:27:44 AM	1.0000	
39	IL19	039	L226-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:38:08 AM	1.0000	
40	IL19	040	L226-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:48:32 AM	1.0000	
41	IL19	041	L226-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:58:56 AM	1.0000	
42	IL19	042	L226-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:09:21 AM	1.0000	
43	IL19	043	L226-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:19:45 AM	1.0000	
44	IL19	044	L226-06M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:30:09 AM	1.0000	
45	IL19	045	L226-06S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:40:33 AM	1.0000	
46	IL19	046	L226-07	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:50:57 AM	1.0000	
47	IL19	047	L226-07M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:01:21 AM	1.0000	RT SHIFT
48	IL19	048	L226-07S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:11:45 AM	1.0000	RT SHIFT
49	IL19	049	CCV7	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:22:09 AM	1.0000	
50	IL19	050	CCB7	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:32:34 AM	1.0000	
51	IL19	051	L226-08	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:42:58 AM	1.0000	OVER RANGE
52	IL19	052	L226-08I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:53:22 AM	5.0000	1mLto5mL
53	IL19	053	L226-09	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:03:46 AM	1.0000	OVER RANGE
54	IL19	054	L226-09I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:14:10 AM	5.0000	1mLto5mL

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
55	IL19	055	L226-10	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:24:34 AM	1.0000	OVER RANGE
56	IL19	056	L226-10I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:34:58 AM	5.0000	1mLto5mL
57	IL19	057	L226-11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:45:22 AM	1.0000	OVER RANGE
58	IL19	058	L226-11I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:55:46 AM	5.0000	1mLto5mL
59	IL19	059	L226-12	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:06:11 AM	1.0000	OVER RANGE
60	IL19	060	L226-12I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:16:35 AM	5.0000	1mLto5mL
61	IL19	061	CCV9	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:27:00 AM	1.0000	
62	IL19	062	CCB9	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:37:24 AM	1.0000	
63	IL19	063	L226-13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:47:48 AM	1.0000	OVER RANGE
64	IL19	064	L226-13I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:58:12 AM	5.0000	1mLto5mL
65	IL19	065	L226-14	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:08:36 AM	1.0000	
66	IL19	066	L226-14I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:19:01 AM	5.0000	1mLto5mL;CONF
67	IL19	067	L226-15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:29:25 AM	1.0000	OVER RANGE
68	IL19	068	L226-15I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:39:49 AM	5.0000	1mLto5mL
69	IL19	069	L226-16	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:50:13 AM	1.0000	
70	IL19	070	L237-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:00:37 AM	1.0000	
71	IL19	071	L237-08	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:11:01 AM	1.0000	
72	IL19	072	L237-10	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:21:25 AM	1.0000	
73	IL19	073	CCV11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:31:49 AM	1.0000	
74	IL19	074	CCB11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:42:14 AM	1.0000	
75	IL19	075	L237-12	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:52:38 AM	1.0000	
76	IL19	076	CCV13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 7:03:02 AM	1.0000	
77	IL19	077	CCB13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 7:13:26 AM	1.0000	
78	IL19	078	L226-07I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 10:47:58 AM	5.0000	1mLto5mL
79	IL19	079	L226-07M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 10:58:22 AM	5.0000	1mLto5mL
80	IL19	080	L226-07S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:08:46 AM	5.0000	1mLto5mL
81	IL19	081	CCV15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:19:11 AM	1.0000	

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
82	IL19	082	CCB15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:29:35 AM	1.0000	

SAMPLE PREPARATION LOG(S)

EMAX LABORATORIES, INC.

pH ADJUSTMENT/SAMPLE PRESERVATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-218.6 Rev. 8 ☑ EMAX-7199 Rev. 8 Book #: PHC-029

Matrix: W Start Date: 12/15/22 Time: 19:15 End Date: 12/15/22 Time: 19:44

Sample Prep ID	Lab Sample ID	Initial pH	Final pH	Notes
01	L226-01	9.43	9.43	no adjustment needed; Cr
02	-02	9.33	9.33	
03	-03	9.35	9.35	
04	-04	9.36	9.36	
05	-05	9.46	9.46	
06	-06	9.38	9.38	
07	-07	9.40	9.40	
08	-08	9.45	9.45	
09	-09	9.47	9.47	
10	-10	9.42	9.42	
11	-11	9.45	9.45	
12	-12	9.43	9.43	
13	-13	9.41	9.41	
14	-14	9.45	9.45	
15	-15	9.44	9.44	
16	-16	9.44	9.44	
17	L232-01	9.39	9.39	
18	-02	9.40	9.40	
19				
20				
21				
22				
23				
24				
25				AS

12/15/22

Standards	ID	pH
Buffer 7	SW1A-03-11-05	7.00
Buffer 10	↓ -03-08	10.01
Check pH Buffer (8)		
Check pH Buffer 7.98	SW1A-03-06-03	7.95
pH meter	F7	

Reagent	Standard ID #
NaOH	
$(NH_4)_2SO_4/NH_4OH$	
HNO_3	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = Turbid	Vg = Vegetation
Yw = Yellow			

☑ Samples were received with preservation

Comments:

Prepared By: AS

Standard Added By: —

Checked By: AS

ANIONS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD E300.0
CHLORIDE

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Chloride in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. ICL024WB and ICL026WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. ICL024WL/ICL024WC and ICL026WL/ICL026WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD E300.0
FLUORIDE

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Fluoride in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Fluoride was not detected in ICL018WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL018WL/ICL018WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD E300.0
NITRATE AS N

A total of fourteen(14) water samples were received on 12/15/22 to be analyzed for Nitrate as N in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Nitrate was not detected in ICL018WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL018WL/ICL018WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Samples L226-01 and L226-02 reported at dilution factor >1 was due to high conductivity. Sample L226-07 reported at dilution factor >1 was due to chloride interference.

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD E300.0
SULFATE

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Sulfate in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Sulfate was not detected in ICL024WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL024WL/ICL024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E300.0
CHLORIDE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL024WB	ND	1	NA	0.2	0.1	12/20/2210:43	NA	AL24-03	AL24-01	ICL024W	NA	NA
LCS1W	ICL024WL	1.93	1	NA	0.2	0.1	12/20/2211:03	NA	AL24-04	AL24-01	ICL024W	NA	NA
LCD1W	ICL024WC	2.00	1	NA	0.2	0.1	12/20/2211:24	NA	AL24-05	AL24-01	ICL024W	NA	NA
SITE B-165-Q422	L226-08K	344	40	NA	8	4	12/20/2213:08	NA	AL24-10	AL24-01	ICL024W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09K	346	40	NA	8	4	12/20/2214:49	NA	AL24-15	AL24-13	ICL024W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10K	339	40	NA	8	4	12/20/2216:10	NA	AL24-19	AL24-13	ICL024W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11K	618	100	NA	20	10	12/20/2216:51	NA	AL24-21	AL24-13	ICL024W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12K	594	100	NA	20	10	12/20/2217:31	NA	AL24-23	AL24-13	ICL024W	12/14/2208:42	12/15/22
MBLK2W	ICL026WB	ND	1	NA	0.2	0.1	12/21/2210:36	NA	AL26-03	AL26-01	ICL026W	NA	NA
LCS2W	ICL026WL	1.91	1	NA	0.2	0.1	12/21/2210:56	NA	AL26-04	AL26-01	ICL026W	NA	NA
LCD2W	ICL026WC	1.91	1	NA	0.2	0.1	12/21/2211:16	NA	AL26-05	AL26-01	ICL026W	NA	NA
PGE-09N-Q422	L226-06K	2080	400	NA	80	40	12/21/2211:36	NA	AL26-06	AL26-01	ICL026W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07G	3150	400	NA	80	40	12/21/2211:57	NA	AL26-07	AL26-01	ICL026W	12/14/2211:58	12/15/22
MW-94-030-Q422	L226-13T	328	40	NA	8	4	12/21/2212:17	NA	AL26-08	AL26-01	ICL026W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14T	420	100	NA	20	10	12/21/2212:37	NA	AL26-09	AL26-01	ICL026W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15T	220	40	NA	8	4	12/21/2212:57	NA	AL26-10	AL26-01	ICL026W	12/14/2209:06	12/15/22

METHOD E300.0
FLUORIDE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL018WB	ND	1	NA	0.1	0.05	12/15/2209:58	NA	AL18-03	AL18-01	ICL018W	NA	NA
LCS1W	ICL018WL	0.998	1	NA	0.1	0.05	12/15/2210:18	NA	AL18-04	AL18-01	ICL018W	NA	NA
LCD1W	ICL018WC	1.00	1	NA	0.1	0.05	12/15/2210:38	NA	AL18-05	AL18-01	ICL018W	NA	NA
PGE-09N-Q422	L226-06	3.74	1	NA	0.1	0.05	12/15/2214:01	NA	AL18-15	AL18-13	ICL018W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07	1.38	1	NA	0.1	0.05	12/15/2214:21	NA	AL18-16	AL18-13	ICL018W	12/14/2211:58	12/15/22
SITE B-165-Q422	L226-08	4.46	1	NA	0.1	0.05	12/15/2214:41	NA	AL18-17	AL18-13	ICL018W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09	4.46	1	NA	0.1	0.05	12/15/2215:01	NA	AL18-18	AL18-13	ICL018W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10	4.46	1	NA	0.1	0.05	12/15/2215:22	NA	AL18-19	AL18-13	ICL018W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11	4.71	1	NA	0.1	0.05	12/15/2215:42	NA	AL18-20	AL18-13	ICL018W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12	4.75	1	NA	0.1	0.05	12/15/2216:02	NA	AL18-21	AL18-13	ICL018W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13	3.94	1	NA	0.1	0.05	12/15/2216:23	NA	AL18-22	AL18-13	ICL018W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14	3.38	1	NA	0.1	0.05	12/15/2216:43	NA	AL18-23	AL18-13	ICL018W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15	4.05	1	NA	0.1	0.05	12/15/2217:03	NA	AL18-24	AL18-13	ICL018W	12/14/2209:06	12/15/22

METHOD E300.0
NITRATE AS N

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL018WB	ND	1	NA	0.1	0.05	12/15/2209:58	NA	AL18-03	AL18-01	ICL018W	NA	NA
LCS1W	ICL018WL	1.01	1	NA	0.1	0.05	12/15/2210:18	NA	AL18-04	AL18-01	ICL018W	NA	NA
LCD1W	ICL018WC	1.01	1	NA	0.1	0.05	12/15/2210:38	NA	AL18-05	AL18-01	ICL018W	NA	NA
MW-56S-Q422	L226-03	ND	1	NA	0.1	0.05	12/15/2212:40	NA	AL18-11	AL18-01	ICL018W	12/14/2209:46	12/15/22
MW-929-Q422	L226-04	ND	1	NA	0.1	0.05	12/15/2213:00	NA	AL18-12	AL18-01	ICL018W	12/14/2209:56	12/15/22
MW-929-Q422	L226-06	ND	1	NA	0.1	0.05	12/15/2214:01	NA	AL18-15	AL18-13	ICL018W	12/14/2209:56	12/15/22
MW-929-Q422	L226-14	1.99	1	NA	0.1	0.05	12/15/2216:43	NA	AL18-23	AL18-13	ICL018W	12/14/2209:56	12/15/22
MW-56D-Q422	L226-01I	ND	10	NA	1	0.5	12/15/2218:04	NA	AL18-27	AL18-25	ICL018W	12/14/2210:36	12/15/22
MW-56M-Q422	L226-02I	ND	10	NA	1	0.5	12/15/2218:24	NA	AL18-28	AL18-25	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-07I	ND	5	NA	0.5	0.25	12/15/2219:45	NA	AL18-32	AL18-25	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-08I	2.59	2	NA	0.2	0.1	12/15/2220:05	NA	AL18-33	AL18-25	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-09I	2.56	2	NA	0.2	0.1	12/15/2220:26	NA	AL18-34	AL18-25	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-10I	2.66	2	NA	0.2	0.1	12/15/2220:46	NA	AL18-35	AL18-25	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-11I	2.31	2	NA	0.2	0.1	12/15/2221:06	NA	AL18-36	AL18-25	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-12I	2.25	2	NA	0.2	0.1	12/15/2222:07	NA	AL18-39	AL18-37	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-13I	3.32	2	NA	0.2	0.1	12/15/2222:27	NA	AL18-40	AL18-37	ICL018W	12/14/2210:10	12/15/22
MW-56M-Q422	L226-15I	2.37	2	NA	0.2	0.1	12/15/2223:08	NA	AL18-42	AL18-37	ICL018W	12/14/2210:10	12/15/22

METHOD E300.0
SULFATE

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

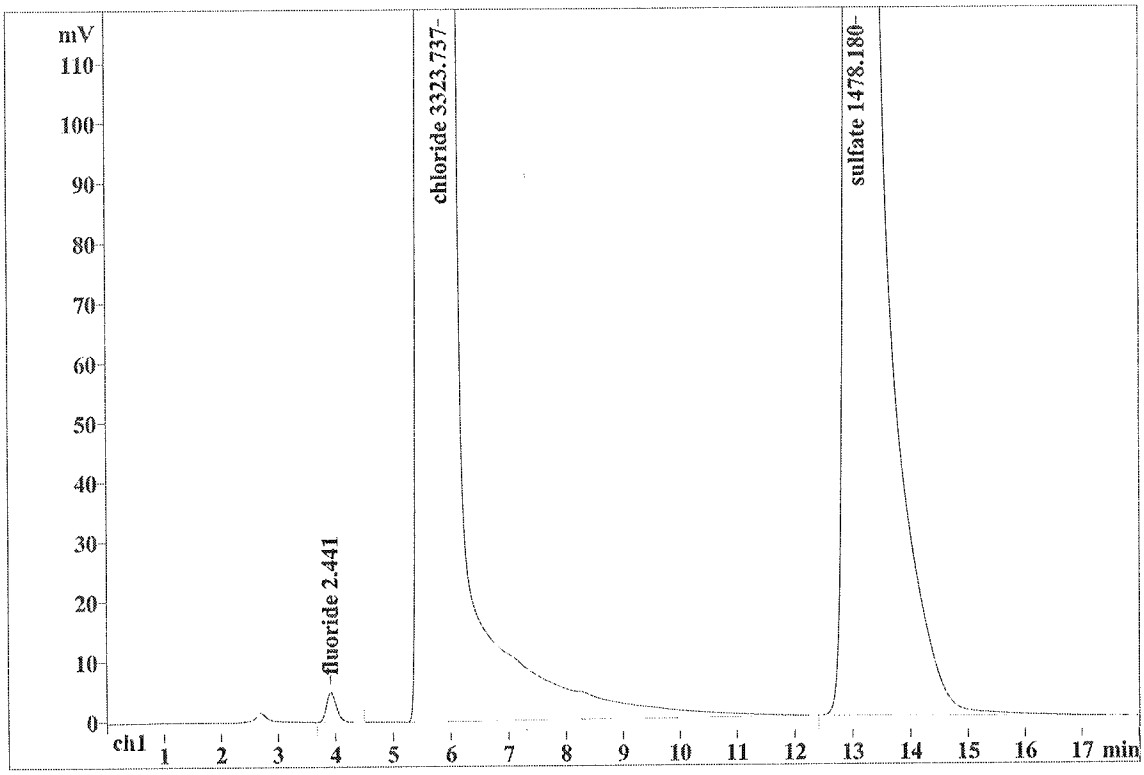
Matrix : WATER
InstrumentID : D7

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL024WB	ND	1	NA	0.5	0.25	12/20/2210:43	NA	AL24-03	AL24-01	ICL024W	NA	NA
LCS1W	ICL024WL	4.82	1	NA	0.5	0.25	12/20/2211:03	NA	AL24-04	AL24-01	ICL024W	NA	NA
LCD1W	ICL024WC	4.86	1	NA	0.5	0.25	12/20/2211:24	NA	AL24-05	AL24-01	ICL024W	NA	NA
PGE-09N-Q422	L226-06I	722	100	NA	50	25	12/20/2211:46	NA	AL24-06	AL24-01	ICL024W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07J	745	40	NA	20	10	12/20/2212:06	NA	AL24-07	AL24-01	ICL024W	12/14/2211:58	12/15/22
SITE B-165-Q422	L226-08J	76.0	10	NA	5	2.5	12/20/2212:47	NA	AL24-09	AL24-01	ICL024W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09J	78.7	10	NA	5	2.5	12/20/2213:48	NA	AL24-12	AL24-01	ICL024W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10J	81.0	10	NA	5	2.5	12/20/2215:50	NA	AL24-18	AL24-13	ICL024W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11J	113	20	NA	10	5	12/20/2216:30	NA	AL24-20	AL24-13	ICL024W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12J	92.7	10	NA	5	2.5	12/20/2217:11	NA	AL24-22	AL24-13	ICL024W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13J	161	20	NA	10	5	12/20/2217:51	NA	AL24-24	AL24-13	ICL024W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14J	114	10	NA	5	2.5	12/20/2219:12	NA	AL24-28	AL24-25	ICL024W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15J	58.3	10	NA	5	2.5	12/20/2219:53	NA	AL24-30	AL24-25	ICL024W	12/14/2209:06	12/15/22

Report date: 12/16/2022 9:51:28 AM
Printed by: VDuran

Ident: AL18-27 L226-01I DF=10
Analysis from: 12/15/2022 6:04:15 PM
File: _2022-12-15_18-04.chw Last save: 12/15/2022 6:22:15 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115517

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml, HIGH CONDUCTIVITY
Vial number: 27
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.92	4.99	61.471	2.441	fluoride
2	5.84	1819.75	60486.857	3323.737	chloride
3	13.10	760.43	19497.041	1478.180	sulfate
					nitrate
3	18.00	2585.17	80045.368	4804.358	

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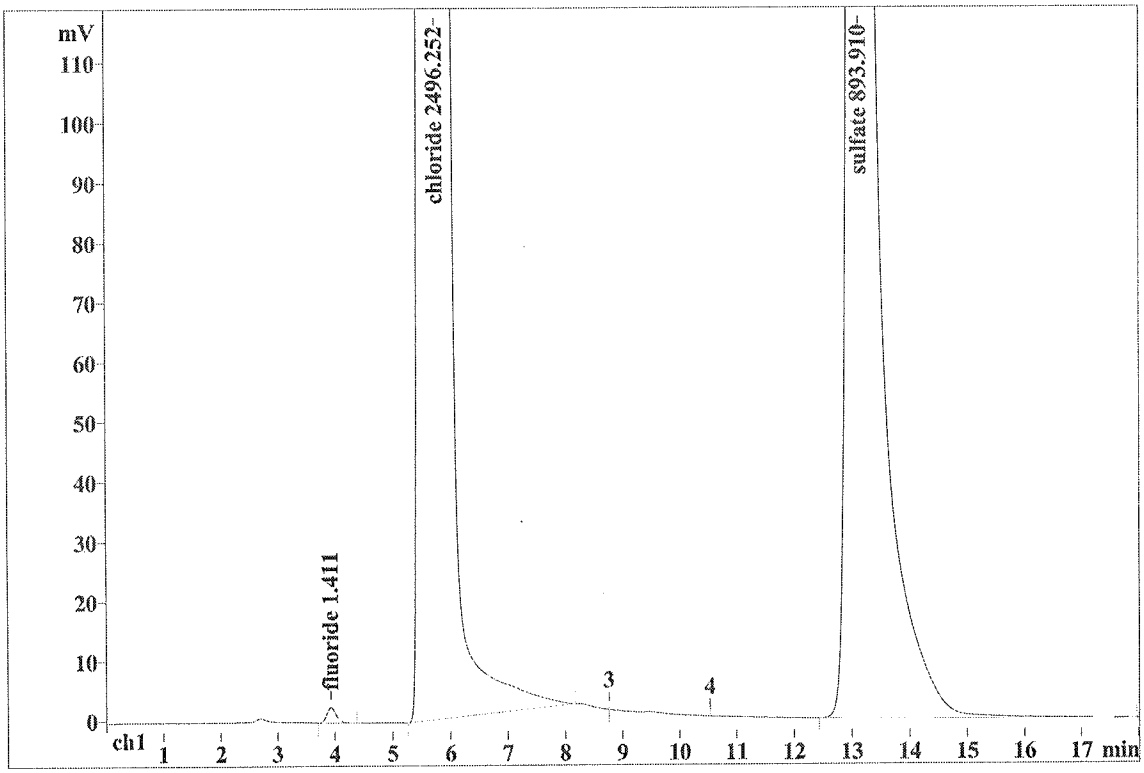
Report date: 12/16/2022 9:51:37 AM
Printed by: VDuran

Ident: AL18-28 L226-02I DF=10
Analysis from: 12/15/2022 6:24:30 PM
File: _2022-12-15_18-24.chw Last save: 12/15/2022 6:42:30 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115518

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml, HIGH CONDUCTIVITY
Vial number: 28
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	2.57	29.571	1.411	fluoride
2	5.75	1785.04	45423.408	2496.252	chloride
3	8.76	-0.00	-0.000	0.000	
4	10.53	-0.00	-0.000	0.000	
5	13.13	466.71	11785.082	893.910	sulfate
5	18.00	2254.32	57238.062	3391.572	nitrate

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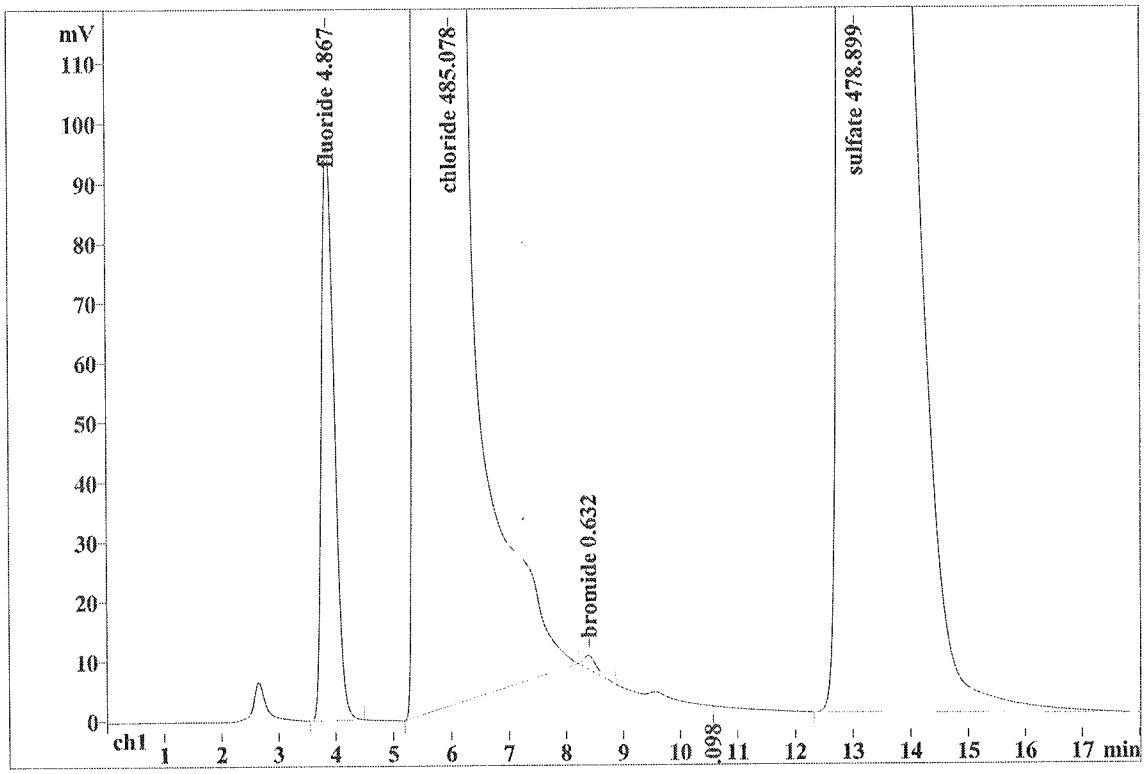
Report date: 12/16/2022 9:45:40 AM
Printed by: VDuran

Ident: AL18-11 L226-03
Analysis from: 12/15/2022 12:40:11 PM
File: _2022-12-15_12-40.chw Last save: 12/15/2022 3:22:08 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115501

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 11
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.87	97.08	1493.425	4.867	fluoride
2	5.98	1847.43	88284.884	485.078	chloride
3	8.41	2.38	35.741	0.632	bromide
4	10.57	-0.00	-0.000	0.098	phosphate
5	13.06	1622.98	63197.458	478.899	sulfate
5	17.99	3569.86	153011.508	969.573	nitrate

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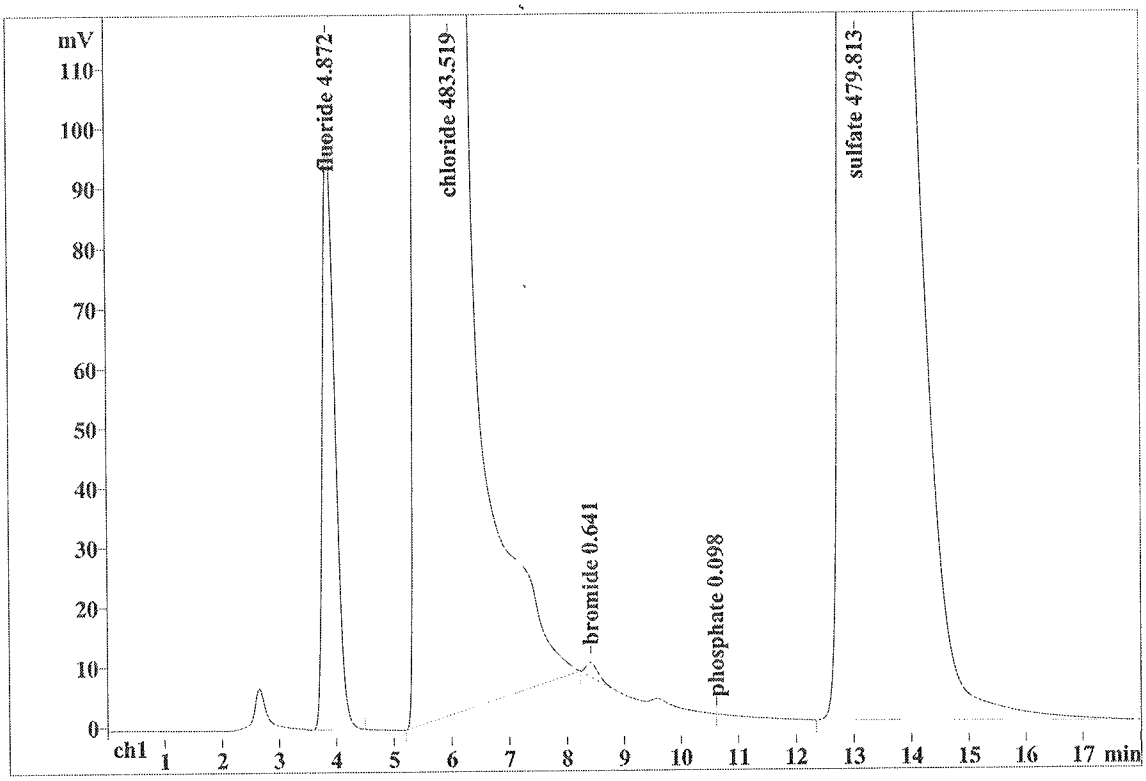
Report date: 12/16/2022 9:45:44 AM
Printed by: VDuran

Ident: AL18-12 L226-04
Analysis from: 12/15/2022 1:00:26 PM
File: _2022-12-15_13-00.chw Last save: 12/15/2022 3:22:17 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115502

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 12
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	98.82	1495.001	4.872	fluoride
2	6.00	1848.69	88001.242	483.519	chloride
3	8.43	2.43	36.487	0.641	bromide
4	10.62	-0.00	-0.000	0.098	phosphate
5	13.07	1621.95	63318.015	479.813	sulfate
5	18.00	3571.90	152850.744	968.943	nitrate

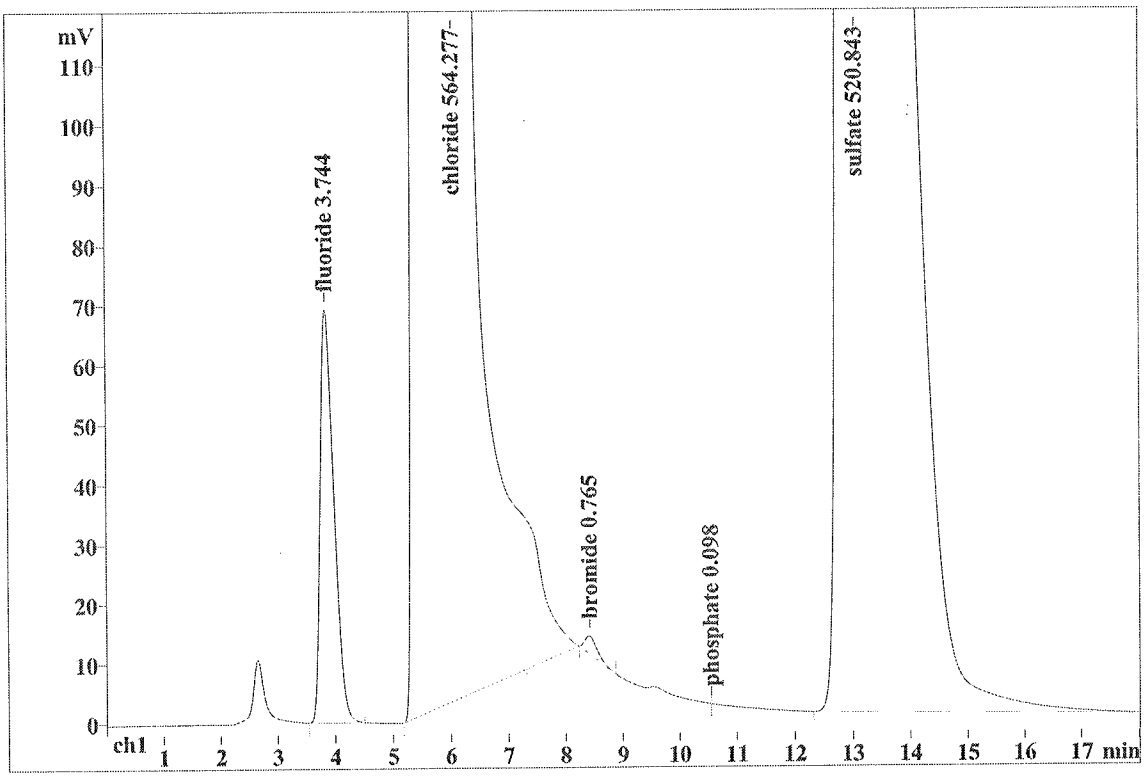
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:45:52 AM
Printed by: VDuran

Ident: AL18-15 L226-06
Analysis from: 12/15/2022 2:01:11 PM
File: _2022-12-15_14-01.chw Last save: 12/15/2022 3:22:44 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115505

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 15
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.84	69.16	1145.501	3.744	fluoride
2	6.05	1852.07	102702.245	564.277	chloride
3	8.42	3.04	45.976	0.765	bromide
4	10.55	-0.00	-0.000	0.098	phosphate
5	13.06	1651.64	68733.797	520.843	sulfate
5	18.00	3575.92	172627.519	1089.727	nitrate

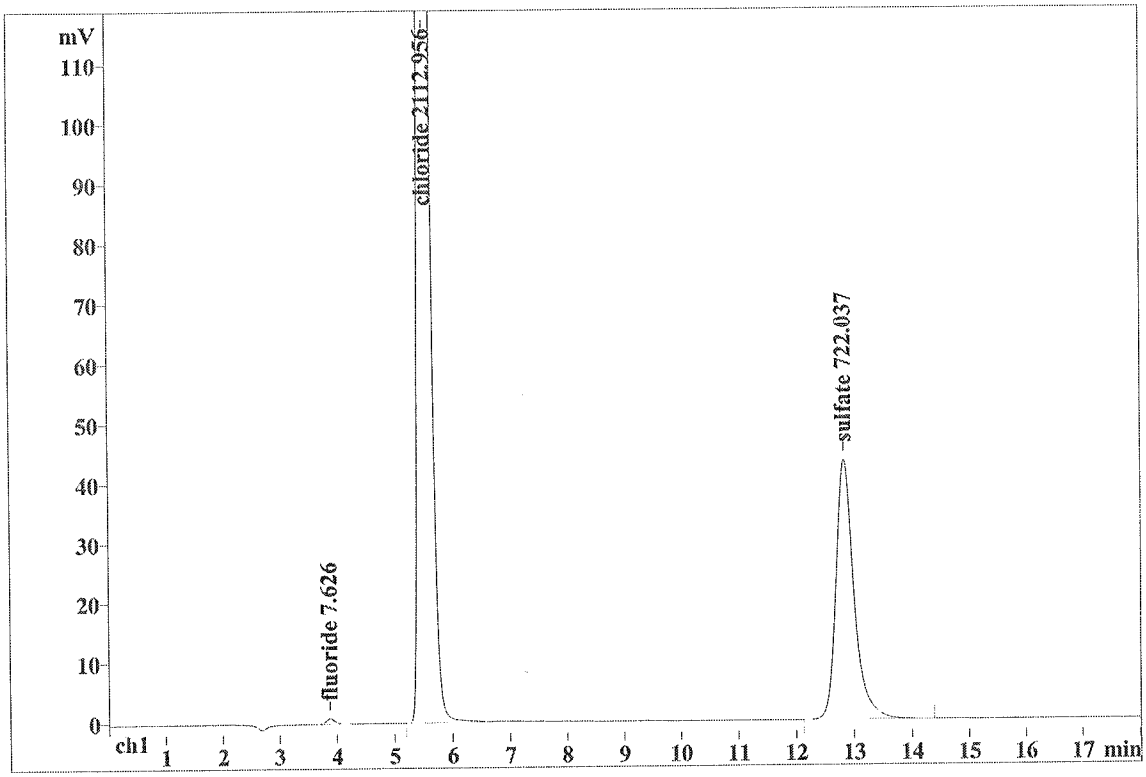
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:11:47 PM
Printed by: CSando

Ident: AL24-06 L226-06I DF=100
Analysis from: 12/20/2022 11:46:37 AM
File: _2022-12-20_11-46.chw Last save: 12/20/2022 12:04:37 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115594

SAMPLE: METHOD 300/9056/4110B
: 0.2ml/20ml
Vial number: 6
Volume: 1.0 µL
Dilution: 100.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	0.92	9.491	7.626	fluoride
2	5.53	340.54	3828.321	2112.956	chloride
3	12.83	43.53	939.136	722.037	sulfate ✓
3	18.00	384.99	4776.948	2842.619	

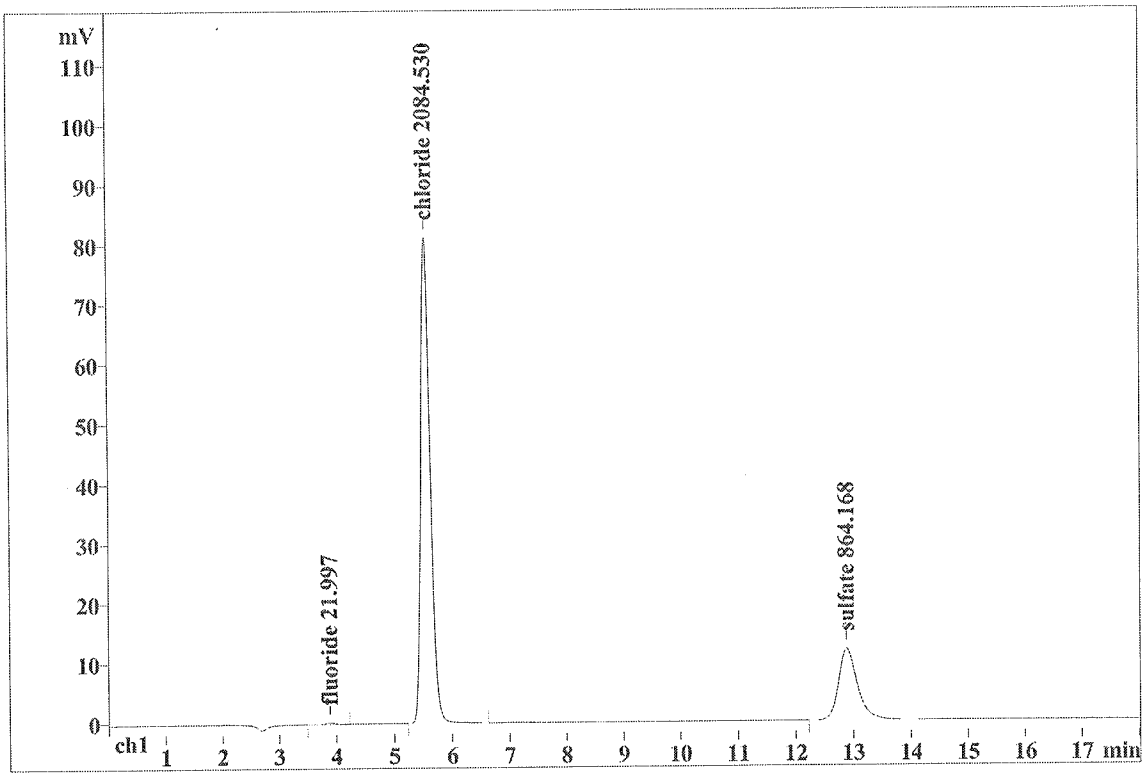
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 8:51:58 AM
Printed by: CSando

Ident: AL26-06 L226-06K DF=400
Analysis from: 12/21/2022 11:36:56 AM
File: _2022-12-21_11-36.chw Last save: 12/21/2022 11:54:56 AM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115654

SAMPLE: METHOD 300/9056/4110B
: 0.1ml/40ml
Vial number: 6
Volume: 1.0 µL
Dilution: 400.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	0.26	2.902	21.997	fluoride
2	5.55	81.28	930.583	2084.530	chloride ✓
3	12.89	11.96	271.258	864.168	sulfate
3	17.99	93.50	1204.743	2970.696	

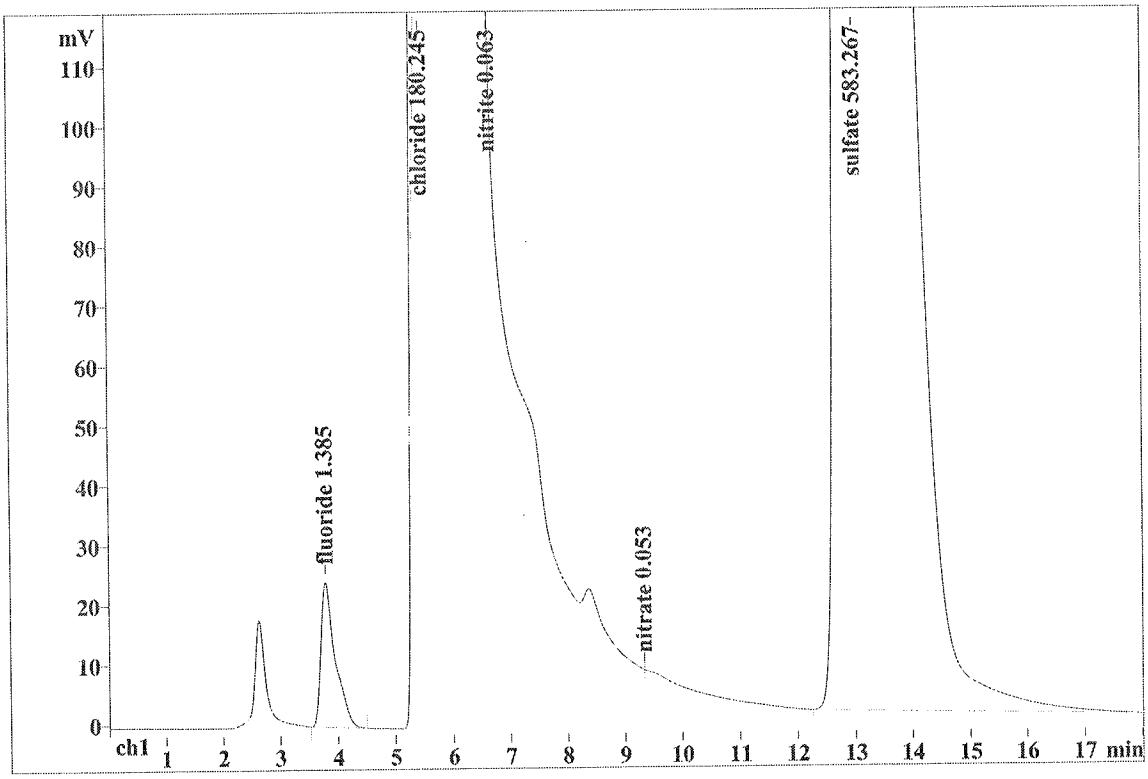
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:46:00 AM
Printed by: VDuran

Ident: AL18-16 L226-07
Analysis from: 12/15/2022 2:21:26 PM
File: _2022-12-15_14-21.chw Last save: 12/15/2022 3:23:05 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115506

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 16
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

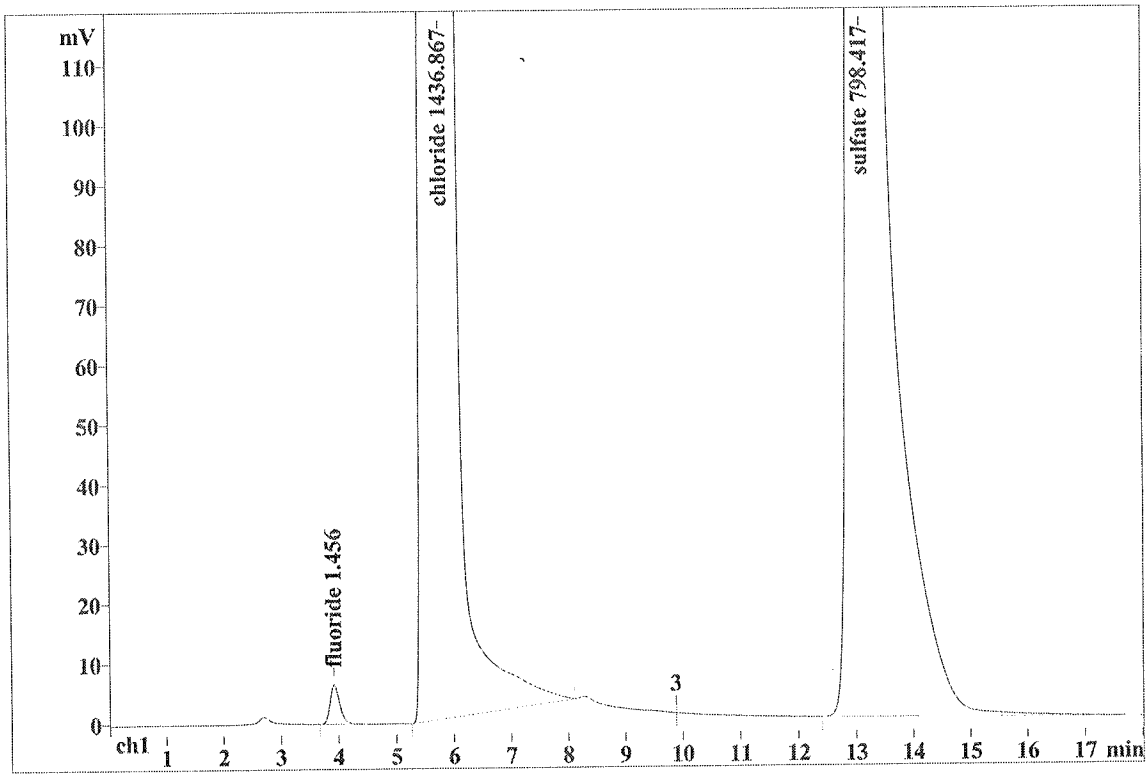
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.79	24.35	414.760	1.385	fluoride
2	5.46	1223.00	32793.538	180.245	chloride
3	6.65	-0.03	-0.003	0.063	nitrite
4	9.34	-0.00	-0.000	0.053	nitrate
5	12.99	1685.59	76973.280	583.267	sulfate
5	18.00	2932.98	110181.582	765.013	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:52:17 AM
Printed by: VDuran

Ident: AL18-32 L226-07I DF=5
Analysis from: 12/15/2022 7:45:30 PM
File: _2022-12-15_19-45.chw Last save: 12/15/2022 8:03:30 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115522

SAMPLE: METHOD 300/9056/4110B
: 4ml/20ml
Vial number: 32
Volume: 1.0 µL
Dilution: 5.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.92	6.55	76.078	1.456	fluoride
2	5.79	1804.32	52295.035	1436.867	chloride
3	9.88	-0.00	-0.000	0.000	
4	13.11	810.33	21063.192	798.417	sulfate
4	18.00	2621.19	73434.305	2236.740	nitrate

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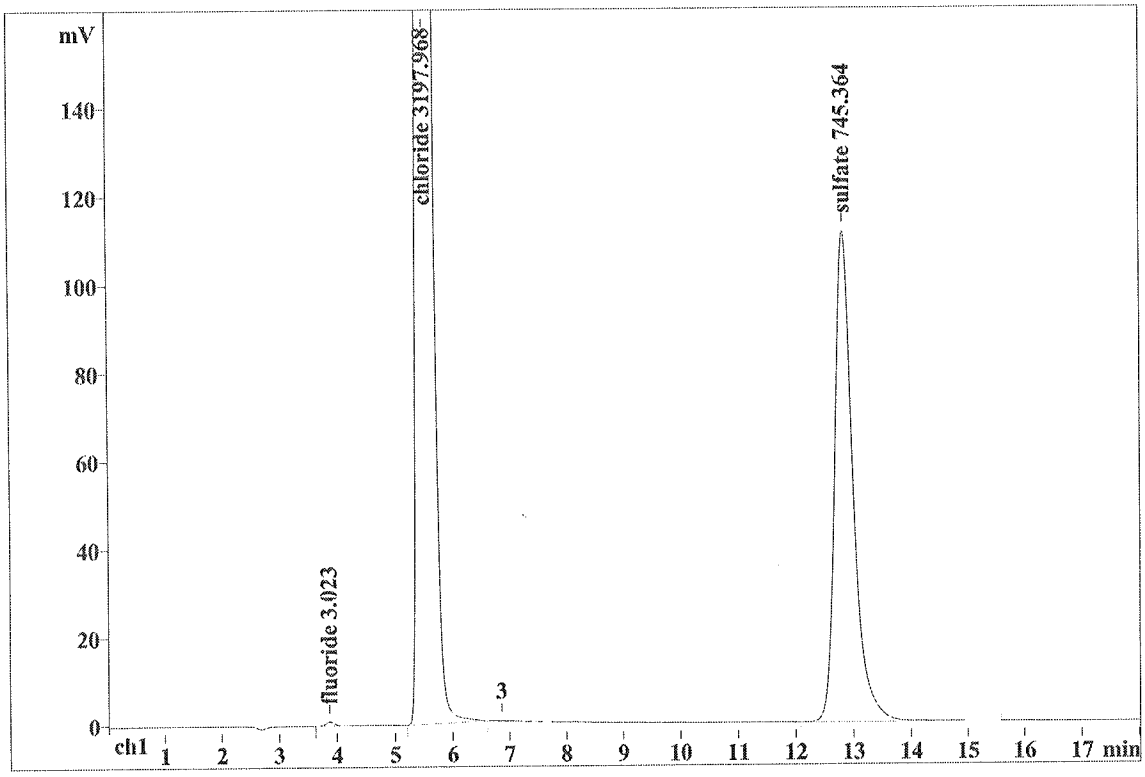
METROHM LTD

Report date: 1/3/2023 2:58:52 PM
Printed by: VDuran

Ident: AL24-07 L226-07J DF=40
Analysis from: 12/20/2022 12:06:52 PM
File: _2022-12-20_12-06.chw Last save: 12/21/2022 3:37:32 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115595

SAMPLE: METHOD 300/9056/4110B
: 1ml/40ml
Vial number: 7
Volume: 1.0 µL
Dilution: 40.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.87	0.91	9.278	3.023	fluoride
2	5.53	1273.44	14535.782	3197.968	chloride
3	6.88	0.11	3.602	0.000	
4	12.83	111.57	2445.670	745.364	sulfate ✓
4	18.00	1386.04	16994.332	3946.355	

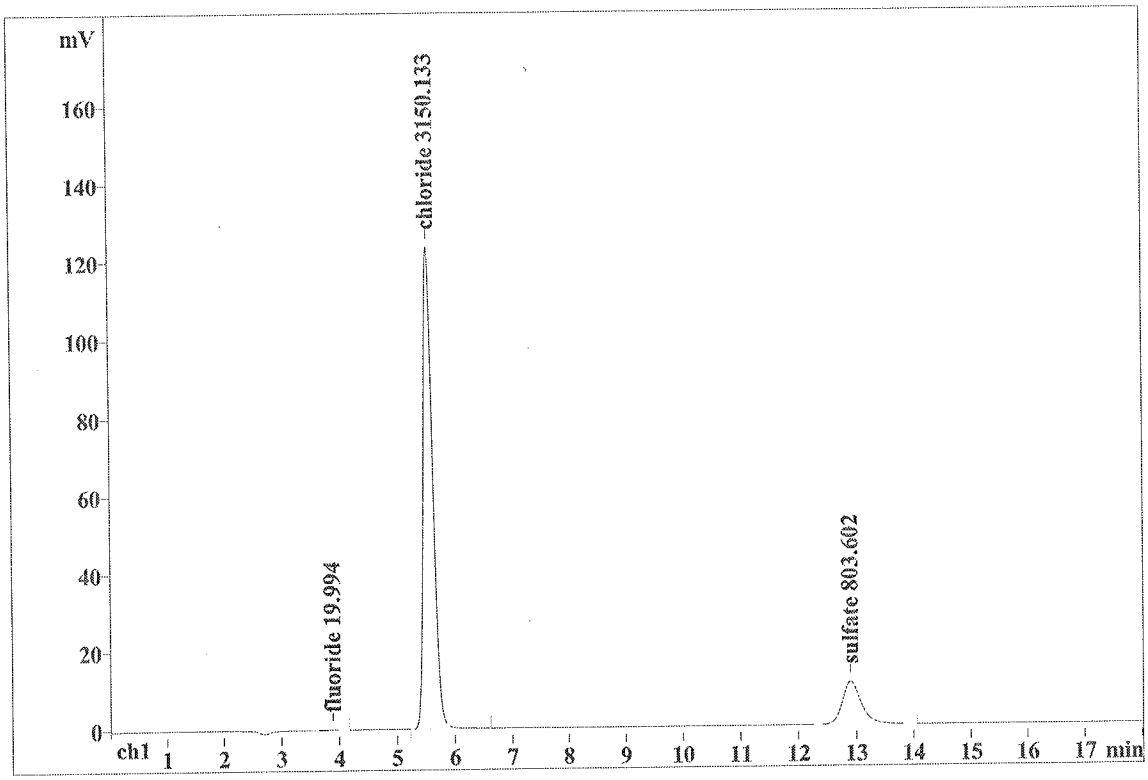
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 8:52:16 AM
Printed by: CSando

Ident: AL26-07 L226-07G DF=400
Analysis from: 12/21/2022 11:57:11 AM
File: _2022-12-21_11-57.chw Last save: 12/21/2022 12:15:11 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115655

SAMPLE: METHOD 300/9056/4110B
: 0.1ml/40ml
Vial number: 7
Volume: 1.0 µL
Dilution: 400.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.90	0.12	1.351	19.994	fluoride
2	5.55	123.63	1415.536	3150.133	chloride✓
3	12.90	11.05	251.272	803.602	sulfate
3	18.00	134.80	1668.159	3973.729	

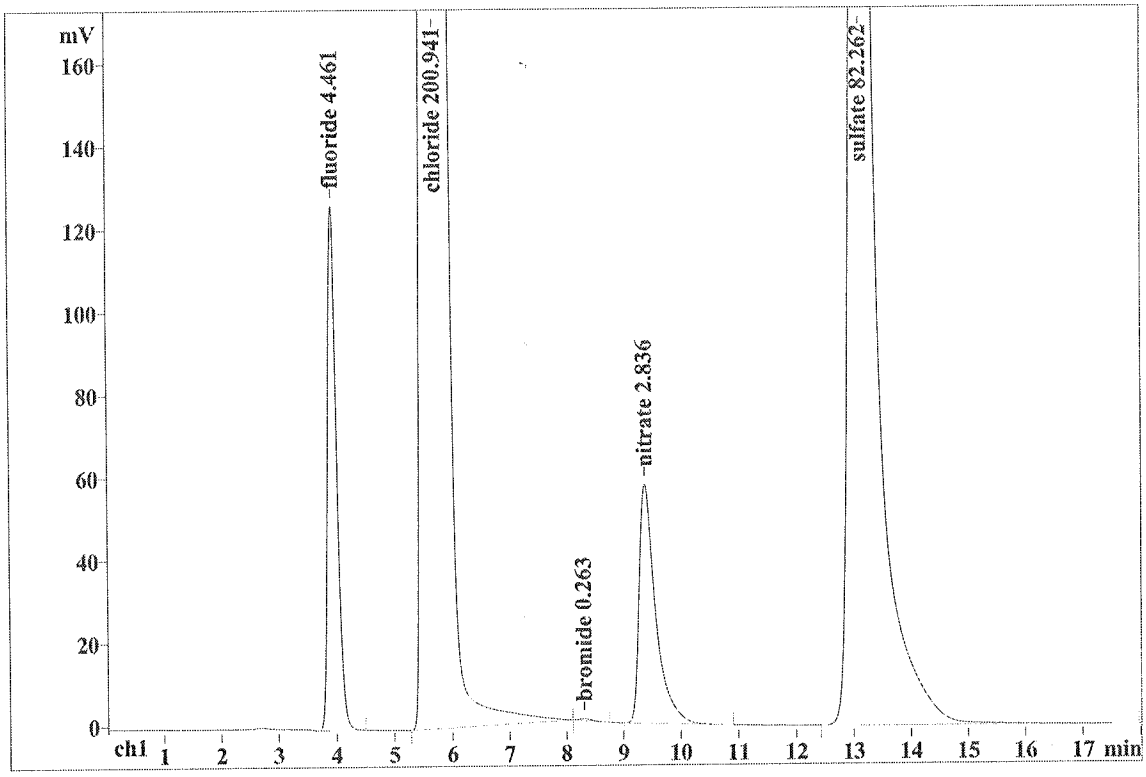
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:46:14 AM
Printed by: VDuran

Ident: AL18-17 L226-08
Analysis from: 12/15/2022 2:41:41 PM
File: _2022-12-15_14-41.chw Last save: 12/15/2022 3:23:22 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115507

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 17
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	126.77	1367.692	4.461	fluoride
2	5.70	1744.65	36561.036	200.941	chloride
3	8.31	0.50	7.446	0.263	bromide
4	9.39	57.93	1153.973	2.836	nitrate
5	13.12	441.45	10844.144	82.262	sulfate
5	18.00	2371.30	49934.291	290.764	

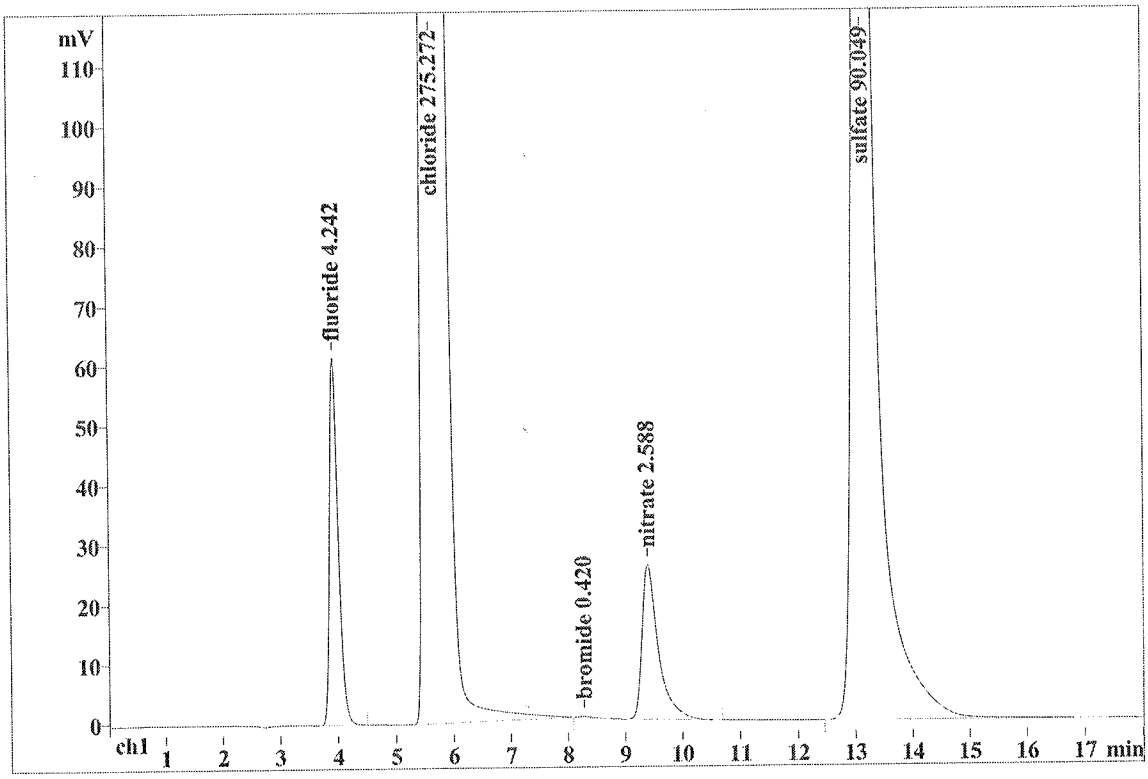
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:52:31 AM
Printed by: VDuran

Ident: AL18-33 L226-08I DF=2
Analysis from: 12/15/2022 8:05:45 PM
File: _2022-12-15_20-05.chw Last save: 12/15/2022 8:23:45 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115523

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 33
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	61.53	642.913	4.242	fluoride
2	5.65	1595.65	25036.990	275.272	chloride
3	8.29	0.22	3.335	0.420	bromide
4	9.40	25.95	514.381	2.588	nitrate
5	13.15	244.72	5929.010	90.049	sulfate
5	18.00	1928.07	32126.629	372.570	

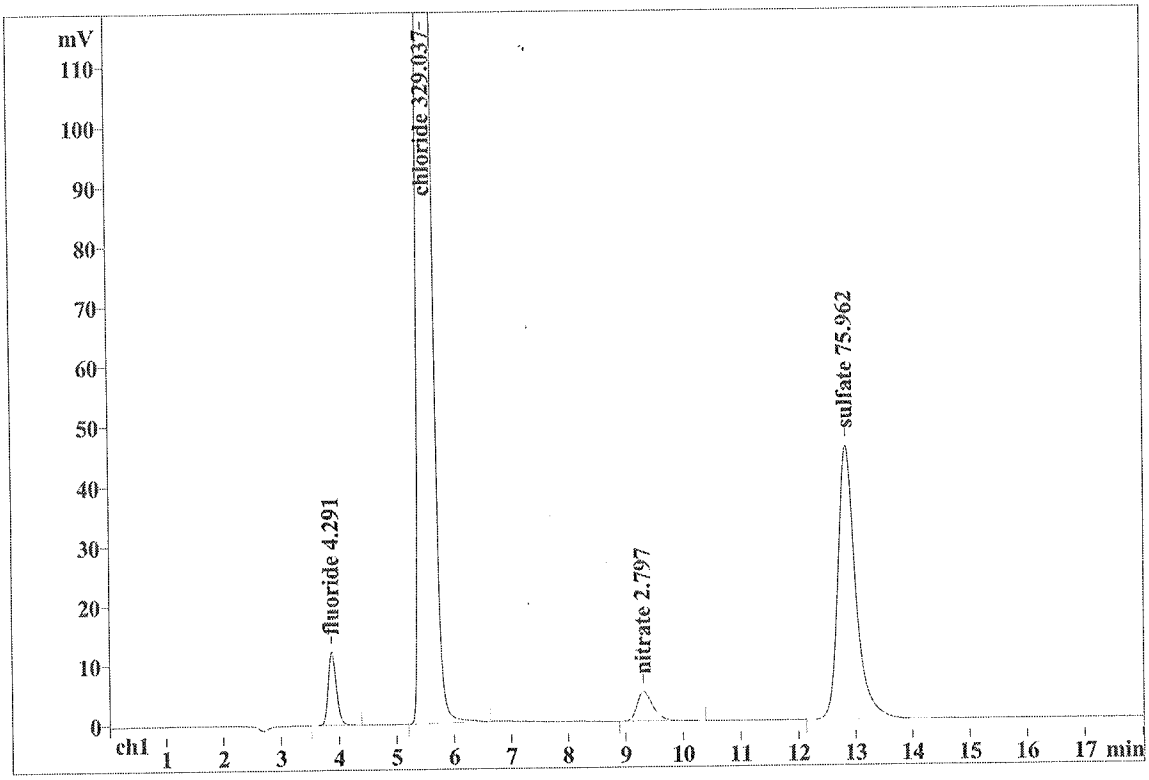
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:12:01 PM
Printed by: CSando

Ident: AL24-09 L226-08J DF=10
Analysis from: 12/20/2022 12:47:58 PM
File: _2022-12-20_12-47.chw Last save: 12/20/2022 1:05:58 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115597

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml
Vial number: 9
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	12.23	118.787	4.291	fluoride
2	5.52	529.09	5971.676	329.037	chloride
3	9.31	4.96	93.841	2.797	nitrate
4	12.84	45.76	988.739	75.962	sulfate ✓
4	18.00	592.04	7173.043	412.087	

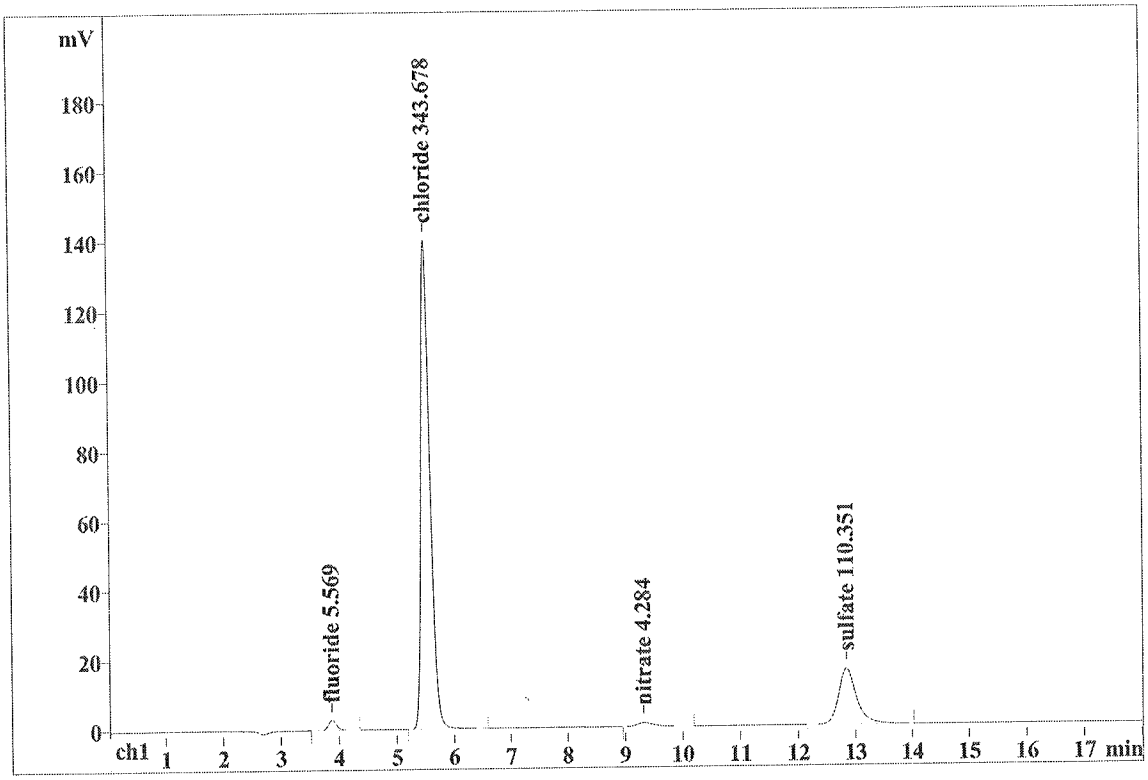
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:13:12 PM
Printed by: CSando

Ident: AL24-10 L226-08K DF=40
Analysis from: 12/20/2022 1:08:13 PM
File: _2022-12-20_13-08.chw Last save: 12/20/2022 1:26:13 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115598

SAMPLE: METHOD 300/9056/4110B
: 1ml/40ml
Vial number: 10
Volume: 1.0 µL
Dilution: 40.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	2.90	28.993	5.569	fluoride
2	5.53	140.00	1545.987	343.678	chloride ✓
3	9.33	1.15	22.241	4.284	nitrate
4	12.84	16.03	350.236	110.351	sulfate
4	18.00	160.09	1947.457	463.881	

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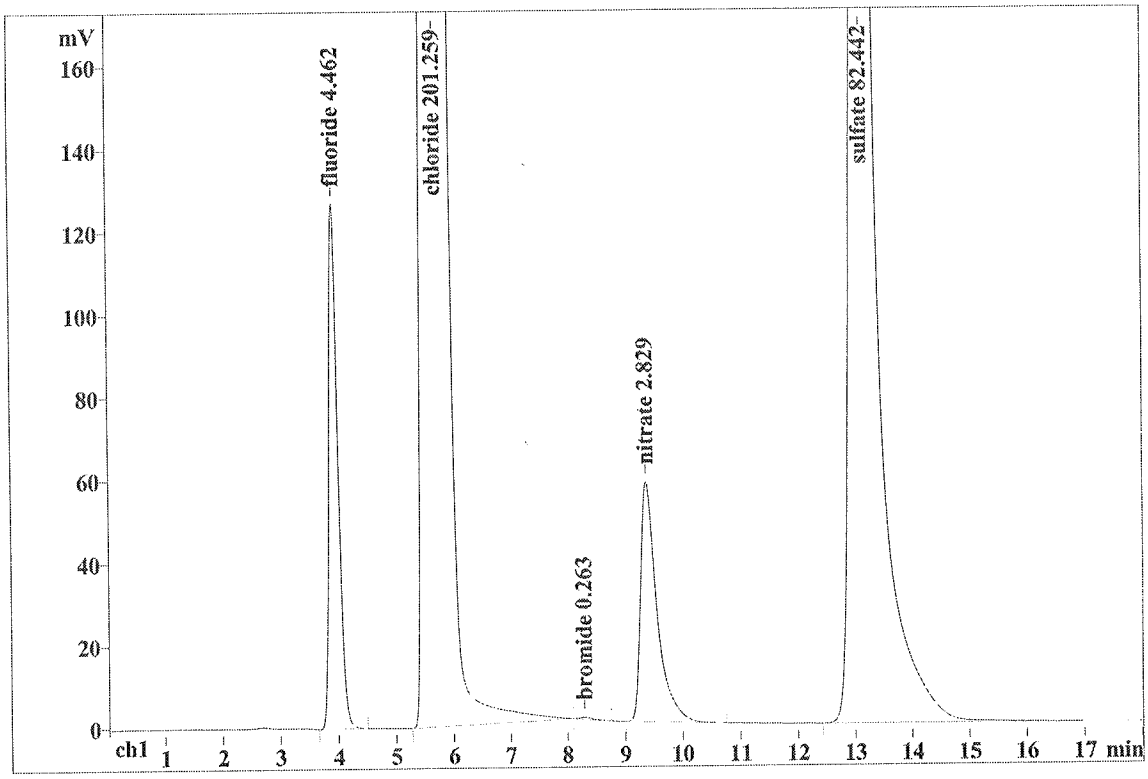
Report date: 12/16/2022 9:46:23 AM
Printed by: VDuran

Ident: AL18-18 L226-09
Analysis from: 12/15/2022 3:01:56 PM
File: _2022-12-15_15-01.chw Last save: 12/15/2022 3:23:30 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115508

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 18
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	127.17	1368.174	4.462	fluoride
2	5.70	1744.52	36618.818	201.259	chloride
3	8.30	0.50	7.413	0.263	bromide
4	9.38	58.17	1151.160	2.829	nitrate
5	13.12	439.18	10867.825	82.442	sulfate
5	18.00	2369.53	50013.390	291.255	

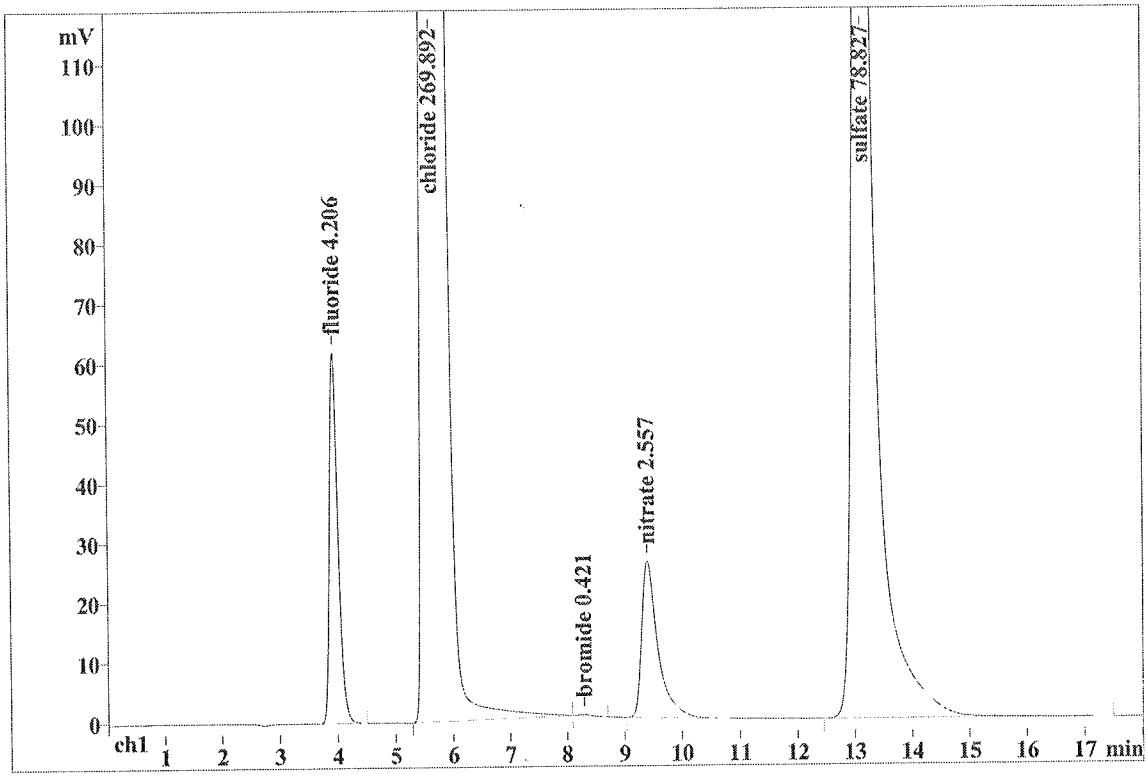
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:52:35 AM
Printed by: VDuran

Ident: AL18-34 L226-09I DF=2
Analysis from: 12/15/2022 8:26:00 PM
File: _2022-12-15_20-26.chw Last save: 12/15/2022 8:44:00 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115524

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 34
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	62.04	637.384	4.206	fluoride
2	5.65	1594.22	24547.338	269.892	chloride
3	8.30	0.23	3.379	0.421	bromide
4	9.40	26.15	508.114	2.557	nitrate
5	13.15	219.84	5188.385	78.827	sulfate
5	18.00	1902.47	30884.600	355.904	

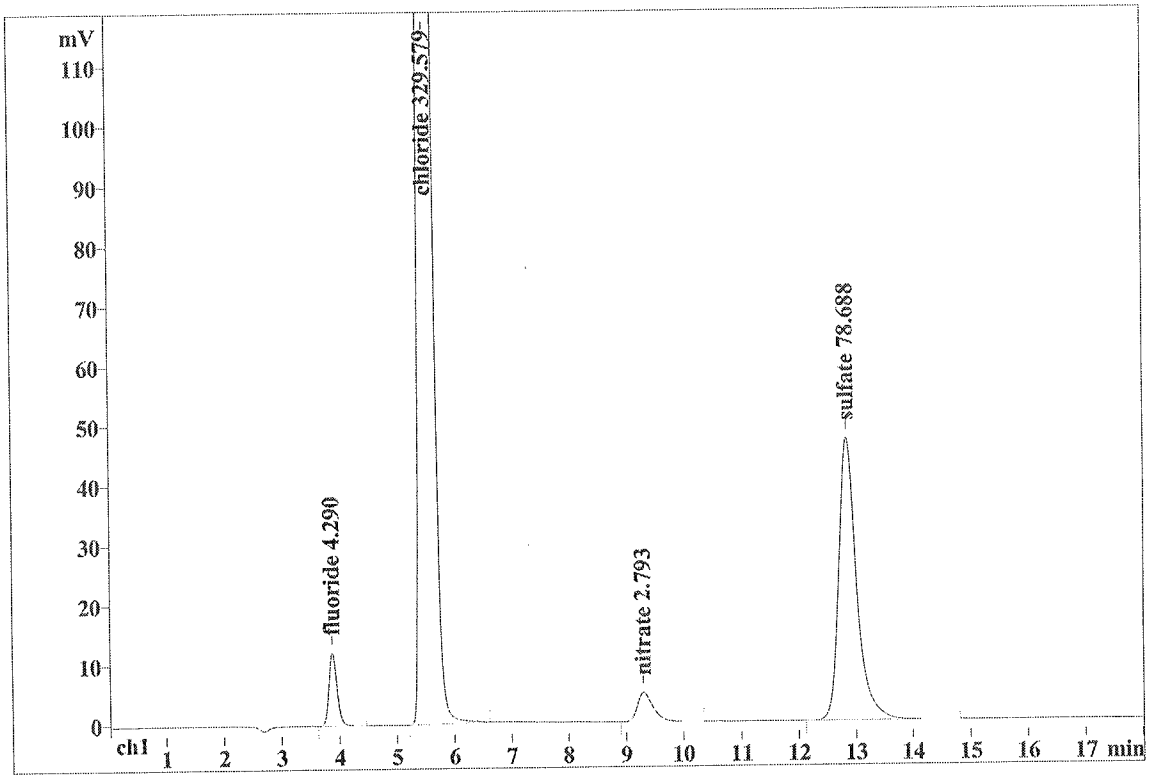
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:15:30 PM
Printed by: CSando

Ident: AL24-12 L226-09J DF=10
Analysis from: 12/20/2022 1:48:44 PM
File: _2022-12-20_13-48.chw Last save: 12/20/2022 2:06:44 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115600

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml
Vial number: 12
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	12.27	118.743	4.290	fluoride
2	5.52	530.52	5981.538	329.579	chloride
3	9.30	4.95	93.672	2.793	nitrate
4	12.85	47.28	1024.726	78.688	sulfate
4	18.00	595.02	7218.678	415.350	

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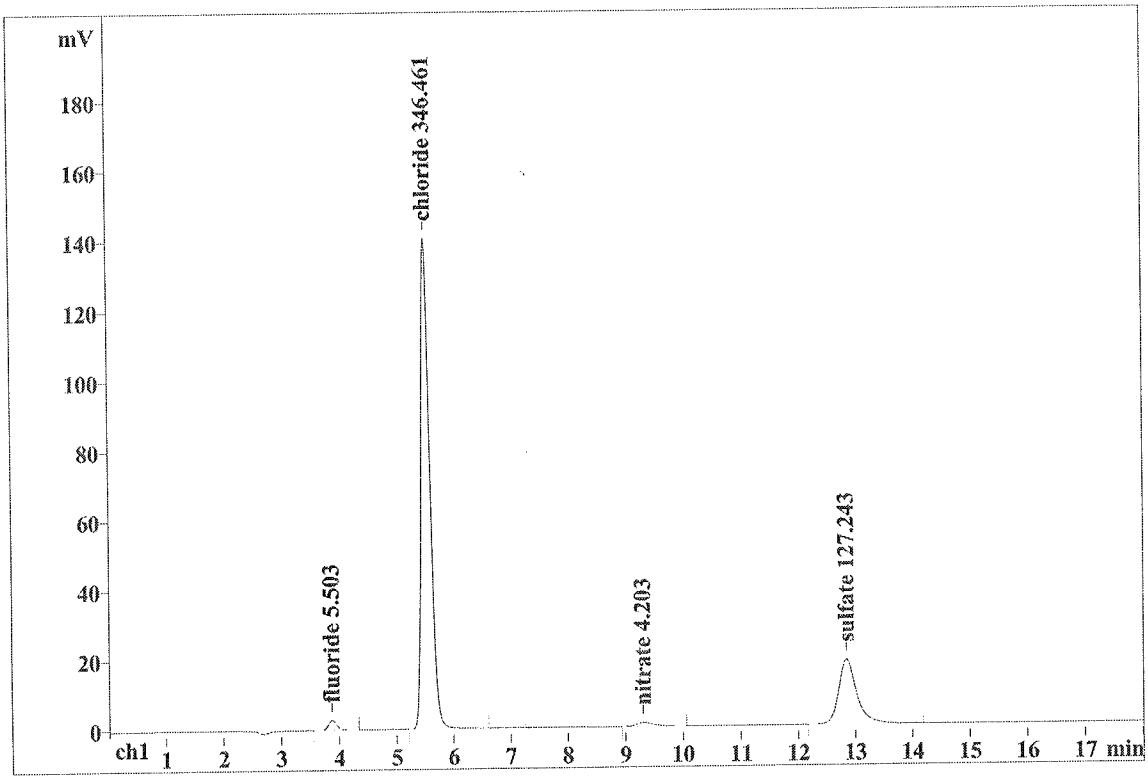
METROHM LTD

Report date: 12/21/2022 3:16:30 PM
Printed by: CSando

Ident: AL24-15 L226-09K DF=40
Analysis from: 12/20/2022 2:49:44 PM
File: _2022-12-20_14-49.chw Last save: 12/20/2022 3:07:45 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115603

SAMPLE: METHOD 300/9056/4110B
: 1ml/40ml
Vial number: 15
Volume: 1.0 µL
Dilution: 40.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	2.84	28.487	5.503	fluoride
2	5.52	140.60	1558.652	346.461	chloride
3	9.31	1.11	21.398	4.203	nitrate
4	12.85	18.58	405.978	127.243	sulfate
4	18.00	163.13	2014.514	483.410	

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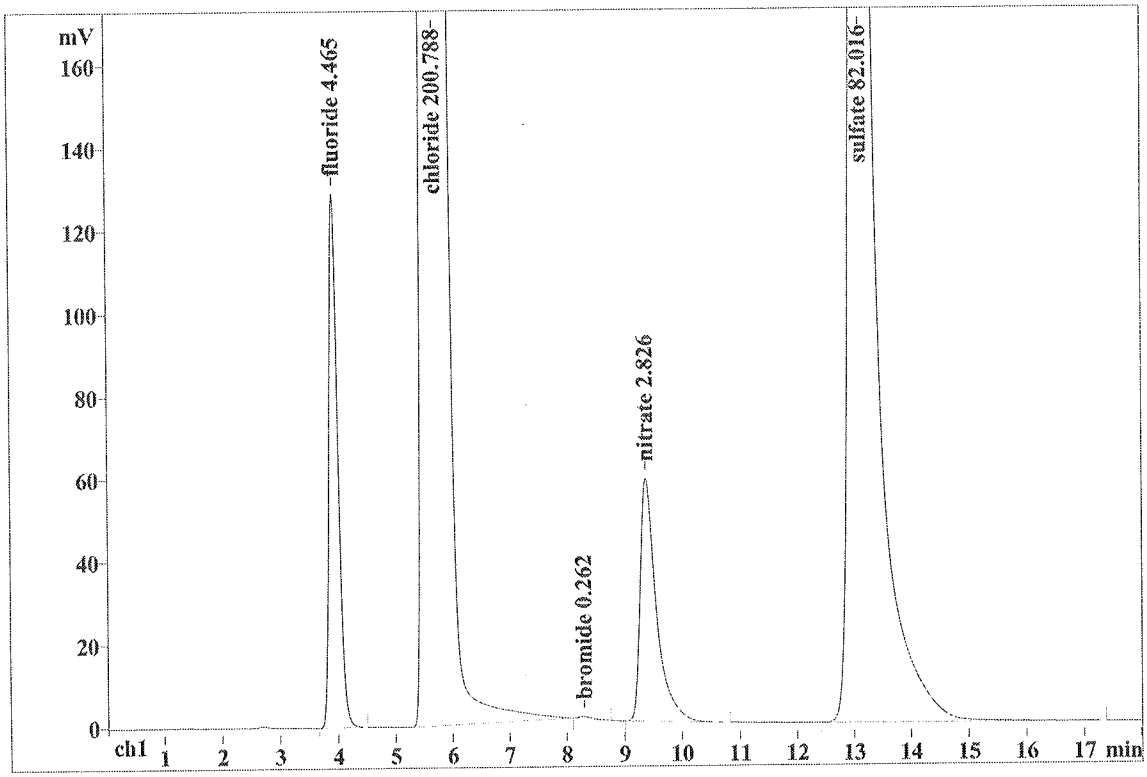
METROHM LTD

Report date: 12/16/2022 9:46:40 AM
Printed by: VDuran

Ident: AL18-19 L226-10
Analysis from: 12/15/2022 3:22:11 PM
File: _2022-12-15_15-22.chw Last save: 12/15/2022 3:51:00 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115509

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 19
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	129.06	1368.919	4.465	fluoride
2	5.70	1744.52	36533.213	200.788	chloride
3	8.30	0.50	7.369	0.262	bromide
4	9.38	58.63	1149.837	2.826	nitrate
5	13.12	436.19	10811.693	82.016	sulfate
5	18.00	2368.91	49871.031	290.358	

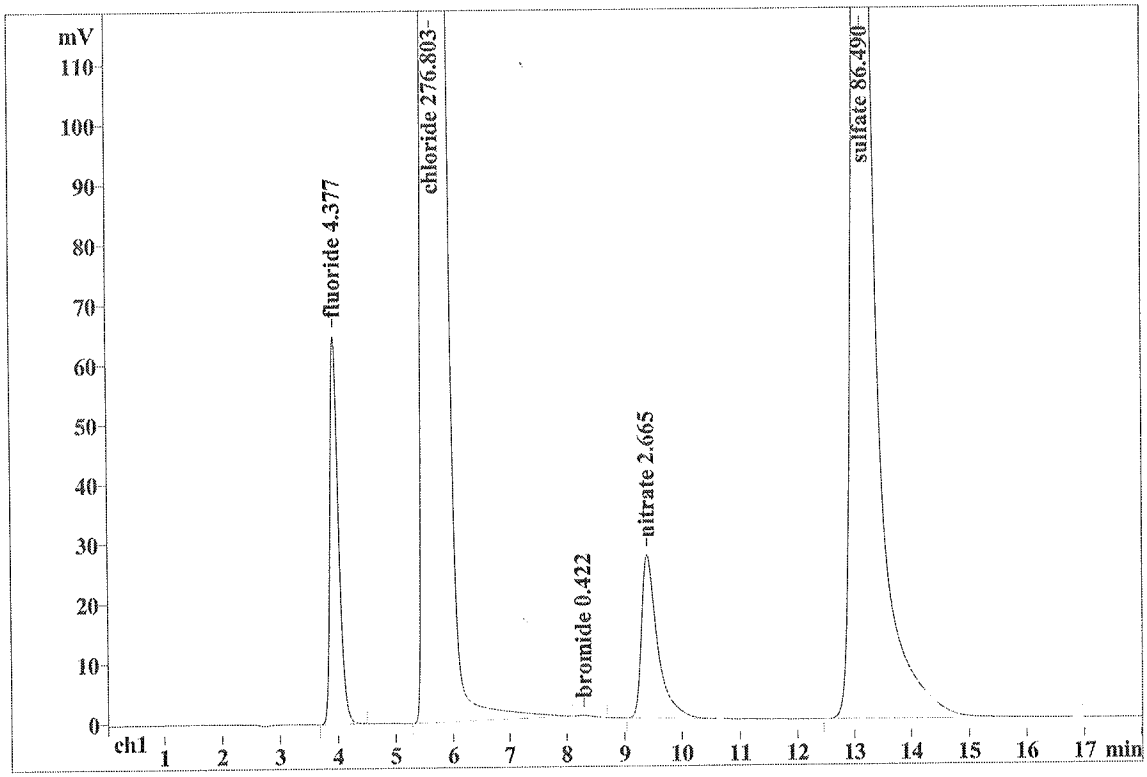
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:52:38 AM
Printed by: VDuran

Ident: AL18-35 L226-10I DF=2
Analysis from: 12/15/2022 8:46:15 PM
File: _2022-12-15_20-46.chw Last save: 12/15/2022 9:04:15 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115525

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 35
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.95	65.01	663.801	4.377	fluoride
2	5.65	1608.25	25176.330	276.803	chloride
3	8.30	0.23	3.403	0.422	bromide
4	9.40	27.21	530.409	2.665	nitrate
5	13.15	238.53	5694.169	86.490	sulfate
5	18.00	1939.24	32068.112	370.757	

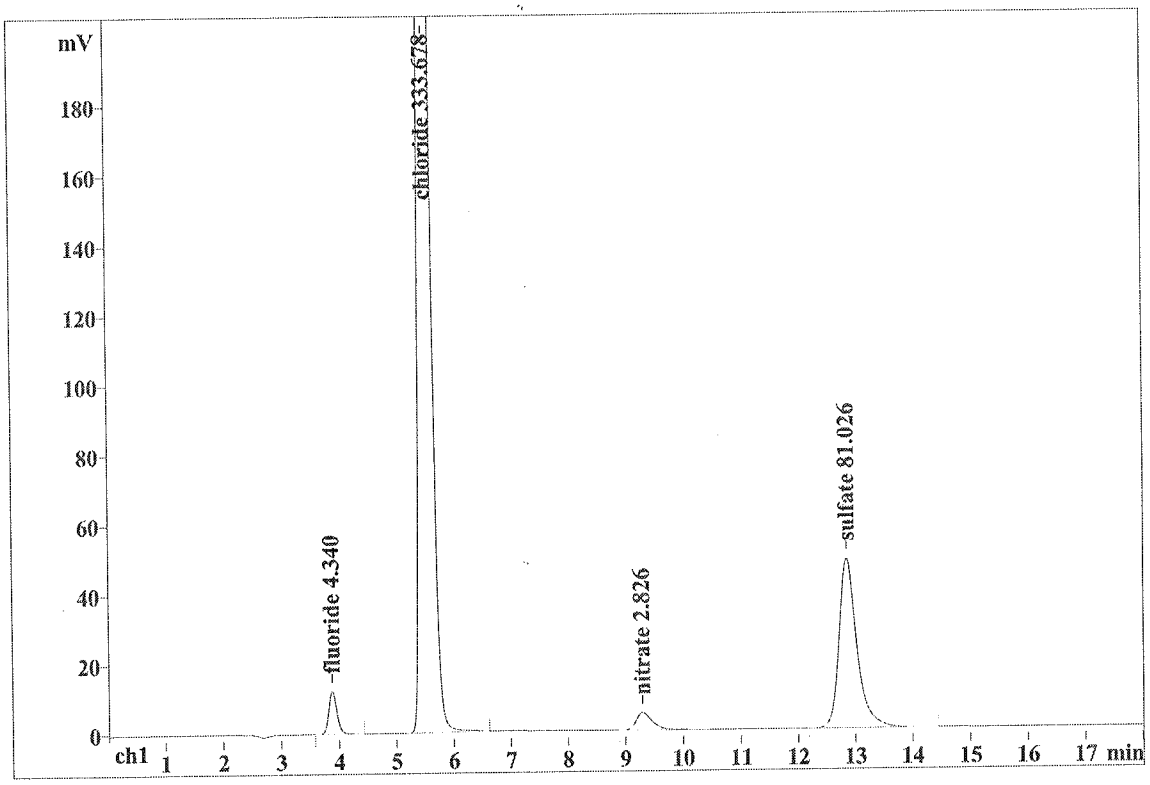
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:17:31 PM
Printed by: CSando

Ident: AL24-18 L226-10J DF=10
Analysis from: 12/20/2022 3:50:29 PM
File: _2022-12-20_15-50.chw Last save: 12/20/2022 4:08:29 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115606

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml
Vial number: 18
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	12.42	120.305	4.340	fluoride
2	5.52	536.33	6056.161	333.678	chloride
3	9.29	5.02	95.026	2.826	nitrate
4	12.86	48.70	1055.590	81.026	sulfate
4	18.00	602.47	7327.081	421.871	

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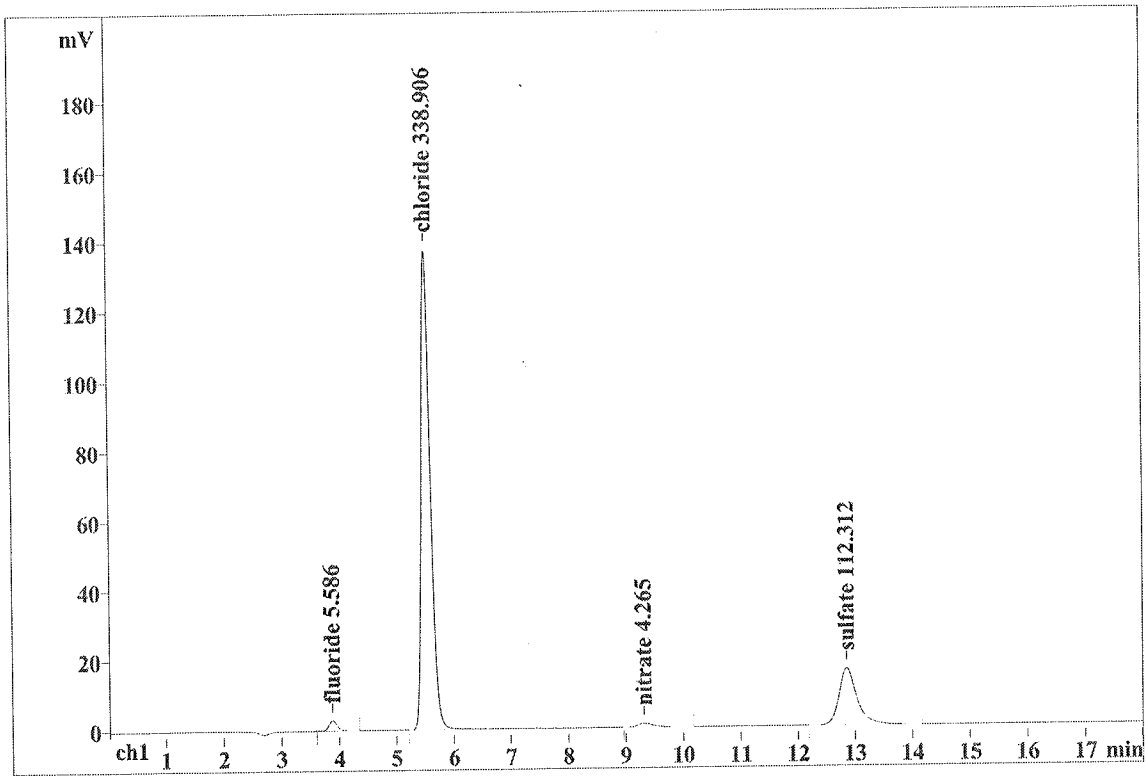
Report date: 12/21/2022 3:17:38 PM
Printed by: CSando

Ident: AL24-19 L226-10K DF=40
Analysis from: 12/20/2022 4:10:44 PM
File: _2022-12-20_16-10.chw Last save: 12/20/2022 4:28:44 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115607

SAMPLE: METHOD 300/9056/4110B
: 1ml/40ml
Vial number: 19
Volume: 1.0 µL
Dilution: 40.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	2.92	29.124	5.586	fluoride
2	5.53	137.52	1524.273	338.906	chloride ✓
3	9.32	1.14	22.046	4.265	nitrate
4	12.86	16.27	356.708	112.312	sulfate
4	18.00	157.84	1932.152	461.070	

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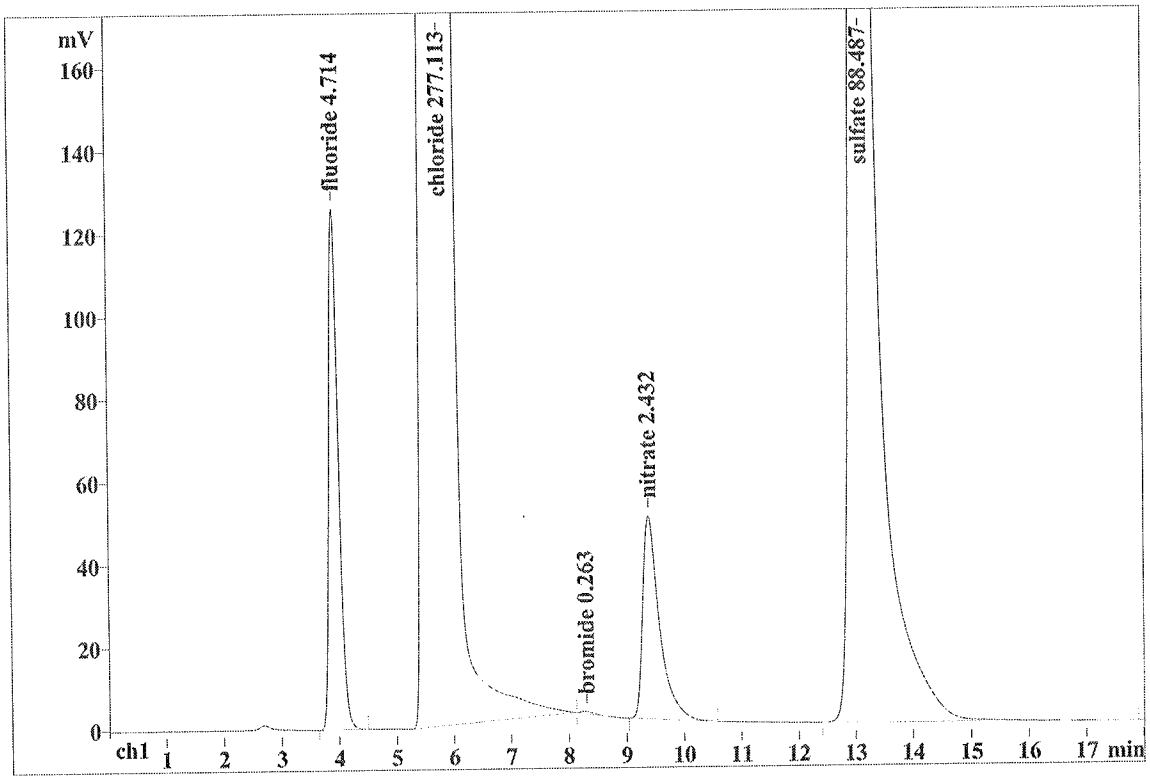
METROHM LTD

Report date: 12/16/2022 9:46:52 AM
Printed by: VDuran

Ident: AL18-20 L226-11
Analysis from: 12/15/2022 3:42:26 PM
File: _2022-12-15_15-42.chw Last save: 12/15/2022 4:00:49 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115510

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 20
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

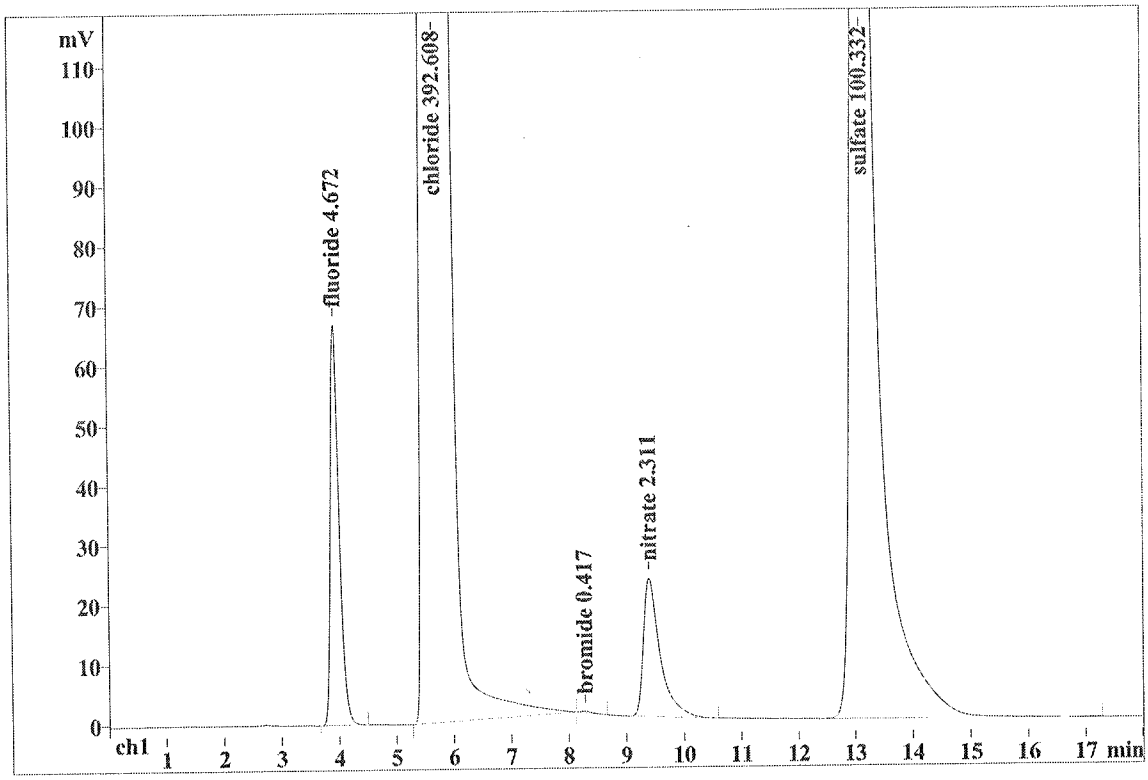
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	126.20	1446.109	4.714	fluoride ✓
2	5.78	1800.49	50427.187	277.113	chloride
3	8.31	0.54	7.427	0.263	bromide
4	9.39	49.30	986.477	2.432	nitrate
5	13.12	462.88	11665.776	88.487	sulfate
5	18.00	2439.40	64532.977	373.009	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:52:44 AM
Printed by: VDuran

Ident: AL18-36 L226-11I DF=2
Analysis from: 12/15/2022 9:06:30 PM
File: _2022-12-15_21-06.chw Last save: 12/15/2022 9:24:31 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115526

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 36
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	66.98	709.470	4.672	fluoride
2	5.70	1733.80	35716.873	392.608	chloride
3	8.30	0.24	3.218	0.417	bromide
4	9.41	23.04	457.040	2.311	nitrate
5	13.14	265.21	6607.643	100.332	sulfate
5	18.00	2089.28	43494.244	500.339	

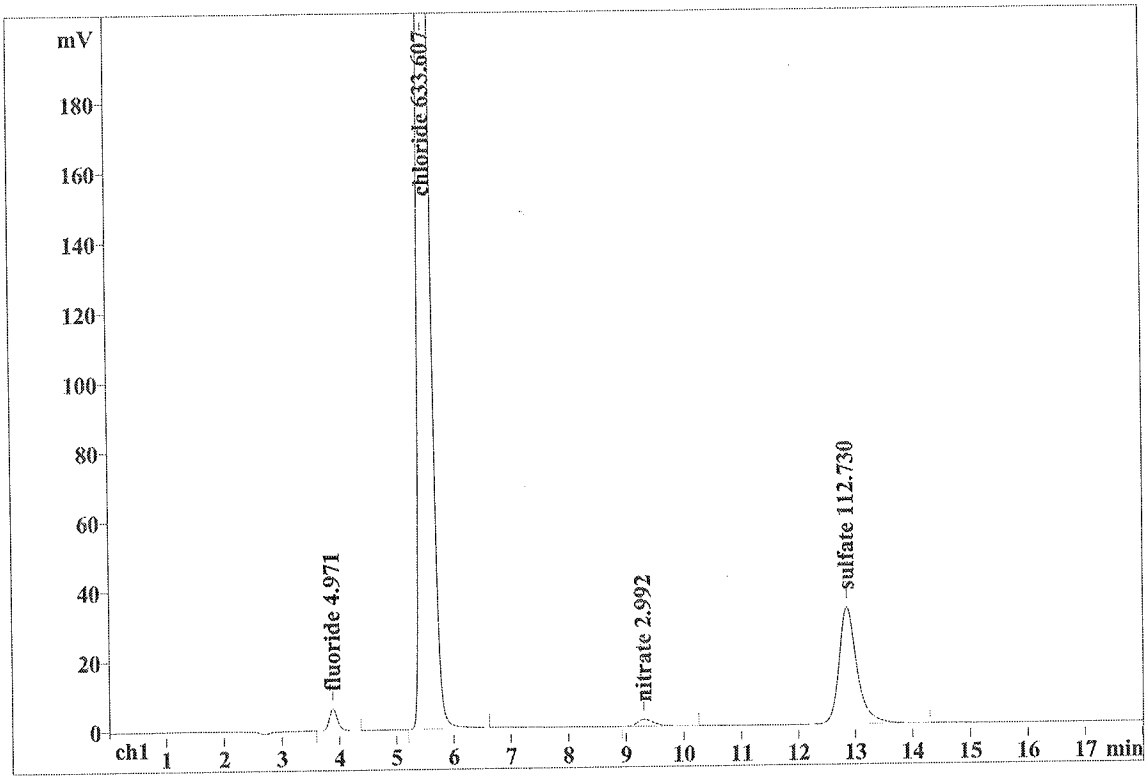
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:18:10 PM
Printed by: CSando

Ident: AL24-20 L226-11J DF=20
Analysis from: 12/20/2022 4:30:59 PM
File: _2022-12-20_16-30.chw Last save: 12/20/2022 4:48:59 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115608

SAMPLE: METHOD 300/9056/4110B
: 1ml/20ml
Vial number: 20
Volume: 1.0 µL
Dilution: 20.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	6.36	62.853	4.971	fluoride
2	5.53	508.24	5748.975	633.607	chloride
3	9.31	2.07	39.875	2.992	nitrate
4	12.86	33.59	730.076	112.730	sulfate ✓
4	18.00	550.26	6581.779	754.300	

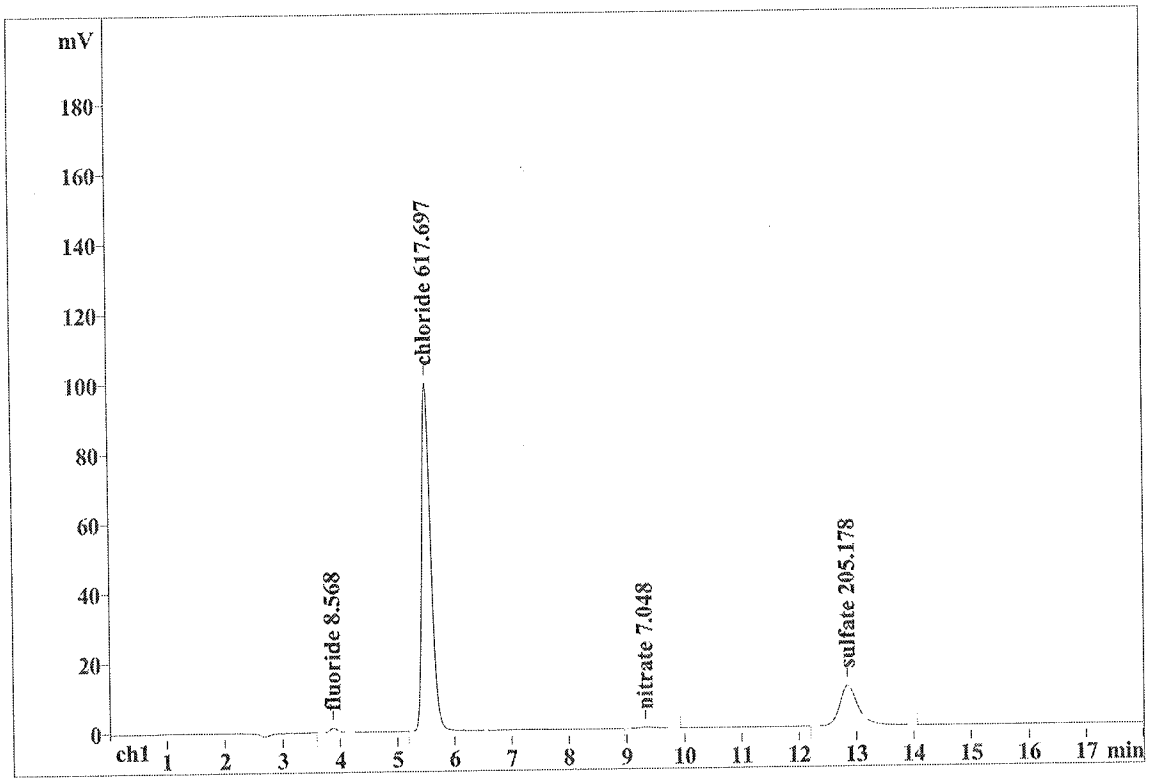
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:18:15 PM
Printed by: CSando

Ident: AL24-21 L226-11K DF=100
Analysis from: 12/20/2022 4:51:13 PM
File: _2022-12-20_16-51.chw Last save: 12/20/2022 5:09:13 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115609

SAMPLE: METHOD 300/9056/4110B
: 0.2ml/20ml
Vial number: 21
Volume: 1.0 µL
Dilution: 100.00
Amount: 1.0000



Quantitation method: Custom

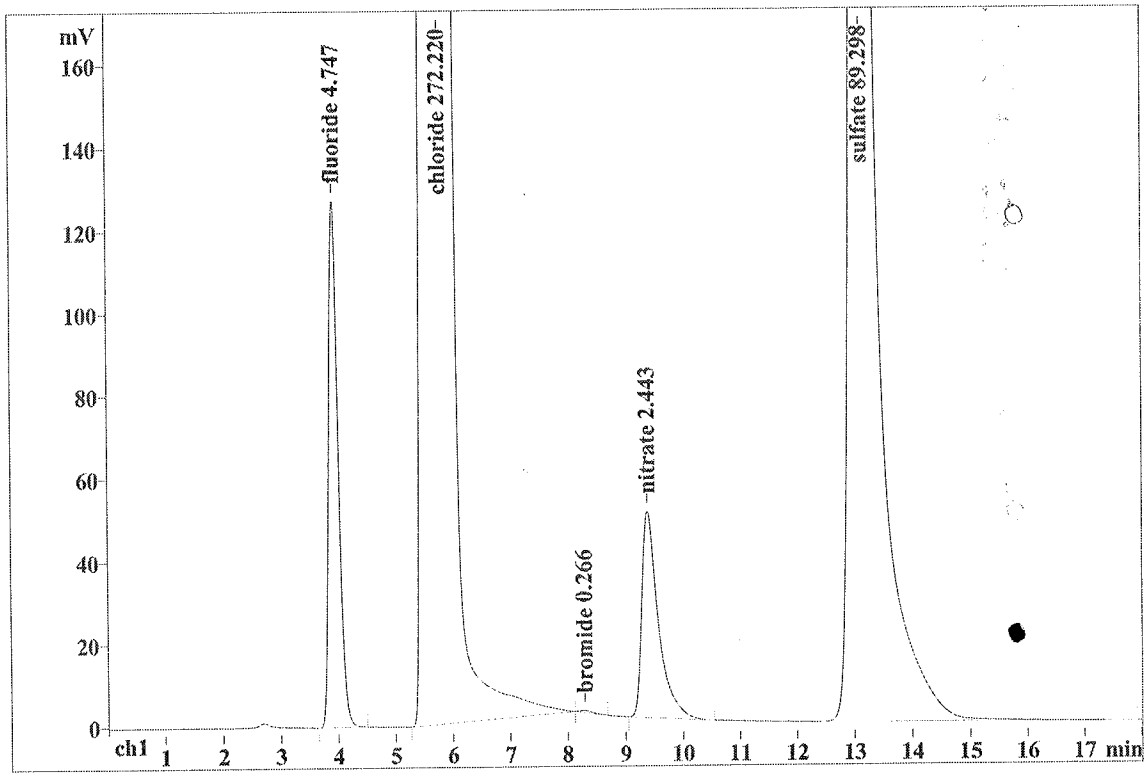
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	1.22	12.409	8.568	fluoride
2	5.52	99.82	1106.368	617.697	chloride✓
3	9.32	0.36	7.053	7.048	nitrate
4	12.85	11.59	256.918	205.178	sulfate
4	18.00	112.99	1382.748	838.491	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:47:03 AM
Printed by: VDuran

Ident: AL18-21 L226-12
Analysis from: 12/15/2022 4:02:44 PM
File: _2022-12-15_16-02.chw Last save: 12/15/2022 4:20:44 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115511

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 21
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

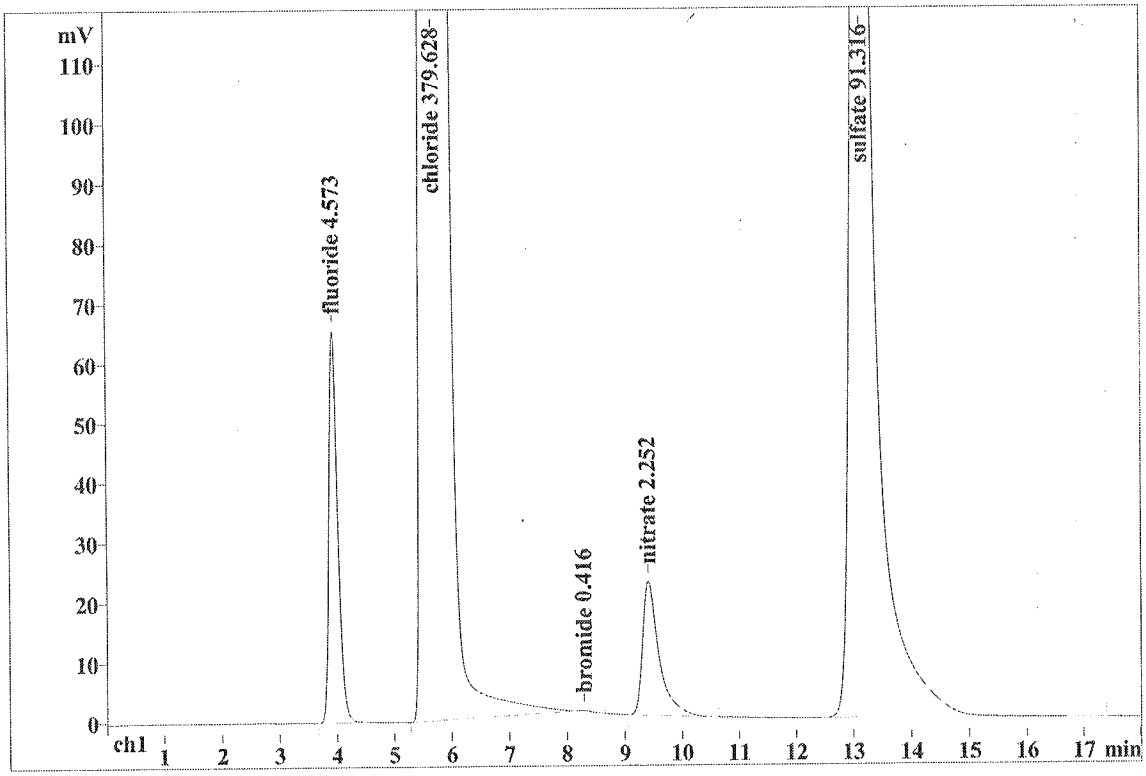
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	127.55	1456.463	4.747	fluoride
2	5.78	1797.22	49536.545	272.220	chloride
3	8.31	0.55	7.648	0.266	bromide
4	9.39	50.02	990.843	2.443	nitrate
5	13.12	472.84	11772.853	89.298	sulfate
5	18.00	2448.18	63764.353	368.974	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:53:13 AM
Printed by: VDuran

Ident: AL18-39 L226-12I DF=2
Analysis from: 12/15/2022 10:07:15 PM
File: _2022-12-15_22-07.chw Last save: 12/15/2022 10:25:16 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115529

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 39
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	65.51	694.121	4.573	fluoride
2	5.70	1725.91	34535.418	379.628	chloride
3	8.30	0.24	3.177	0.416	bromide
4	9.41	22.39	444.802	2.252	nitrate
5	13.14	243.85	6012.638	91.316	sulfate
5	18.00	2057.90	41690.156	478.184	

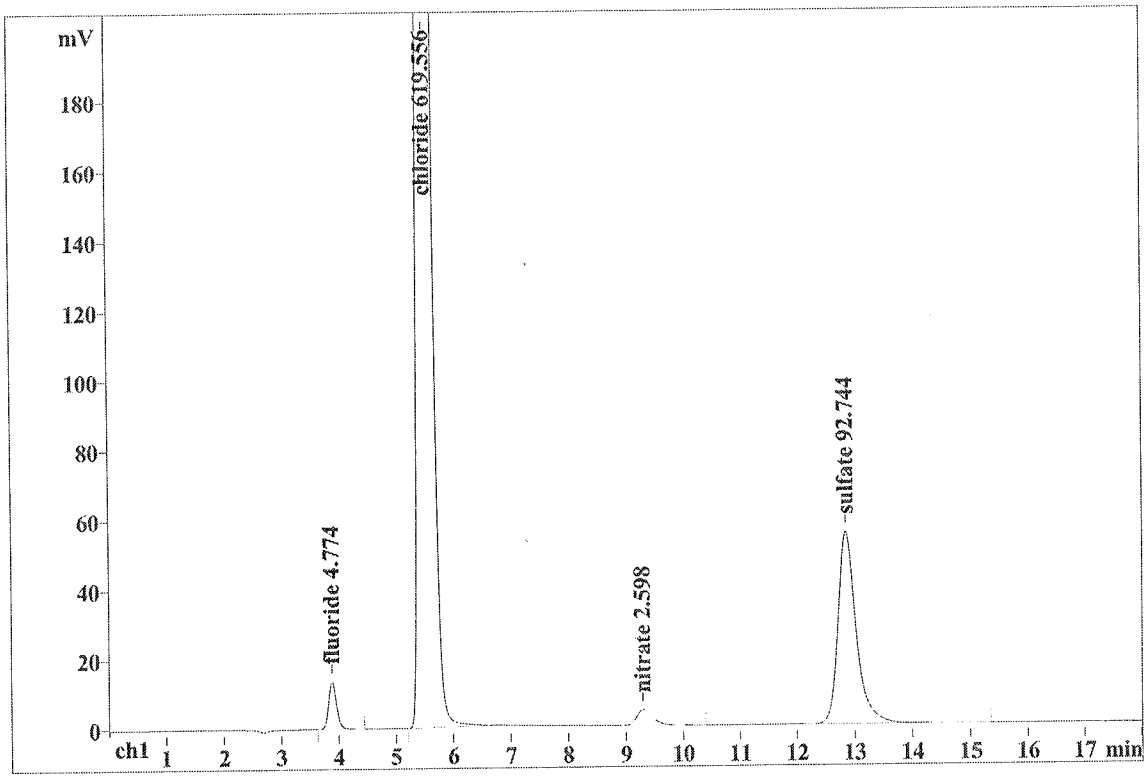
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:18:39 PM
Printed by: CSando

Ident: AL24-22 L226-12J DF=10
Analysis from: 12/20/2022 5:11:28 PM
File: _2022-12-20_17-11.chw Last save: 12/20/2022 5:29:28 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115610

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml
Vial number: 22
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	13.82	133.744	4.774	fluoride
2	5.52	987.72	11260.243	619.556	chloride
3	9.29	4.51	85.568	2.598	nitrate
4	12.86	55.25	1210.253	92.744	sulfate
4	18.00	1061.29	12689.808	719.672	

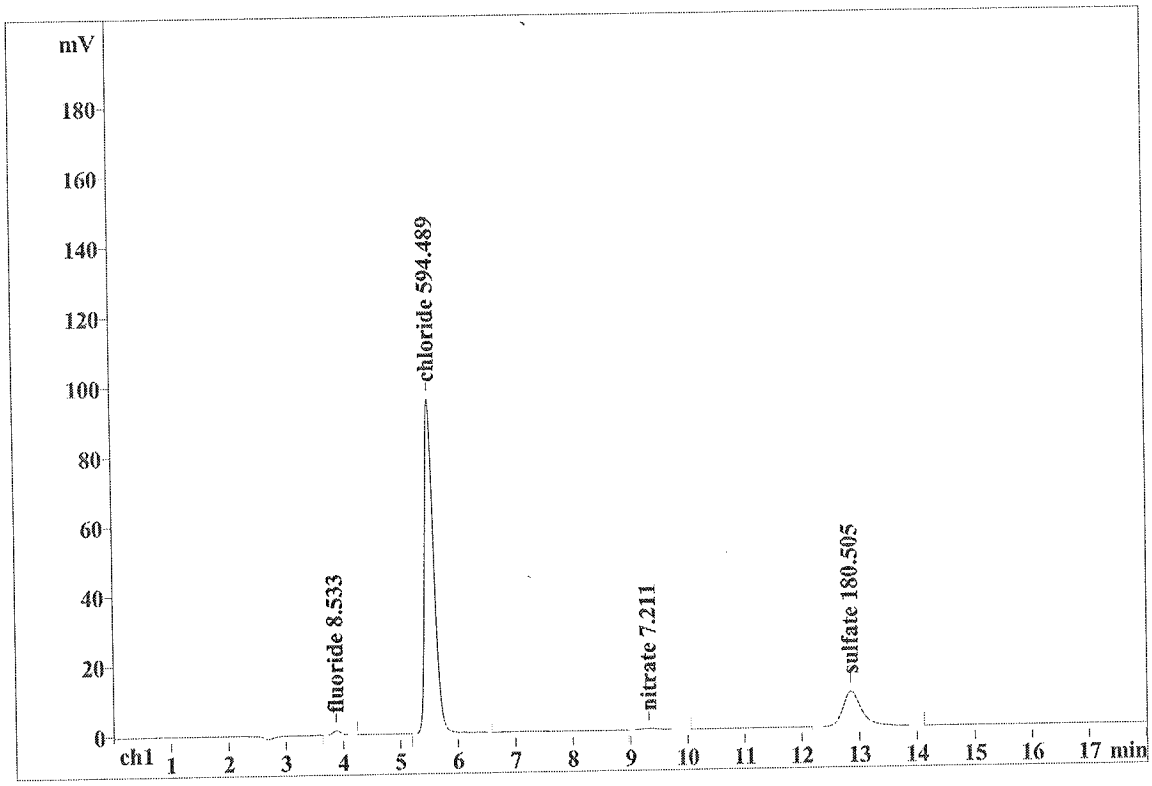
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:18:44 PM
Printed by: CSando

Ident: AL24-23 L226-12K DF=100
Analysis from: 12/20/2022 5:31:43 PM
File: _2022-12-20_17-31.chw Last save: 12/20/2022 5:49:43 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115611

SAMPLE: METHOD 300/9056/4110B
: 0.2ml.20ml
Vial number: 23
Volume: 1.0 µL
Dilution: 100.00
Amount: 1.0000



Quantitation method: Custom

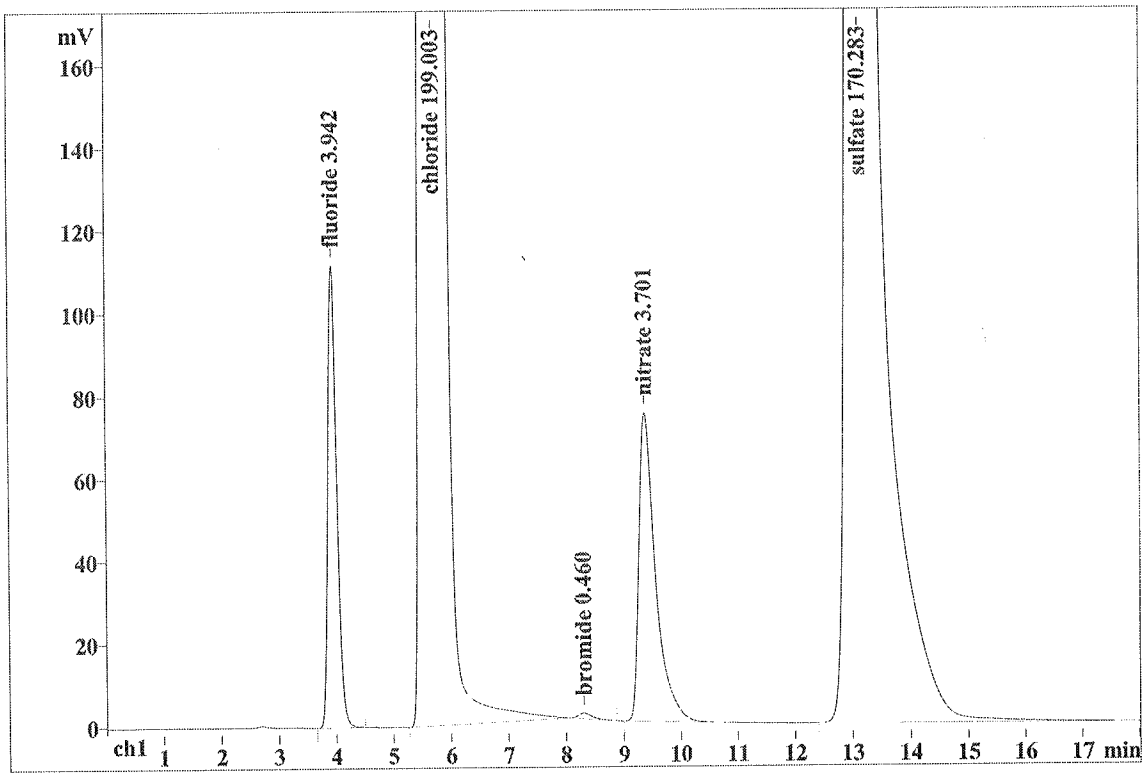
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	1.22	12.301	8.533	fluoride
2	5.53	95.80	1064.121	594.489	chloride
3	9.32	0.39	7.730	7.211	nitrate
4	12.86	10.05	224.351	180.505	sulfate
4	18.00	107.46	1308.503	790.739	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:47:27 AM
Printed by: VDuran

Ident: AL18-22 L226-13
Analysis from: 12/15/2022 4:23:00 PM
File: _2022-12-15_16-23.chw Last save: 12/15/2022 4:41:00 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115512

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 22
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	111.82	1206.852	3.942	fluoride
2	5.70	1740.31	36208.292	199.003	chloride
3	8.31	1.39	22.571	0.460	bromide
4	9.38	74.79	1512.516	3.701	nitrate
5	13.11	869.23	22462.246	170.283	sulfate
5	18.00	2797.54	61412.478	377.389	

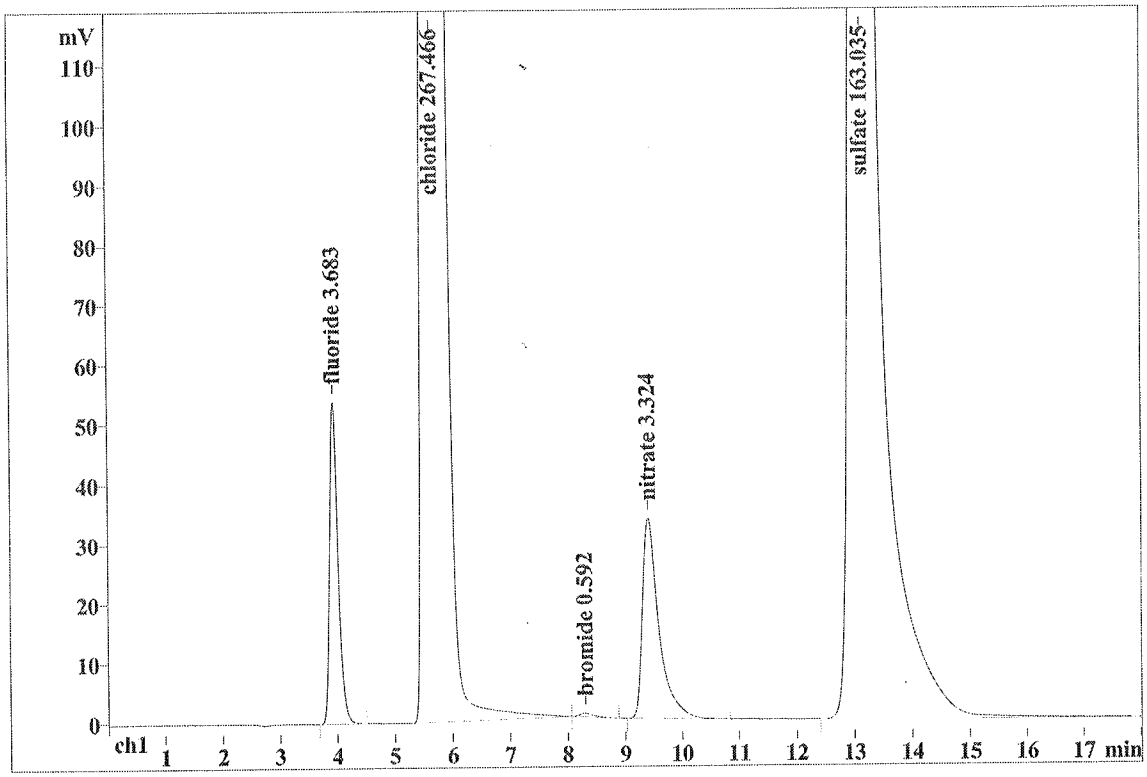
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:53:21 AM
Printed by: VDuran

Ident: AL18-40 L226-13I DF=2
Analysis from: 12/15/2022 10:27:30 PM
File: _2022-12-15_22-27.chw Last save: 12/15/2022 10:45:30 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115530

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 40
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	53.94	556.326	3.683	fluoride
2	5.65	1583.93	24326.484	267.466	chloride
3	8.30	0.61	9.960	0.592	bromide
4	9.41	33.67	667.149	3.324	nitrate
5	13.13	428.97	10745.809	163.035	sulfate
5	18.00	2101.12	36305.728	438.100	

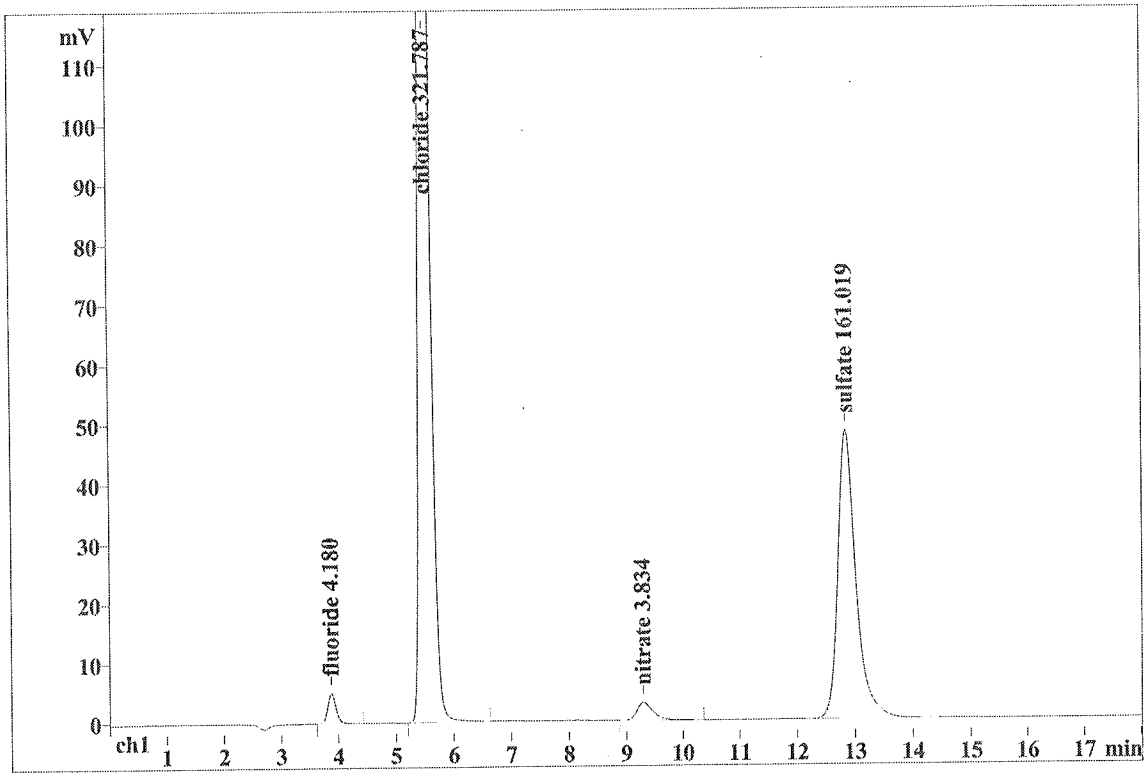
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:19:33 PM
Printed by: CSando

Ident: AL24-24 L226-13J DF=20
Analysis from: 12/20/2022 5:51:58 PM
File: _2022-12-20_17-51.chw Last save: 12/20/2022 6:09:58 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115612

SAMPLE: METHOD 300/9056/4110B
: 1ml/20ml
Vial number: 24
Volume: 1.0 µL
Dilution: 20.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	5.08	50.613	4.180	fluoride
2	5.52	259.08	2910.807	321.787	chloride
3	9.29	2.99	57.334	3.834	nitrate
4	12.85	48.27	1048.765	161.019	sulfate
4	17.99	315.41	4067.519	490.820	

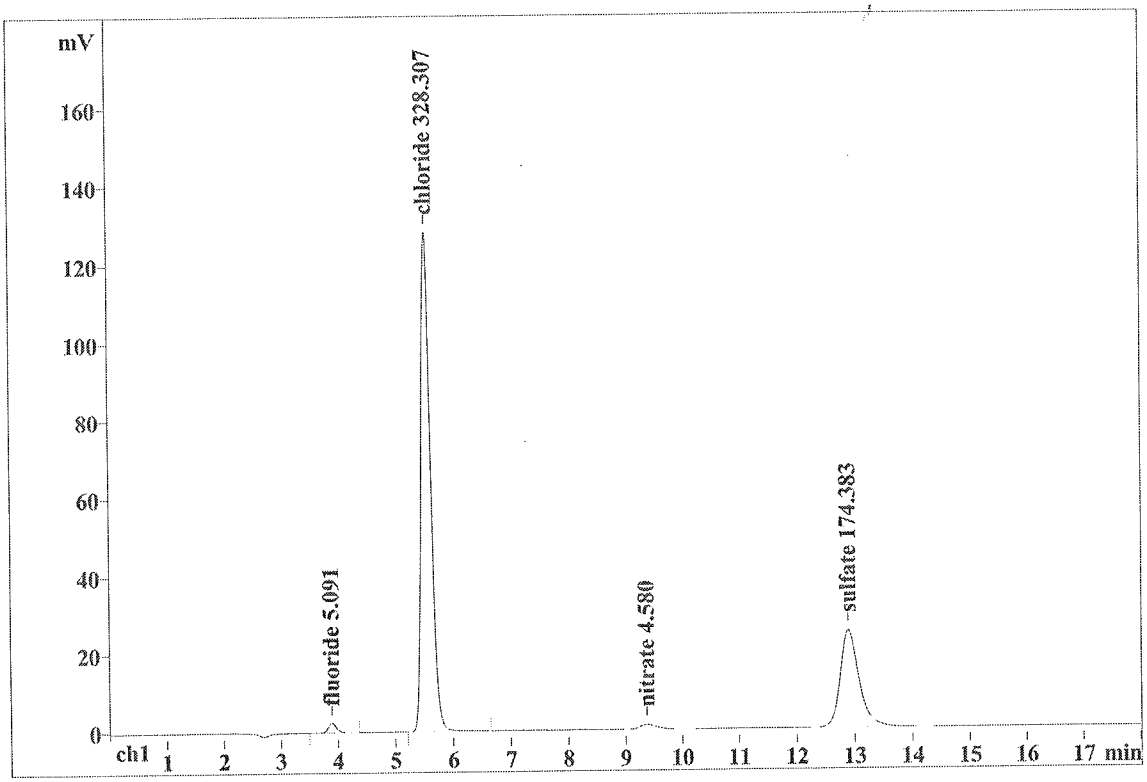
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 8:52:26 AM
Printed by: CSando

Ident: AL26-08 L226-13T DF=40
Analysis from: 12/21/2022 12:17:26 PM
File: _2022-12-21_12-17.chw Last save: 12/21/2022 12:35:26 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115656

SAMPLE: METHOD 300/9056/4110B
: 1ml/40ml
Vial number: 8
Volume: 1.0 µL
Dilution: 40.00
Amount: 1.0000



Quantitation method: Custom

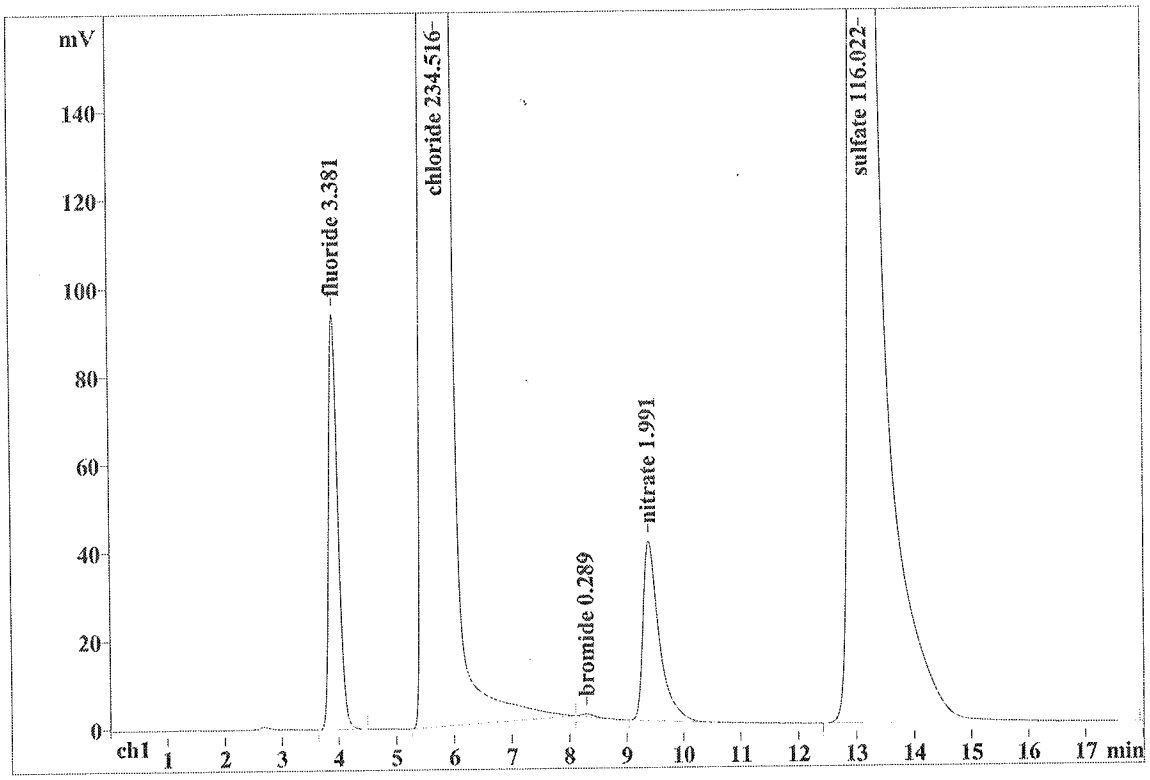
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	2.46	25.291	5.091	fluoride
2	5.55	128.33	1476.036	328.307	chloride ✓
3	9.37	1.24	25.311	4.580	nitrate
4	12.89	25.08	561.532	174.383	sulfate
4	18.00	157.11	2088.170	512.361	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:47:46 AM
Printed by: VDuran

Ident: AL18-23 L226-14
Analysis from: 12/15/2022 4:43:14 PM
File: _2022-12-15_16-43.chw Last save: 12/15/2022 5:01:14 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115513

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 23
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	94.37	1033.325	3.381	fluoride
2	5.73	1776.50	42672.857	234.516	chloride
3	8.30	0.64	9.388	0.289	bromide
4	9.40	40.71	803.616	1.991	nitrate
5	13.12	605.96	15300.133	116.022	sulfate
5	17.99	2518.18	59819.320	356.198	

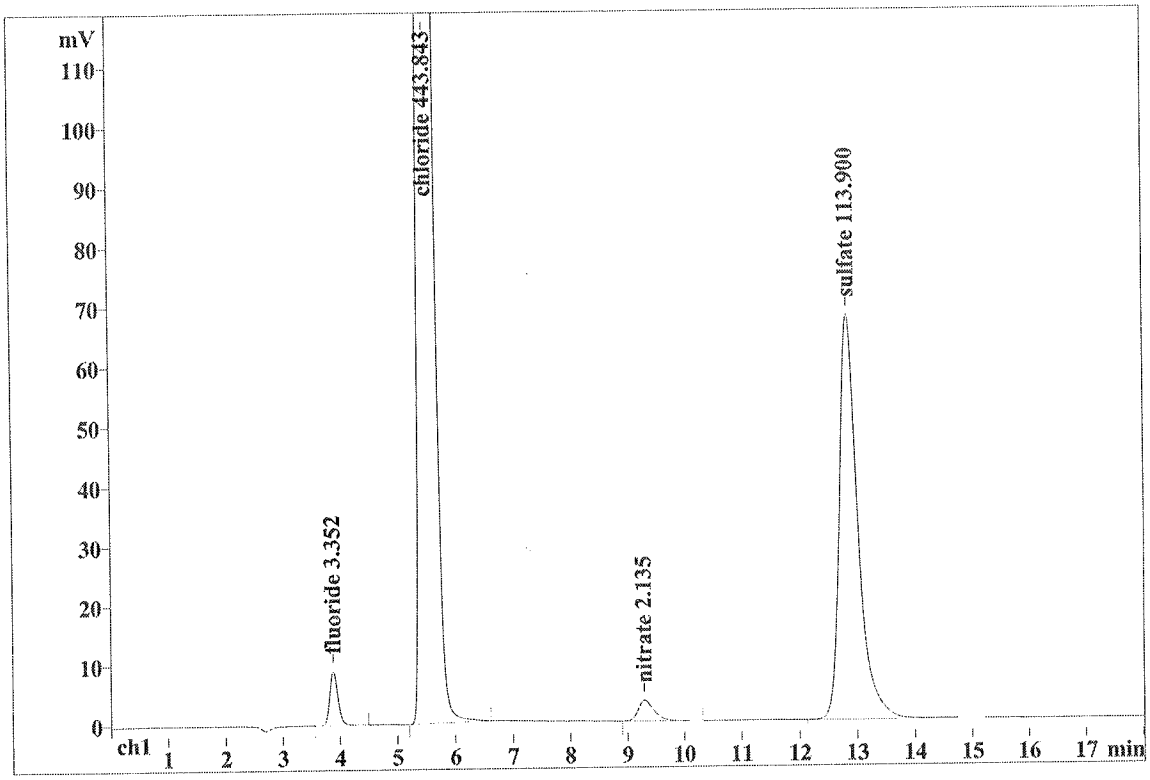
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:19:40 PM
Printed by: CSando

Ident: AL24-28 L226-14J DF=10
Analysis from: 12/20/2022 7:12:59 PM
File: _2022-12-20_19-12.chw Last save: 12/20/2022 7:30:59 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115616

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml
Vial number: 28
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	9.11	89.713	3.352	fluoride
2	5.52	705.79	8061.587	443.843	chloride
3	9.29	3.47	66.350	2.135	nitrate
4	12.86	67.86	1489.504	113.900	sulfate
4	18.00	786.23	9707.154	563.230	

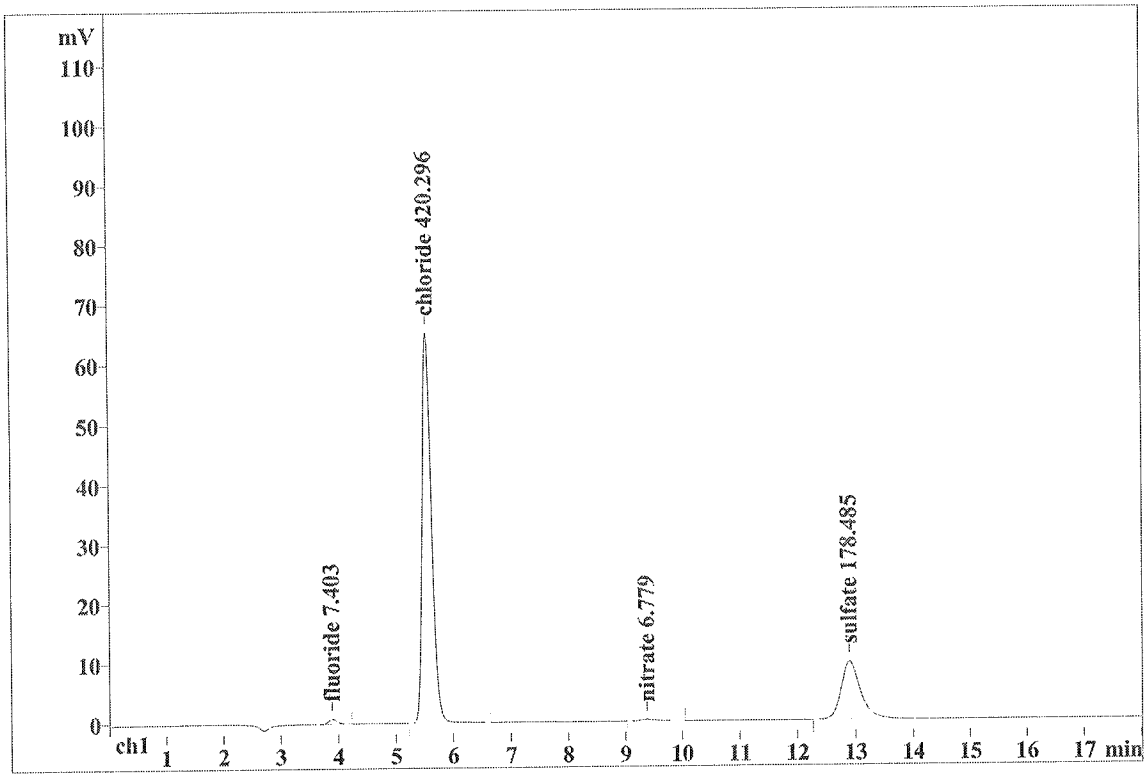
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 8:52:29 AM
Printed by: CSando

Ident: AL26-09 L226-14T DF=100
Analysis from: 12/21/2022 12:37:41 PM
File: _2022-12-21_12-37.chw Last save: 12/21/2022 12:55:41 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115657

SAMPLE: METHOD 300/9056/4110B
: 0.2ml/20ml
Vial number: 9
Volume: 1.0 µL
Dilution: 100.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	0.84	8.798	7.403	fluoride
2	5.55	65.17	747.022	420.296	chloride ✓
3	9.38	0.29	5.941	6.779	nitrate
4	12.90	9.71	221.685	178.485	sulfate
4	18.00	76.01	983.446	612.963	

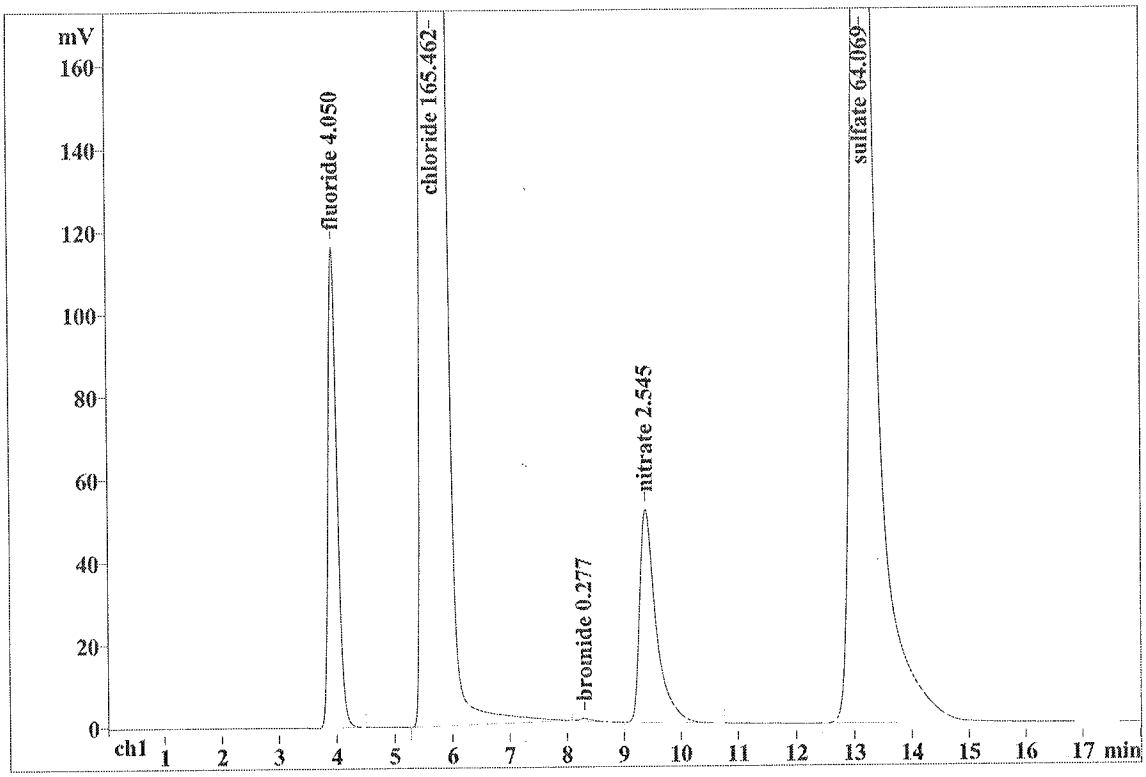
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:48:02 AM
Printed by: VDuran

Ident: AL18-24 L226-15
Analysis from: 12/15/2022 5:03:29 PM
File: _2022-12-15_17-03.chw Last save: 12/15/2022 5:21:30 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115514

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 24
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	116.33	1240.530	4.050	fluoride
2	5.67	1679.17	30102.420	165.462	chloride
3	8.31	0.54	8.456	0.277	bromide
4	9.39	51.65	1033.107	2.545	nitrate
5	13.14	341.45	8442.739	64.069	sulfate
5	18.00	2189.13	40827.252	236.402	

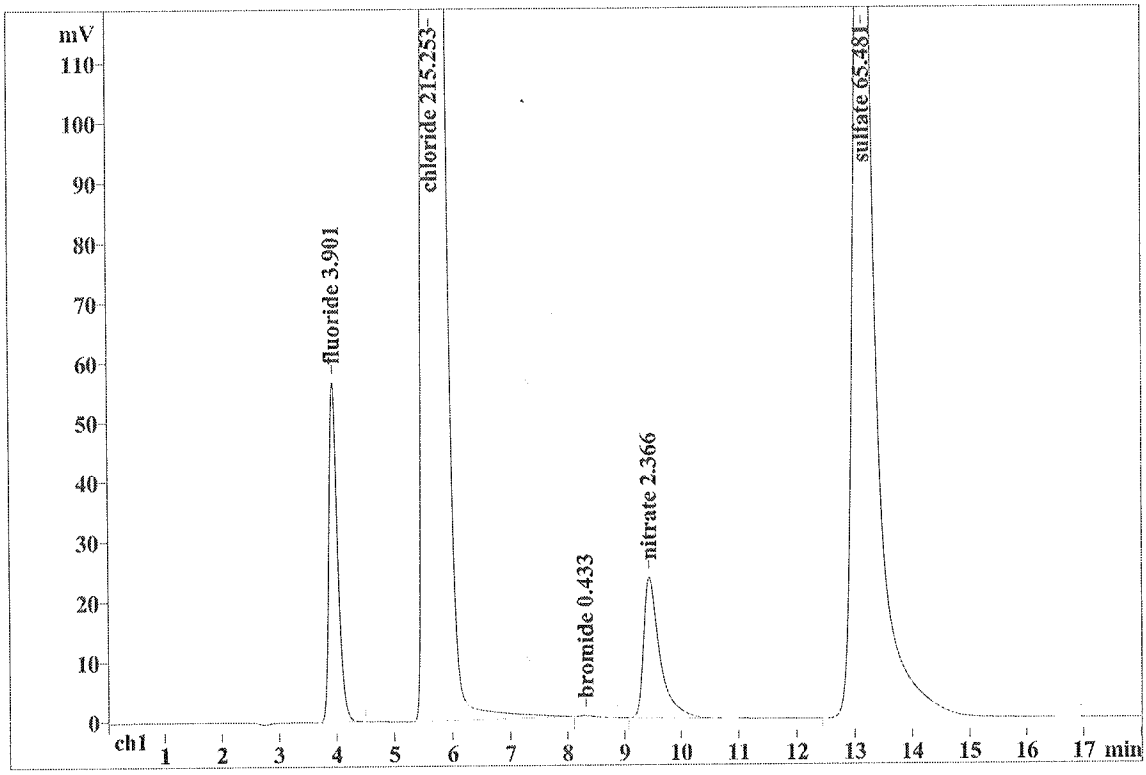
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 9:53:25 AM
Printed by: VDuran

Ident: AL18-42 L226-15I DF=2
Analysis from: 12/15/2022 11:08:00 PM
File: _2022-12-15_23-08.chw Last save: 12/15/2022 11:26:00 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115532

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 42
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.95	56.96	590.041	3.901	fluoride
2	5.64	1443.52	19574.086	215.253	chloride
3	8.32	0.25	3.843	0.433	bromide
4	9.45	23.49	468.372	2.366	nitrate
5	13.15	180.61	4307.601	65.481	sulfate
5	18.00	1704.83	24943.943	287.433	

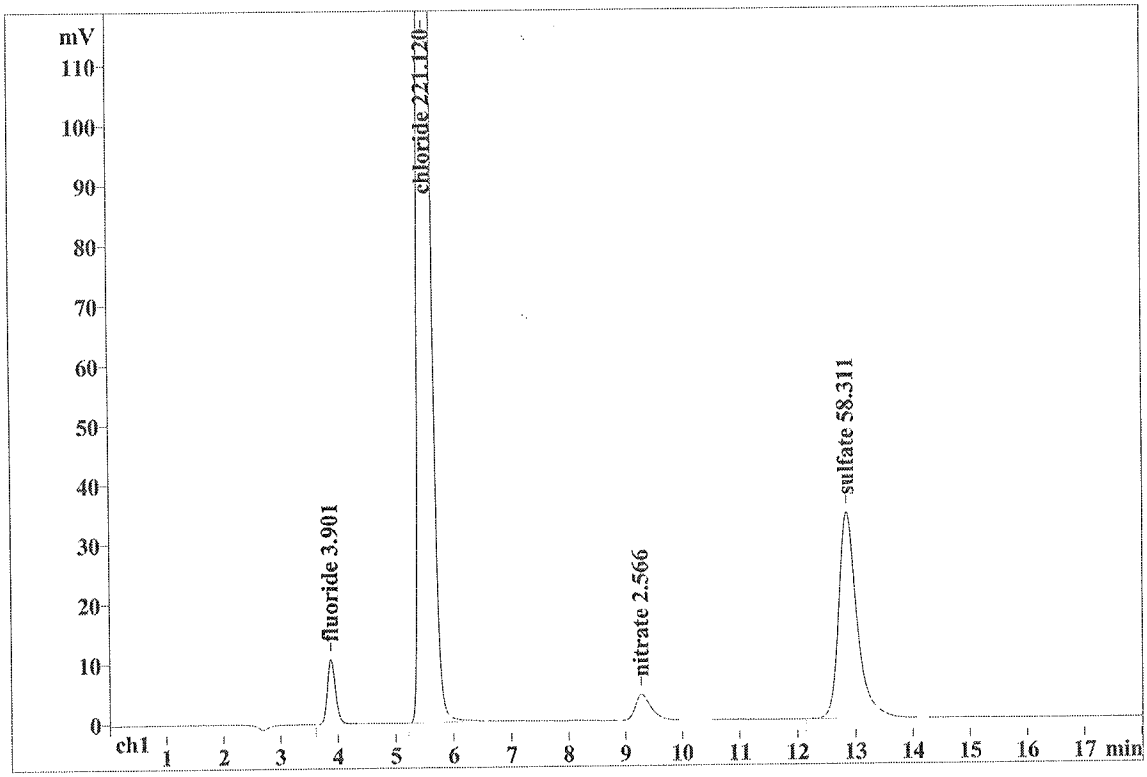
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 3:19:43 PM
Printed by: CSando

Ident: AL24-30 L226-15J DF=10
Analysis from: 12/20/2022 7:53:28 PM
File: _2022-12-20_19-53.chw Last save: 12/20/2022 8:11:29 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115618

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml
Vial number: 30
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	10.86	106.720	3.901	fluoride
2	5.52	353.31	4007.171	221.120	chloride
3	9.28	4.39	84.256	2.566	nitrate
4	12.85	34.52	755.765	58.311	sulfate
4	18.00	403.08	4953.911	285.899	

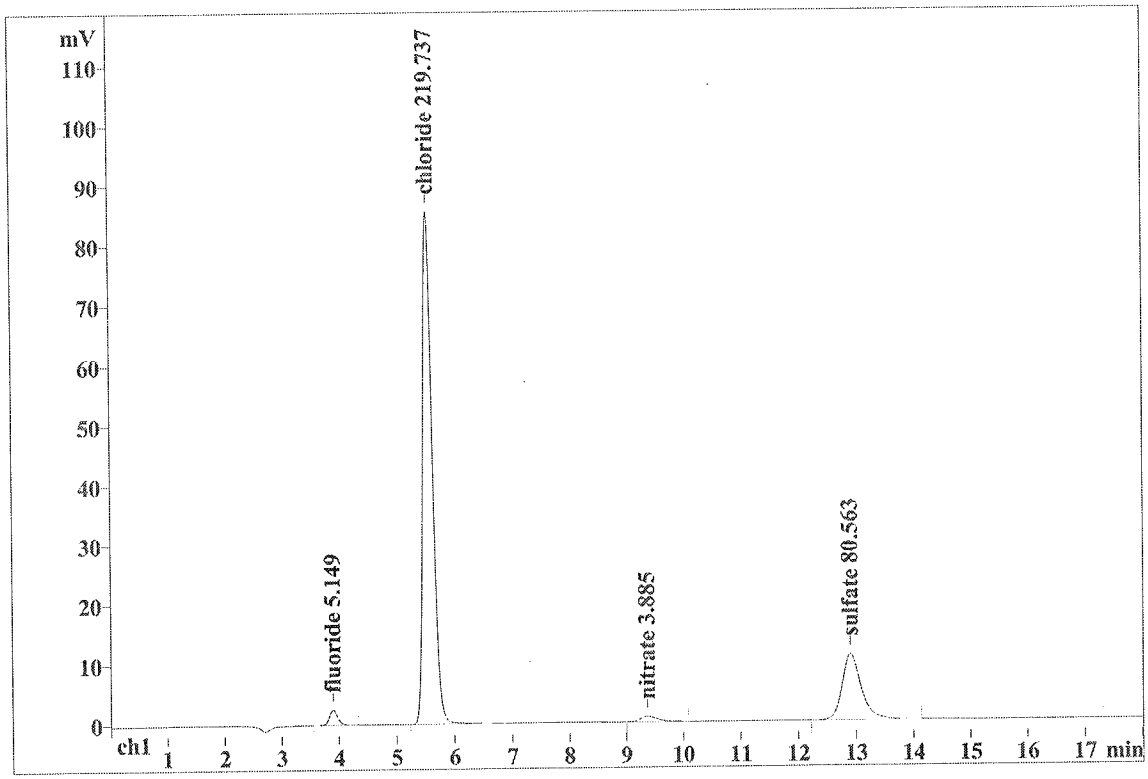
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 8:52:33 AM
Printed by: CSando

Ident: AL26-10 L226-15T DF=40
Analysis from: 12/21/2022 12:57:55 PM
File: _2022-12-21_12-57.chw Last save: 12/21/2022 1:15:55 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115658

SAMPLE: METHOD 300/9056/4110B
: 1ml/40ml
Vial number: 10
Volume: 1.0 µL
Dilution: 40.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.90	2.53	25.745	5.149	fluoride
2	5.55	85.65	981.937	219.737	chloride ✓
3	9.37	0.89	18.107	3.885	nitrate
4	12.90	11.05	251.940	80.563	sulfate
4	18.00	100.11	1277.729	309.334	

This report has been created by IC Net
METROHM LTD

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E300.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	ICL024WB	ICL024WL	ICL024WC
LAB FILE ID :	AL24-03	AL24-04	AL24-05
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	12/20/2210:43	12/20/2211:03	12/20/2211:24
PREP BATCH :	ICL024W	ICL024W	ICL024W
CALIBRATION REF:	AL24-01	AL24-01	AL24-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride	ND	2	1.93	96	2	2.00	100	4	90-110	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E300.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID :	ICL026WB	ICL026WL	ICL026WC
LAB FILE ID :	AL26-03	AL26-04	AL26-05
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	12/21/2210:36	12/21/2210:56	12/21/2211:16
PREP BATCH :	ICL026W	ICL026W	ICL026W
CALIBRATION REF:	AL26-01	AL26-01	AL26-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride	ND	2	1.91	95	2	1.91	95	0	90-110	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E300.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	ICL018WB	ICL018WL	ICL018WC
LAB FILE ID :	AL18-03	AL18-04	AL18-05
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	12/15/2209:58	12/15/2210:18	12/15/2210:38
PREP BATCH :	ICL018W	ICL018W	ICL018W
CALIBRATION REF:	AL18-01	AL18-01	AL18-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Fluoride	ND	1	0.998	100	1	1.00	100	0	90-110	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E300.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	ICL018WB	ICL018WL	ICL018WC
LAB FILE ID :	AL18-03	AL18-04	AL18-05
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	12/15/2209:58	12/15/2210:18	12/15/2210:38
PREP BATCH :	ICL018W	ICL018W	ICL018W
CALIBRATION REF:	AL18-01	AL18-01	AL18-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE	ND	1	1.01	101	1	1.01	101	0	90-110	20

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : E300.0

MATRIX : WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	ICL024WB	ICL024WL	ICL024WC
LAB FILE ID :	AL24-03	AL24-04	AL24-05
DATE PREPARED :	NA	NA	NA
DATE ANALYZED :	12/20/2210:43	12/20/2211:03	12/20/2211:24
PREP BATCH :	ICL024W	ICL024W	ICL024W
CALIBRATION REF:	AL24-01	AL24-01	AL24-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Sulfate	ND	5	4.82	96	5	4.86	97	1	90-110	20

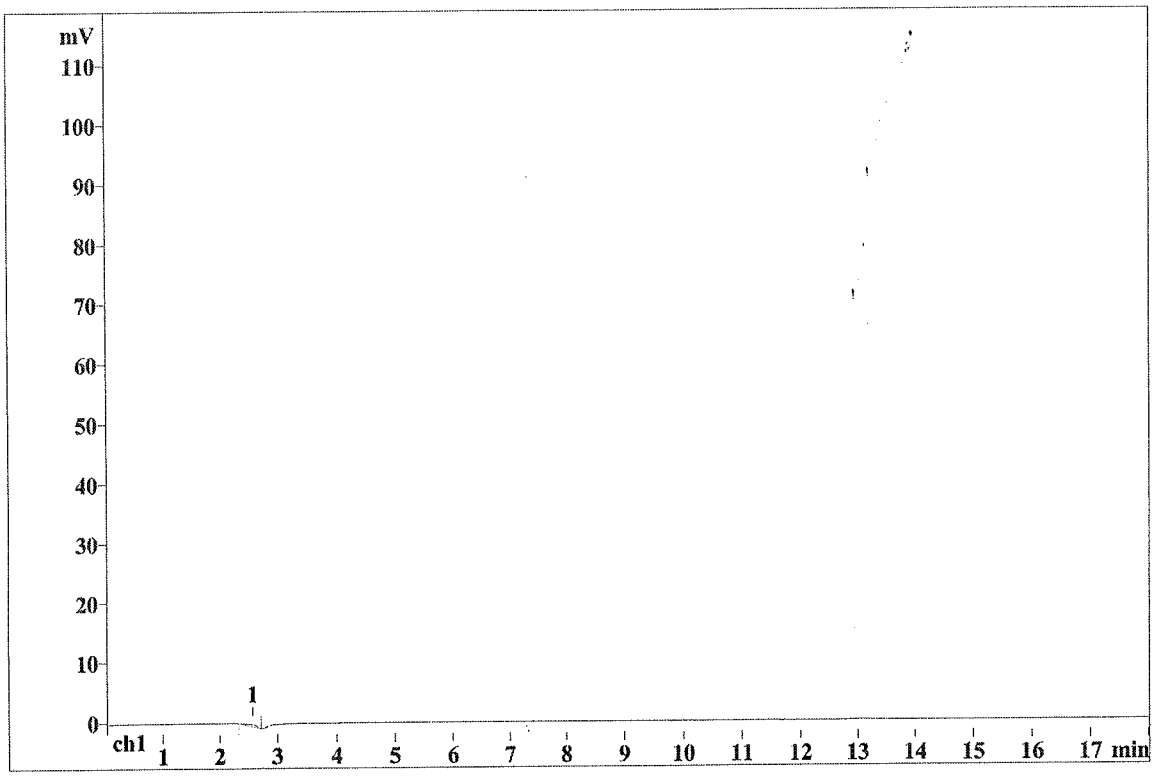
QC DATA

Report date: 12/16/2022 8:21:30 AM
Printed by: VDuran

Ident: AL18-03 ICL018WB
Analysis from: 12/15/2022 9:58:11 AM
File: _2022-12-15_09-58.chw Last save: 12/15/2022 3:21:34 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115493

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 3
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.57	0.36	4.747	0.000	

This report has been created by IC Net
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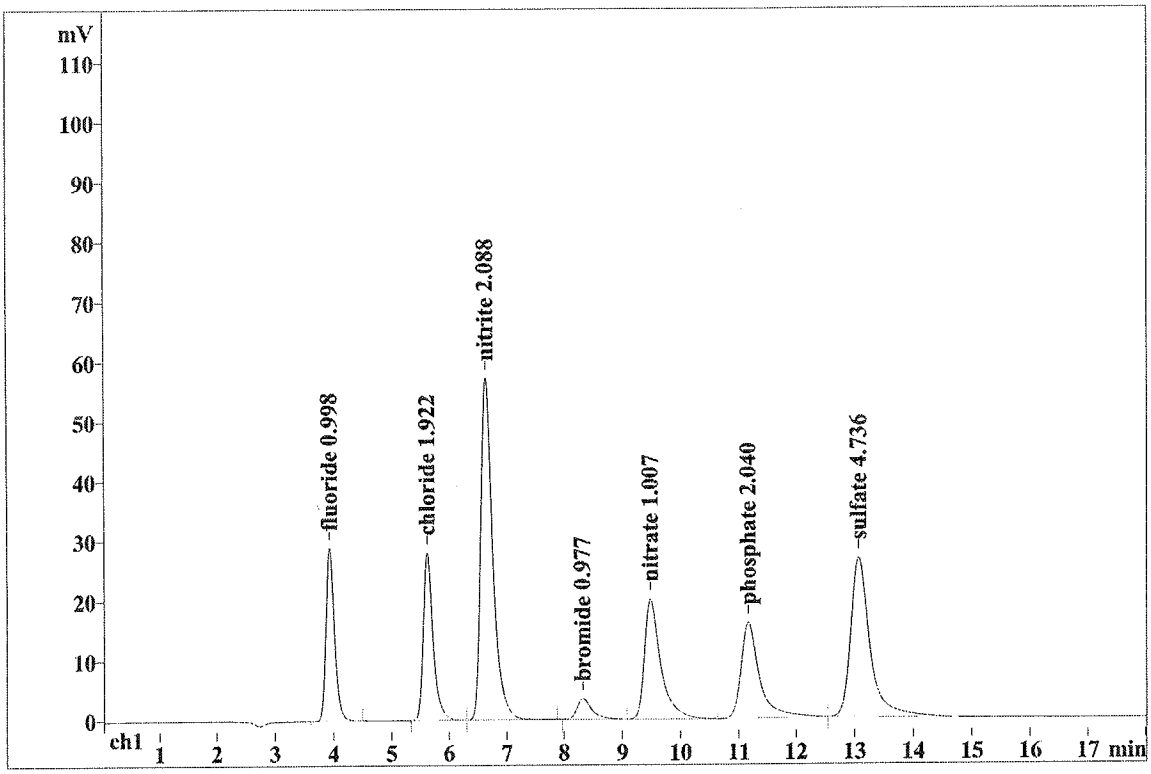
Report date: 12/16/2022 8:21:34 AM
Printed by: VDuran

Ident: AL18-04 ICL018WL
Analysis from: 12/15/2022 10:18:26 AM
File: _2022-12-15_10-18.chw Last save: 12/15/2022 10:36:27 AM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115494

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 4
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	28.89	294.936	0.998	fluoride
2	5.62	28.02	331.715	1.922	chloride
3	6.64	57.26	826.911	2.088	nitrite
4	8.31	3.53	62.303	0.977	bromide
5	9.48	20.12	395.307	1.007	nitrate
6	11.17	16.11	362.187	2.040	phosphate
7	13.07	26.74	611.229	4.736	sulfate
7	18.00	180.67	2884.587	13.768	

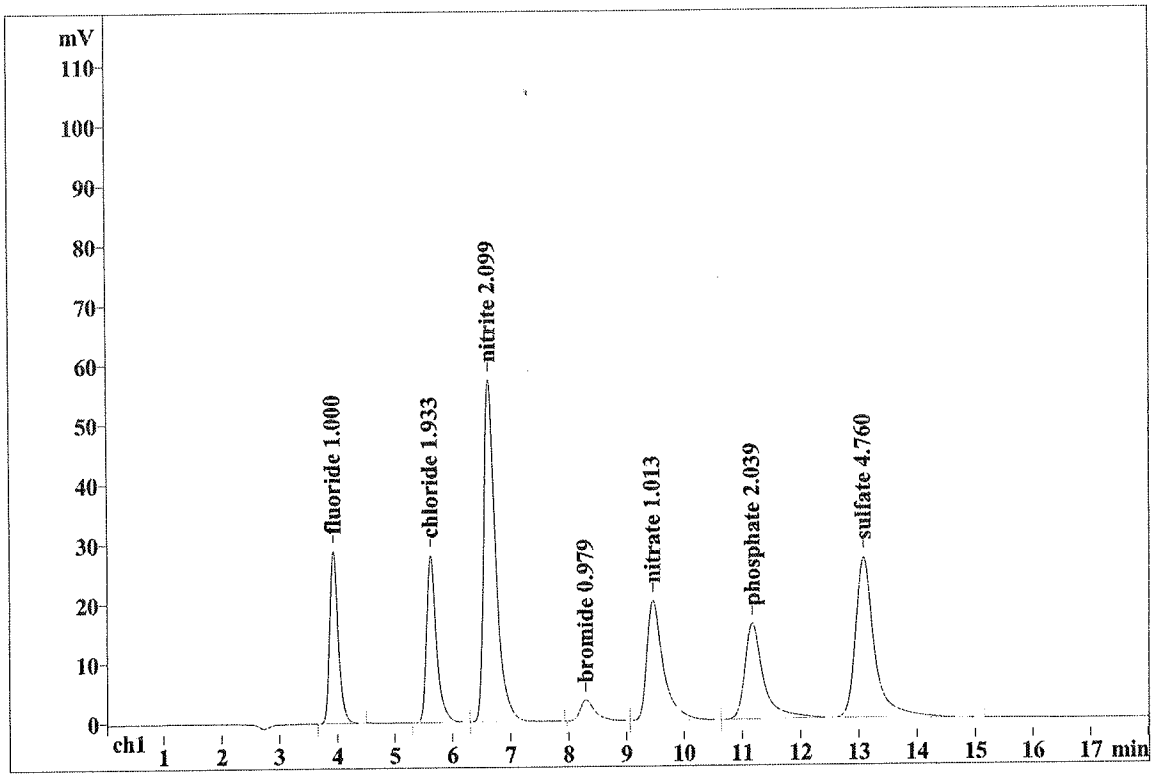
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:21:37 AM
Printed by: VDuran

Ident: AL18-05 ICL018WC
Analysis from: 12/15/2022 10:38:41 AM
File: _2022-12-15_10-38.chw Last save: 12/15/2022 10:56:41 AM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115495

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 5
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

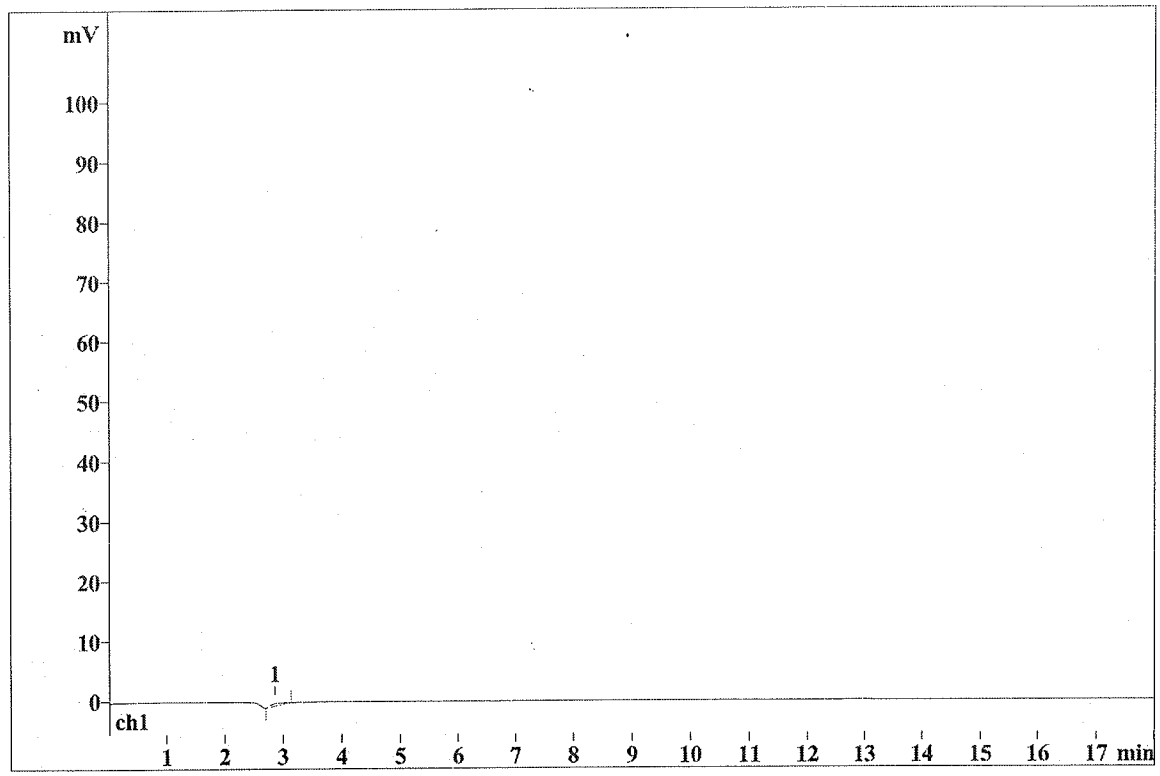
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	28.93	295.618	1.000	fluoride
2	5.62	28.04	333.724	1.933	chloride
3	6.63	57.35	831.350	2.099	nitrite
4	8.30	3.54	62.455	0.979	bromide
5	9.45	20.21	397.817	1.013	nitrate
6	11.18	16.15	361.896	2.039	phosphate
7	13.08	26.93	614.408	4.760	sulfate
7	18.00	181.14	2897.267	13.823	

This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:48:22 AM
Printed by: CSando

Ident: AL24-03 ICL024WB
Analysis from: 12/20/2022 10:43:32 AM
File: _2022-12-20_10-43.chw Last save: 12/20/2022 11:01:32 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115591

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 3
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.86	0.40	5.971	0.000	

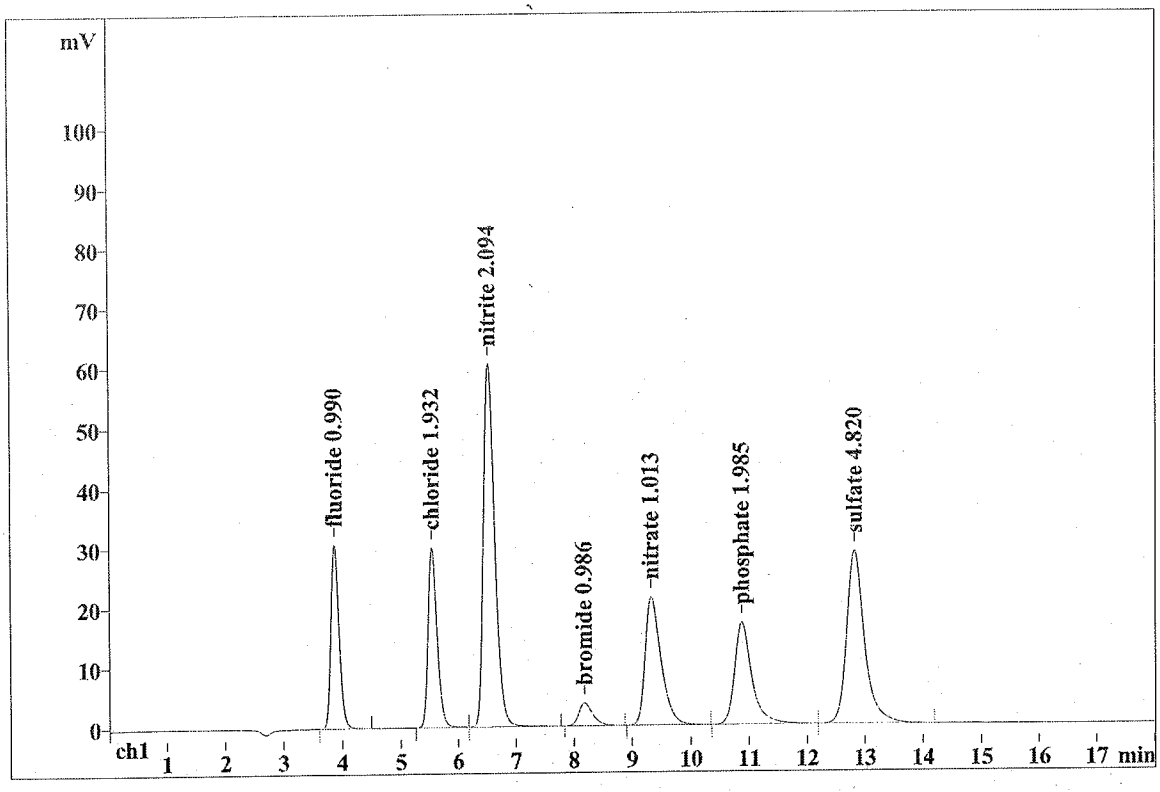
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:48:34 AM
Printed by: CSando

Ident: AL24-04 ICL024WL
Analysis from: 12/20/2022 11:03:46 AM
File: _2022-12-20_11-03.chw Last save: 12/20/2022 11:21:46 AM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115592

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 4
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	30.78	292.632	0.990	fluoride
2	5.54	30.14	333.678	1.932	chloride
3	6.53	60.58	829.262	2.094	nitrite
4	8.18	3.80	62.997	0.986	bromide
5	9.32	21.44	397.875	1.013	nitrate
6	10.88	17.02	351.839	1.985	phosphate
7	12.82	28.89	622.271	4.820	sulfate
7	18.00	192.63	2890.555	13.820	

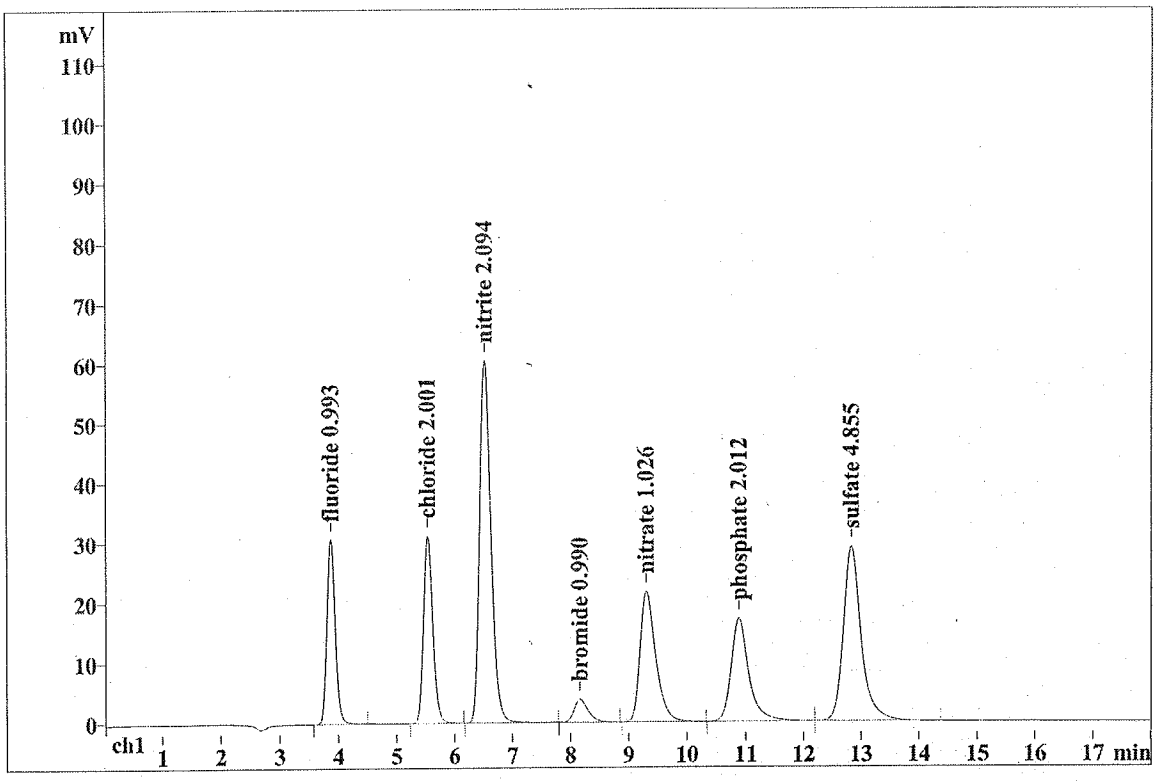
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:48:49 AM
Printed by: CSando

Ident: AL24-05 ICL024WC
Analysis from: 12/20/2022 11:24:01 AM
File: _2022-12-20_11-24.chw Last save: 12/20/2022 11:42:01 AM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115593

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 5
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

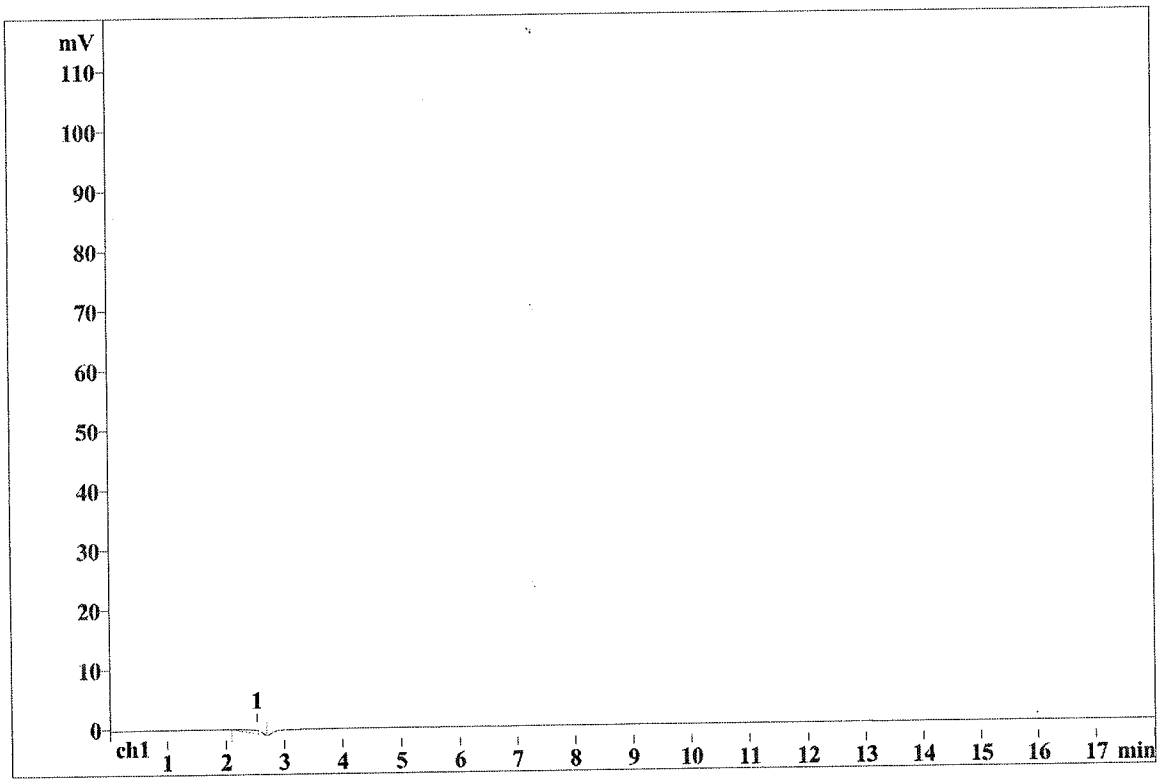
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.87	30.76	293.357	0.993	fluoride
2	5.53	31.28	346.244	2.001	chloride
3	6.52	60.61	829.093	2.094	nitrite
4	8.16	3.82	63.289	0.990	bromide
5	9.30	21.81	403.374	1.026	nitrate
6	10.88	17.21	357.003	2.012	phosphate
7	12.83	29.06	626.969	4.855	sulfate
7	17.99	194.56	2919.330	13.972	

This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:05:51 AM
Printed by: CSando

Ident: AL26-03 ICL026WB
Analysis from: 12/21/2022 10:36:05 AM
File: _2022-12-21_10-36.chw Last save: 12/21/2022 10:54:05 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115651

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 3
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.53	0.55	11.302	0.000	

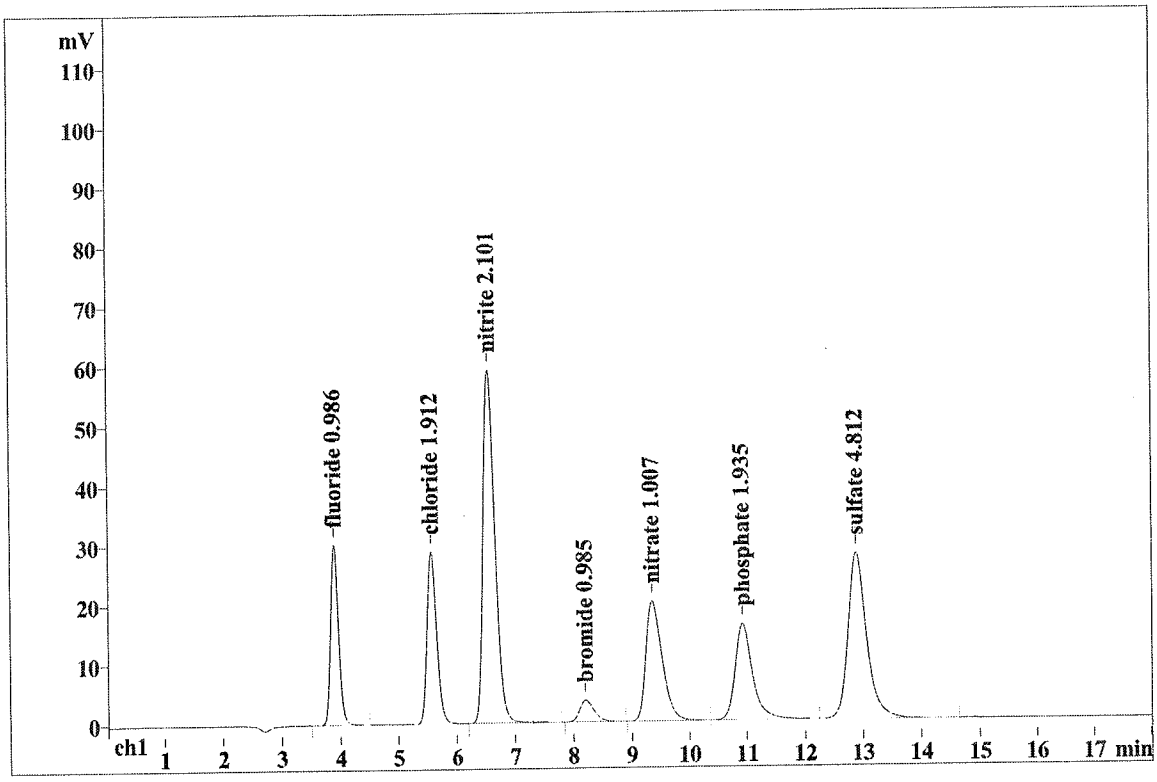
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:05:59 AM
Printed by: CSando

Ident: AL26-04 ICL026WL
Analysis from: 12/21/2022 10:56:20 AM
File: _2022-12-21_10-56.chw Last save: 12/21/2022 11:14:21 AM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115652

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 4
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	30.22	291.334	0.986	fluoride
2	5.56	28.88	329.981	1.912	chloride
3	6.56	59.19	832.286	2.101	nitrite
4	8.21	3.62	62.878	0.985	bromide
5	9.36	20.17	395.427	1.007	nitrate
6	10.93	16.17	342.611	1.935	phosphate
7	12.89	27.90	621.203	4.812	sulfate
7	18.00	186.17	2875.719	13.738	

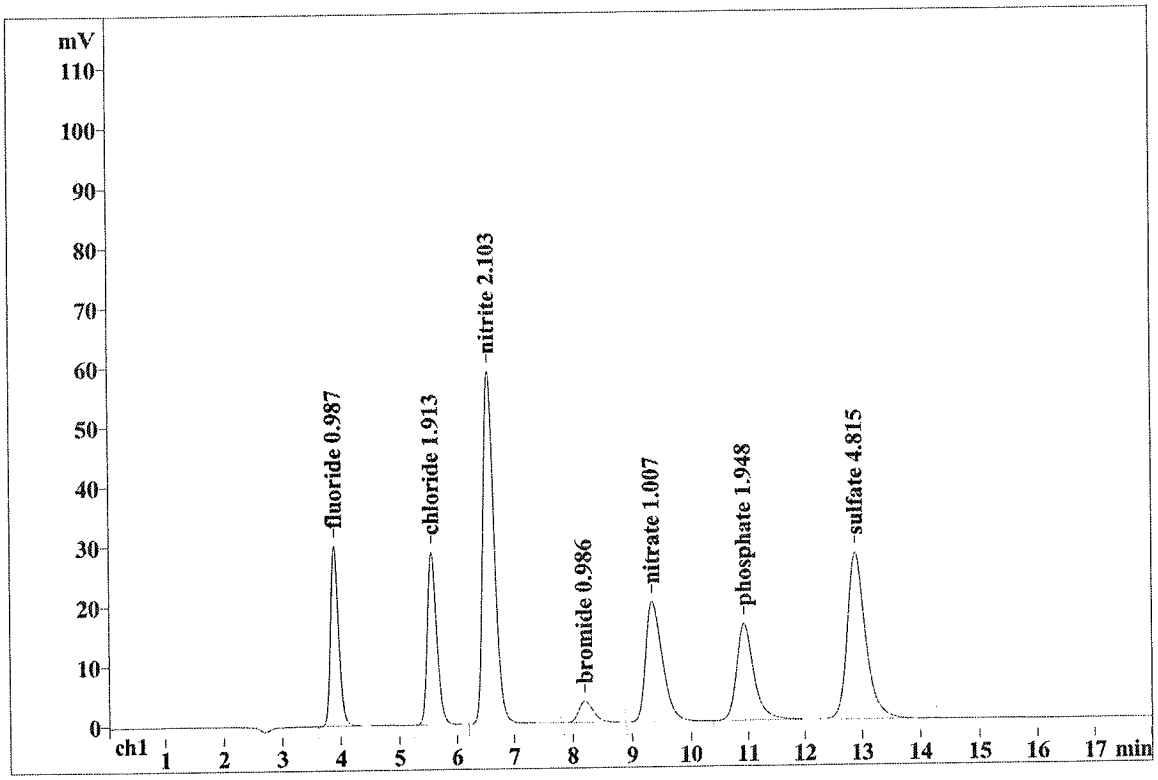
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:06:02 AM
Printed by: CSando

Ident: AL26-05 ICL026WC
Analysis from: 12/21/2022 11:16:41 AM
File: _2022-12-21_11-16.chw Last save: 12/21/2022 11:34:41 AM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115653

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 5
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.90	30.13	291.518	0.987	fluoride
2	5.56	28.83	330.195	1.913	chloride
3	6.56	59.07	832.768	2.103	nitrite
4	8.20	3.62	62.961	0.986	bromide
5	9.35	20.14	395.610	1.007	nitrate
6	10.93	16.25	345.073	1.948	phosphate
7	12.89	27.89	621.619	4.815	sulfate
7	18.00	185.94	2879.744	13.759	

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METROHM LTD

INITIAL CALIBRATION(S)

IC Result Check FormVersion : K09/AK04(2022)

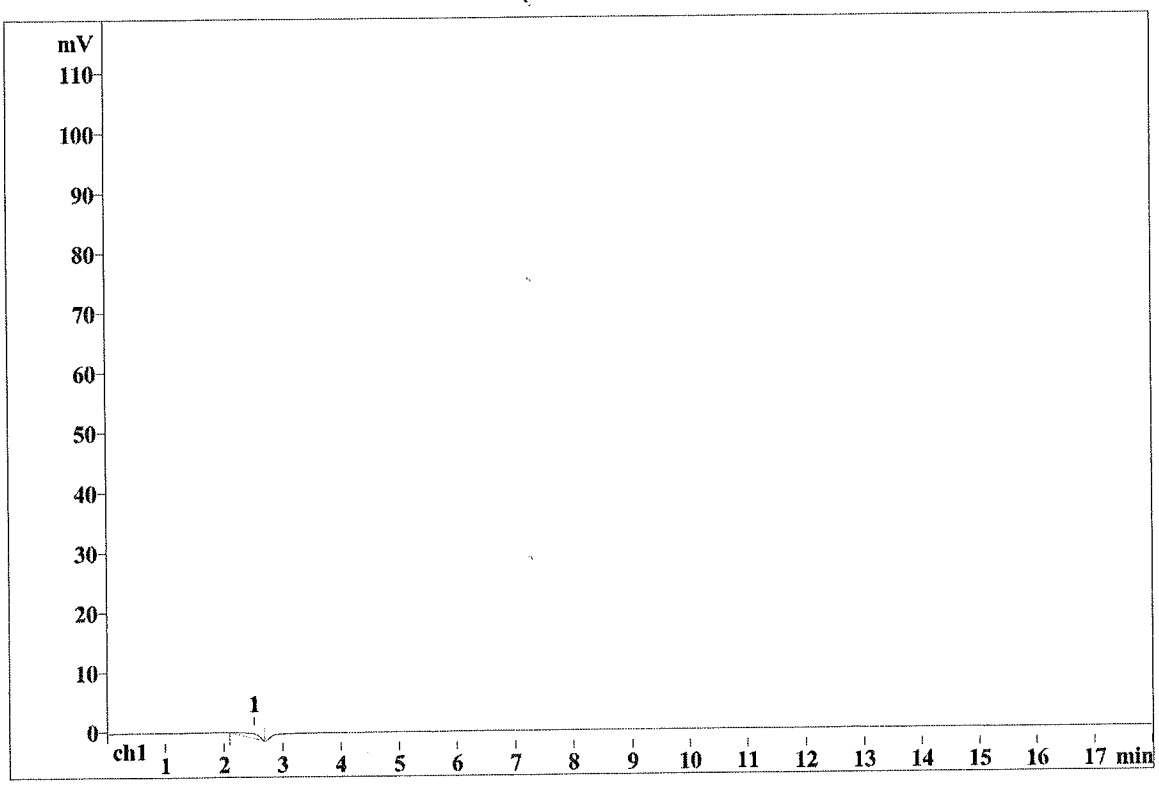
LFID	LSID	Selection	iodide	chloride	fluoride	nitrite	bromide	nitrate	phosphate	sulfate	RawNetID	DF
AK04-01	IB	OCFIBNPS	0	0	0	0	0	0	0	0	_2022-11-09_10-35	1
AK04-02	S0	OCFIBNPS	0	0	0	0	0	0	0	0	_2022-11-09_10-55	1
AK04-03	S1	OCFIBNPS	0	0.134532	0.0856916	0.0925127	0.204134	0.0820033	0.134414	0.172297	_2022-11-09_11-15	1
AK04-04	S2	OCFIBNPS	0	0.172816	0.126032	0.122397	0.249719	0.118598	0.175391	0.230367	_2022-11-09_11-36	1
AK04-05	S3	OCFIBNPS	0	0.250729	0.210442	0.186429	0.329562	0.198133	0.267962	0.344337	_2022-11-09_11-56	1
AK04-06	S4	OCFIBNPS	0	0.497339	0.480528	0.480199	0.568315	0.474145	0.530295	0.528802	_2022-11-09_12-16	1
AK04-07	S5	OCFIBNPS	0	0.923327	0.954986	0.949962	0.972484	0.951771	0.963908	0.946033	_2022-11-09_12-36	1
AK04-08	S6	OCFIBNPS	0	1.87369	1.97513	1.97294	1.8491	2.02658	1.89387	1.86454	_2022-11-09_12-57	1
AK04-09	S7	OCFIBNPS	0	4.94266	5.01855	5.07114	4.73989	5.49691	4.89527	4.79832	_2022-11-09_13-17	1
AK04-10	S8	OCFIBNPS	0	10.0553	9.57359	9.97448	9.75981	11.1887	9.91398	9.82817	_2022-11-09_13-37	1
AK04-11	S9	OCFIBNPS	0	20.3356	17.7575	19.021	20.1851	22.6047	20.0769	20.141	_2022-11-09_13-57	1
AK04-12	ICV	OCFIBNPS	0%*	97.6%	98.4%	95.8%	100%	100.6%	92%	95.7%	_2022-11-09_15-00	1
AK04-13	ICV1	OCFIBNPS	0%*	96%	99.6%	100%	101.2%	100%	98.3%	95.6%	_2022-11-09_15-20	1
AK04-14	ICB	OCFIBNPS	0	0	0	0	0	0	0	0	_2022-11-09_15-41	1

TH 11/12/22

Report date: 11/9/2022 4:31:49 PM
Printed by: VDuran

Ident: AK04-02 S0
Analysis from: 11/9/2022 10:55:40 AM
File: _2022-11-09_10-55.chw Last save: 11/9/2022 4:07:38 PM
Modified!
Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114513

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.51	0.79	16.083	0.000	

This report has been created by IC Net
METROHM LTD

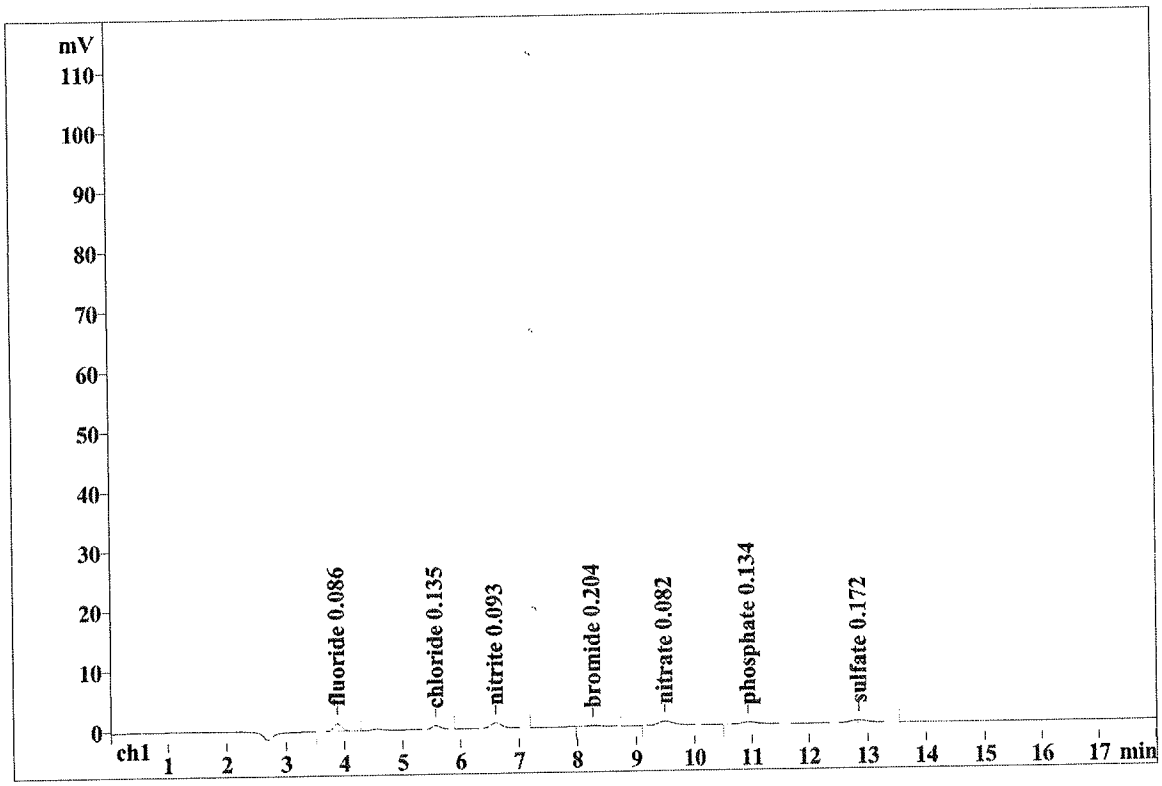
TH 11/12/22

Report date: 11/9/2022 4:33:26 PM
Printed by: VDuran

Ident: AK04-03 S1
Analysis from: 11/9/2022 11:15:55 AM
File: _2022-11-09_11-15.chw Last save: 11/9/2022 4:33:01 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114514

SAMPLE: METHOD 300/9056/4110B
: 0.05 PPM
Vial number: 3
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	1.24	12.412	0.086	fluoride
2	5.57	0.59	6.410	0.135	chloride
3	6.60	0.91	11.990	0.093	nitrite
4	8.27	0.18	2.890	0.204	bromide
5	9.49	0.67	11.834	0.082	nitrate
6	10.94	0.32	6.778	0.134	phosphate
7	12.84	0.40	8.839	0.172	sulfate
7	18.00	4.32	61.152	0.906	

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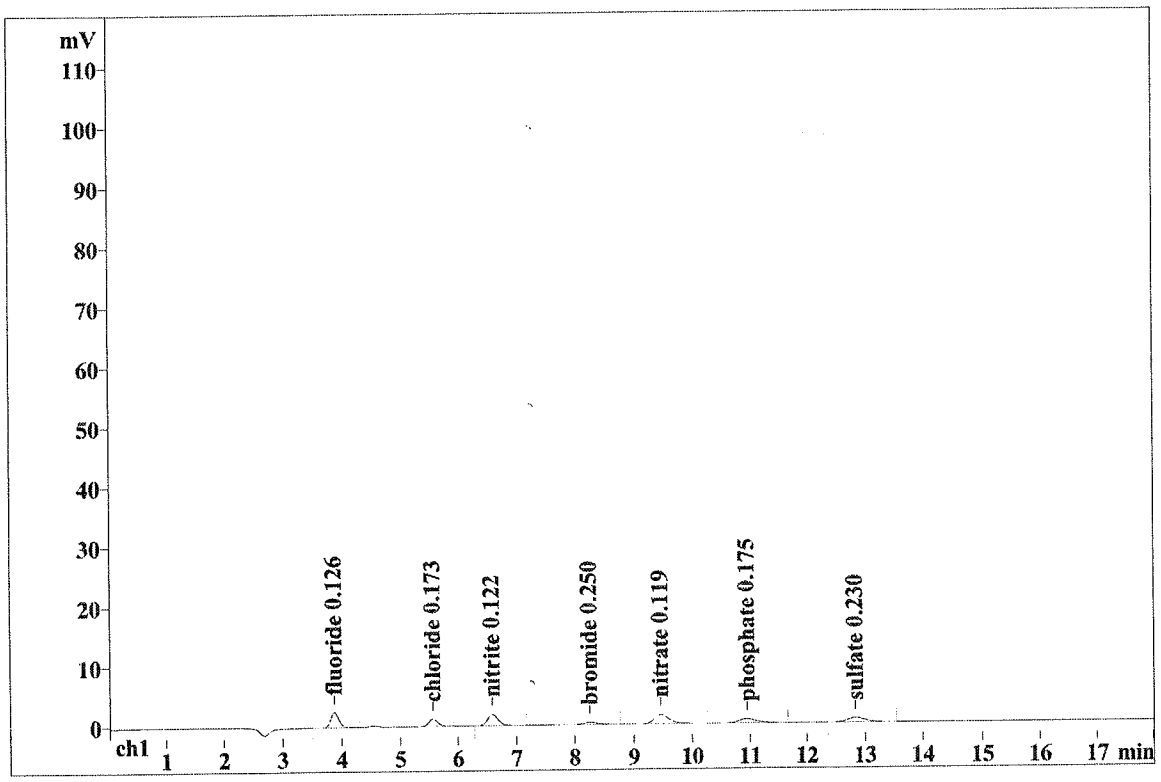
TH 11/12/22

Report date: 11/9/2022 4:33:33 PM
Printed by: VDuran

Ident: AK04-04 S2
Analysis from: 11/9/2022 11:36:10 AM
File: _2022-11-09_11-36.chw Last save: 11/9/2022 4:33:01 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114515

SAMPLE: METHOD 300/9056/4110B
: 0.1 PPM
Vial number: 4
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.87	2.55	24.908	0.126	fluoride
2	5.56	1.23	13.379	0.173	chloride
3	6.59	1.92	24.193	0.122	nitrite
4	8.25	0.38	6.393	0.250	bromide
5	9.46	1.55	27.010	0.119	nitrate
6	10.94	0.69	14.420	0.175	phosphate
7	12.84	0.77	16.504	0.230	sulfate
7	18.00	9.07	126.805	1.195	

This report has been created by IC Net
METROHM LTD

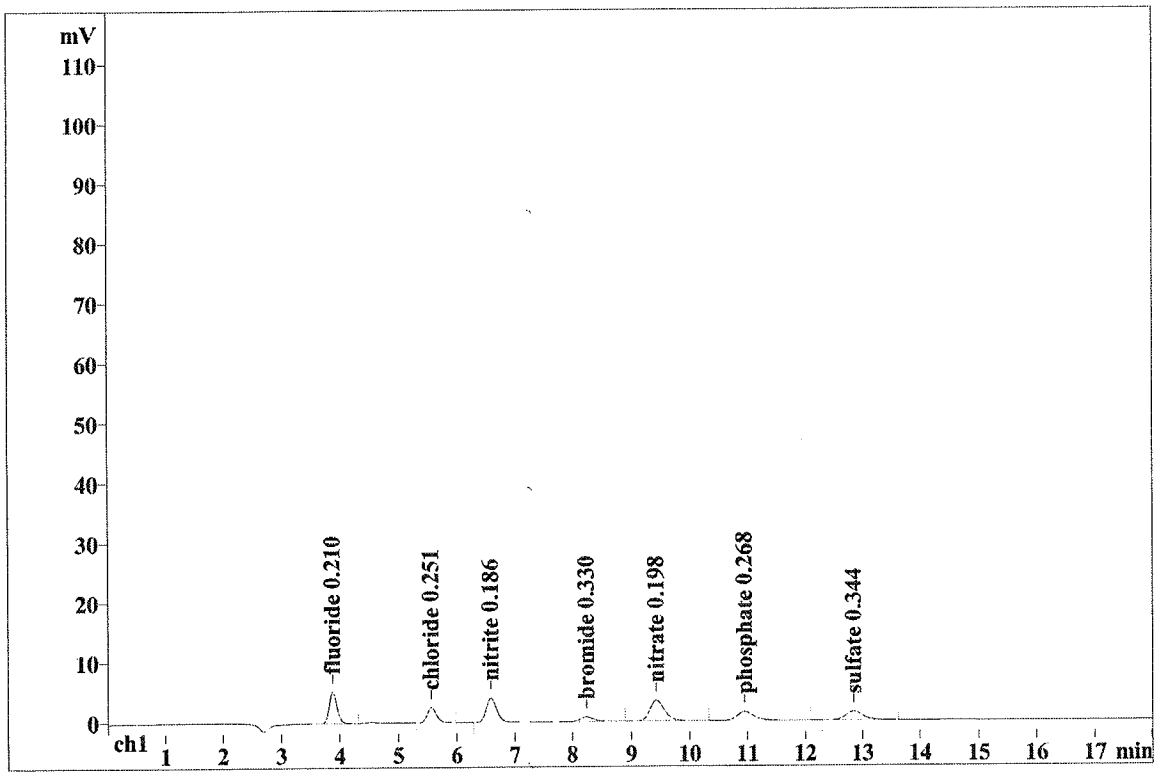
TH 11/12/22

Report date: 11/9/2022 4:34:03 PM
Printed by: VDuran

Ident: AK04-05 S3
Analysis from: 11/9/2022 11:56:26 AM
File: _2022-11-09_11-56.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114516

SAMPLE: METHOD 300/9056/4110B
: 0.2 PPM
Vial number: 5
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	5.31	51.055	0.210	fluoride
2	5.57	2.54	27.562	0.251	chloride
3	6.58	4.04	50.338	0.186	nitrite
4	8.24	0.77	12.527	0.330	bromide
5	9.43	3.50	59.995	0.198	nitrate
6	10.95	1.50	31.683	0.268	phosphate
7	12.85	1.47	31.547	0.344	sulfate
7	18.00	19.13	264.707	1.788	

TH 11/12/22

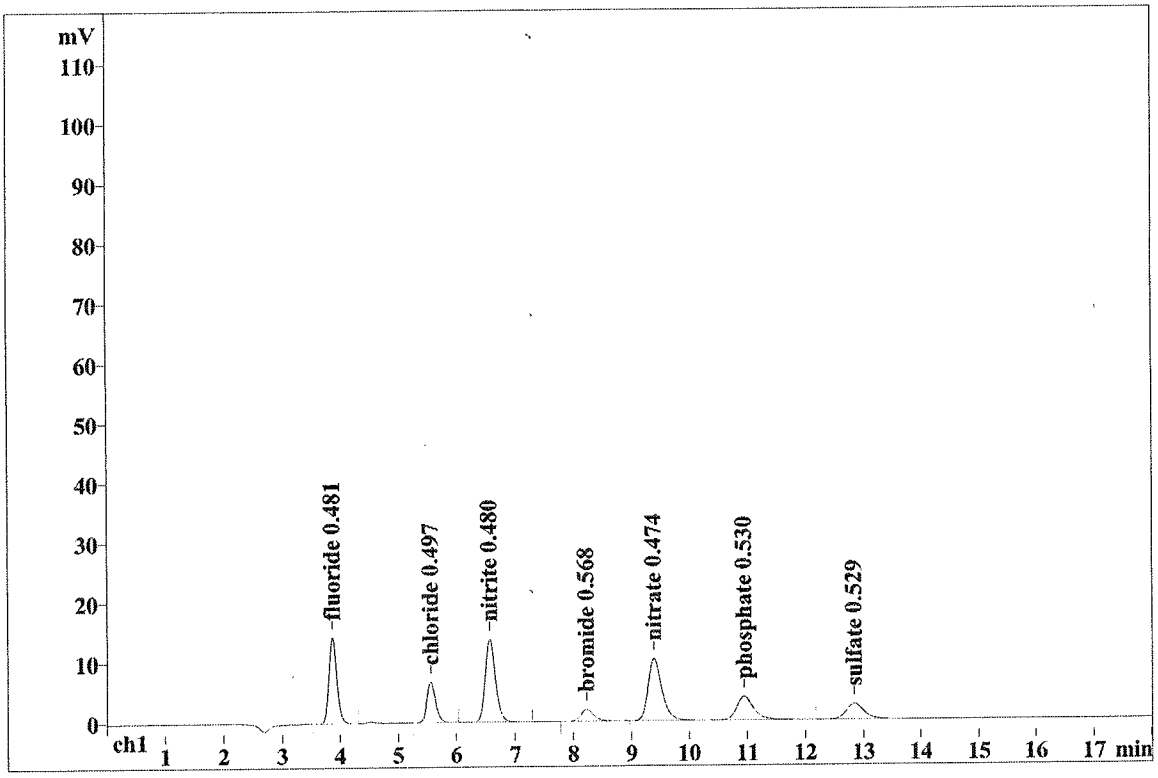
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 4:34:12 PM
Printed by: VDuran

Ident: AK04-06 S4
Analysis from: 11/9/2022 12:16:41 PM
File: _2022-11-09_12-16.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114517

SAMPLE: METHOD 300/9056/4110B
: 0.5 PPM
Vial number: 6
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	14.40	134.719	0.481	fluoride
2	5.56	6.78	72.455	0.497	chloride
3	6.57	13.91	170.291	0.480	nitrite
4	8.22	1.99	30.871	0.568	bromide
5	9.39	10.42	174.462	0.474	nitrate
6	10.95	3.97	80.604	0.530	phosphate
7	12.84	2.64	55.895	0.529	sulfate
7	18.00	54.11	719.297	3.560	

TH 11/12/22

This report has been created by IC Net
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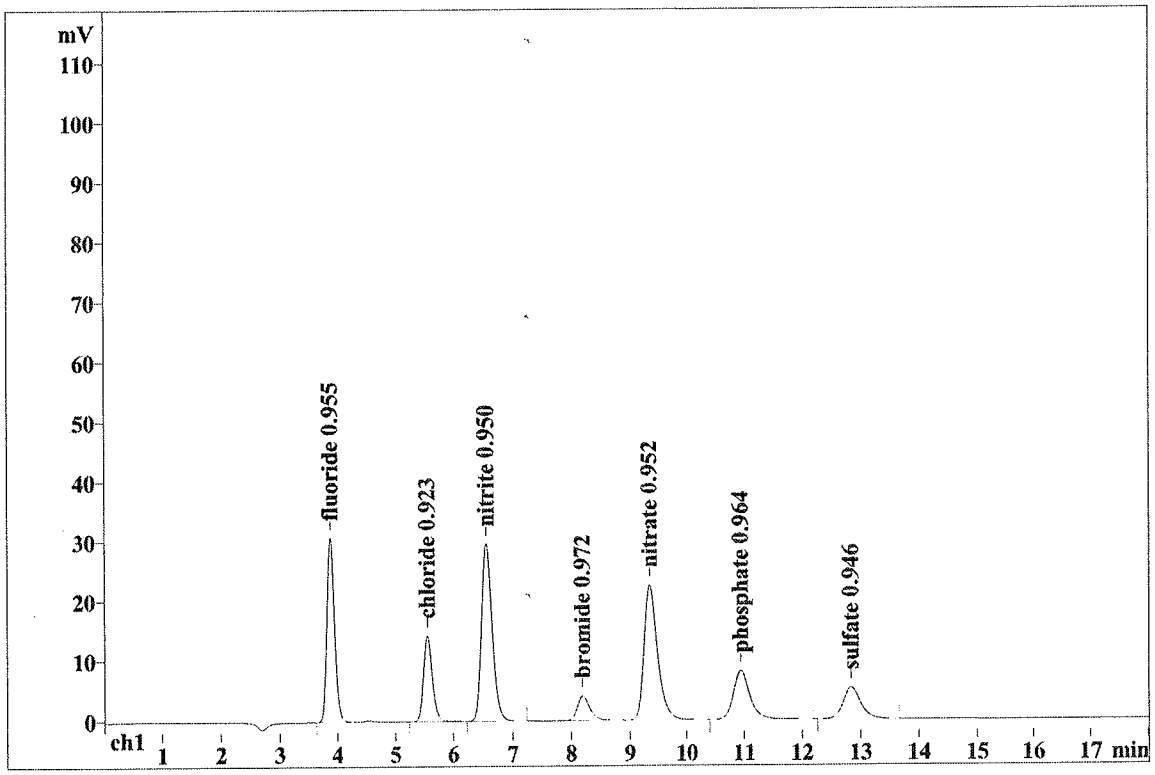
Report date: 11/9/2022 4:34:15 PM
Printed by: VDuran

Ident: AK04-07 S5
Analysis from: 11/9/2022 12:36:56 PM
File: _2022-11-09_12-36.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114518

SAMPLE: METHOD 300/9056/4110B
: 1.0 PPM
Vial number: 7
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	30.73	281.690	0.955	fluoride
2	5.55	14.27	150.001	0.923	chloride
3	6.56	29.64	362.106	0.950	nitrite
4	8.20	4.08	61.924	0.972	bromide
5	9.35	22.54	372.541	0.952	nitrate
6	10.94	8.14	161.466	0.964	phosphate
7	12.84	5.28	110.967	0.946	sulfate
7	18.00	114.67	1500.696	6.662	

TH 11/12/22

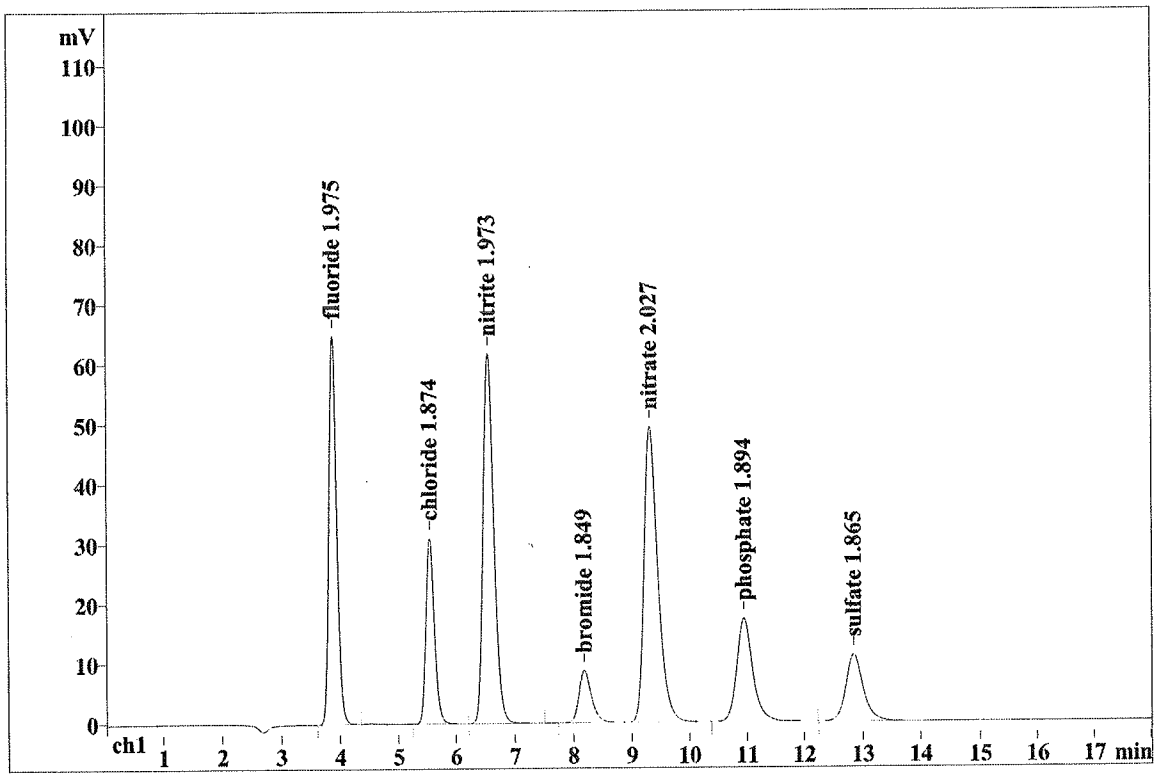
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 4:34:18 PM
Printed by: VDuran

Ident: AK04-08 S6
Analysis from: 11/9/2022 12:57:11 PM
File: _2022-11-09_12-57.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114519

SAMPLE: METHOD 300/9056/4110B
: 2.0 PPM
Vial number: 8
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	64.93	597.696	1.975	fluoride
2	5.55	31.15	323.004	1.874	chloride
3	6.55	61.83	779.813	1.973	nitrite
4	8.18	8.72	129.276	1.849	bromide
5	9.31	49.42	818.282	2.027	nitrate
6	10.95	17.30	334.890	1.894	phosphate
7	12.84	11.18	232.203	1.865	sulfate
7	18.00	244.53	3215.164	13.456	

TH 11/12/22

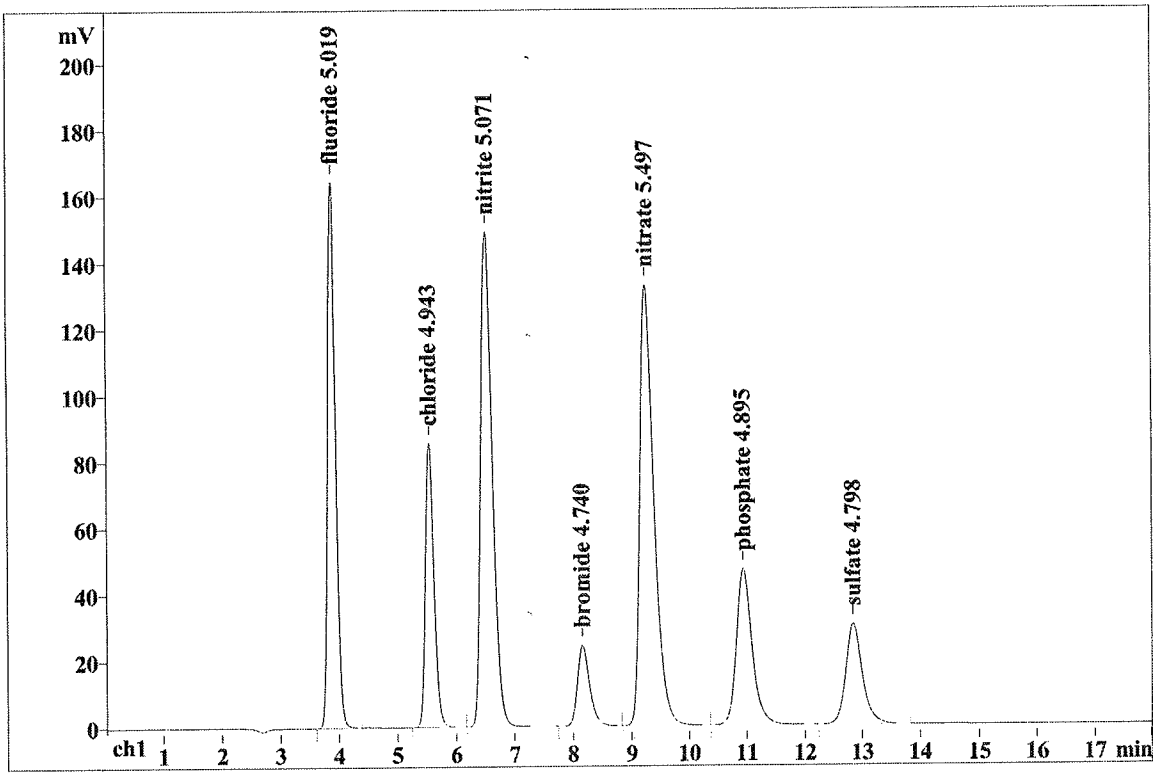
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 4:34:25 PM
Printed by: VDuran

Ident: AK04-09 S7
Analysis from: 11/9/2022 1:17:26 PM
File: _2022-11-09_13-17.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114520

SAMPLE: METHOD 300/9056/4110B
: 5.0 PPM
Vial number: 9
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	164.64	1540.449	5.019	fluoride
2	5.54	85.74	881.675	4.943	chloride
3	6.52	149.19	2044.881	5.071	nitrite
4	8.16	24.44	351.381	4.740	bromide
5	9.25	132.99	2257.491	5.497	nitrate
6	10.94	47.14	894.607	4.895	phosphate
7	12.84	30.45	619.442	4.798	sulfate
7	18.00	634.59	8589.926	34.963	

TH 11/12/22

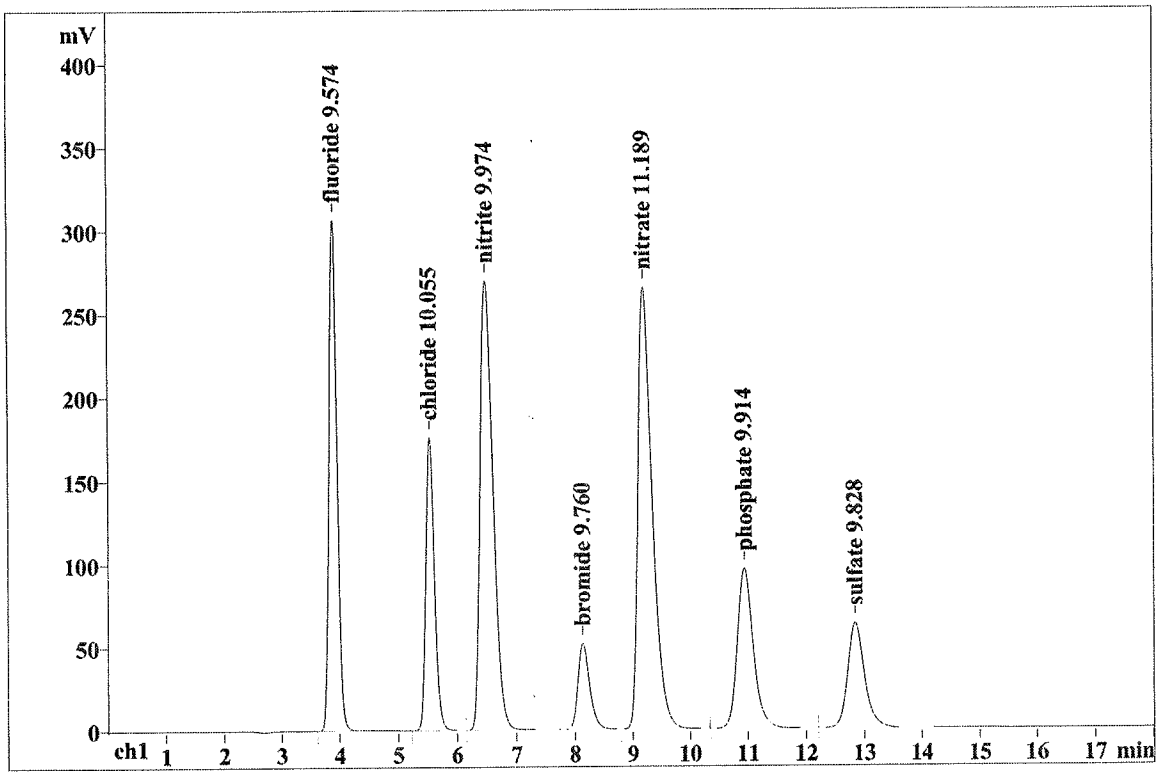
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 4:34:33 PM
Printed by: VDuran

Ident: AK04-10 S8
Analysis from: 11/9/2022 1:37:41 PM
File: _2022-11-09_13-37.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114521

SAMPLE: METHOD 300/9056/4110B
: 10.0 PPM
Vial number: 10
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.90	306.58	2951.447	9.574	fluoride
2	5.54	175.90	1812.367	10.055	chloride
3	6.50	269.80	4047.030	9.974	nitrite
4	8.14	51.83	737.071	9.760	bromide
5	9.20	265.42	4617.978	11.189	nitrate
6	10.94	96.34	1830.523	9.914	phosphate
7	12.84	63.24	1283.347	9.828	sulfate
7	18.00	1229.10	17279.763	70.294	

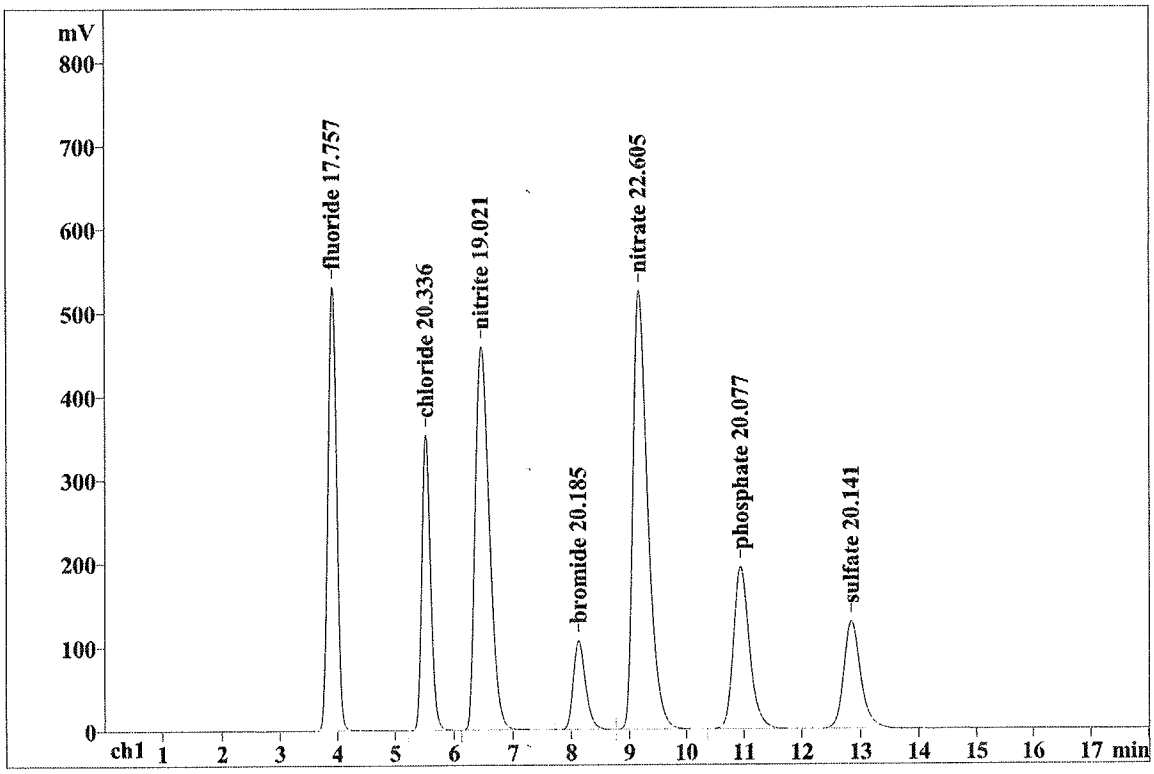
This report has been created by IC Net
METROHM LTD

TH 11/12/22

Report date: 11/9/2022 4:34:53 PM
Printed by: VDuran

Ident: AK04-11 S9
Analysis from: 11/9/2022 1:57:56 PM
File: _2022-11-09_13-57.chw Last save: 11/9/2022 4:33:02 PM
Modified!
Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114522

SAMPLE: METHOD 300/9056/4110B
: 20.0 PPM
Vial number: 11
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.92	530.99	5486.544	17.757	fluoride
2	5.54	353.47	3683.795	20.336	chloride
3	6.47	458.65	7740.945	19.021	nitrite
4	8.12	106.39	1538.063	20.185	bromide
5	9.16	525.14	9352.381	22.605	nitrate
6	10.95	194.01	3725.749	20.077	phosphate
7	12.84	129.10	2644.569	20.141	sulfate
7	18.00	2297.75	34172.046	140.122	

TH 11/12/22

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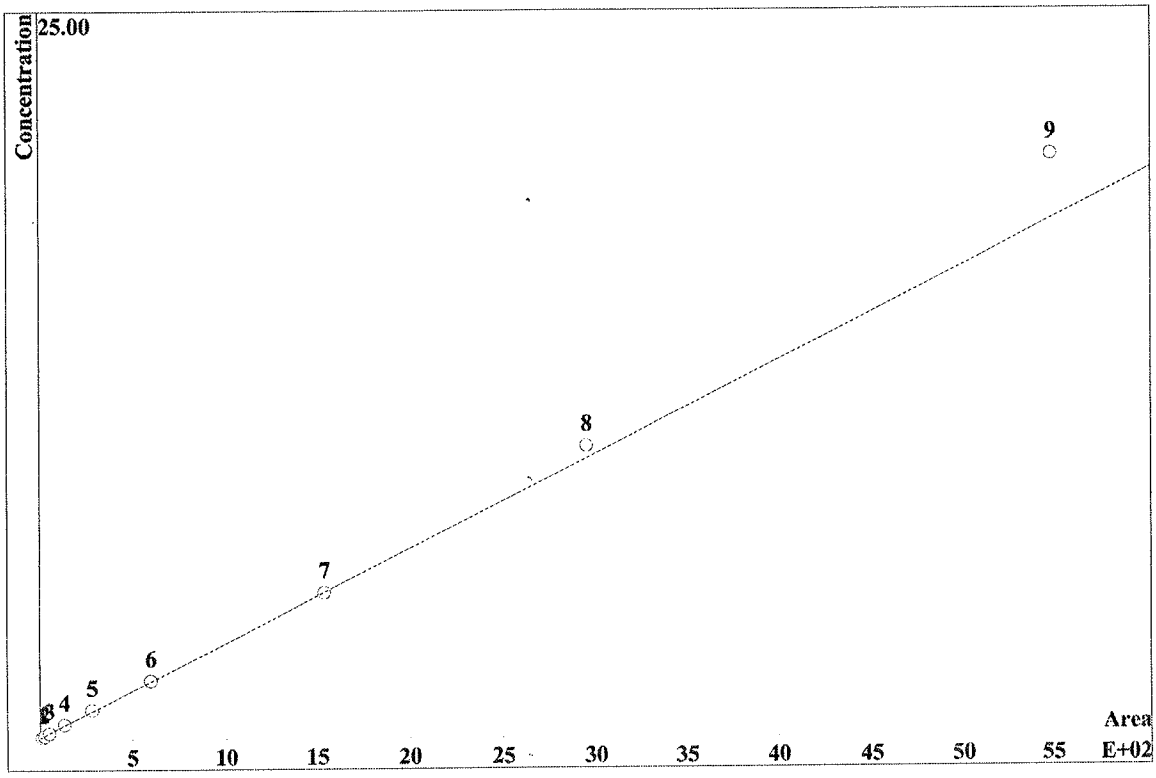
CALIBRATION OF COMPONENT fluoride

Method: ICD7-K09.mtw
Equation: Q = 0.00322823·A + 0.0456243
RSD: 2.585 %
Correlation coefficient: 0.999860



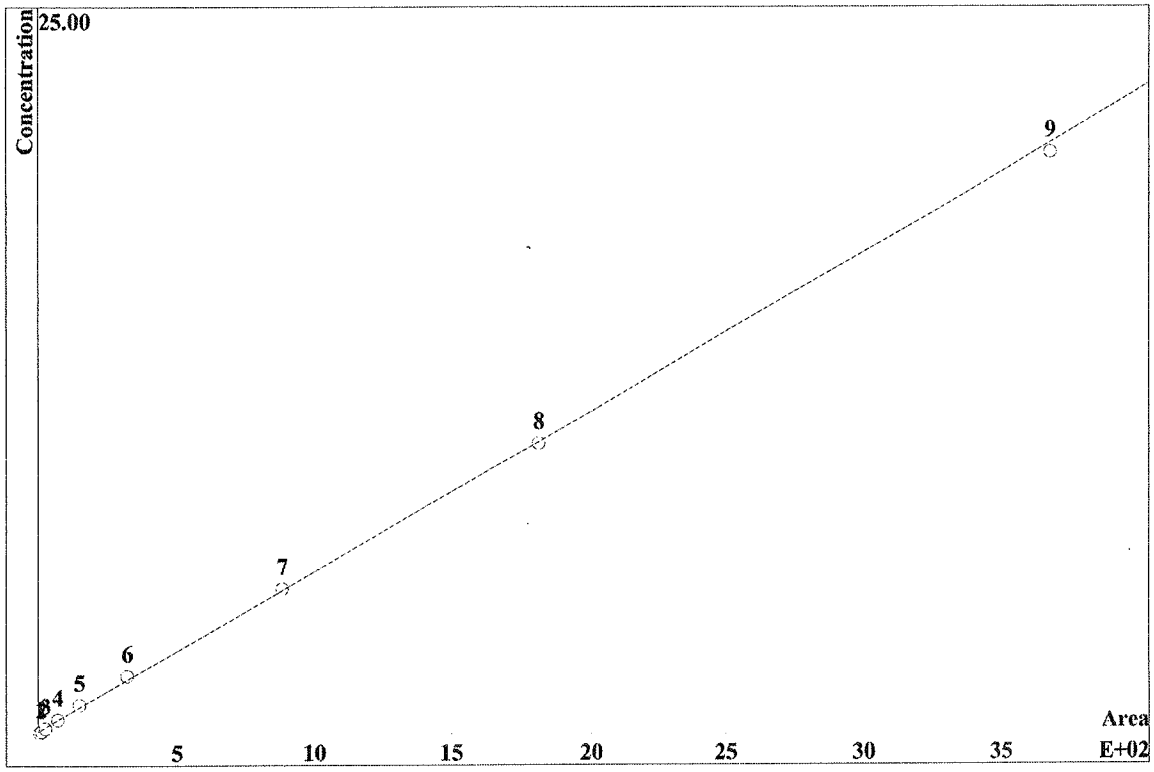
K3 = 0 K2 = 0 K1 = 0.00322823 K0 = 0.0456243
Base: Area
Ref.channel: ch1
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	1.238	12.13	0.05	1	3.89	Yes	2022-11-09_10
2	2.548	24.77	0.1	1	3.89	Yes	2022-11-09_10
3	5.311	51.06	0.2	1	3.89	Yes	2022-11-09_10
4	14.4	134.7	0.5	1	3.89	Yes	2022-11-09_10
5	30.73	281.7	1	1	3.89	Yes	2022-11-09_10
6	64.93	597.7	2	1	3.89	Yes	2022-11-09_10
7	164.6	1540	5	1	3.89	Yes	2022-11-09_10
8	306.6	2951	10	1	3.89	No	2022-11-09_1
9	531	5487	20	1	3.89	No	2022-11-09_1

TH 11/12/22

CALIBRATION OF COMPONENT chloride

Method: ICD7-K09.mtw
Equation: Q = 0.00549333·A + 0.0993214
RSD: 3.599 %
Correlation coefficient: 0.999749



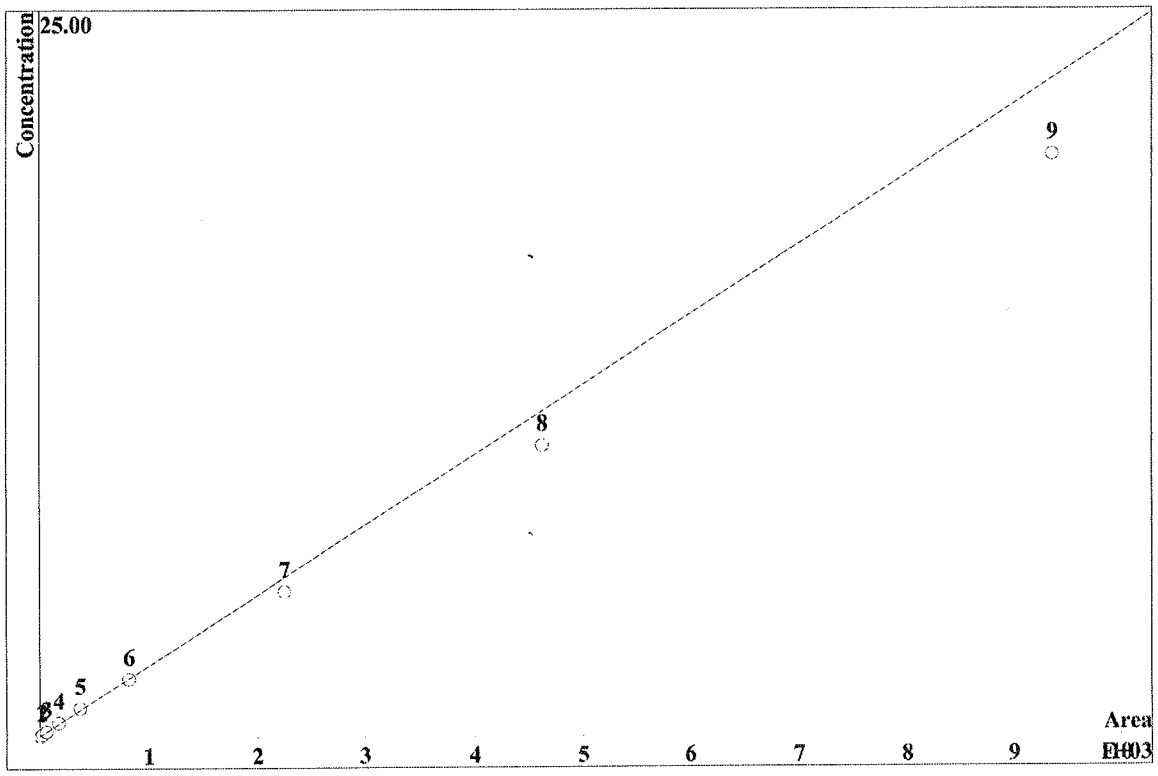
K3 = 0 K2 = 0 K1 = 0.00549333 K0 = 0.0993214
Base: Area
Ref.channel: ch1
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.5881	6.389	0.05	1	5.55	Yes	_2022-11-09_1□
2	1.225	13.34	0.1	1	5.55	Yes	_2022-11-09_1□
3	2.54	27.56	0.2	1	5.55	Yes	_2022-11-09_1□
4	6.78	72.45	0.5	1	5.55	Yes	_2022-11-09_1□
5	14.27	150	1	1	5.55	Yes	_2022-11-09_1□
6	31.15	323	2	1	5.55	Yes	_2022-11-09_1□
7	85.74	881.7	5	1	5.55	Yes	_2022-11-09_1□
8	175.9	1812	10	1	5.55	Yes	_2022-11-09_1
9	353.5	3684	20	1	5.55	No	_2022-11-09_1

TH 11/12/22

CALIBRATION OF COMPONENT nitrate

Method: ICD7-K09.mtw
Equation: Q = 0.00241128·A + 0.0534692
RSD: 5.520 %
Correlation coefficient: 0.999114



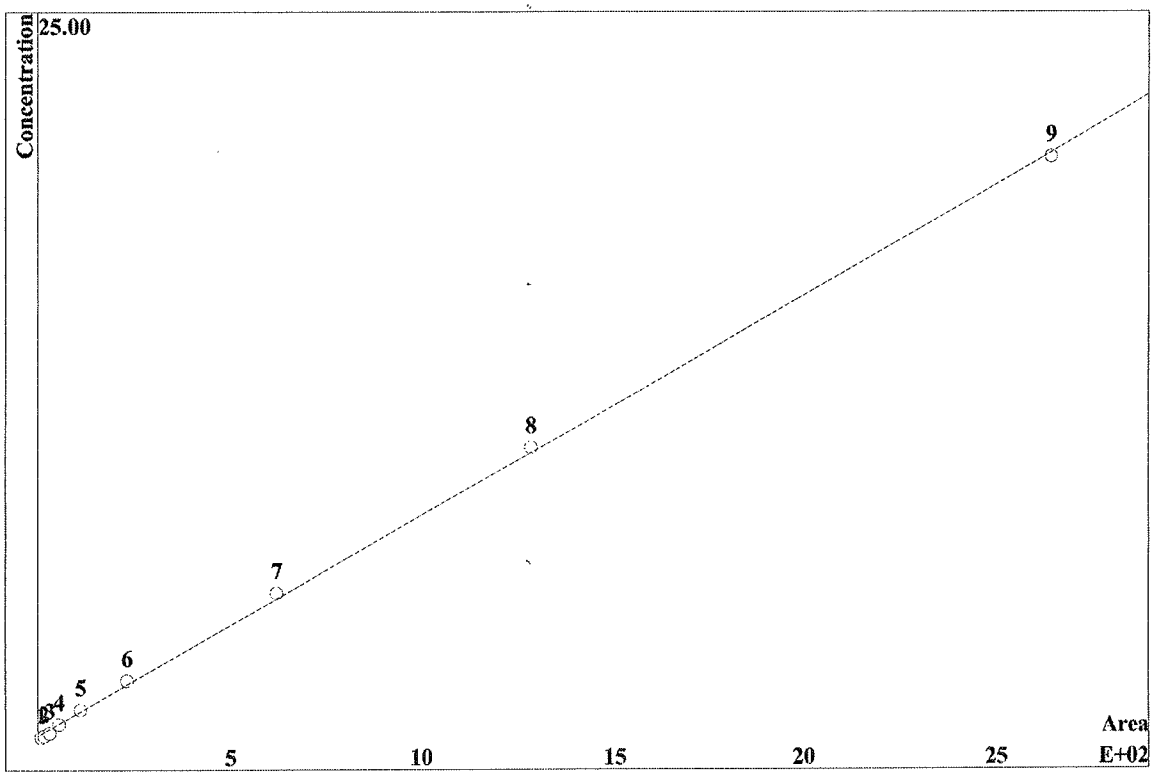
K3 = 0 K2 = 0 K1 = 0.00241128 K0 = 0.0534692
Base: Area
Ref.channel: ch1
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.6693	11.67	0.05	1	9.34	Yes	_2022-11-09_1
2	1.542	26.67	0.1	1	9.34	Yes	_2022-11-09_1
3	3.502	59.99	0.2	1	9.34	Yes	_2022-11-09_1
4	10.42	174.5	0.5	1	9.34	Yes	_2022-11-09_1
5	22.54	372.5	1	1	9.34	Yes	_2022-11-09_1
6	49.42	818.3	2	1	9.34	Yes	_2022-11-09_1
7	133	2257	5	1	9.34	No	_2022-11-09_1
8	265.4	4618	10	1	9.34	No	_2022-11-09_1
9	525.1	9352	20	1	9.34	No	_2022-11-09_1

TH 11/12/22

CALIBRATION OF COMPONENT sulfate

Method: ICD7-K09.mtw
Equation: Q = 0.00757616·A + 0.10533
RSD: 3.546 %
Correlation coefficient: 0.999774



K3 = 0 K2 = 0 K1 = 0.00757616 K0 = 0.10533
Base: Area
Ref.channel: ch1
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.399	8.529	0.05	1	12.84	Yes	_2022-11-09_1□
2	0.7652	16.27	0.1	1	12.84	Yes	_2022-11-09_1□
3	1.475	31.55	0.2	1	12.84	Yes	_2022-11-09_1□
4	2.639	55.9	0.5	1	12.84	Yes	_2022-11-09_1□
5	5.279	111	1	1	12.84	Yes	_2022-11-09_1□
6	11.18	232.2	2	1	12.84	Yes	_2022-11-09_1□
7	30.46	619.4	5	1	12.84	Yes	_2022-11-09_1□
8	63.24	1283	10	1	12.84	Yes	_2022-11-09_1
9	129.1	2645	20	1	12.84	Yes	_2022-11-09_1

TH 11/12/22

SECOND SOURCE VERIFICATION

IC Result Check FormVersion : K09/AK04(2022)

LFID	LSID	Selection	phosphate	nitrite	nitrate	iodide	fluoride	chloride	bromide	sulfate	RawNetID	DF
AK04-01	IB	PINOFCBS	0	0	0	0	0	0	0	0	_2022-11-09_10-35	1
AK04-12	ICV	PINOFCBS	92%	95.8%	100.6%	0%*	98.4%	97.6%	100%	95.7%	_2022-11-09_15-00	1
AK04-13	ICV1	PINOFCBS	98.3%	100%	100%	0%*	99.6%	96%	101.2%	95.6%	_2022-11-09_15-20	1
AK04-14	ICB	PINOFCBS	0	0	0	0	0	0	0	0	_2022-11-09_15-41	1

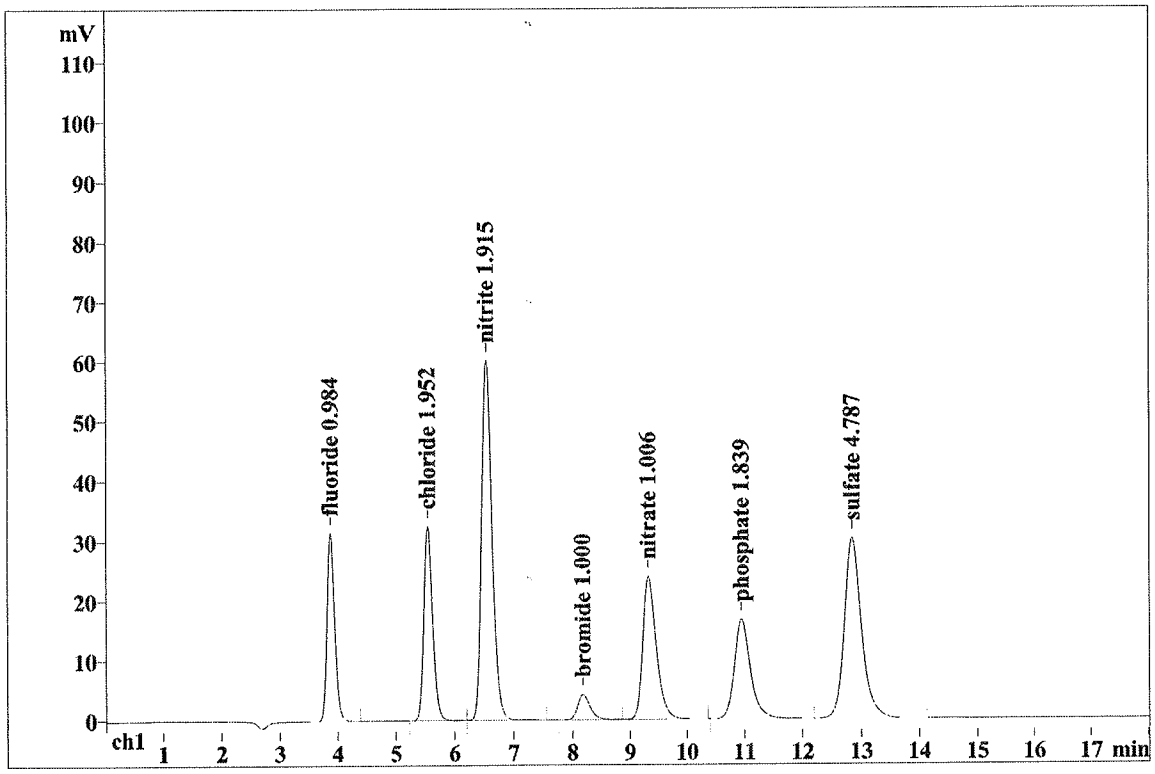
TH 11/12/22

Report date: 11/9/2022 4:35:01 PM
Printed by: VDuran

Ident: AK04-12 ICV
Analysis from: 11/9/2022 3:00:34 PM
File: _2022-11-09_15-00.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114525

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 12
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	31.50	290.596	0.984	fluoride
2	5.55	32.54	337.171	1.952	chloride
3	6.54	60.24	756.171	1.915	nitrite
4	8.18	4.23	64.058	1.000	bromide
5	9.32	23.95	394.942	1.006	nitrate
6	10.95	16.73	324.709	1.839	phosphate
7	12.84	30.26	617.999	4.787	sulfate
7	18.00	199.45	2785.646	13.483	

TH 11/12/22

This report has been created by IC Net
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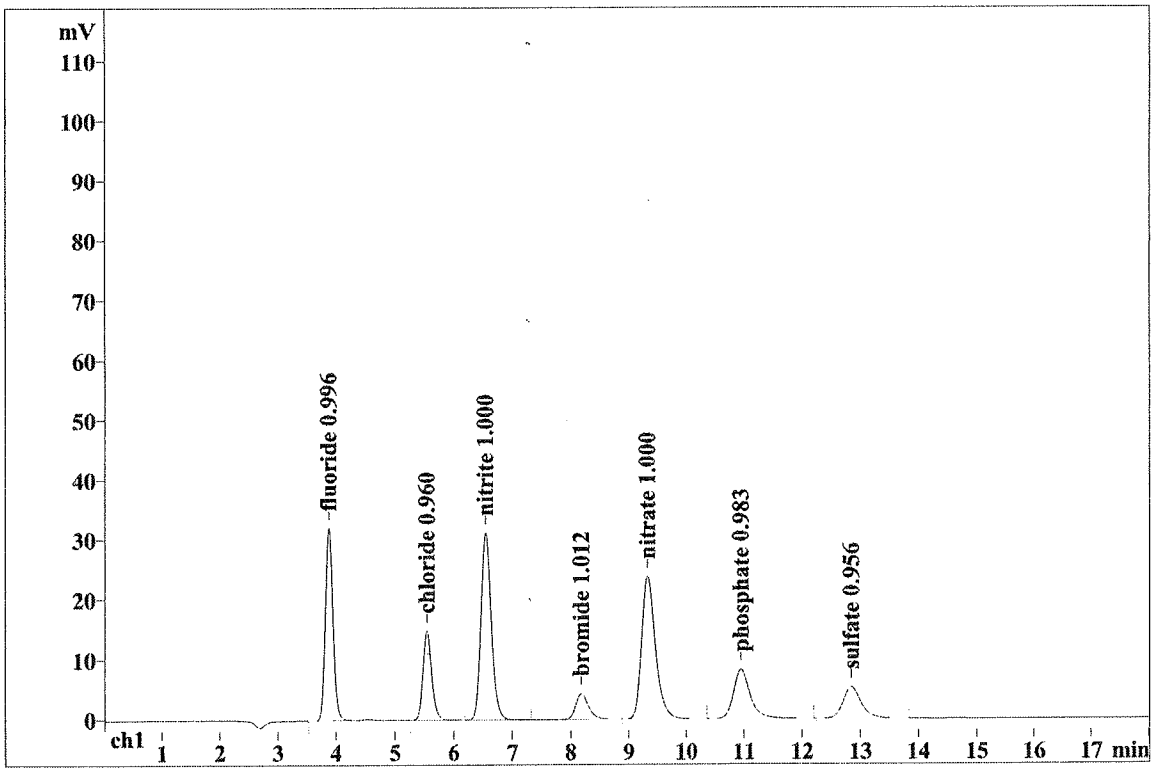
Report date: 11/9/2022 4:35:05 PM
Printed by: VDuran

Ident: AK04-13 ICV1
Analysis from: 11/9/2022 3:20:48 PM
File: _2022-11-09_15-20.chw Last save: 11/9/2022 4:33:02 PM

Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114526

SAMPLE: METHOD 300/9056/4110B
: 1.0 PPM
Vial number: 13
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	32.01	294.479	0.996	fluoride
2	5.55	14.89	156.664	0.960	chloride
3	6.55	31.16	382.694	1.000	nitrite
4	8.18	4.29	64.925	1.012	bromide
5	9.32	23.80	392.450	1.000	nitrate
6	10.95	8.27	164.971	0.983	phosphate
7	12.85	5.30	112.233	0.956	sulfate
7	18.00	119.72	1568.416	6.906	

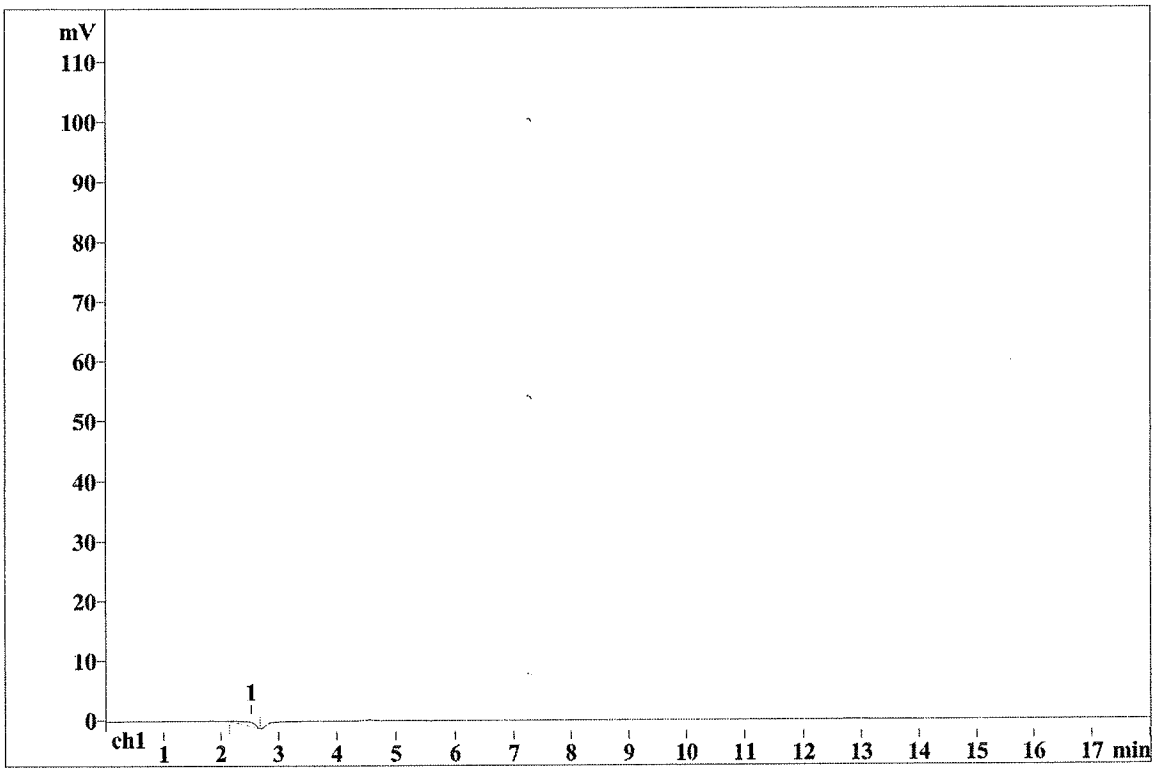
TH 11/12/22

This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 4:35:20 PM
Printed by: VDuran

Ident: AK04-14 ICB
Analysis from: 11/9/2022 3:41:03 PM
File: _2022-11-09_15-41.chw Last save: 11/9/2022 4:33:03 PM
Modified!
Method: ICD7-K09.mtw Last save: 11/9/2022 12:14:26 PM
Run operator: VDuran
Analysis number: 114527

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 14
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.53	0.70	12.796	0.000	

This report has been created by IC Net
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TH 11/12/22

DAILY CALIBRATION(S)

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L226
Method : E300.0
ICAL Ref. : 22AK04
InstrumentID: D7
Parameter : CHLORIDE

LFID	LSID	Recovery (%)	AnalysisDateTime
AL24-01	CCV230	98.8	12/20/2210:03
AL24-13	CCV232	102.6	12/20/2214:09
AL24-25	CCV234	100.9	12/20/2218:12
AL26-01	CCV242	94.6	12/21/2209:55
AL26-13	CCV244	94.9	12/21/2215:27

CCV Acceptance Criteria: 90-110%

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L226
Method : E300.0
ICAL Ref. : 22AK04
InstrumentID: D7
Parameter : FLUORIDE

LFID	LSID	Recovery (%)	AnalysisDateTime
AL18-01	CCV208	99.9	12/15/2209:17
AL18-13	CCV210	99.7	12/15/2213:20
AL18-25	CCV212	99.6	12/15/2217:23

CCV Acceptance Criteria: 90-110%

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L226
Method : E300.0
ICAL Ref. : 22AK04
InstrumentID: D7
Parameter : NITRATE

LFID	LSID	Recovery (%)	AnalysisDateTime
AL18-01	CCV208	100.7	12/15/2209:17
AL18-13	CCV210	101.7	12/15/2213:20
AL18-25	CCV212	100.9	12/15/2217:23
AL18-37	CCV214	107.2	12/15/2221:26
AL18-49	CCV216	107.4	12/16/2201:29

CCV Acceptance Criteria: 90-110%

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L226
Method : E300.0
ICAL Ref. : 22AK04
InstrumentID: D7
Parameter : SULFATE

LFID	LSID	Recovery (%)	AnalysisDateTime
AL24-01	CCV230	97.4	12/20/2210:03
AL24-13	CCV232	98.2	12/20/2214:09
AL24-25	CCV234	98.7	12/20/2218:12
AL24-37	CCV236	99.4	12/20/2222:15

CCV Acceptance Criteria: 90-110%

IC Result Check FormVersion : K09/AK04(2022)

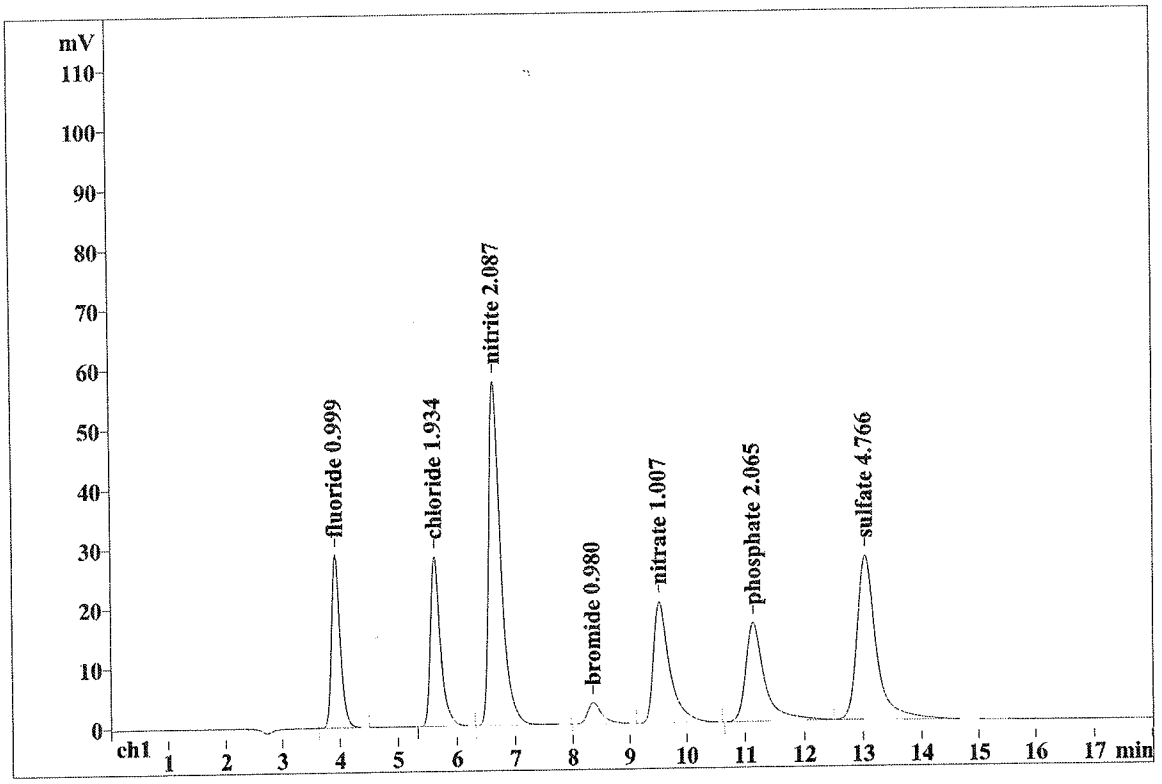
LFID	LSID	Selection	nitrate	chloride	fluoride	iodide	nitrite	bromide	phosphate	sulfate	RawNetID	DF
AL18-01	CCV208	NCFOIBPS	100.7%	96.7%	99.9%	0%*	104.4%	98%	103.3%	95.3%	_2022-12-15_09-17	1
AL18-02	CCB208	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-15_09-37	1
AL18-13	CCV210	NCFOIBPS	101.7%	97.4%	99.7%	0%*	104.6%	99.1%	101.5%	95.6%	_2022-12-15_13-20	1
AL18-14	CCB210	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-15_13-40	1
AL18-25	CCV212	NCFOIBPS	100.9%	97.2%	99.6%	0%*	103.5%	97.8%	99.4%	95%	_2022-12-15_17-23	1
AL18-26	CCB212	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-15_17-44	1
AL18-37	CCV214	NCFOIBPS	107.2%	101.9%	104.9%	0%*	105.4%	101.4%	103.8%	99.7%	_2022-12-15_21-26	1
AL18-38	CCB214	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-15_21-47	1
AL18-49	CCV216	NCFOIBPS	107.4%	101.9%	104.9%	0%*	107.1%	100.9%	103.8%	99.9%	_2022-12-16_01-29	1
AL18-50	CCB216	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_01-49	1
AL18-53	CCV218	NCFOIBPS	102.2%	97.7%	100.9%	0%*	104.2%	98.2%	100.1%	95.5%	_2022-12-16_02-50	1
AL18-54	CCB218	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_03-10	1

Report date: 12/16/2022 8:20:23 AM
Printed by: VDuran

Ident: AL18-01 CCV208
Analysis from: 12/15/2022 9:17:41 AM
File: _2022-12-15_09-17.chw Last save: 12/15/2022 9:35:42 AM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115491

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 1
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	28.94	295.258	0.999	fluoride
2	5.63	28.42	334.067	1.934	chloride
3	6.65	57.54	826.401	2.087	nitrite
4	8.35	3.56	62.510	0.980	bromide
5	9.53	20.24	395.388	1.007	nitrate
6	11.14	16.51	366.897	2.065	phosphate
7	13.04	27.48	615.168	4.766	sulfate
7	18.00	182.69	2895.687	13.839	

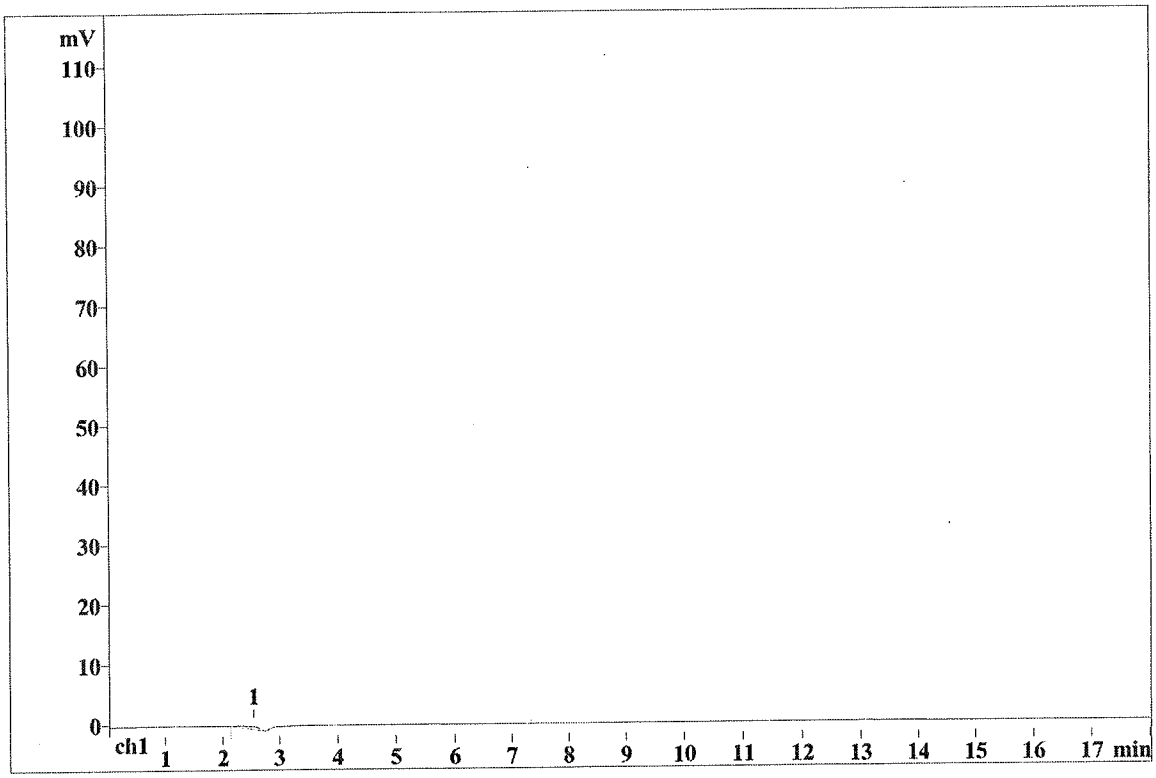
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:21:28 AM
Printed by: VDuran

Ident: AL18-02 CCB208
Analysis from: 12/15/2022 9:37:57 AM
File: _2022-12-15_09-37.chw Last save: 12/15/2022 3:21:12 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115492

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.55	0.48	9.632	0.000	

This report has been created by IC Net
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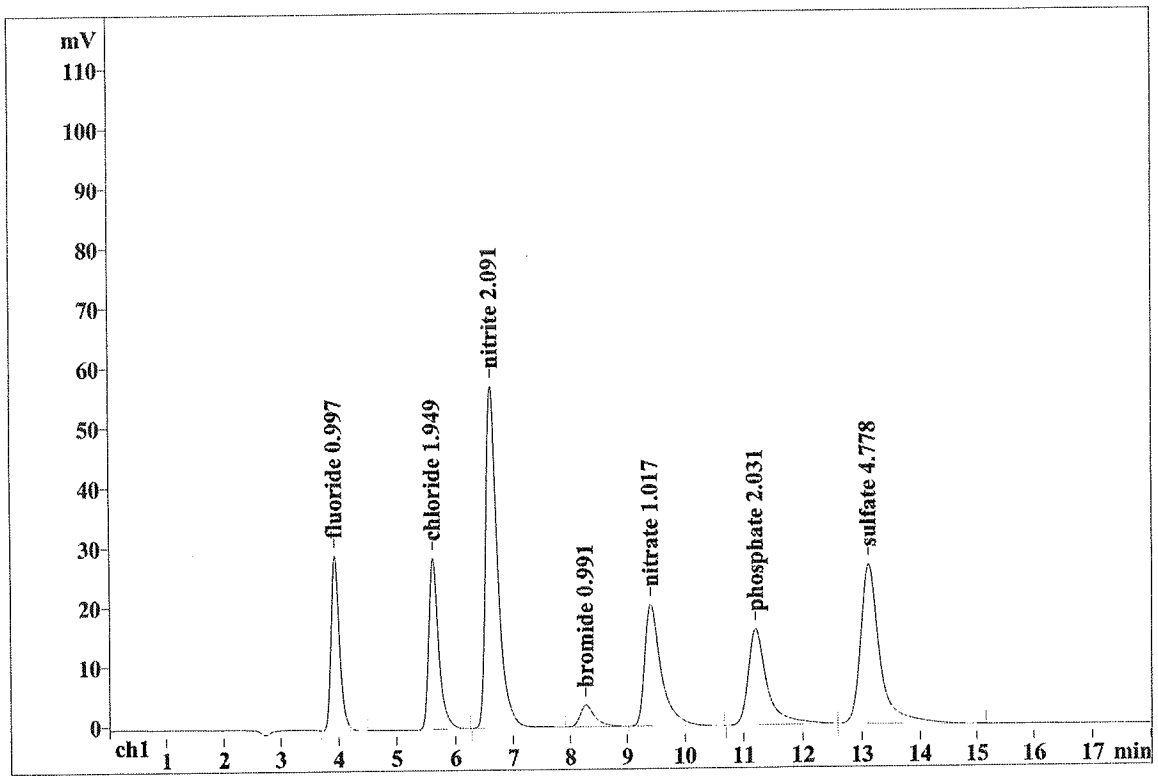
Report date: 12/16/2022 8:21:42 AM
Printed by: VDuran

Ident: AL18-13 CCV210
Analysis from: 12/15/2022 1:20:41 PM
File: _2022-12-15_13-20.chw Last save: 12/15/2022 1:38:41 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115503

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 13
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.93	29.34	294.588	0.997	fluoride
2	5.62	28.71	336.710	1.949	chloride
3	6.62	57.29	828.021	2.091	nitrite
4	8.26	3.62	63.361	0.991	bromide
5	9.41	20.45	399.531	1.017	nitrate
6	11.20	16.15	360.394	2.031	phosphate
7	13.12	26.75	616.752	4.778	sulfate
7	18.00	182.30	2899.357	13.853	

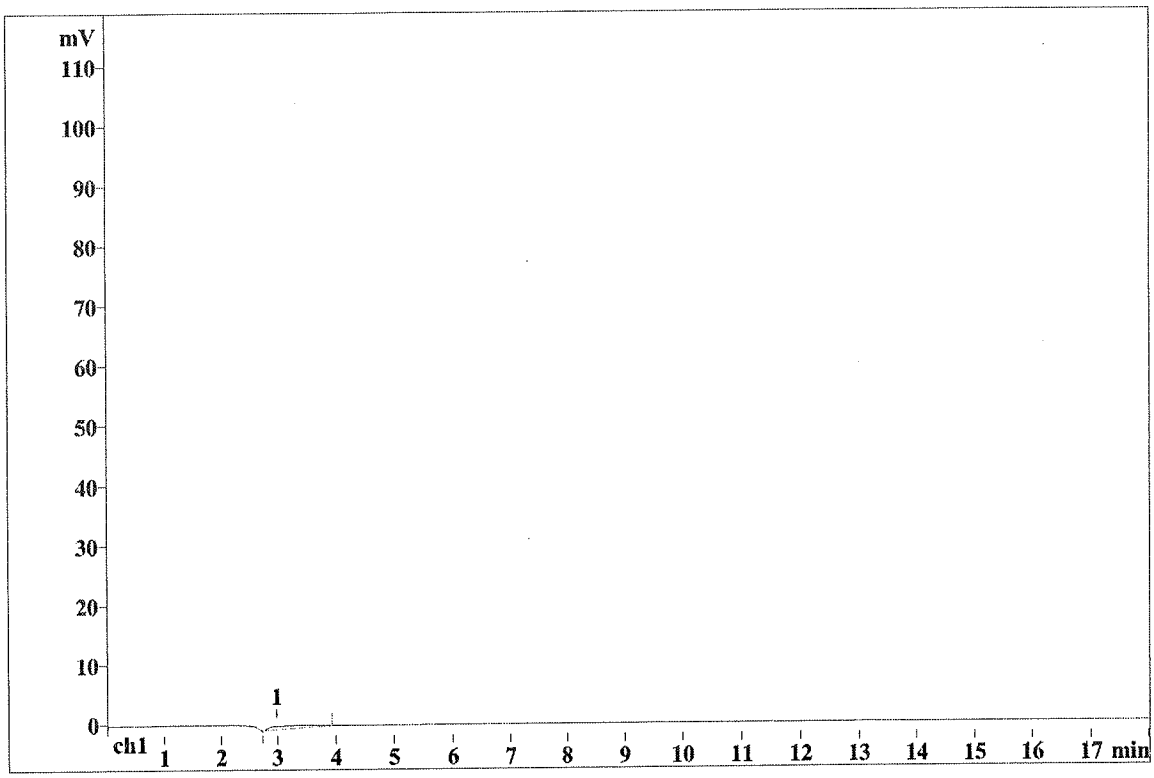
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:21:45 AM
Printed by: VDuran

Ident: AL18-14 CCB210
Analysis from: 12/15/2022 1:40:55 PM
File: _2022-12-15_13-40.chw Last save: 12/15/2022 3:22:32 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115504

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 14
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.99	0.59	25.484	0.000	

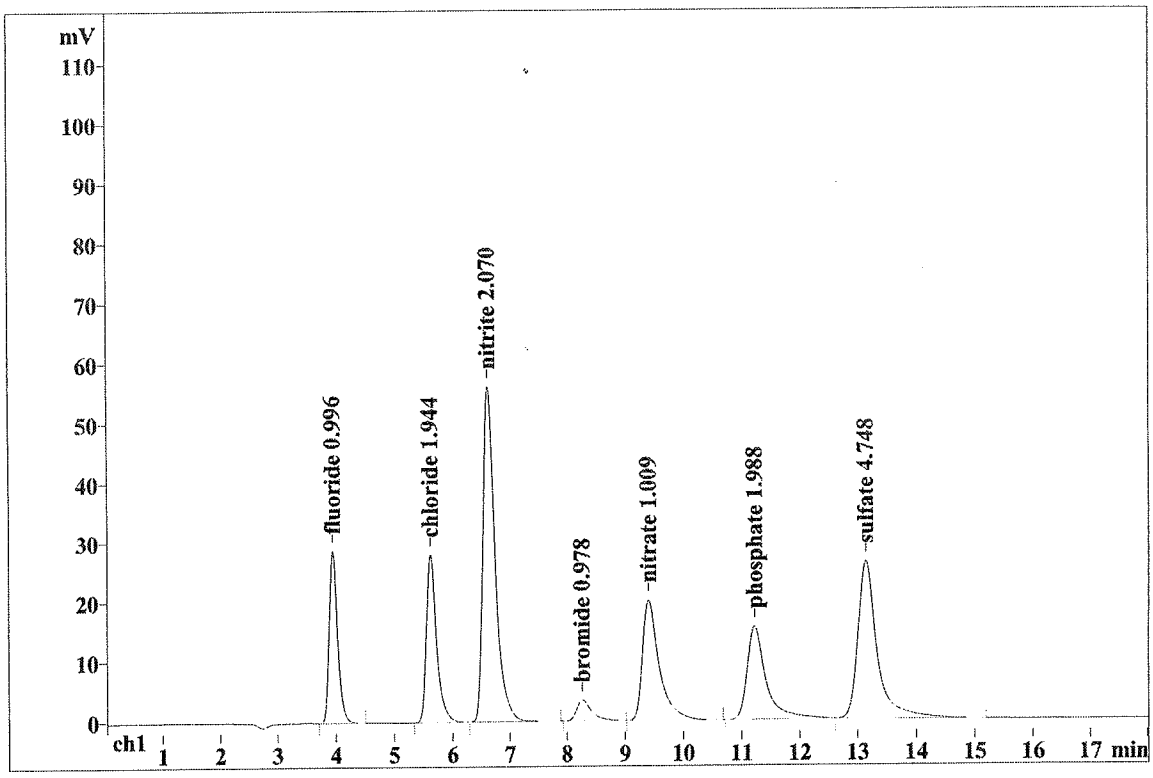
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:21:48 AM
Printed by: VDuran

Ident: AL18-25 CCV212
Analysis from: 12/15/2022 5:23:45 PM
File: _2022-12-15_17-23.chw Last save: 12/15/2022 5:41:45 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115515

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 25
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

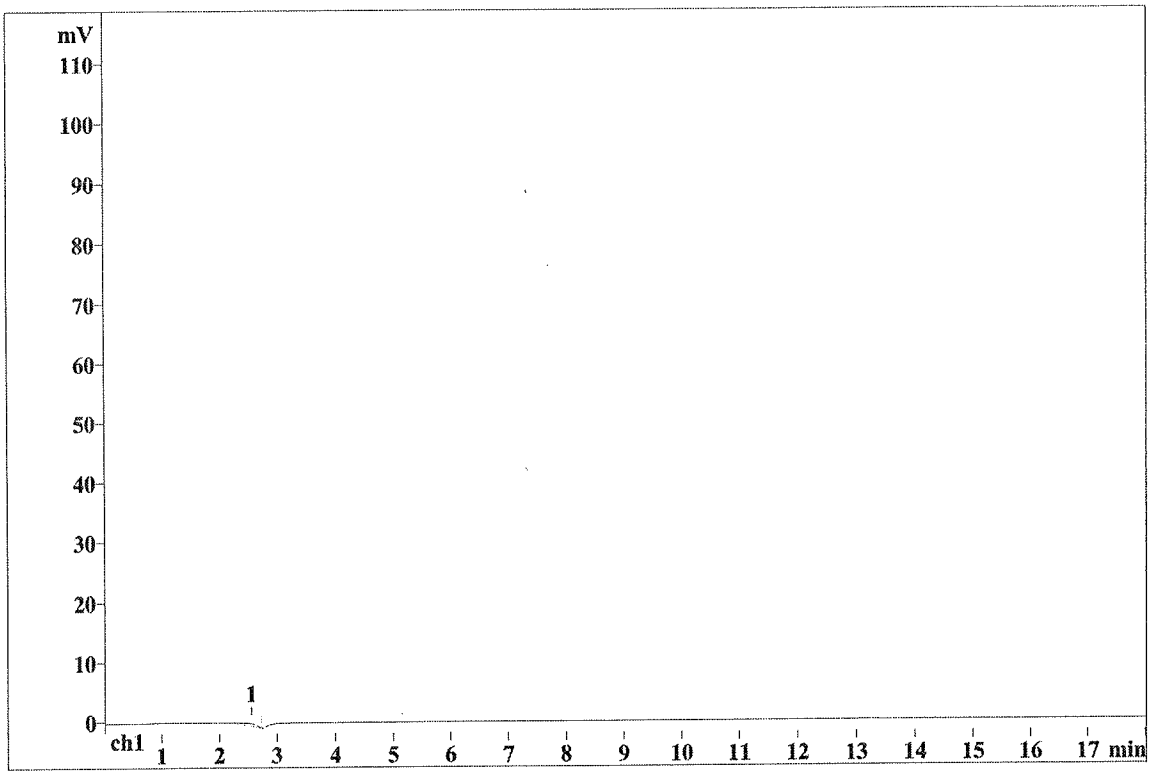
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	28.74	294.427	0.996	fluoride
2	5.62	28.06	335.816	1.944	chloride
3	6.62	56.18	819.508	2.070	nitrite
4	8.26	3.52	62.364	0.978	bromide
5	9.41	20.06	396.237	1.009	nitrate
6	11.23	15.62	352.404	1.988	phosphate
7	13.14	26.33	612.851	4.748	sulfate
7	18.00	178.51	2873.608	13.734	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:22:01 AM
Printed by: VDuran

Ident: AL18-26 CCB212
Analysis from: 12/15/2022 5:44:00 PM
File: _2022-12-15_17-44.chw Last save: 12/15/2022 6:02:00 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115516

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 26
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.57	0.46	8.677	0.000	

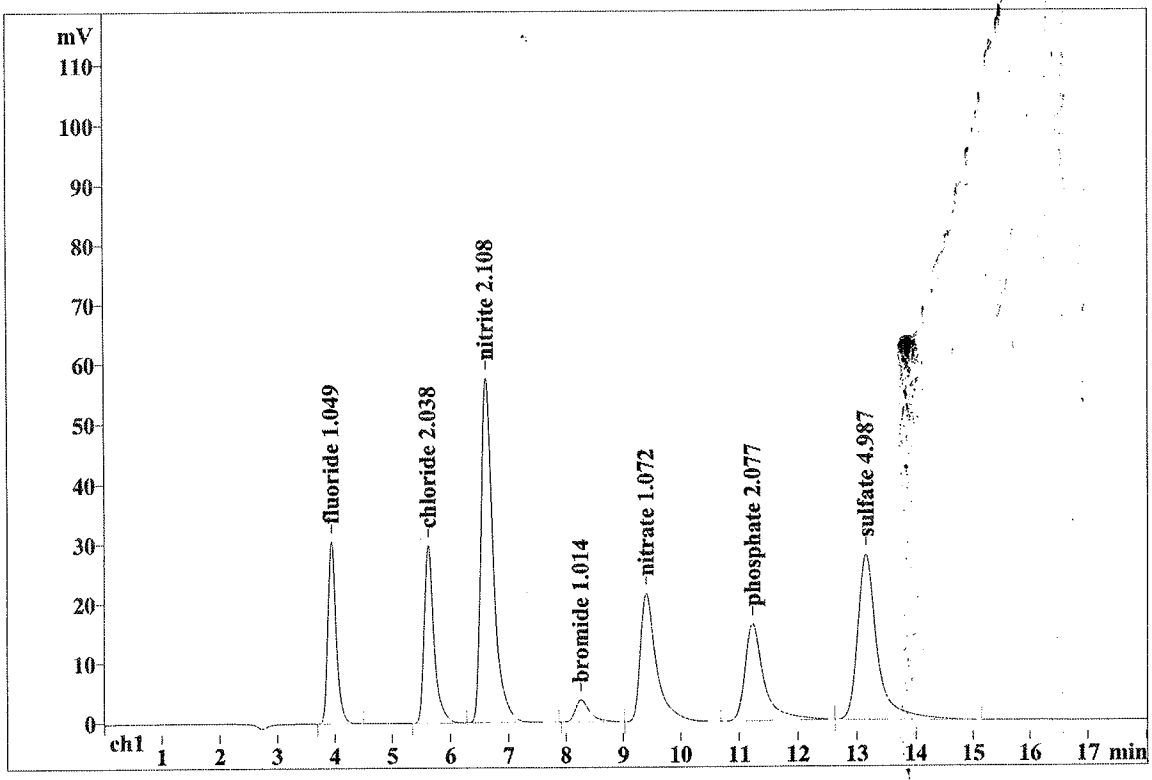
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:22:08 AM
Printed by: VDuran

Ident: AL18-37 CCV214
Analysis from: 12/15/2022 9:26:46 PM
File: _2022-12-15_21-26.chw Last save: 12/15/2022 9:44:46 PM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115527

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 37
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

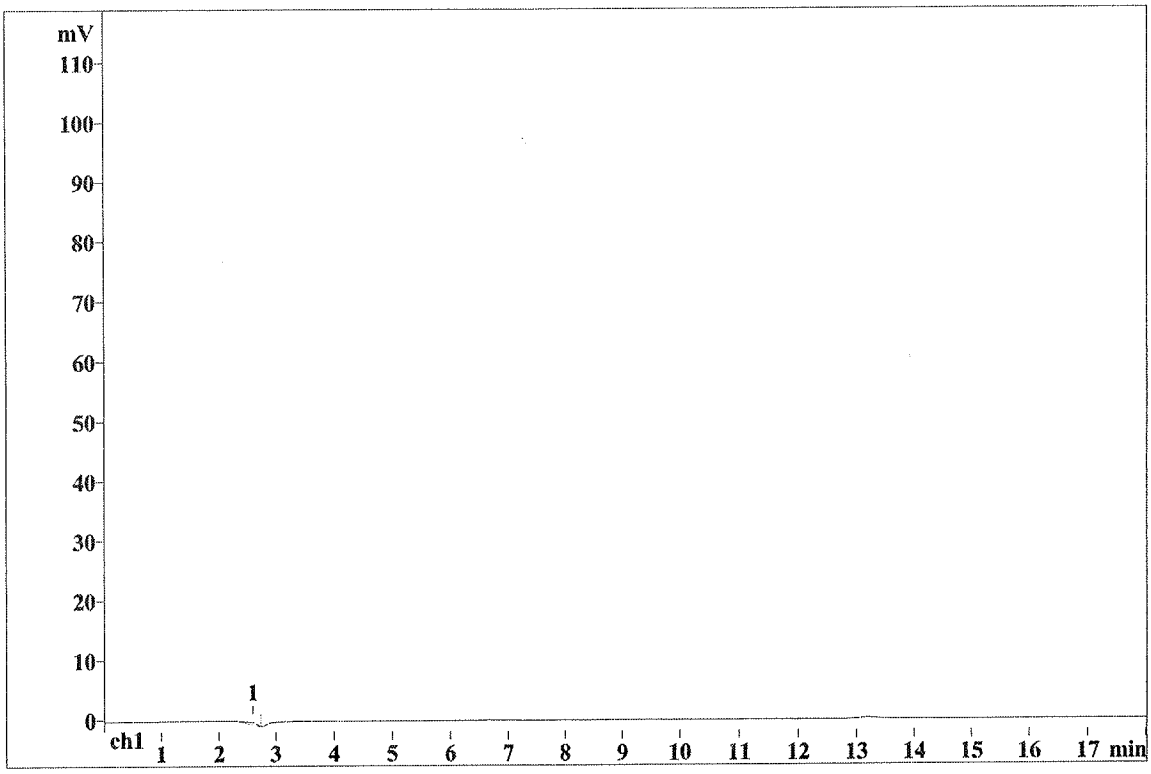
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.94	30.68	310.859	1.049	fluoride
2	5.62	29.84	352.908	2.038	chloride
3	6.62	57.71	835.149	2.108	nitrite
4	8.26	3.71	65.076	1.014	bromide
5	9.40	21.56	422.588	1.072	nitrate
6	11.23	16.31	369.033	2.077	phosphate
7	13.15	27.74	644.398	4.987	sulfate
7	18.00	187.55	3000.011	14.346	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:22:22 AM
Printed by: VDuran

Ident: AL18-38 CCB214
Analysis from: 12/15/2022 9:47:01 PM
File: _2022-12-15_21-47.chw Last save: 12/15/2022 10:05:01 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115528

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 38
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000

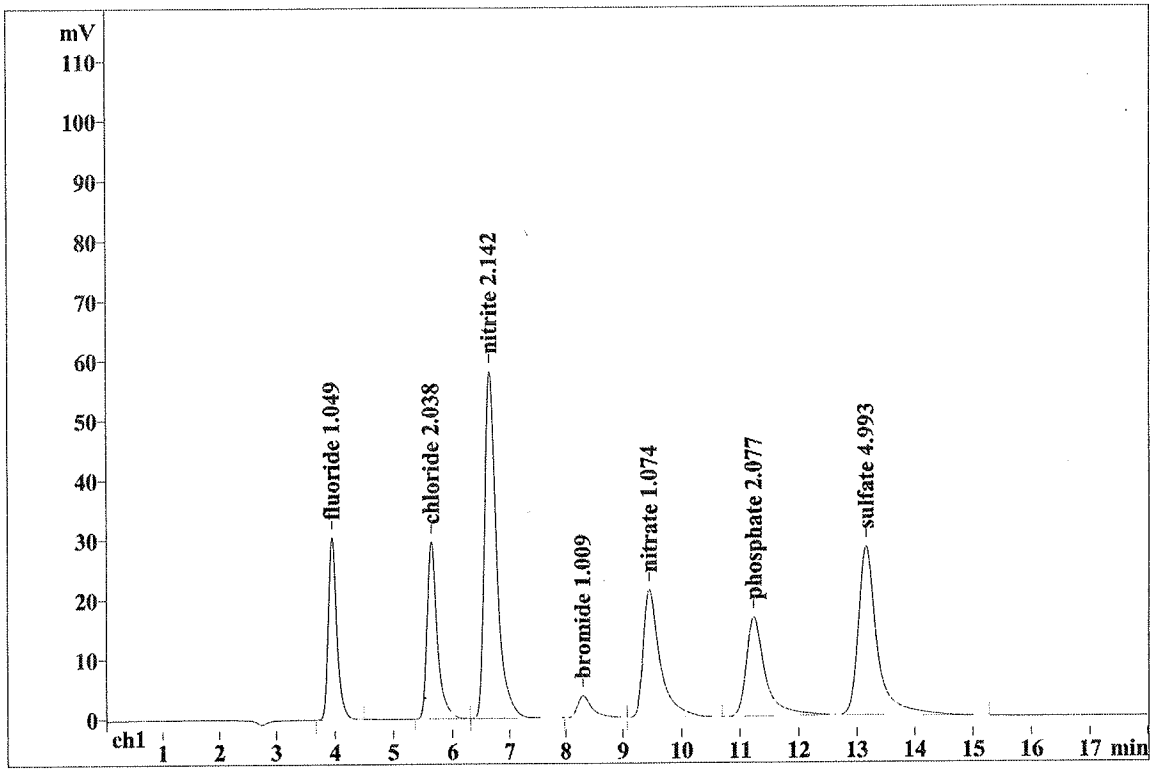


Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.58	0.39	5.365	0.000	

This report has been created by IC Net
METROHM LTD

Report date:	12/16/2022 8:22:28 AM		
Printed by:	VDuran		
Ident:	AL18-49 CCV216		
Analysis from:	12/16/2022 1:29:44 AM		
File:	_2022-12-16_01-29.chw	Last save:	12/16/2022 1:47:44 AM
Method:	ICD7-K09.mtw	Last save:	12/15/2022 9:25:05 AM
Run operator:	VDuran		
Analysis number:	115539		
SAMPLE:	METHOD 300/9056/4110B		
:			
Vial number:	49		
Volume:	1.0 µL		
Dilution:	1.00		
Amount:	1.0000		



Quantitation method: Custom

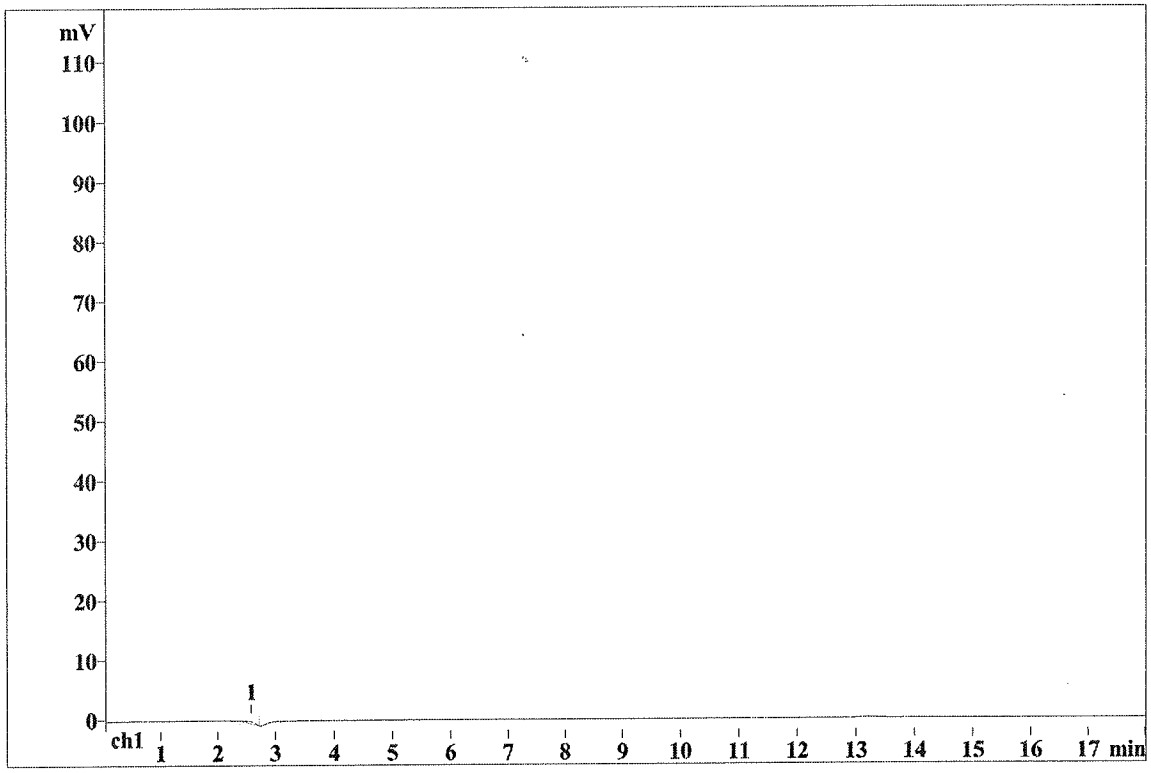
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.95	30.48	310.933	1.049	fluoride
2	5.64	29.70	352.912	2.038	chloride
3	6.64	58.09	848.869	2.142	nitrite
4	8.30	3.66	64.754	1.009	bromide
5	9.45	21.37	423.046	1.074	nitrate
6	11.23	16.63	368.967	2.077	phosphate
7	13.16	28.30	645.076	4.993	sulfate
7	18.00	188.22	3014.557	14.381	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:22:43 AM
Printed by: VDuran

Ident: AL18-50 CCB216
Analysis from: 12/16/2022 1:49:58 AM
File: _2022-12-16_01-49.chw Last save: 12/16/2022 2:07:59 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115540

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 50
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.59	0.32	3.543	0.000	

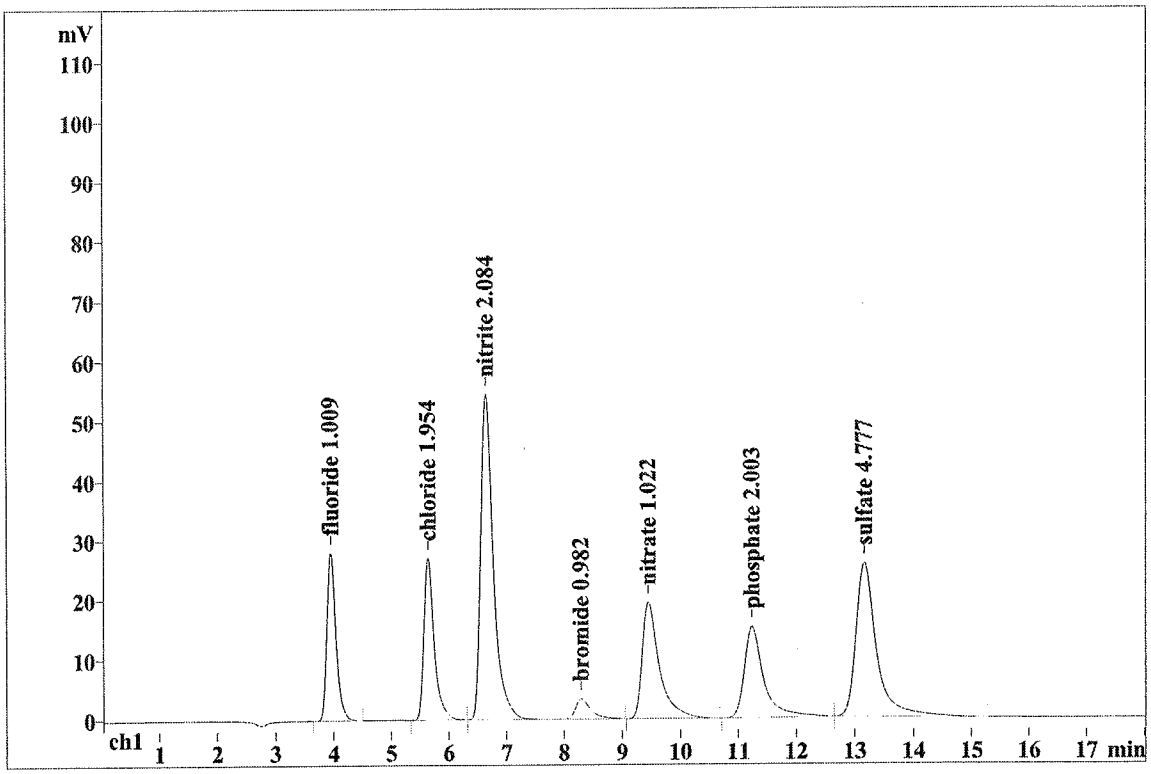
This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:22:49 AM
Printed by: VDuran

Ident: AL18-53 CCV218
Analysis from: 12/16/2022 2:50:43 AM
File: _2022-12-16_02-50.chw Last save: 12/16/2022 3:08:44 AM

Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115543

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 53
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

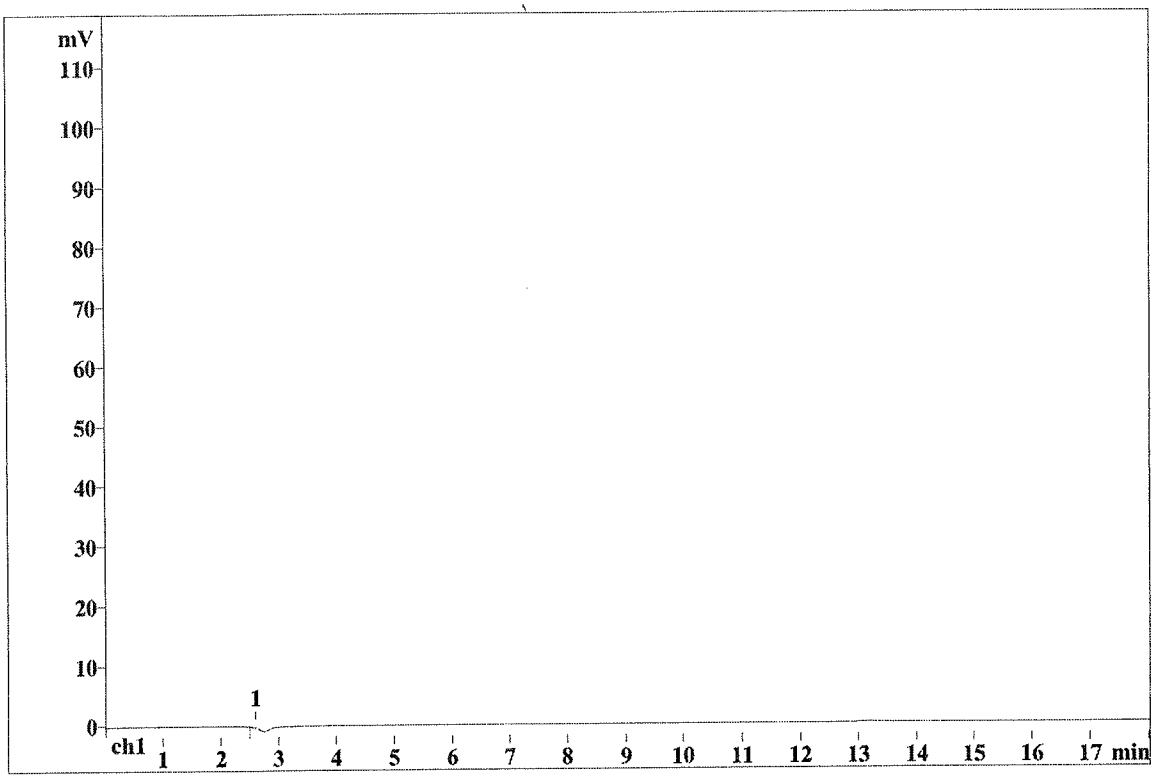
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.95	28.15	298.501	1.009	fluoride
2	5.64	27.11	337.645	1.954	chloride
3	6.64	54.49	825.250	2.084	nitrite
4	8.30	3.40	62.654	0.982	bromide
5	9.45	19.46	401.476	1.022	nitrate
6	11.23	15.28	355.163	2.003	phosphate
7	13.16	25.79	616.673	4.777	sulfate
7	18.00	173.68	2897.362	13.831	

This report has been created by IC Net
METROHM LTD

Report date: 12/16/2022 8:23:02 AM
Printed by: VDuran

Ident: AL18-54 CCB218
Analysis from: 12/16/2022 3:10:58 AM
File: _2022-12-16_03-10.chw Last save: 12/16/2022 3:28:58 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/15/2022 9:25:05 AM
Run operator: VDuran
Analysis number: 115544

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 54
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.61	0.22	1.727	0.000	

This report has been created by IC Net
METROHM LTD

IC Result Check FormVersion : K09/AK04(2022)

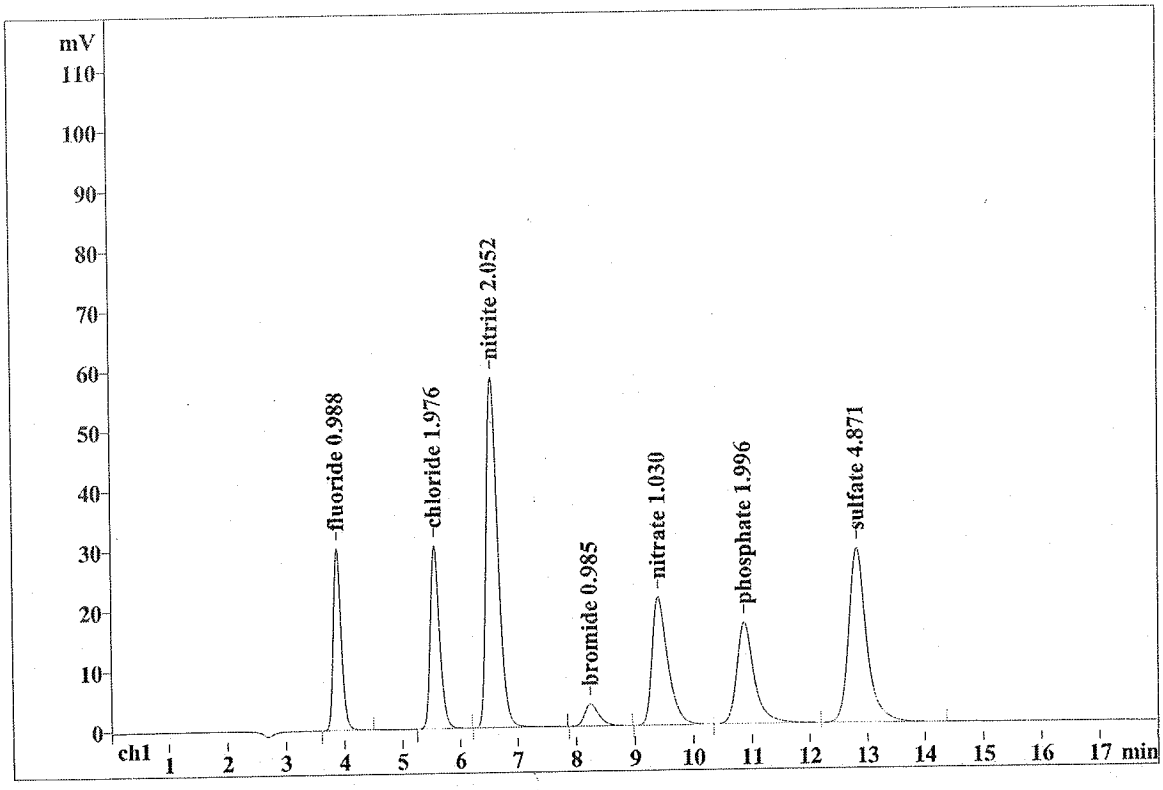
LFID	LSID	Selection	bromide	chloride	sulfate	iodide	nitrate	nitrite	fluoride	phosphate	RawNetID	DF
AL24-01	CCV230	BCSONIFP	98.5%	98.8%	97.4%	0%*	103%	102.6%	98.8%	99.8%	_2022-12-20_10-03	1
AL24-02	CCB230	BCSONIFP	0	0	0	0	0	0	0	0	_2022-12-20_10-23	1
AL24-13	CCV232	BCSONIFP	98.9%	102.6%	98.2%	0%*	105.8%	103.3%	99.4%	99.9%	_2022-12-20_14-09	1
AL24-14	CCB232	BCSONIFP	0	0	0	0	0	0	0	0	_2022-12-20_14-29	1
AL24-25	CCV234	BCSONIFP	99.2%	100.9%	98.7%	0%*	105.5%	103.7%	99.8%	99.9%	_2022-12-20_18-12	1
AL24-26	CCB234	BCSONIFP	0	0	0	0	0	0	0	0	_2022-12-20_18-32	1
AL24-37	CCV236	BCSONIFP	99.3%	115.6%*	99.4%	0%*	107.1%	103.6%	99.9%	100.4%	_2022-12-20_22-15	1
AL24-38	CCB236	BCSONIFP	0	0	0	0	0	0	0	0	_2022-12-20_22-35	1
AL24-49	CCV238	BCSONIFP	99.4%	112.9%*	100.1%	0%*	106.8%	103.8%	100.1%	100.6%	_2022-12-21_02-18	1
AL24-50	CCB238	BCSONIFP	0	0	0	0	0	0	0	0	_2022-12-21_02-38	1
AL24-58	CCV240	BCSONIFP	101.8%	472.6%*	158.2%*	0%*	103.1%	105.6%	97.7%	96.4%	_2022-12-21_05-20	1

Report date: 12/21/2022 7:41:58 AM
Printed by: CSando

Ident: AL24-01 CCV230
Analysis from: 12/20/2022 10:03:01 AM
File: _2022-12-20_10-03.chw Last save: 12/20/2022 10:21:02 AM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115589

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 1
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

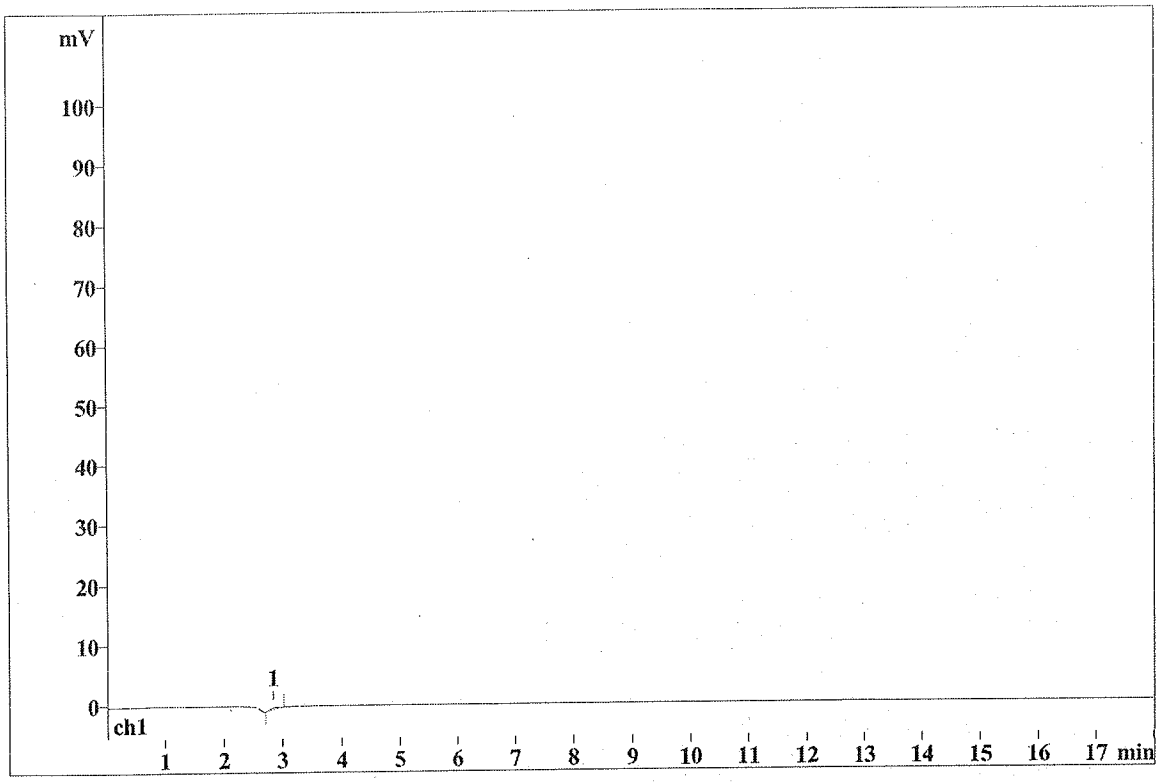
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	30.27	291.857	0.988	fluoride
2	5.56	30.49	341.690	1.976	chloride
3	6.56	58.43	812.014	2.052	nitrite
4	8.24	3.72	62.881	0.985	bromide
5	9.40	21.43	404.939	1.030	nitrate
6	10.87	16.98	353.939	1.996	phosphate
7	12.82	29.09	629.018	4.871	sulfate
7	17.99	190.41	2896.337	13.898	

This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:48:06 AM
Printed by: CSando

Ident: AL24-02 CCB230
Analysis from: 12/20/2022 10:23:16 AM
File: _2022-12-20_10-23.chw Last save: 12/21/2022 8:46:52 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115590

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.84	0.31	3.345	0.000	

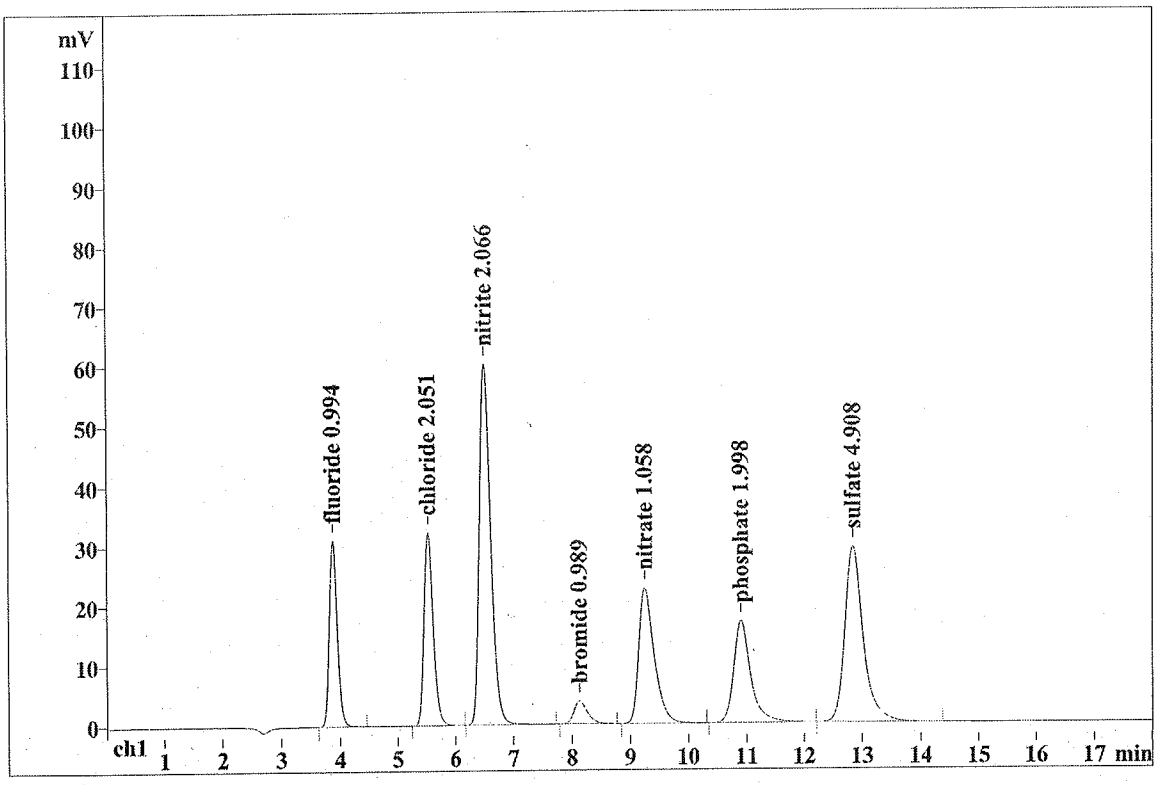
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:48:53 AM
Printed by: CSando

Ident: AL24-13 CCV232
Analysis from: 12/20/2022 2:09:15 PM
File: _2022-12-20_14-09.chw Last save: 12/20/2022 2:27:15 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115601

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 13
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

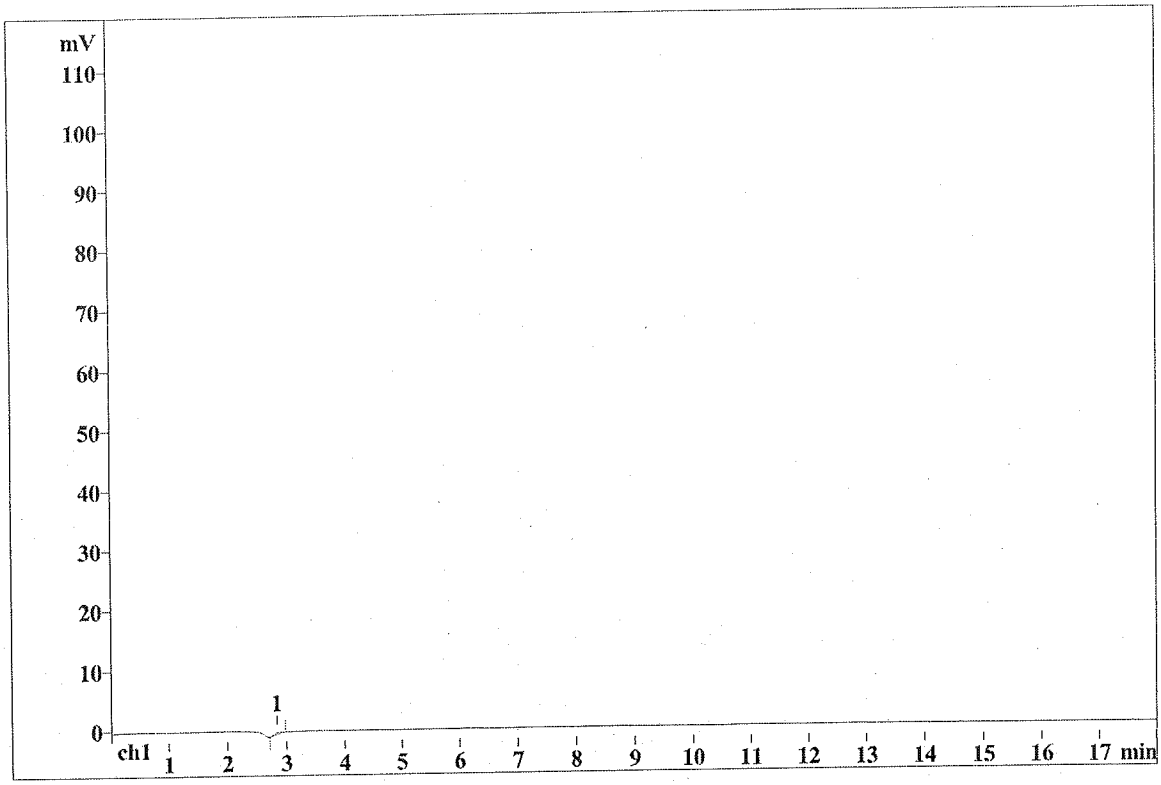
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	31.14	293.720	0.994	fluoride
2	5.53	32.31	355.296	2.051	chloride
3	6.51	60.30	817.772	2.066	nitrite
4	8.13	3.86	63.203	0.989	bromide
5	9.25	22.72	416.510	1.058	nitrate
6	10.90	17.13	354.249	1.998	phosphate
7	12.85	29.37	633.960	4.908	sulfate
7	18.00	196.82	2934.709	14.064	

This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:49:12 AM
Printed by: CSando

Ident: AL24-14 CCB232
Analysis from: 12/20/2022 2:29:29 PM
File: _2022-12-20_14-29.chw Last save: 12/20/2022 2:47:29 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115602

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 14
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.84	0.28	2.504	0.000	

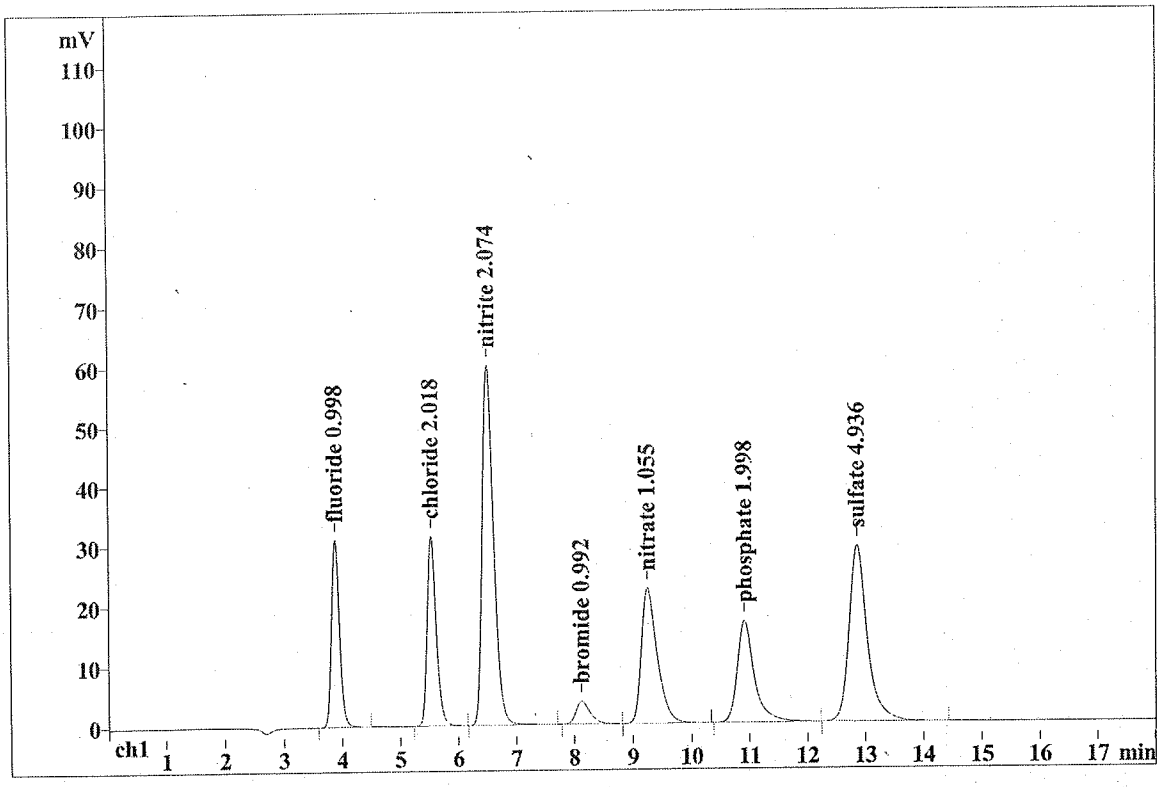
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:49:20 AM
Printed by: CSando

Ident: AL24-25 CCV234
Analysis from: 12/20/2022 6:12:13 PM
File: _2022-12-20_18-12.chw Last save: 12/20/2022 6:30:14 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115613

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 25
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

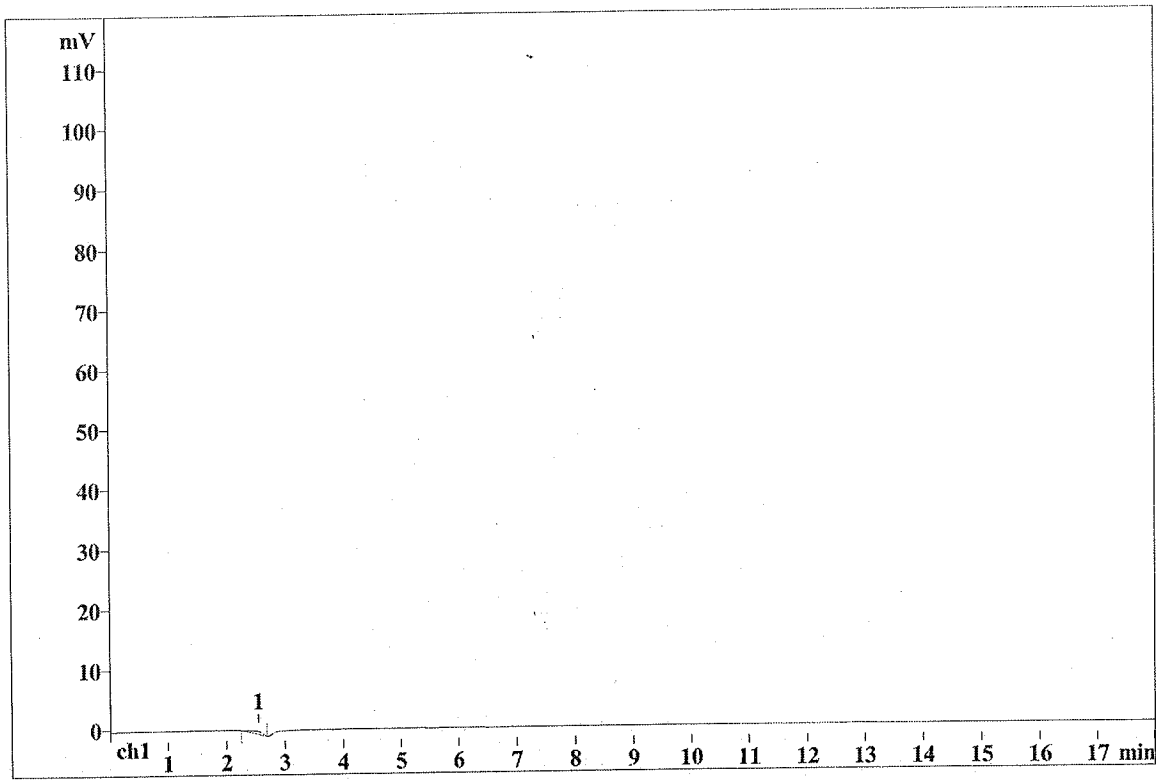
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.88	31.13	295.074	0.998	fluoride
2	5.53	31.55	349.234	2.018	chloride
3	6.51	60.16	821.175	2.074	nitrite
4	8.12	3.85	63.447	0.992	bromide
5	9.24	22.53	415.176	1.055	nitrate
6	10.91	16.97	354.236	1.998	phosphate
7	12.86	29.31	637.654	4.936	sulfate
7	18.00	195.50	2935.996	14.071	

This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:50:35 AM
Printed by: CSando

Ident: AL24-26 CCB234
Analysis from: 12/20/2022 6:32:28 PM
File: _2022-12-20_18-32.chw Last save: 12/20/2022 6:50:29 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115614

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 26
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.54	0.48	6.946	0.000	

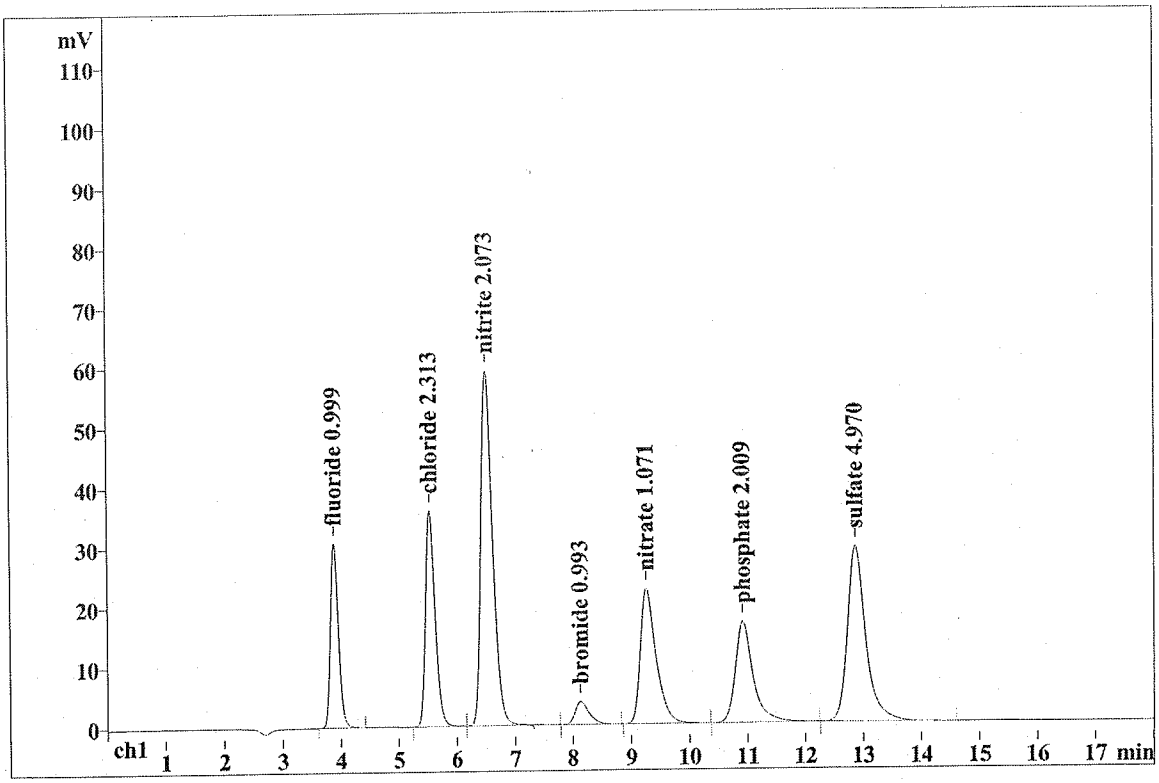
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:50:43 AM
Printed by: CSando

Ident: AL24-37 CCV236
Analysis from: 12/20/2022 10:15:12 PM
File: _2022-12-20_22-15.chw Last save: 12/20/2022 10:33:12 PM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115625

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 37
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

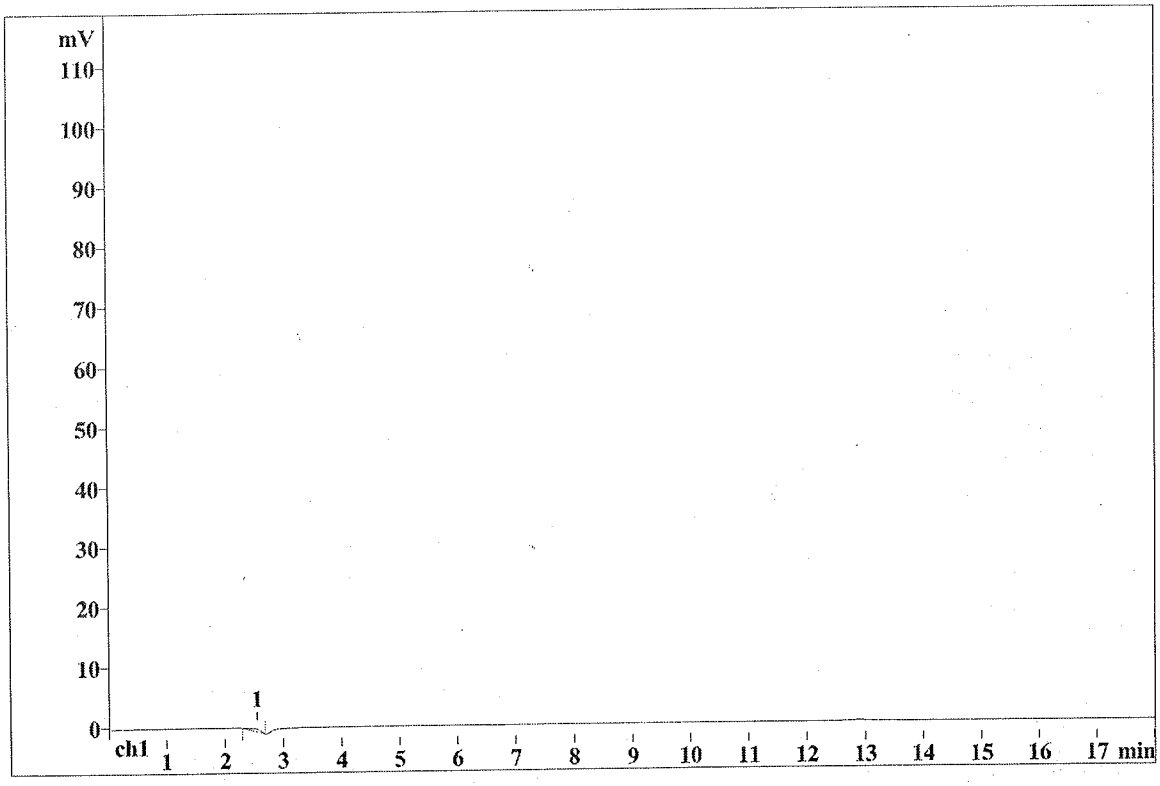
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	30.83	295.203	0.999	fluoride
2	5.54	36.06	402.918	2.313	chloride
3	6.51	59.22	820.507	2.073	nitrite
4	8.13	3.81	63.520	0.993	bromide
5	9.26	22.63	421.822	1.071	nitrate
6	10.91	16.90	356.294	2.009	phosphate
7	12.87	29.31	642.042	4.970	sulfate
7	18.00	198.77	3002.307	14.426	

This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:51:53 AM
Printed by: CSando

Ident: AL24-38 CCB236
Analysis from: 12/20/2022 10:35:27 PM
File: _2022-12-20_22-35.chw Last save: 12/20/2022 10:53:27 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115626

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 38
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.55	0.45	5.845	0.000	

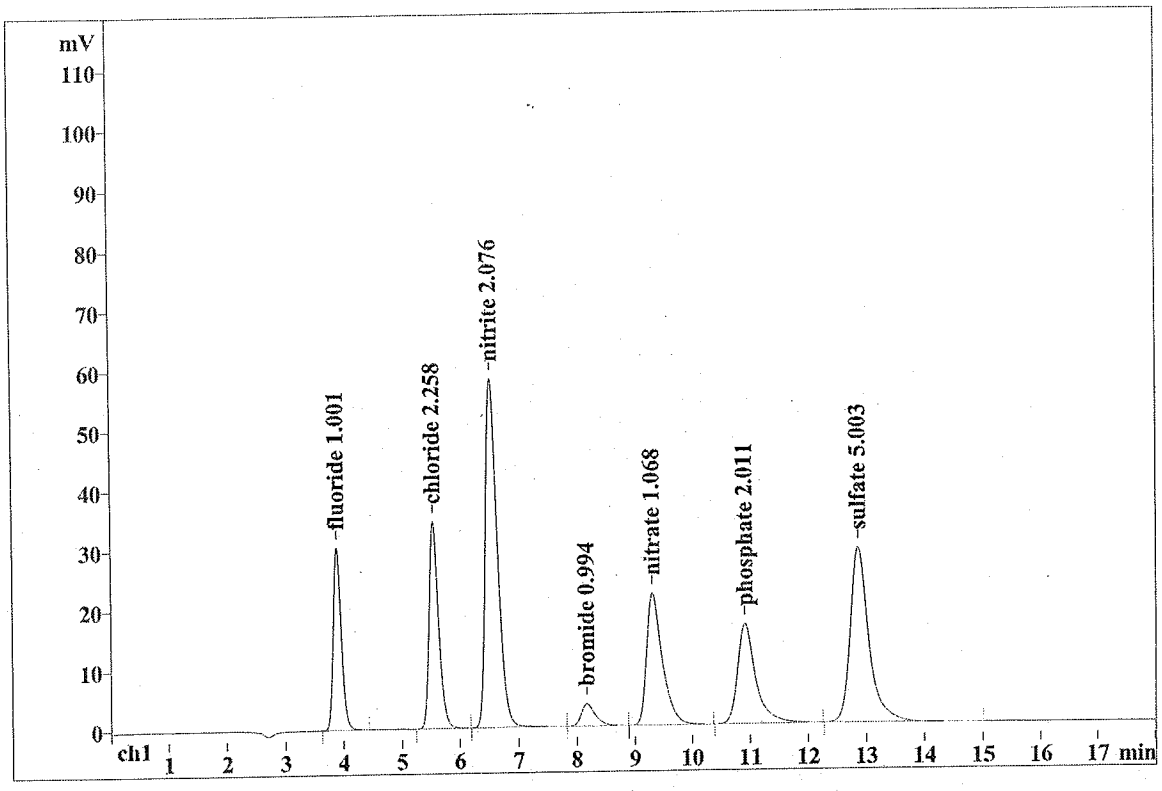
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:52:00 AM
Printed by: CSando

Ident: AL24-49 CCV238
Analysis from: 12/21/2022 2:18:13 AM
File: _2022-12-21_02-18.chw Last save: 12/21/2022 2:36:13 AM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115637

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 49
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

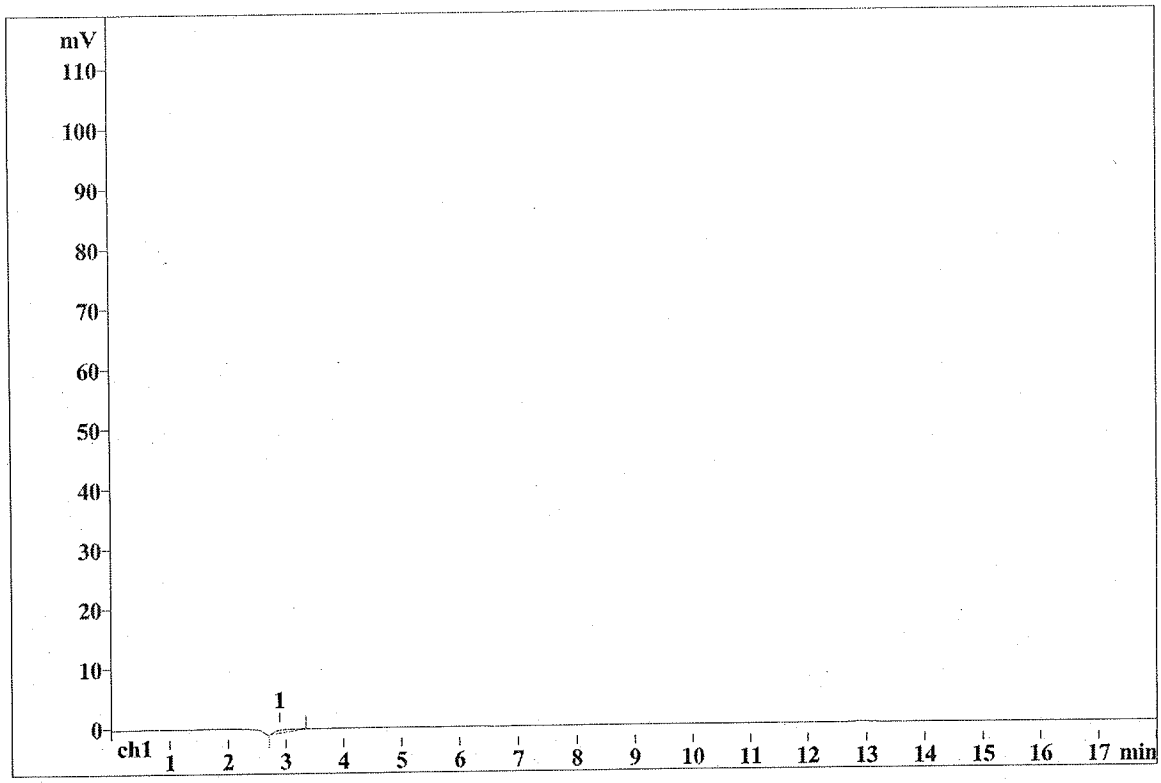
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	30.52	295.814	1.001	fluoride
2	5.55	34.61	392.887	2.258	chloride
3	6.53	58.27	822.046	2.076	nitrite
4	8.17	3.74	63.559	0.994	bromide
5	9.31	22.10	420.597	1.068	nitrate
6	10.91	16.76	356.739	2.011	phosphate
7	12.87	29.21	646.415	5.003	sulfate
7	18.00	195.21	2998.057	14.410	

This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:52:18 AM
Printed by: CSando

Ident: AL24-50 CCB238
Analysis from: 12/21/2022 2:38:28 AM
File: _2022-12-21_02-38.chw Last save: 12/21/2022 2:56:29 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115638

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 50
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.89	0.51	11.221	0.000	

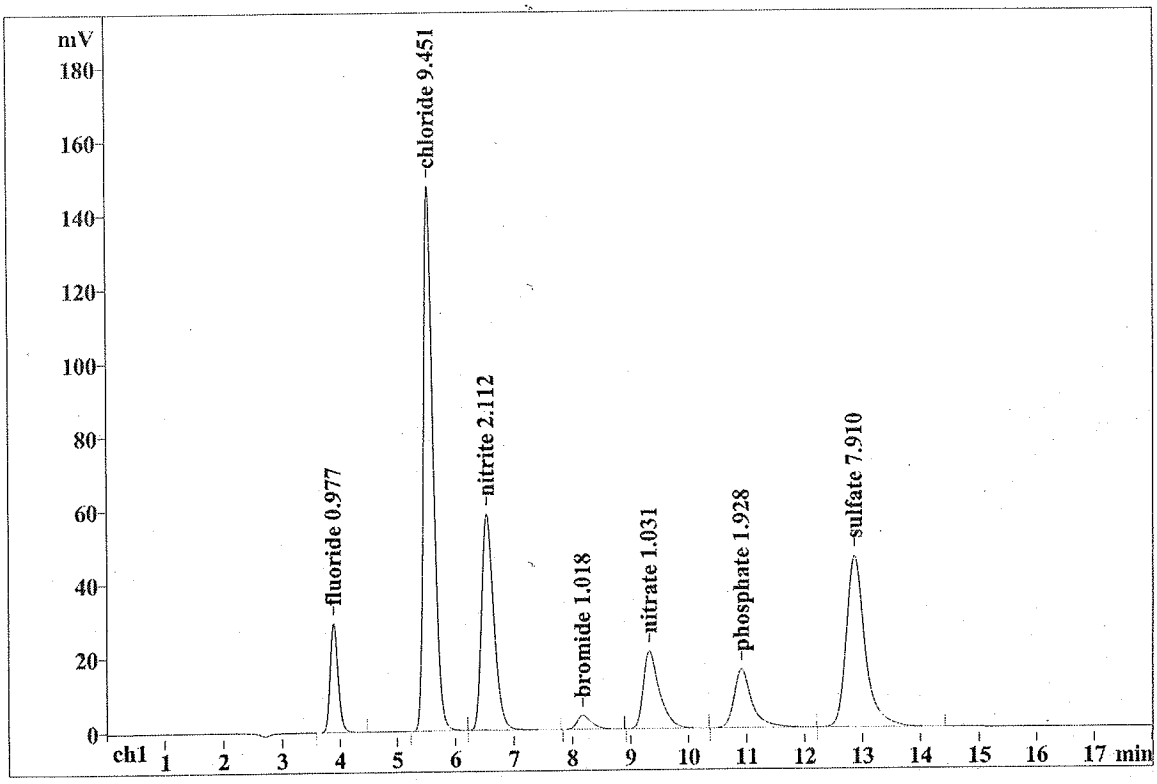
This report has been created by IC Net
METROHM LTD

Report date: 12/21/2022 8:57:38 AM
Printed by: CSando

Ident: AL24-58 CCV240
Analysis from: 12/21/2022 5:20:29 AM
File: _2022-12-21_05-20.chw Last save: 12/21/2022 5:38:30 AM

Method: ICD7-K09.mtw Last save: 12/20/2022 10:17:30 AM
Run operator: CSando
Analysis number: 115646

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 57
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000

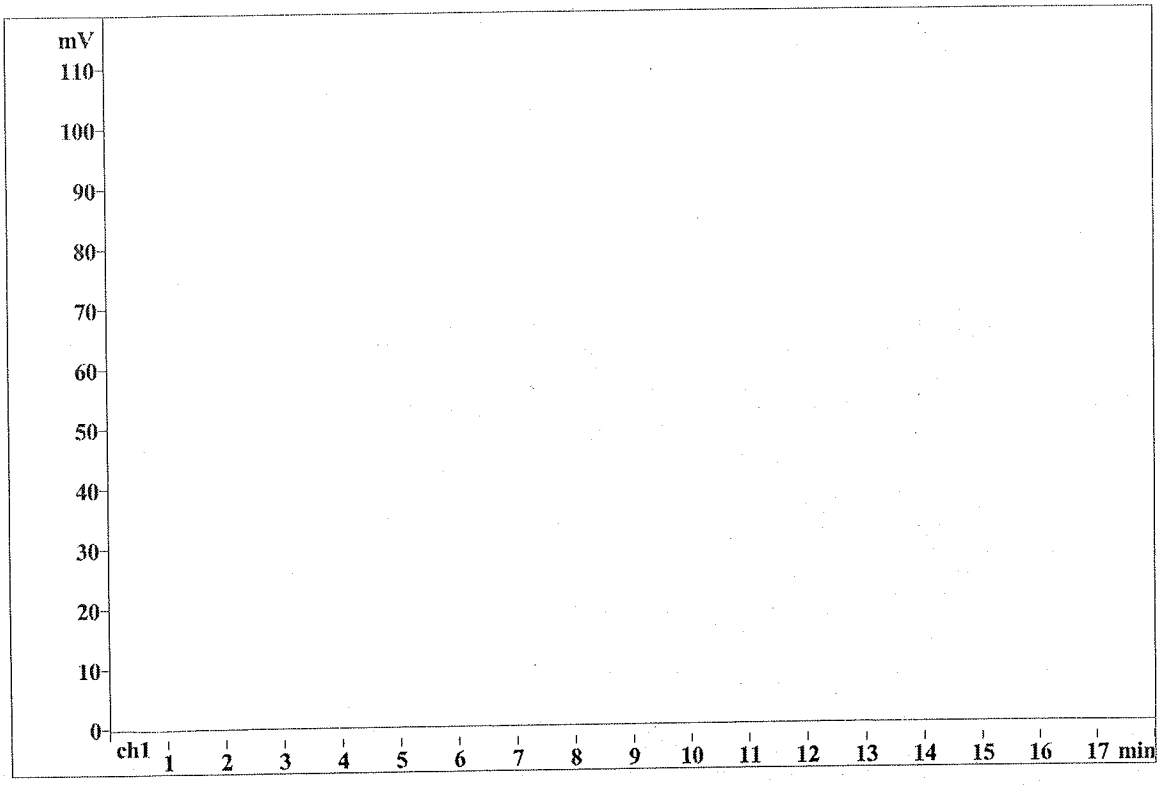


Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	29.40	288.629	0.977	fluoride
2	5.54	147.56	1702.376	9.451	chloride
3	6.54	58.47	836.454	2.112	nitrite
4	8.18	3.80	65.429	1.018	bromide
5	9.32	21.01	405.423	1.031	nitrate
6	10.91	15.81	341.236	1.928	phosphate
7	12.86	46.29	1030.105	7.910	sulfate
7	18.00	322.35	4669.653	24.427	

This report has been created by IC Net
METROHM LTD

Report date:	12/21/2022 9:00:25 AM	
Printed by:	CSando	
Ident:	AL24-59 CCB240	
Analysis from:	12/21/2022 5:40:45 AM	
File:	_2022-12-21_05-40.chw	Last save: 12/21/2022 5:58:45 AM
Modified!		
Method:	ICD7-K09.mtw	Last save: 12/20/2022 10:17:30 AM
Run operator:	CSando	
Analysis number:	115647	
SAMPLE:	METHOD 300/9056/4110B	
:		
Vial number:	57	
Volume:	1.0 µL	
Dilution:	1.00	
Amount:	1.0000	



Quantitation method: Custom

No peaks

This report has been created by IC Net
METROHM LTD

IC Result Check FormVersion : K09/AK04(2022)

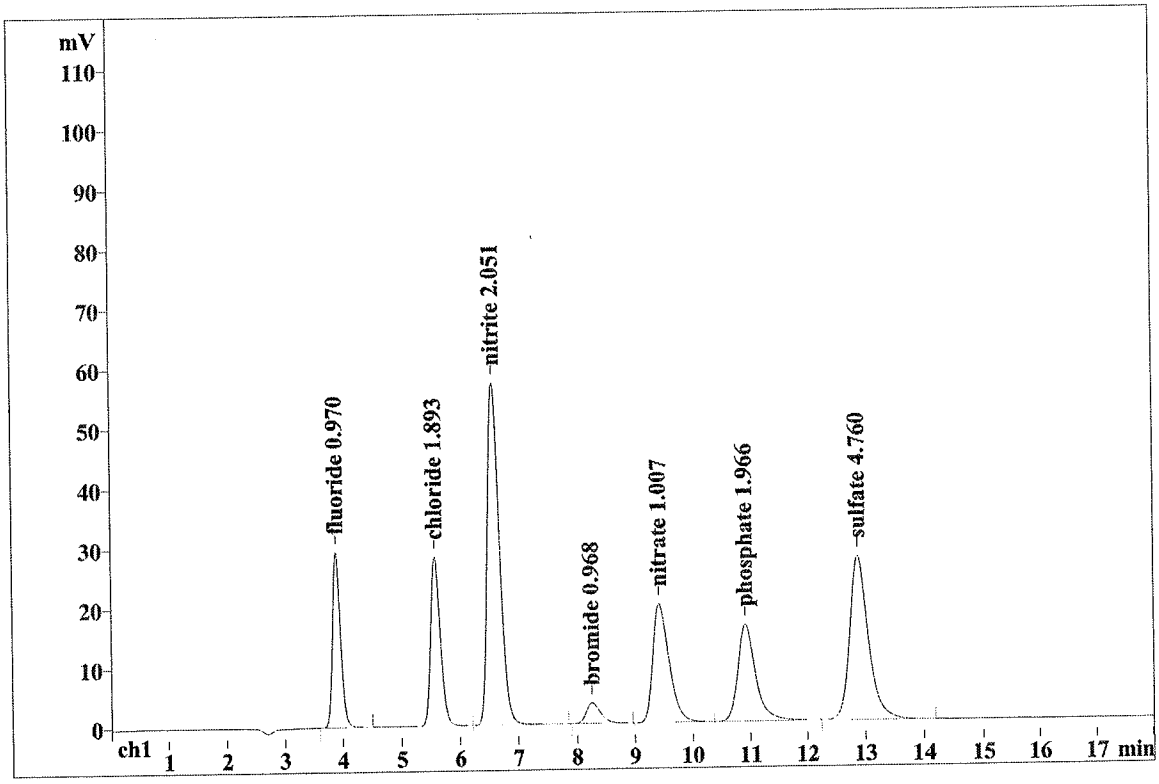
LFID	LSID	Selection	bromide	chloride	fluoride	iodide	phosphate	nitrite	nitrate	sulfate	RawNetID	DF
AL26-01	CCV242	BCFOPINS	96.8%	94.6%	97%	0%*	98.3%	102.6%	100.7%	95.2%	_2022-12-21_09-55	1
AL26-02	CCB242	BCFOPINS	0	0	0	0	0	0	0	0	_2022-12-21_10-15	1
AL26-13	CCV244	BCFOPINS	95.5%	94.9%	96.5%	0%*	96.3%	101.5%	100.5%	94.7%	_2022-12-21_15-27	1
AL26-14	CCB244	BCFOPINS	0	0	0	0	0	0	0	0	_2022-12-21_15-47	1
AL26-25	CCV246	BCFOPINS	95.8%	103.2%	96.9%	0%*	98.5%	101.3%	104.5%	96.1%	_2022-12-21_19-30	1
AL26-26	CCB246	BCFOPINS	0	0	0	0	0	0	0	0	_2022-12-21_19-50	1
AL26-35	CCV248	BCFOPINS	95.9%	96.4%	97.5%	0%*	98.4%	102.3%	101.1%	95.7%	_2022-12-21_22-52	1
AL26-36	CCB248	BCFOPINS	0	0	0	0	0	0	0	0	_2022-12-21_23-13	1

Report date: 12/21/2022 5:54:59 PM
Printed by: CSando

Ident: AL26-01 CCV242
Analysis from: 12/21/2022 9:55:36 AM
File: _2022-12-21_09-55.chw Last save: 12/21/2022 10:13:36 AM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115649

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 1
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

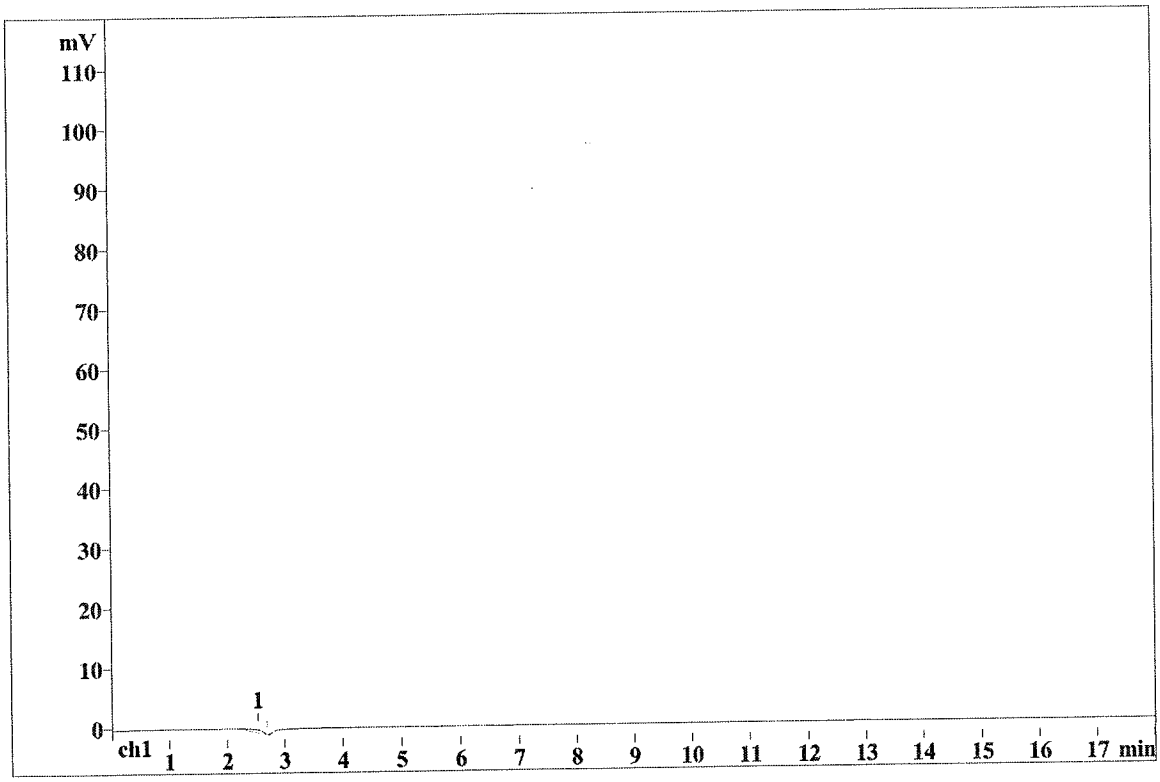
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.90	29.39	286.258	0.970	fluoride
2	5.58	28.37	326.465	1.893	chloride
3	6.58	57.30	811.871	2.051	nitrite
4	8.26	3.50	61.600	0.968	bromide
5	9.43	19.95	395.247	1.007	nitrate
6	10.92	16.32	348.417	1.966	phosphate
7	12.88	27.51	614.428	4.760	sulfate
7	18.00	182.34	2844.287	13.615	

This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:05:31 AM
Printed by: CSando

Ident: AL26-02 CCB242
Analysis from: 12/21/2022 10:15:51 AM
File: _2022-12-21_10-15.chw Last save: 12/21/2022 10:33:51 AM
Modified!
Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115650

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.54	0.48	7.697	0.000	

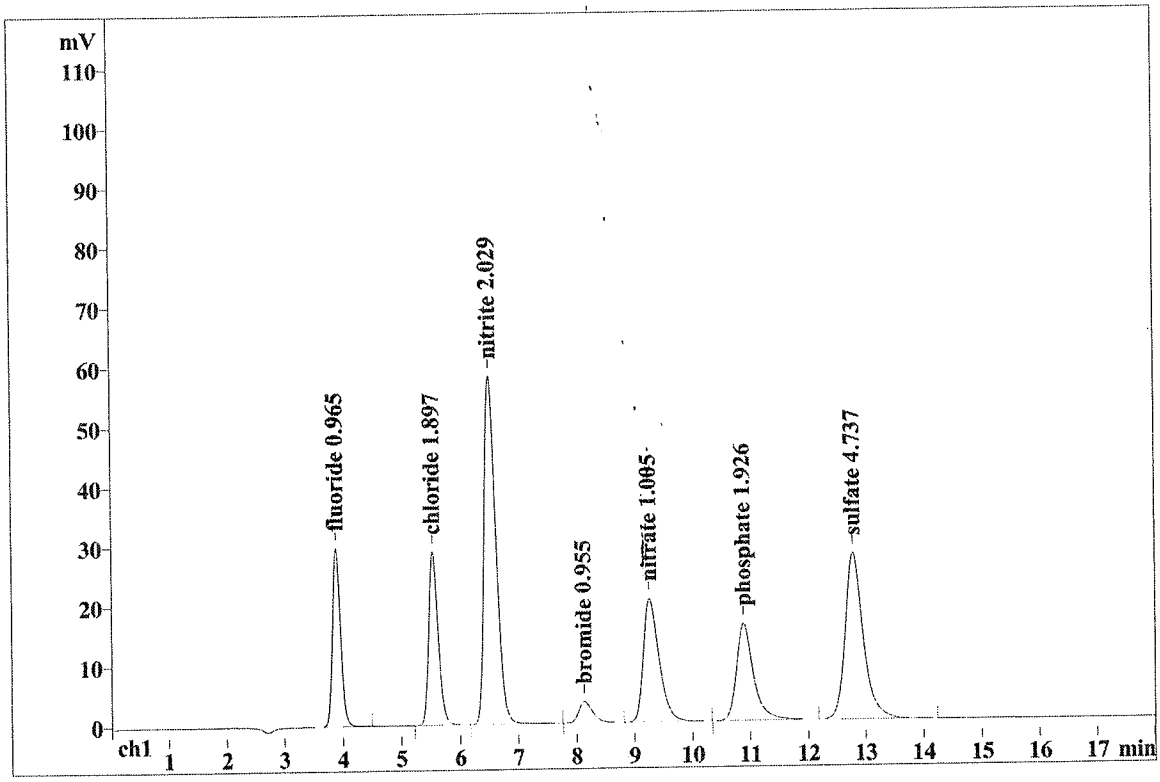
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:06:05 AM
Printed by: CSando

Ident: AL26-13 CCV244
Analysis from: 12/21/2022 3:27:22 PM
File: _2022-12-21_15-27.chw Last save: 12/21/2022 3:45:22 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115661

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 13
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

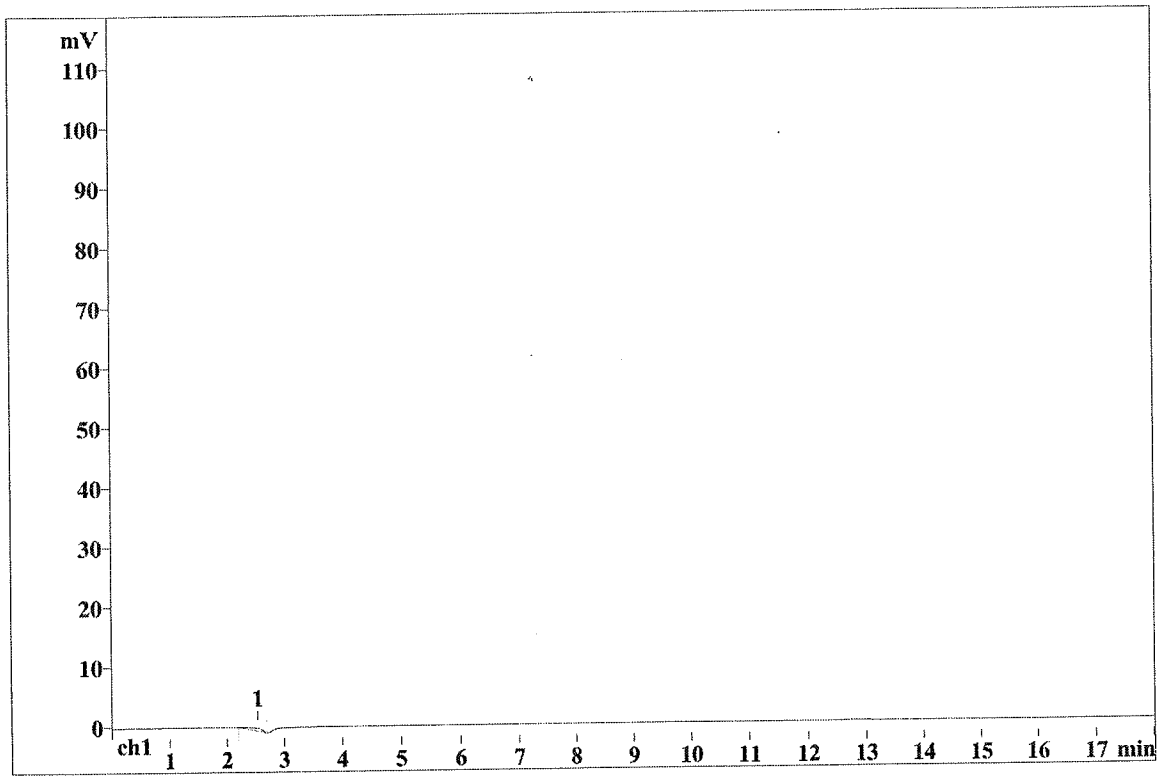
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	29.81	284.943	0.965	fluoride
2	5.54	29.03	327.313	1.897	chloride
3	6.52	58.27	802.860	2.029	nitrite
4	8.14	3.56	60.597	0.955	bromide
5	9.26	20.66	394.573	1.005	nitrate
6	10.89	16.25	340.944	1.926	phosphate
7	12.79	27.85	611.341	4.737	sulfate
7	18.00	185.42	2822.571	13.516	

This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:06:33 AM
Printed by: CSando

Ident: AL26-14 CCB244
Analysis from: 12/21/2022 3:47:37 PM
File: _2022-12-21_15-47.chw Last save: 12/21/2022 4:05:37 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115662

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 14
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.54	0.47	7.845	0.000	

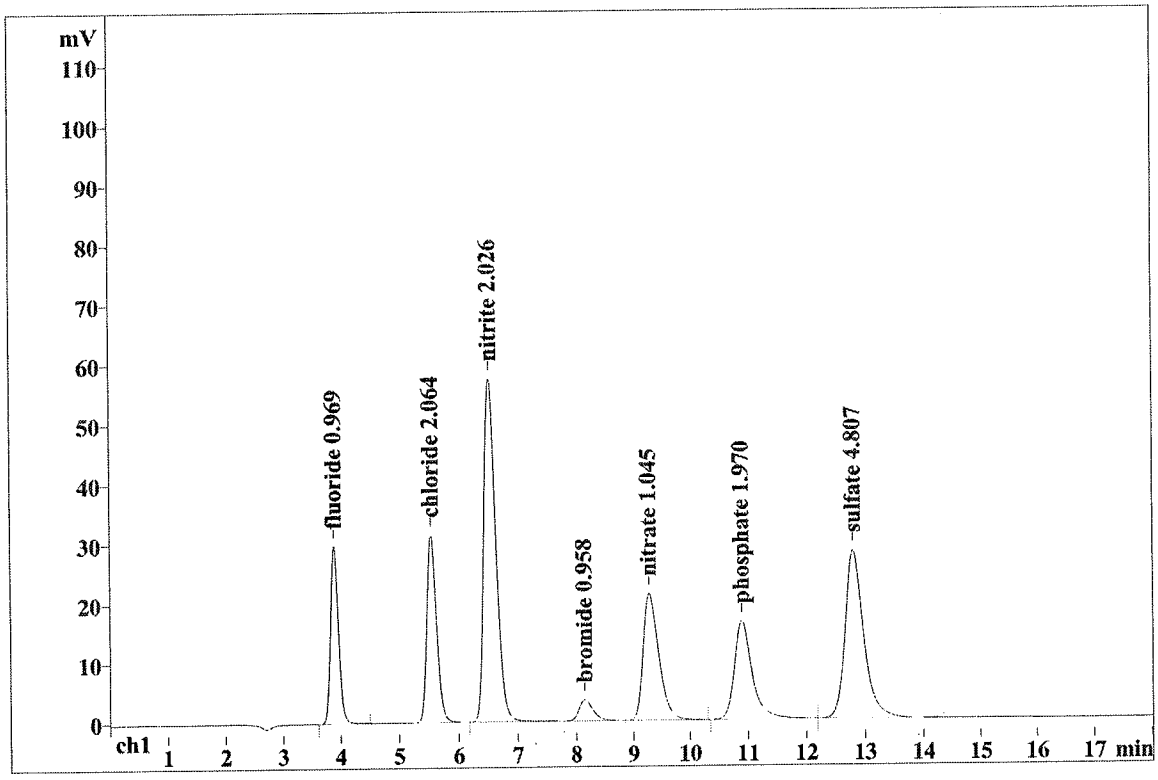
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:06:40 AM
Printed by: CSando

Ident: AL26-25 CCV246
Analysis from: 12/21/2022 7:30:22 PM
File: _2022-12-21_19-30.chw Last save: 12/21/2022 7:48:22 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115673

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 25
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

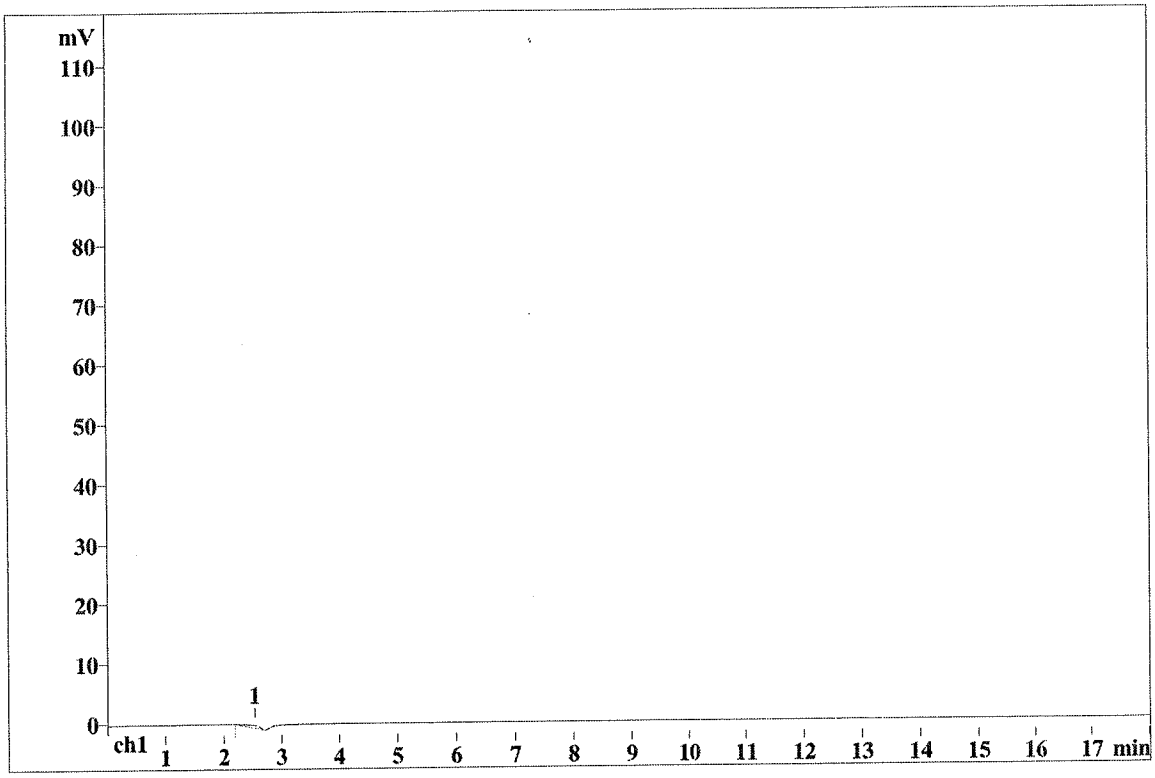
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	29.78	285.937	0.969	fluoride
2	5.54	31.52	357.589	2.064	chloride
3	6.53	57.54	801.616	2.026	nitrite
4	8.15	3.54	60.780	0.958	bromide
5	9.28	21.34	411.121	1.045	nitrate
6	10.90	16.58	349.045	1.970	phosphate
7	12.80	28.23	620.525	4.807	sulfate
7	18.00	188.52	2886.612	13.837	

This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:07:11 AM
Printed by: CSando

Ident: AL26-26 CCB246
Analysis from: 12/21/2022 7:50:37 PM
File: _2022-12-21_19-50.chw Last save: 12/21/2022 8:08:37 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115674

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 26
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.54	0.46	7.704	0.000	

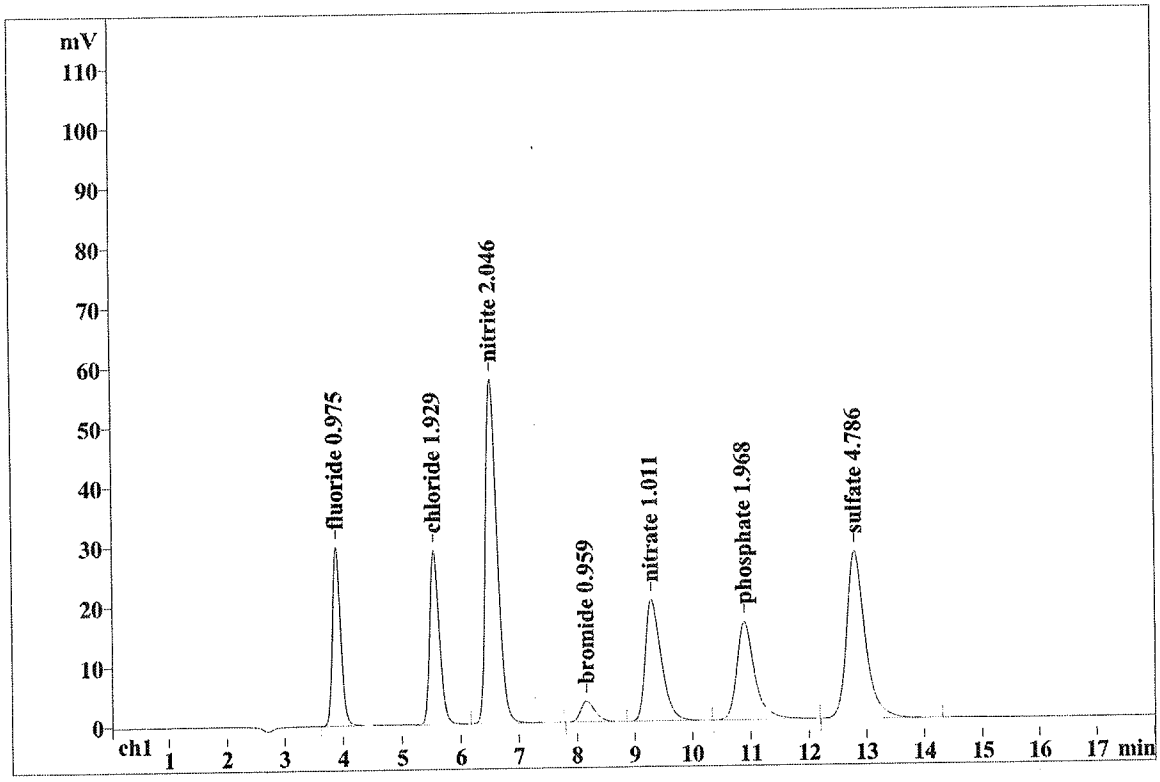
This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:07:18 AM
Printed by: CSando

Ident: AL26-35 CCV248
Analysis from: 12/21/2022 10:52:53 PM
File: _2022-12-21_22-52.chw Last save: 12/21/2022 11:10:53 PM

Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115683

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 35
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

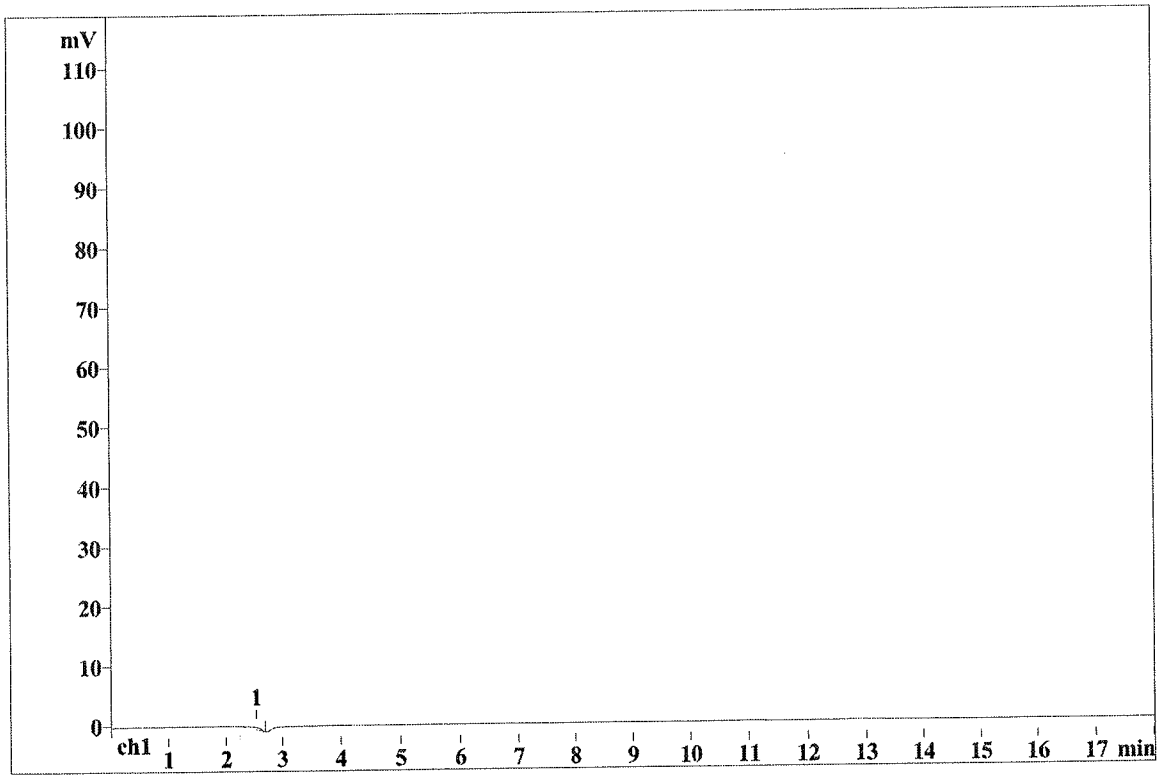
No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	3.89	29.91	287.979	0.975	fluoride
2	5.55	29.09	333.027	1.929	chloride
3	6.54	57.66	809.646	2.046	nitrite
4	8.16	3.51	60.871	0.959	bromide
5	9.30	20.39	397.269	1.011	nitrate
6	10.89	16.50	348.736	1.968	phosphate
7	12.80	28.00	617.836	4.786	sulfate
7	18.00	185.06	2855.365	13.674	

This report has been created by IC Net
METROHM LTD

Report date: 12/22/2022 9:07:47 AM
Printed by: CSando

Ident: AL26-36 CCB248
Analysis from: 12/21/2022 11:13:08 PM
File: _2022-12-21_23-13.chw Last save: 12/21/2022 11:31:08 PM
Modified!
Method: ICD7-K09.mtw Last save: 12/21/2022 10:10:45 AM
Run operator: CSando
Analysis number: 115684

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 36
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height mV	Area mV*sec	Conc. mg/L	Name
1	2.55	0.42	6.416	0.000	

This report has been created by IC Net
METROHM LTD

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence. For dillution preparation (sample aliquot/final volume), refer to sample info

Comments:

	CONCENTRATIONS (PPM)
S1	0.05
S2	0.1
S3	0.2
S4	0.5
S5	1.0
S6	2.0
S7	5.0
S8	10.0
S9	20.0
	LINEARITY (PPM)
F	5
Cl	10
NO2	10
Br	20
NO3	2
PO4	20
SO4	20

IC ELUENT PREPARATION Expiration Date: 12/08/12

Std ID	Aliquot	Final Vol*
SP1-06-05-01	20 mL	2 L
SP2-06-05-02	20 mL	

IC REGENERANT PREPARATION Expiration Date: 12/08/12

Std ID	Aliquot	Final Vol*
SP1-06-06-03	100 mL	1 L

* Reagent Water ID: SW1A-011-16-07

Book #: AD7-041
Instrument No.: D7
Pipette ID's: VB 11/09/12 ~~039380124~~ B42780066
SW3-02-02-02
439350100
Analytical Sequence: AK04
Method File: ICD7-K09.mtw
Analytical Batch: —

SOP #	Rev. #
☑ EMAX-300.0	14
☑ EMAX-4110B	7
☑ EMAX-9056	10
☐ EMAX-	
STANDARDS ID	
ICAL	SW3B-24-35-01
ICV	SW3B-24-34-02
VB 11/09/12 ~~CCV~~ ICV1	SW3B-24-35-02
LCS	—
MS	—

Filters Lot #:
0.45 µm: —
0.22 µm: —

Snap Seal Containers Lot #:
4 oz: 1328163
1.5 oz: —

Column: Metrosep A Supp 5-150
Flow Rate: 0.70 ml/min

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC-METROHM	
☐ External Hard Drive	

Analyzed By: VB
Date: 11/09/12

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
_2022-11-09_10-35.chw	ICD7-K09.mtw	AK04-01 IB	1	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
_2022-11-09_10-55.chw	ICD7-K09.mtw	AK04-02 S0	2	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
_2022-11-09_11-15.chw	ICD7-K09.mtw	AK04-03 S1	3	1.0	1.0	1.0	100.0	1	METHOD 300/9056/4110B	0.05 PPM
_2022-11-09_11-36.chw	ICD7-K09.mtw	AK04-04 S2	4	1.0	1.0	1.0	100.0	2	METHOD 300/9056/4110B	0.1 PPM
_2022-11-09_11-56.chw	ICD7-K09.mtw	AK04-05 S3	5	1.0	1.0	1.0	100.0	3	METHOD 300/9056/4110B	0.2 PPM
_2022-11-09_12-16.chw	ICD7-K09.mtw	AK04-06 S4	6	1.0	1.0	1.0	100.0	4	METHOD 300/9056/4110B	0.5 PPM
_2022-11-09_12-36.chw	ICD7-K09.mtw	AK04-07 S5	7	1.0	1.0	1.0	100.0	5	METHOD 300/9056/4110B	1.0 PPM
_2022-11-09_12-57.chw	ICD7-K09.mtw	AK04-08 S6	8	1.0	1.0	1.0	100.0	6	METHOD 300/9056/4110B	2.0 PPM
_2022-11-09_13-17.chw	ICD7-K09.mtw	AK04-09 S7	9	1.0	1.0	1.0	100.0	7	METHOD 300/9056/4110B	5.0 PPM
_2022-11-09_13-37.chw	ICD7-K09.mtw	AK04-10 S8	10	1.0	1.0	1.0	100.0	8	METHOD 300/9056/4110B	10.0 PPM
_2022-11-09_13-57.chw	ICD7-K09.mtw	AK04-11 S9	11	1.0	1.0	1.0	100.0	9	METHOD 300/9056/4110B	20.0 PPM
_2022-11-09_15-00.chw	ICD7-K09.mtw	AK04-12 ICV	12	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
_2022-11-09_15-20.chw	ICD7-K09.mtw	AK04-13 ICV1	13	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	1.0 PPM
_2022-11-09_15-41.chw	ICD7-K09.mtw	AK04-14 ICB	14	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	

FINAL VD 11/09/22

TH 11/12/22

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence. For dillution preparation (sample aliquot/final volume), refer to sample info

Comments:

Book #:	AD7-041
Instrument No.:	D7
Pipette ID's:	VD 12/15/22 ~~039380124~~ B427800666
	SW3-02-02-02
	439350100
Analytical Sequence:	AL18
Method File:	IC00 - K09.mtw
Analytical Batch:	IC1018W

SOP #	Rev. #
☑ EMAX-300.0	14
☐ EMAX-4110B	7
☐ EMAX-9056	10
☐ EMAX-	
STANDARDS ID	
ICAL	—
ICV	—
CCV	SW3B-26-05-02
LCS	SW3B-26-05-03
MS	SCP refer to LCS Parent ID

Filters Lot #: Snap Seal Containers Lot #:

0.45 µm: 4 oz:

0.22 µm: 291127080 1.5 oz: 16322006

Column: Metrosep A Supp 5-150

Flow Rate: 0.70 ml/min

IC ELUENT PREPARATION Expiration Date: 01/14/23

Std ID	Aliquot	Final Vol*
SP1-06-07-02	20 mL	2 L
SP1-06-07-03	20 mL	

IC REGENERANT PREPARATION Expiration Date: 01/12/23

Std ID	Aliquot	Final Vol*
SP2-06-07-01	100 mL	1 L

* Reagent Water ID: SW1A-011-19-03

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC-METROHM	
☐ External Hard Drive	

Analyzed By: VD

Date: 12/15/22

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
2022-12-15_09-17.chw	ICD7-K09.mtw	AL18-01 CCV208	1	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_09-37.chw	ICD7-K09.mtw	AL18-02 CCB208	2	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_09-58.chw	ICD7-K09.mtw	AL18-03 ICL018WB	3	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_10-18.chw	ICD7-K09.mtw	AL18-04 ICL018WL	4	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_10-38.chw	ICD7-K09.mtw	AL18-05 ICL018WC	5	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_10-58.chw	ICD7-K09.mtw	AL18-06 L217-01	6	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_11-19.chw	ICD7-K09.mtw	AL18-07 L217-01I DF=20	7	1.0	20.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/20ml
2022-12-15_11-39.chw	ICD7-K09.mtw	AL18-08 L183-01	8	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_11-59.chw	ICD7-K09.mtw	AL18-09 L184-01	9	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_12-19.chw	ICD7-K09.mtw	AL18-10 L185-01	10	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_12-40.chw	ICD7-K09.mtw	AL18-11 L226-03	11	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_13-00.chw	ICD7-K09.mtw	AL18-12 L226-04	12	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_13-20.chw	ICD7-K09.mtw	AL18-13 CCV210	13	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_13-40.chw	ICD7-K09.mtw	AL18-14 CCB210	14	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_14-01.chw	ICD7-K09.mtw	AL18-15 L226-06	15	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_14-21.chw	ICD7-K09.mtw	AL18-16 L226-07	16	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_14-41.chw	ICD7-K09.mtw	AL18-17 L226-08	17	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_15-01.chw	ICD7-K09.mtw	AL18-18 L226-09	18	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_15-22.chw	ICD7-K09.mtw	AL18-19 L226-10	19	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_15-42.chw	ICD7-K09.mtw	AL18-20 L226-11	20	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_16-02.chw	ICD7-K09.mtw	AL18-21 L226-12	21	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_16-23.chw	ICD7-K09.mtw	AL18-22 L226-13	22	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_16-43.chw	ICD7-K09.mtw	AL18-23 L226-14	23	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_17-03.chw	ICD7-K09.mtw	AL18-24 L226-15	24	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_17-23.chw	ICD7-K09.mtw	AL18-25 CCV212	25	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_17-44.chw	ICD7-K09.mtw	AL18-26 CCB212	26	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_18-04.chw	ICD7-K09.mtw	AL18-27 L226-01I DF=10	27	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml, HIGH CONDUCTIVITY
2022-12-15_18-24.chw	ICD7-K09.mtw	AL18-28 L226-02I DF=10	28	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml, HIGH CONDUCTIVITY
2022-12-15_18-44.chw	ICD7-K09.mtw	AL18-29 L183-01I DF=5	29	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml
2022-12-15_19-05.chw	ICD7-K09.mtw	AL18-30 L184-01I DF=5	30	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml
2022-12-15_19-25.chw	ICD7-K09.mtw	AL18-31 L185-01I DF=2	31	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_19-45.chw	ICD7-K09.mtw	AL18-32 L226-07I DF=5	32	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml
2022-12-15_20-05.chw	ICD7-K09.mtw	AL18-33 L226-08I DF=2	33	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_20-26.chw	ICD7-K09.mtw	AL18-34 L226-09I DF=2	34	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_20-46.chw	ICD7-K09.mtw	AL18-35 L226-10I DF=2	35	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_21-06.chw	ICD7-K09.mtw	AL18-36 L226-11I DF=2	36	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_21-26.chw	ICD7-K09.mtw	AL18-37 CCV214	37	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_21-47.chw	ICD7-K09.mtw	AL18-38 CCB214	38	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-15_22-07.chw	ICD7-K09.mtw	AL18-39 L226-12I DF=2	39	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_22-27.chw	ICD7-K09.mtw	AL18-40 L226-13I DF=2	40	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_22-47.chw	ICD7-K09.mtw	AL18-41 L226-14I DF=2	41	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_23-08.chw	ICD7-K09.mtw	AL18-42 L226-15I DF=2	42	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-15_23-28.chw	ICD7-K09.mtw	AL18-43 L207-04J DF=100	43	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml
2022-12-15_23-48.chw	ICD7-K09.mtw	AL18-44 L207-04JD DF=100	44	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml
2022-12-16_00-08.chw	ICD7-K09.mtw	AL18-45 L207-04JM DF=100	45	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml
2022-12-16_00-28.chw	ICD7-K09.mtw	AL18-46 L207-04JS DF=100	46	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml
2022-12-16_00-49.chw	ICD7-K09.mtw	AL18-47 L207-04K DF=200	47	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_01-09.chw	ICD7-K09.mtw	AL18-48 L207-04KD DF=200	48	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_01-29.chw	ICD7-K09.mtw	AL18-49 CCV216	49	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_01-49.chw	ICD7-K09.mtw	AL18-50 CCB216	50	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_02-10.chw	ICD7-K09.mtw	AL18-51 L207-04KM DF=200	51	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_02-30.chw	ICD7-K09.mtw	AL18-52 L207-04KS DF=200	52	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_02-50.chw	ICD7-K09.mtw	AL18-53 CCV218	53	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_03-10.chw	ICD7-K09.mtw	AL18-54 CCB218	54	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	

FINAL VB 12/16/22

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence. For dillution preparation (sample aliquot/final volume), refer to sample info

Comments:

Book #:	AD7-042
Instrument No.:	D7
Pipette ID's:	B42780066
	SW3-02-02-02
	439350100
Analytical Sequence:	AL24
Method File:	ICD7-K09.mtw
Analytical Batch:	ICLD24W

SOP #	Rev. #
☑ EMAX-300.0	14
☐ EMAX-4110B	7
☐ EMAX-9056	10
☐ EMAX-	
STANDARDS ID	
ICAL	—
ICV	—
CCV	SW3B-26-07-02
LCS	SW3B-26-07-03
MS	scp refer to LCS Parent ID

Filters Lot #: Snap Seal Containers Lot #:

0.45 µm: 4 oz:

0.22 µm: 291127080 1.5 oz: 16322006

Column: Metrosep A Supp 5-150

Flow Rate: 0.70 ml/min

IC ELUENT PREPARATION Expiration Date: 01/16/23

Std ID	Aliquot	Final Vol*
SP2-06-07-02	20 mL	2 L
SP2-06-07-03	20 mL	

IC REGENERANT PREPARATION Expiration Date: 01/16/23

Std ID	Aliquot	Final Vol*
SP2-06-07-01	100 mL	1 L

* Reagent Water ID: SW1A-011-19-03

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC-METROHM	
☐ External Hard Drive	

Analyzed By: CS

Date: 12/20/22

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
2022-12-20_10-03.chw	ICD7-K09.mtw	AL24-01 CCV230	1	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_10-23.chw	ICD7-K09.mtw	AL24-02 CCB230	2	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_10-43.chw	ICD7-K09.mtw	AL24-03 ICL024WB	3	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_11-03.chw	ICD7-K09.mtw	AL24-04 ICL024WL	4	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_11-24.chw	ICD7-K09.mtw	AL24-05 ICL024WC	5	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_11-46.chw	ICD7-K09.mtw	AL24-06 L226-06I DF=100	6	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-20_12-06.chw	ICD7-K09.mtw	AL24-07 L226-07J DF=40	7	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_12-27.chw	ICD7-K09.mtw	AL24-08 L226-07K DF=100	8	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-20_12-47.chw	ICD7-K09.mtw	AL24-09 L226-08J DF=10	9	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-20_13-08.chw	ICD7-K09.mtw	AL24-10 L226-08K DF=40	10	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_13-28.chw	ICD7-K09.mtw	AL24-11 L247-02I DF=40	11	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_13-48.chw	ICD7-K09.mtw	AL24-12 L226-09J DF=10	12	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-20_14-09.chw	ICD7-K09.mtw	AL24-13 CCV232	13	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_14-29.chw	ICD7-K09.mtw	AL24-14 CCB232	14	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_14-49.chw	ICD7-K09.mtw	AL24-15 L226-09K DF=40	15	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_15-09.chw	ICD7-K09.mtw	AL24-16 L263-01	16	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_15-30.chw	ICD7-K09.mtw	AL24-17 L263-02	17	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_15-50.chw	ICD7-K09.mtw	AL24-18 L226-10J DF=10	18	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-20_16-10.chw	ICD7-K09.mtw	AL24-19 L226-10K DF=40	19	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_16-30.chw	ICD7-K09.mtw	AL24-20 L226-11J DF=20	20	1.0	20.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/20ml
2022-12-20_16-51.chw	ICD7-K09.mtw	AL24-21 L226-11K DF=100	21	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-20_17-11.chw	ICD7-K09.mtw	AL24-22 L226-12J DF=10	22	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-20_17-31.chw	ICD7-K09.mtw	AL24-23 L226-12K DF=100	23	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml.20ml
2022-12-20_17-51.chw	ICD7-K09.mtw	AL24-24 L226-13J DF=20	24	1.0	20.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/20ml
2022-12-20_18-12.chw	ICD7-K09.mtw	AL24-25 CCV234	25	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_18-32.chw	ICD7-K09.mtw	AL24-26 CCB234	26	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_18-52.chw	ICD7-K09.mtw	AL24-27 L226-13K DF=40	27	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_19-12.chw	ICD7-K09.mtw	AL24-28 L226-14J DF=10	28	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-20_19-33.chw	ICD7-K09.mtw	AL24-29 L226-14K DF=40	29	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_19-53.chw	ICD7-K09.mtw	AL24-30 L226-15J DF=10	30	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-20_20-13.chw	ICD7-K09.mtw	AL24-31 L226-15K DF=40	31	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-20_20-33.chw	ICD7-K09.mtw	AL24-32 L226-06J DF=400	32	1.0	400.0	1.0	100.0	0	METHOD 300/9056/4110B	0.1mL/40ml
2022-12-20_20-54.chw	ICD7-K09.mtw	AL24-33 L226-07T DF=400	33	1.0	400.0	1.0	100.0	0	METHOD 300/9056/4110B	0.1mL/40ml
2022-12-20_21-14.chw	ICD7-K09.mtw	AL24-34 L263-01I DF=2	34	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-20_21-34.chw	ICD7-K09.mtw	AL24-35 L263-02I DF=2	35	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-20_21-54.chw	ICD7-K09.mtw	AL24-36 L263-03I DF=2	36	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-20_22-15.chw	ICD7-K09.mtw	AL24-37 CCV236	37	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_22-35.chw	ICD7-K09.mtw	AL24-38 CCB236	38	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-20_22-55.chw	ICD7-K09.mtw	AL24-39 L263-04I DF=2	39	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-20_23-15.chw	ICD7-K09.mtw	AL24-40 L263-05I DF=2	40	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-20_23-36.chw	ICD7-K09.mtw	AL24-41 L263-06I DF=2	41	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-20_23-56.chw	ICD7-K09.mtw	AL24-42 L263-07I DF=2	42	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-21_00-16.chw	ICD7-K09.mtw	AL24-43 L263-08I DF=2	43	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-21_00-36.chw	ICD7-K09.mtw	AL24-44 L263-09I DF=2	44	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022-12-21_00-57.chw	ICD7-K09.mtw	AL24-45 L263-09ID DF=2	45	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022-12-21_01-17.chw	ICD7-K09.mtw	AL24-46 L263-09IM DF=2	46	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022-12-21_01-37.chw	ICD7-K09.mtw	AL24-47 L263-09IS DF=2	47	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022-12-21_01-57.chw	ICD7-K09.mtw	AL24-48 L247-02J DF=1000	48	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_02-18.chw	ICD7-K09.mtw	AL24-49 CCV238	49	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_02-38.chw	ICD7-K09.mtw	AL24-50 CCB238	50	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_02-58.chw	ICD7-K09.mtw	AL24-51 L247-02JD DF=1000	51	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_03-18.chw	ICD7-K09.mtw	AL24-52 L247-02JM DF=1000	52	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_03-39.chw	ICD7-K09.mtw	AL24-53 L247-02JS DF=1000	53	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_03-59.chw	ICD7-K09.mtw	AL24-54 L247-02K DF=4000	54	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/40ml DF=4
2022-12-21_04-19.chw	ICD7-K09.mtw	AL24-55 L247-02KD DF=4000	55	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/40ml DF=4
2022-12-21_04-39.chw	ICD7-K09.mtw	AL24-56 L247-02KM DF=4000	56	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/40ml DF=4
2022-12-21_05-00.chw	ICD7-K09.mtw	AL24-57 L247-02KS DF=4000	57	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/40ml DF=4
2022-12-21_05-20.chw	ICD7-K09.mtw	AL24-58 CCV240	57	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_05-40.chw	ICD7-K09.mtw	AL24-59 CCB240	57	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence. For dillution preparation (sample aliquot/final volume), refer to sample info

Comments:

Book #:	AD7-042
Instrument No.:	D7
Pipette ID's:	B42780066
	SW3-02-02-02
	439350100
Analytical Sequence:	AL26
Method File:	ICD7-K09.mtw
Analytical Batch:	ICLD26W

SOP #	Rev. #
☑ EMAX-300.0	14
☐ EMAX-4110B	7
☐ EMAX-9056	10
☐ EMAX-	
STANDARDS ID	
ICAL	—
ICV	—
CCV	SW3B-26-08-01
LCS	SW3B-26-08-02
MS	SCP refer to LCS Parent ID

Filters Lot #:	Snap Seal Containers Lot #:
0.45 µm:	4 oz:
0.22 µm: 291127080	1.5 oz: 16322006

Column: Metrosep A Supp 5-150

Flow Rate: 0.70 ml/min

IC ELUENT PREPARATION Expiration Date: 01/16/23

Std ID	Aliquot	Final Vol*
SP2-06-07-02	20 mL	2 L
SP2-06-07-03	20 mL	

IC REGENERANT PREPARATION Expiration Date: 01/16/23

Std ID	Aliquot	Final Vol*
SP2-06-07-01	100 mL	1 L

* Reagent Water ID: SW1A-011-19-03

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC-METROHM	
☐ External Hard Drive	

Analyzed By: CS

Date: 12/21/22

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
2022-12-21_09-55.chw	ICD7-K09.mtw	AL26-01 CCV242	1	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_10-15.chw	ICD7-K09.mtw	AL26-02 CCB242	2	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_10-36.chw	ICD7-K09.mtw	AL26-03 ICL026WB	3	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_10-56.chw	ICD7-K09.mtw	AL26-04 ICL026WL	4	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_11-16.chw	ICD7-K09.mtw	AL26-05 ICL026WC	5	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_11-36.chw	ICD7-K09.mtw	AL26-06 L226-06K DF=400	6	1.0	400.0	1.0	100.0	0	METHOD 300/9056/4110B	0.1ml/40ml
2022-12-21_11-57.chw	ICD7-K09.mtw	AL26-07 L226-07G DF=400	7	1.0	400.0	1.0	100.0	0	METHOD 300/9056/4110B	0.1ml/40ml
2022-12-21_12-17.chw	ICD7-K09.mtw	AL26-08 L226-13T DF=40	8	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-21_12-37.chw	ICD7-K09.mtw	AL26-09 L226-14T DF=100	9	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-21_12-57.chw	ICD7-K09.mtw	AL26-10 L226-15T DF=40	10	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-21_13-18.chw	ICD7-K09.mtw	AL26-11 L263-01J DF=2	11	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-21_13-38.chw	ICD7-K09.mtw	AL26-12 L263-02J DF=2	12	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-21_15-27.chw	ICD7-K09.mtw	AL26-13 CCV244	13	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_15-47.chw	ICD7-K09.mtw	AL26-14 CCB244	14	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_16-07.chw	ICD7-K09.mtw	AL26-15 L263-03J DF=10	15	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-21_16-28.chw	ICD7-K09.mtw	AL26-16 L263-04J DF=10	16	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml
2022-12-21_16-48.chw	ICD7-K09.mtw	AL26-17 L263-05J DF=5	17	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml
2022-12-21_17-08.chw	ICD7-K09.mtw	AL26-18 L263-06J DF=5	18	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml
2022-12-21_17-28.chw	ICD7-K09.mtw	AL26-19 L263-07J DF=5	19	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml
2022-12-21_17-49.chw	ICD7-K09.mtw	AL26-20 L263-08J DF=2	20	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-21_18-09.chw	ICD7-K09.mtw	AL26-21 L263-09J DF=2	21	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022-12-21_18-29.chw	ICD7-K09.mtw	AL26-22 L263-09JD DF=2	22	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022-12-21_18-49.chw	ICD7-K09.mtw	AL26-23 L263-09JM DF=2	23	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	20ml/40ml
2022,12-21_19-10.chw	ICD7-K09.mtw	AL26-24 L263-09JS DF=2	24	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B.	20ml/40ml
2022-12-21_19-30.chw	ICD7-K09.mtw	AL26-25 CCV246	25	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_19-50.chw	ICD7-K09.mtw	AL26-26 CCB246	26	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_20-10.chw	ICD7-K09.mtw	AL26-27 L247-02T DF=1000	27	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_20-31.chw	ICD7-K09.mtw	AL26-28 L247-02TD DF=1000	28	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_20-51.chw	ICD7-K09.mtw	AL26-29 L247-02TM DF=1000	29	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_21-11.chw	ICD7-K09.mtw	AL26-30 L247-02TS DF=1000	30	1.0	1000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 2ml/20ml DF=1
2022-12-21_21-31.chw	ICD7-K09.mtw	AL26-31 L247-02G DF=4000	31	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/20ml DF=4
2022-12-21_21-52.chw	ICD7-K09.mtw	AL26-32 L247-02GD DF=4000	32	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/20ml DF=4
2022-12-21_22-12.chw	ICD7-K09.mtw	AL26-33 L247-02GM DF=4000	33	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/20ml DF=4
2022-12-21_22-32.chw	ICD7-K09.mtw	AL26-34 L247-02GS DF=4000	34	1.0	4000.0	1.0	100.0	0	METHOD 300/9056/4110B	0.4ml/40ml INTERMEDIATE, 1ml/20ml DF=4
2022-12-21_22-52.chw	ICD7-K09.mtw	AL26-35 CCV248	35	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-21_23-13.chw	ICD7-K09.mtw	AL26-36 CCB248	36	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	

FINAL CS 12/22/22

RETENTION TIME WINDOW

TWENTY FOUR HOUR RETENTION TIME WINDOW
METHOD 300.0

Lab name: **EMAX** **Method:** **EMAX-300.0**

Instrument ID: D7 (800 IC) IC column: METROSEP A SUPP 5
Column size: 150X4.0mm

Compound	ICAL Mean RT	from	to	RTW
FLUORIDE	**3.89**	3.80	3.98	**0.090**
CHLORIDE	**5.55**	5.42	5.69	**0.135**
NITRITE	**6.55**	6.40	6.70	**0.151**
BROMIDE	**8.20**	7.96	8.44	**0.238**
NITRATE	**9.34**	9.07	9.61	**0.272**
PHOSPHATE	**10.94**	10.55	11.34	**0.393**
SULFATE	**12.84**	12.13	13.55	**0.708**

ICD7-K04.MTW

TH 11/12/22

RETENTION TIME WINDOW
METHOD 300.0

Lab name:	**EMAX**	**Method:**	**EMAX-300.0**
Instrument ID:	D7 (800IC)	IC column:	METROSEP A SUPP 5
		Column size:	150X4.0mm

Compound	Retention time Window	
FLUORIDE	**(+/-)**	**0.151**
CHLORIDE	**(+/-)**	**0.195**
NITRITE	**(+/-)**	**0.242**
BROMIDE	**(+/-)**	**0.345**
NITRATE	**(+/-)**	**0.420**
PHOSPHATE	**(+/-)**	**0.601**
SULFATE	**(+/-)**	**0.840**
IODIDE	**(+/-)**	**0.920**

8/6/13/14

ALKALINITY

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD SM2320B
TOTAL ALKALINITY

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Total Alkalinity in accordance with Method SM2320B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Alkalinity was not detected in ALL013WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ALL013WL/ALL013WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

METHOD SM2320B
TOTAL ALKALINITY

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : E5

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	PREP. FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ALL013WB	ND	1	NA	5	5	12/27/2211:26	NA	22E5L0703	22E5L07	ALL013W	NA	NA
LCS1W	ALL013WL	60.8	1	NA	5	5	12/27/2211:33	NA	22E5L0704	22E5L07	ALL013W	NA	NA
LCD1W	ALL013WC	62.8	1	NA	5	5	12/27/2211:40	NA	22E5L0705	22E5L07	ALL013W	NA	NA
PGE-09N-Q422	L226-06	658	1	NA	5	5	12/27/2213:04	NA	22E5L0714	22E5L07	ALL013W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07	316	1	NA	5	5	12/27/2213:11	NA	22E5L0715	22E5L07	ALL013W	12/14/2211:58	12/15/22
SITE B-165-Q422	L226-08	87.5	1	NA	5	5	12/27/2213:18	NA	22E5L0716	22E5L07	ALL013W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09	95.6	1	NA	5	5	12/27/2213:27	NA	22E5L0717	22E5L07	ALL013W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10	86.2	1	NA	5	5	12/27/2213:34	NA	22E5L0718	22E5L07	ALL013W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11	86.5	1	NA	5	5	12/27/2213:42	NA	22E5L0719	22E5L07	ALL013W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12	89.5	1	NA	5	5	12/27/2213:49	NA	22E5L0720	22E5L07	ALL013W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13	88.6	1	NA	5	5	12/27/2213:56	NA	22E5L0721	22E5L07	ALL013W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14	82.6	1	NA	5	5	12/27/2214:04	NA	22E5L0722	22E5L07	ALL013W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15	96.6	1	NA	5	5	12/27/2214:11	NA	22E5L0723	22E5L07	ALL013W	12/14/2209:06	12/15/22

Note that Alkalinity concentration is reported as:
Alkalinity to pH 4.5 for results greater than or equal to 20 mg/L
Alkalinity to pH 4.2 for results less than 20 mg/L

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : METHOD SM2320B

% MOISTURE: NA

MATRIX :			
DILUTION FACTOR:	1	1	1
SAMPLE ID :	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID :	ALL013WB	ALL013WL	ALL013WC
LAB FILE ID :	22E5L0703	22E5L0704	22E5L0705
DATE EXTRACTED :	NA	NA	NA
DATE ANALYZED :	12/27/2211:26	12/27/2211:33	12/27/2211:40
PREP BATCH :	ALL013W	ALL013W	ALL013W
CALIBRATION REF:	22E5L07	22E5L07	22E5L07

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
ALKALINITY	ND	62.8	60.8	97	62.8	62.8	100	3	85-115	20

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ALKALINITY

Note: For samples and relevent QCs/Standards analyzed, refer to attached analytical sequence.

☑ Titration end point: pH 4.5 ± 0.04

☑ Low alkalinity: pH 4.2 ± 0.04

Micropipette ID: NA

MS/MSD amount of spike: NA

Reagent Water: RWI-22-003

Comments:

Book#: AAL-048

Instrument No.: ☐ 53 ☑ E5

Analytical Batch: 22ESL07

Analytical Sequence: ALL013W/ALL014W

SOP #	Rev. #
☑ EMAX-2320B	7
☐ EMAX-	

STANDARDS ID		Conc. (mg/L)
0.02N HCL	SWR1-04-04-08	0.02N
LCS	SWIA-03-14-03	62.8
MS/MSD	N/A	N/A
ICV	N/A	N/A

pH Buffer	ID
pH 4	SWIA-03-12-03
pH 7	SWIA-03-12-07
pH 10	SWIA-03-12-04
pH 8.0 (Check)	SWIA-03-13-03
pH Strip	HC293086

Analyzed By: CS

Date: 12/27/22

PC-TitratION PLUS

pH and Alkalinity In-Run Report

Run Number 1522 **Analytical Batch#** 22E5L07

Seq. #	SampleID	Data File Name	RunDate	RunTime	pH	Volume @pH 8.3	Volume @pH 4.5	Volume @pH 4.2	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	Review Notes
1	ICV PH 8	22E5L07	12/27/22	11:12 AM	8.01	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	
2	INSTR. CHK.	22E5L07	12/27/22	11:19 AM	8.06	.00	.42	.45	.00	15.21	15.21	.00	.00	
3	ALL013WB	22E5L07	12/27/22	11:26 AM	6.25	.00	.06	.10	.00	.98	.98	.00	.00	
4	ALL013WL	22E5L07	12/27/22	11:33 AM	8.92	.83	1.52	-1.00	33.40	60.80	.00	54.80	5.99	
5	ALL013WC	22E5L07	12/27/22	11:40 AM	8.97	.89	1.57	-1.00	35.80	62.81	.00	54.04	8.78	
6	L195-01	22E5L07	12/27/22	11:47 AM	6.81	.00	.09	.12	.00	2.09	2.09	.00	.00	
7	L195-02	22E5L07	12/27/22	11:56 AM	6.41	.00	14.24	-1.00	.00	569.65	569.65	.00	.00	
8	L195-02D	22E5L07	12/27/22	12:06 PM	6.42	.00	14.71	-1.00	.00	588.42	588.42	.00	.00	
9	L195-03	22E5L07	12/27/22	12:15 PM	7.39	.00	9.78	-1.00	.00	391.22	391.22	.00	.00	
10	L195-04	22E5L07	12/27/22	12:26 PM	7.21	.00	16.42	-1.00	.00	656.92	656.92	.00	.00	
11	L195-10	22E5L07	12/27/22	12:32 PM	6.16	.00	.08	.11	.00	1.58	1.58	.00	.00	
12	L195-11	22E5L07	12/27/22	12:43 PM	6.58	.00	18.50	-1.00	.00	740.01	740.01	.00	.00	
13	L195-14	22E5L07	12/27/22	12:52 PM	6.51	.00	15.98	-1.00	.00	639.06	639.06	.00	.00	
14	L266-06	22E5L07	12/27/22	1:04 PM	7.64	.00	16.45	-1.00	.00	658.14	658.14	.00	.00	
15	L266-07	22E5L07	12/27/22	1:11 PM	8.35	.09	7.90	-1.00	3.50	315.90	308.90	7.00	.00	
16	L266-08	22E5L07	12/27/22	1:18 PM	7.95	.00	2.19	-1.00	.00	87.51	87.51	.00	.00	
17	L266-09	22E5L07	12/27/22	1:27 PM	7.91	.00	2.39	-1.00	.00	95.55	95.55	.00	.00	
18	L266-10	22E5L07	12/27/22	1:34 PM	7.89	.00	2.16	-1.00	.00	86.22	86.22	.00	.00	

Analyzed by: CS Reviewed by: CS Date: 12/27/22

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Run Number 1522 **Analytical Batch#** 22E5L07

Seq. #	SampleID	Data File Name	RunDate	RunTime	pH	Volume @pH 8.3	Volume @pH 4.5	Volume @pH 4.2	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	Review Notes
19	L266-11	22E5L07	12/27/22	1:42 PM	7.93	.00	2.16	-1.00	.00	86.51	86.51	.00	.00	
20	L266-12	22E5L07	12/27/22	1:49 PM	7.95	.00	2.24	-1.00	.00	89.50	89.50	.00	.00	
21	L266-13	22E5L07	12/27/22	1:56 PM	7.77	.00	2.21	-1.00	.00	88.55	88.55	.00	.00	
22	L266-14	22E5L07	12/27/22	2:04 PM	7.83	.00	2.07	-1.00	.00	82.61	82.61	.00	.00	
23	L266-15	22E5L07	12/27/22	2:11 PM	7.96	.00	2.41	-1.00	.00	96.59	96.59	.00	.00	
24	RINSE	22E5L07	12/27/22	2:19 PM	7.09	.00	.10	.14	.00	2.75	2.75	.00	.00	
25	ALL014WB	22E5L07	12/27/22	2:25 PM	5.98	.00	.06	.09	.00	.85	.85	.00	.00	
26	ALL014WL	22E5L07	12/27/22	2:32 PM	8.92	.85	1.57	-1.00	33.89	62.85	.00	57.93	4.93	
27	ALL014WC	22E5L07	12/27/22	2:39 PM	8.93	.86	1.60	-1.00	34.50	63.82	.00	58.65	5.18	
28	L228-03	22E5L07	12/27/22	2:46 PM	7.37	.00	4.33	-1.00	.00	173.28	173.28	.00	.00	
29	L228-03D	22E5L07	12/27/22	2:54 PM	7.40	.00	4.66	-1.00	.00	186.51	186.51	.00	.00	
30	L228-04	22E5L07	12/27/22	3:02 PM	7.61	.00	4.93	-1.00	.00	197.26	197.26	.00	.00	
31	L228-05	22E5L07	12/27/22	3:09 PM	7.74	.00	4.90	-1.00	.00	195.83	195.83	.00	.00	
32	L228-06	22E5L07	12/27/22	3:16 PM	7.43	.00	4.32	-1.00	.00	172.64	172.64	.00	.00	
33	L228-07	22E5L07	12/27/22	3:23 PM	7.60	.00	6.01	-1.00	.00	240.41	240.41	.00	.00	
34	L228-08	22E5L07	12/27/22	3:32 PM	7.68	.00	4.15	-1.00	.00	166.20	166.20	.00	.00	
35	L247-02	22E5L07	12/27/22	3:40 PM	7.23	.00	7.02	-1.00	.00	280.86	280.86	.00	.00	
36	L252-01	22E5L07	12/27/22	3:47 PM	7.53	.00	11.23	-1.00	.00	449.18	449.18	.00	.00	
37	L252-02	22E5L07	12/27/22	3:57 PM	7.64	.00	10.44	-1.00	.00	417.62	417.62	.00	.00	
38	L252-03	22E5L07	12/27/22	4:06 PM	8.06	.00	9.41	-1.00	.00	376.39	376.39	.00	.00	

Analyzed by: CS Reviewed by: CS Date: 12/27/22

PC-TitratION PLUS by Man-Tech Associates, Inc.

pH AND ALKALINITY IN-RUN REPORT.SRW

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Run Number 1522 **Analytical Batch#** 22E5L07

Seq. #	SampleID	Data File Name	RunDate	RunTime	pH	Volume @pH 8.3	Volume @pH 4.5	Volume @pH 4.2	palk-ppm	talk-ppm	bcarb-ppm	carb-ppm	hydr-ppm	Review Notes
39	L252-04	22E5L07	12/27/22	4:16 PM	8.01	.00	9.75	-1.00	.00	389.80	389.80	.00	.00	
40	RINSE	22E5L07	12/27/22	4:23 PM	6.71	.00	.08	.12	.00	1.72	1.72	.00	.00	

Analyzed by: CS Reviewed by: CS Date: 12/27/22

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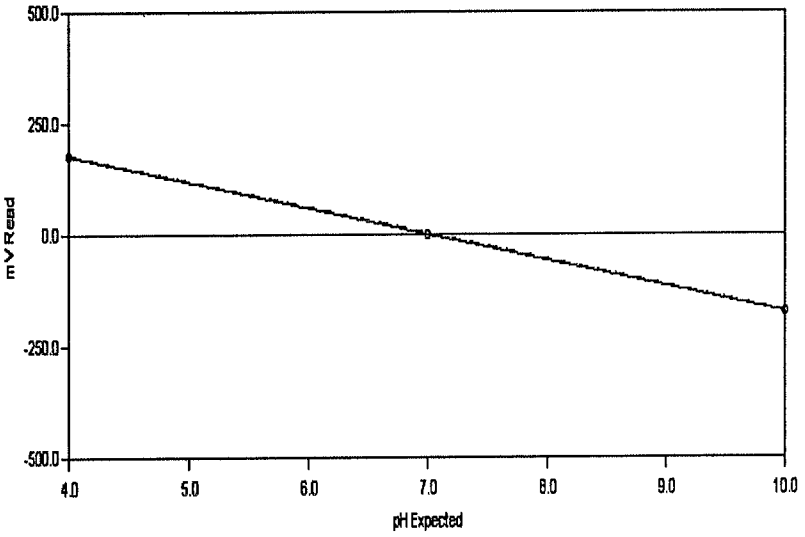
PC-TitratION PLUS
Calibration Report

Calibration Record # 1155



Calibration Settings

Calibration ID	PH CAL 4-7-10	Date	12/27/2022
Channel	1	Time	11:09 AM
Probe Type	pH	Temperature	295.78 K 22.63 C
Probe ID	PH ELECTRODE	Analysis Type	Single Line Fit

Calibration Results

Slope	-58.143	CorrCoeff	1.0000
Intercept	1.950	Equation: Y = (-58.143) X + (1.950)	

Calibration Validity **True** Operator

	Result	Minimum	Maximum
Slope	-58.143	-65.00	-53.00
Intercept	1.950	-40.00	40.00
Correlation Coefficient	1.0000	0.99	1.00

Note: "True" means the calibration was within the specified ranges
"False" means the calibration was NOT within the specified ranges

Calibration Data	**Standard**	**Reading**
	4.00	176.87
	7.00	0.97
	10.00	-171.99

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PC-Titrate For Windows

Running List Report

Order Number - 22E5L07

	Schedule	Sample Id	Vial	Weight	Volume
1	PH CAL	CAL	1	.00	25.00
2	PH ONLY	ICV PH 8	4	.00	25.00
3	PH-ALK	INSTR. CHK.	5	.00	25.00
4	PH-ALK	ALL013WB	6	.00	25.00
5	PH-ALK	ALL013WL	7	.00	25.00
6	PH-ALK	ALL013WC	8	.00	25.00
7	PH-ALK	L195-01	9	.00	25.00
8	PH-ALK	L195-02	10	.00	25.00
9	PH-ALK	L195-02D	11	.00	25.00
10	PH-ALK	L195-03	12	.00	25.00
11	PH-ALK	L195-04	13	.00	25.00
12	PH-ALK	L195-10	14	.00	25.00
13	PH-ALK	L195-11	15	.00	25.00
14	PH-ALK	L195-14	16	.00	25.00
15	PH-ALK	L266-06	17	.00	25.00
16	PH-ALK	L266-07	18	.00	25.00
17	PH-ALK	L266-08	19	.00	25.00
18	PH-ALK	L266-09	20	.00	25.00
19	PH-ALK	L266-10	21	.00	25.00
20	PH-ALK	L266-11	22	.00	25.00
21	PH-ALK	L266-12	23	.00	25.00
22	PH-ALK	L266-13	24	.00	25.00
23	PH-ALK	L266-14	25	.00	25.00
24	PH-ALK	L266-15	26	.00	25.00
25	PH-ALK	RINSE	27	.00	25.00
26	PH-ALK	ALL014WB	28	.00	25.00
27	PH-ALK	ALL014WL	29	.00	25.00
28	PH-ALK	ALL014WC	30	.00	25.00
29	PH-ALK	L228-03	31	.00	25.00
30	PH-ALK	L228-03D	32	.00	25.00
31	PH-ALK	L228-04	33	.00	25.00
32	PH-ALK	L228-05	34	.00	25.00
33	PH-ALK	L228-06	35	.00	25.00
34	PH-ALK	L228-07	36	.00	25.00
35	PH-ALK	L228-08	37	.00	25.00
36	PH-ALK	L247-02	38	.00	25.00
37	PH-ALK	L252-01	39	.00	25.00
38	PH-ALK	L252-02	40	.00	25.00
39	PH-ALK	L252-03	41	.00	25.00
40	PH-ALK	L252-04	42	.00	25.00

runninglist.SRW

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Running List Report

Order Number - 22E5L07

	Schedule	Sample Id	Vial	Weight	Volume
41	PH-ALK	RINSE	43	.00	25.00

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TDS

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD SM2540C
TOTAL DISSOLVED SOLIDS

A total of ten(10) water samples were received on 12/15/22 to be analyzed for Total Dissolved Solids in accordance with Method SM2540C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Balance calibration verifications were carried out on a frequency specified by the method. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Total Dissolved Solids was not detected in TDL007WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) LCS was analyzed. Percent recovery for Total Dissolved Solids was within LCS QC limits in TDL007WL. Refer to LCS summary form for details.

Matrix QC Sample
Sample duplicate was analyzed and RPD was within expected value.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

METHOD SM2540C
TOTAL DISSOLVED SOLIDS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : 402426

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	TDL007WB	ND	1	NA	10	10	12/16/2215:25	NA	22TDL00701	22TDL007	TDL007W	NA	NA
LCS1W	TDL007WL	940	1	NA	10	10	12/16/2215:25	NA	22TDL00702	22TDL007	TDL007W	NA	NA
PGE-09N-Q422	L226-06	4490	1	NA	10	10	12/16/2215:25	NA	22TDL00709	22TDL007	TDL007W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07	4860	1	NA	10	10	12/16/2215:25	NA	22TDL00710	22TDL007	TDL007W	12/14/2211:58	12/15/22
SITE B-165-Q422	L226-08	678	1	NA	10	10	12/16/2215:25	NA	22TDL00711	22TDL007	TDL007W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09	694	1	NA	10	10	12/16/2215:25	NA	22TDL00712	22TDL007	TDL007W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10	812	1	NA	10	10	12/16/2215:25	NA	22TDL00713	22TDL007	TDL007W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11	1070	1	NA	10	10	12/16/2215:25	NA	22TDL00714	22TDL007	TDL007W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12	902	1	NA	10	10	12/16/2215:25	NA	22TDL00715	22TDL007	TDL007W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13	767	1	NA	10	10	12/16/2215:25	NA	22TDL00716	22TDL007	TDL007W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14	963	1	NA	10	10	12/16/2215:25	NA	22TDL00717	22TDL007	TDL007W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15	541	1	NA	10	10	12/16/2215:25	NA	22TDL00718	22TDL007	TDL007W	12/14/2209:06	12/15/22
MW-94-175-Q422DUP	L226-15D	565	1	NA	10	10	12/16/2215:25	NA	22TDL00719	22TDL007	TDL007W	12/14/2209:06	12/15/22

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : SM2540C

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: TDL007WB	TDL007WL
LAB FILE ID	: 22TDL00701	22TDL00702
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/16/2215:25	12/16/2215:25
PREP BATCH	: TDL007W	TDL007W
CALIBRATION REF	: 22TDL007	22TDL007

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	QC LIMIT (%)
Total dissolved solids	ND	1000	940	94	75-125

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : SM2540C

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-94-175-Q422	MW-94-175-Q422DUP
LAB SAMPLE ID	: L226-15	L226-15D
LAB FILE ID	: 22TDL00718	22TDL00719
DATE PREPARED	: NA	NA
DATE ANALYZED	: 12/16/2215:25	12/16/2215:25
PREP BATCH	: TDL007W	TDL007W
CALIBRATION REF	: 22TDL007	22TDL007

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
Total dissolved solids	541	565	4	10

EMAX LABORATORIES, INC.

TOTAL DISSOLVED SOLIDS

22TDL007

DataFileID	Sample ID	Sample Amt(ml)	Dish #	Dish (g)	1stDry Wt+Dish(g)	DateTime	2ndDry Wt+Dish(g)	DateTime	FinalDry Wt+Dish(g)	DateTime	Diff.of DryWt. Rdgs(<0.5mg	Solids (mg)	TDS (mg/L)	Result (mg/L)
22TDL00701	TDL007WB	100	B	89.1972	89.1966	12/19/22 12:29	89.197	12/19/22 14:59			0.4	-0.2	-2	ND
22TDL00702	TDL007WL	20	L	22.09793	22.11684	12/19/22 12:30	22.11674	12/19/22 15:01			0.1	18.81	940.5	940
22TDL00703	L207-01	20	1	21.87541	21.89134	12/19/22 12:31	21.89138	12/19/22 15:03			0.04	15.97	798.5	799
22TDL00704	L207-02	20	2	21.88206	21.90528	12/19/22 12:32	21.90535	12/19/22 15:03			0.07	23.29	1164.5	1160
22TDL00705	L207-03	20	3	21.56123	21.58091	12/19/22 12:32	21.58094	12/19/22 15:05			0.03	19.71	985.5	985
22TDL00706	L207-04	20	4	21.43446	21.45964	12/19/22 12:33	21.45987	12/19/22 15:06			0.23	25.41	1270.5	1270
22TDL00707	L207-04D	20	5	21.78406	21.80897	12/19/22 12:33	21.80894	12/19/22 15:07			0.03	24.88	1244	1240
22TDL00708	L207-05	20	6	21.61496	21.63509	12/19/22 12:34	21.63494	12/19/22 15:08			0.15	19.98	999	999
22TDL00709	L226-06	10	7	21.54093	21.58546	12/19/22 12:36	21.58587	12/19/22 15:09			0.41	44.94	4494	4490
22TDL00710	L226-07	5	8	21.53478	21.55935	12/19/22 12:37	21.55907	12/19/22 15:10			0.28	24.29	4858	4860
22TDL00711	L226-08	20	9	21.44634	21.4603	12/19/22 12:37	21.45989	12/19/22 15:11			0.41	13.55	677.5	678
22TDL00712	L226-09	20	10	21.41796	21.43226	12/19/22 12:38	21.43183	12/19/22 15:12			0.43	13.87	693.5	694
22TDL00713	L226-10	20	11	21.38645	21.40262	12/19/22 12:39	21.40269	12/19/22 15:13			0.07	16.24	812	812
22TDL00714	L226-11	20	12	21.37528	21.39647	12/19/22 12:39	21.39663	12/19/22 15:14			0.16	21.35	1067.5	1070
22TDL00715	L226-12	20	13	21.86683	21.88481	12/19/22 12:40	21.88488	12/19/22 15:15			0.07	18.05	902.5	902
22TDL00716	L226-13	20	14	21.95418	21.96956	12/19/22 12:40	21.96953	12/19/22 15:16			0.03	15.35	767.5	767
22TDL00717	L226-14	20	15	21.63977	21.65921	12/19/22 12:41	21.65902	12/19/22 15:18			0.19	19.25	962.5	963
22TDL00718	L226-15	20	16	21.97982	21.99036	12/19/22 12:42	21.99065	12/19/22 15:19			0.29	10.83	541.5	541
22TDL00719	L226-15D	20	17	21.76501	21.77655	12/19/22 12:43	21.77632	12/19/22 15:20			0.23	11.31	565.5	565

AW 12/19/22

Beginning Balance Check

Std. Wt. (g)	Balance Rdg (g)	Date	Comments
0.1	0.1000	12/16/22 15:24	PASSED
5	4.9997	12/16/22 15:24	PASSED
100	99.9965	12/16/22 15:25	PASSED

Ending Balance Check

Std. Wt (g)	Balance Rdg (g)	Date	Comments
0.1	0.1000	12/16/22 16:05	PASSED
5	4.9997	12/16/22 16:05	PASSED
100	99.9967	12/16/22 16:06	PASSED

Beginning Balance Check

Std. Wt (g)	Balance Rdg (g)	Date	Comments
0.1	0.1000	12/19/22 12:27	PASSED
5	4.9997	12/19/22 12:28	PASSED
100	99.9961	12/19/22 12:28	PASSED

Ending Balance Check

Std. Wt (g)	Balance Rdg (g)	Date	Comments
0.1	0.1000	12/19/22 15:21	PASSED
5	4.9997	12/19/22 15:21	PASSED
100	99.9964	12/19/22 15:22	PASSED

Balance ID: 402426 Weight ID: 31116

Acceptance Criteria: +/- 0.1% or +/- 0.5 mg whichever is greater

StandardID	Desc.	Conc. (mg/L)	ExpDate
RW1-22-003	MB	ND	N/A
SW2B-42-15-07	LCS	1000	10/07/23
HC291590	pH strip	0-14	12/01/32

QC Check

LabSampleID	Result	Expected Value	QC Result
TDL007WB	-2	ND	MB Passed
TDL007WL	940.5	1000	%R=94
#N/A	#N/A	#N/A	#N/A
L207-04D	1244	1270.5	%D=2
L226-15D	565.5	541.5	%D=4

Oven Drying Thermometer ID: 4625

Evaporating			
☑ Start	12/16/2022 17:47	Temp	90 °C
☑ End	12/19/2022 10:00	Temp	90 °C
1st Drying			
☑ Start	12/19/22 10:21	Temp	180 °C
☑ End	12/19/22 11:23	Temp	180 °C
2nd Drying			
☑ Start	12/19/22 12:53	Temp	180 °C
☑ End	12/19/22 13:53	Temp	180 °C
Final Drying			
☐ Start		Temp	°C
☐ End		Temp	°C

Notes:

Samples were evaporated at 90°C (±5°C) and dried at 180°C (±2°C).

SOP

Analyzedby: AWhite

Checked by: AW

☑ EMAX-2540C Rev. 11

Date: 12/19/22

LOQ: 10 mg/L

0.45 micron

Filter Lot#: J548773-20220727 2G9155801

Micropipette ID: N/A

TOC

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L226

METHOD 9060A
TOC

A total of ten(10) water samples were received on 12/15/22 to be analyzed for TOC in accordance with Method 9060A and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. TOC was not detected in TCA003WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. TCA003WL/TCA003WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD were analyzed. TOC was within MS QC limits in L226-08M/L226-08S. TOC was within MS QC limits in L226-15M/L226-15S. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Sample 22L226-14 was reported at a 2X dilution factor due to suspected matrix interference exhibited the precipitate in the sample.

METHOD 9060A
TOC

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L226

Matrix : WATER
InstrumentID : 62

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DIL'N FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATE
MBLK1W	TCA003WB	ND	1	NA	1.00	0.500	01/09/2322:36	NA	TCA002-05	TCA002-02	TCA003W	NA	NA
LCS1W	TCA003WL	25.1	1	NA	1.00	0.500	01/09/2322:51	NA	TCA002-06	TCA002-02	TCA003W	NA	NA
LCD1W	TCA003WC	25.2	1	NA	1.00	0.500	01/09/2323:06	NA	TCA002-07	TCA002-02	TCA003W	NA	NA
PGE-09N-Q422	L226-06I	8.16	2	NA	2.00	1.00	01/10/2301:35	NA	TCA002-17	TCA002-14	TCA003W	12/14/2211:11	12/15/22
PGE-09S-Q422	L226-07	5.07	1	NA	1.00	0.500	01/10/2301:50	NA	TCA002-18	TCA002-14	TCA003W	12/14/2211:58	12/15/22
SITE B-165-Q422	L226-08	ND	1	NA	1.00	0.500	01/10/2302:05	NA	TCA002-19	TCA002-14	TCA003W	12/14/2210:20	12/15/22
SITE B-165-Q422DUP	L226-08D	ND	1	NA	1.00	0.500	01/10/2302:19	NA	TCA002-20	TCA002-14	TCA003W	12/14/2210:20	12/15/22
SITE B-165-Q422MS	L226-08M	24.6	1	NA	1.00	0.500	01/10/2302:35	NA	TCA002-21	TCA002-14	TCA003W	12/14/2210:20	12/15/22
SITE B-165-Q422MSD	L226-08S	24.4	1	NA	1.00	0.500	01/10/2302:50	NA	TCA002-22	TCA002-14	TCA003W	12/14/2210:20	12/15/22
SITE B-220-Q422	L226-09	ND	1	NA	1.00	0.500	01/10/2303:05	NA	TCA002-23	TCA002-14	TCA003W	12/14/2210:58	12/15/22
SITE B-285-Q422	L226-10	ND	1	NA	1.00	0.500	01/10/2303:19	NA	TCA002-24	TCA002-14	TCA003W	12/14/2211:36	12/15/22
HNWR-01A-174-Q422	L226-11	ND	1	NA	1.00	0.500	01/10/2303:34	NA	TCA002-25	TCA002-14	TCA003W	12/14/2209:18	12/15/22
HNWR-01A-98-Q422	L226-12	ND	1	NA	1.00	0.500	01/10/2304:19	NA	TCA002-28	TCA002-26	TCA003W	12/14/2208:42	12/15/22
MW-94-030-Q422	L226-13	ND	1	NA	1.00	0.500	01/10/2304:34	NA	TCA002-29	TCA002-26	TCA003W	12/14/2208:06	12/15/22
MW-94-100-Q422	L226-14I	ND	2	NA	2.00	1.00	01/10/2304:49	NA	TCA002-30	TCA002-26	TCA003W	12/14/2208:36	12/15/22
MW-94-175-Q422	L226-15	ND	1	NA	1.00	0.500	01/10/2305:04	NA	TCA002-31	TCA002-26	TCA003W	12/14/2209:06	12/15/22
MW-94-175-Q422DUP	L226-15D	ND	1	NA	1.00	0.500	01/10/2305:19	NA	TCA002-32	TCA002-26	TCA003W	12/14/2209:06	12/15/22
MW-94-175-Q422MS	L226-15M	24.2	1	NA	1.00	0.500	01/10/2305:34	NA	TCA002-33	TCA002-26	TCA003W	12/14/2209:06	12/15/22
MW-94-175-Q422MSD	L226-15S	24.3	1	NA	1.00	0.500	01/10/2305:49	NA	TCA002-34	TCA002-26	TCA003W	12/14/2209:06	12/15/22

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : 9060A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: TCA003WB	TCA003WL	TCA003WC
LAB FILE ID	: TCA002-05	TCA002-06	TCA002-07
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 01/09/2322:36	01/09/2322:51	01/09/2323:06
PREP BATCH	: TCA003W	TCA003W	TCA003W
CALIBRATION REF	: TCA002-02	TCA002-02	TCA002-02

ACCESSION:

PARAMETERS	MBResult (mg/L)	SpikeAmt (mg/L)	LCSResult (mg/L)	LCSRec (%)	SpikeAmt (mg/L)	LCDResult (mg/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
TOC	ND	25.0	25.1	100	25.0	25.2	101	0	85-115	10

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : 9060A

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: SITE B-165-Q422	SITE B-165-Q422DUP
LAB SAMPLE ID	: L226-08	L226-08D
LAB FILE ID	: TCA002-19	TCA002-20
DATE PREPARED	: NA	NA
DATE ANALYZED	: 01/10/2302:05	01/10/2302:19
PREP BATCH	: TCA003W	TCA003W
CALIBRATION REF	: TCA002-14	TCA002-14

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
TOC	ND	ND	0	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : 9060A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: SITE B-165-Q422	SITE B-165-Q422MS	SITE B-165-Q422MSD
LAB SAMPLE ID	: L226-08	L226-08M	L226-08S
LAB FILE ID	: TCA002-19	TCA002-21	TCA002-22
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 01/10/2302:05	01/10/2302:35	01/10/2302:50
PREP BATCH	: TCA003W	TCA003W	TCA003W
CALIBRATION REF	: TCA002-14	TCA002-14	TCA002-14

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
TOC	ND	25.0	24.6	98	25.0	24.4	98	1	75-125	10

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : 9060A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-94-175-Q422	MW-94-175-Q422MS	MW-94-175-Q422MSD
LAB SAMPLE ID	: L226-15	L226-15M	L226-15S
LAB FILE ID	: TCA002-31	TCA002-33	TCA002-34
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 01/10/2305:04	01/10/2305:34	01/10/2305:49
PREP BATCH	: TCA003W	TCA003W	TCA003W
CALIBRATION REF	: TCA002-26	TCA002-26	TCA002-26

ACCESSION:

PARAMETERS	PSResult (mg/L)	SpikeAmt (mg/L)	MSResult (mg/L)	MSRec (%)	SpikeAmt (mg/L)	MSDResult (mg/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
TOC	ND	25.0	24.2	97	25.0	24.3	97	0	75-125	10

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L226
METHOD : 9060A

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MW-94-175-Q422	MW-94-175-Q422DUP
LAB SAMPLE ID	: L226-15	L226-15D
LAB FILE ID	: TCA002-31	TCA002-32
DATE PREPARED	: NA	NA
DATE ANALYZED	: 01/10/2305:04	01/10/2305:19
PREP BATCH	: TCA003W	TCA003W
CALIBRATION REF	: TCA002-26	TCA002-26

ACCESSION:

PARAMETER	PARENT RESULT (mg/L)	DUP RESULT (mg/L)	RPD (%)	MAX RPD (%)
TOC	ND	ND	0	20

	Date	Time
Start	01/09/23	20:01
End	01/10/23	06:35

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

☐ Sample was filtered. Filter ID:

Comments:

TCA003W: 22L252
22L226
23A023
KR 1/9/23
LOD @ ~~0.0~~ 0.3 mg/L: 0.03 mL of ICAL standard to 100 ml of reagent water
LOD @ 0.5 mg/L: 0.05 ml of ICAL standard to 100 ml of reagent water
LOQ @ 1.0 mg/L: 0.1 ml of ICAL standard to 100 ml of reagent water
ICAL Std ID: SW1A-03-06-08

All samples pH < 2

Dilution prep values can be found in comment column on results table

BOH KR 1/9/23
Reagent Water ID #: SW1A-011-19-03
pH Strips Lot #: HC293085
2 M HCl SWP1-75-48-02

Book #: A62-044
Instrument No.: 62
Micropipette ID: ☐ B42780338
Micropipette ID: ☐ 239360174
Micropipette ID: ☐ 842750082
Micropipette ID: ☑ 642780221, 639360056, 94275 4082
Analytical Sequence: TCA002
Method File: TCA002
Analytical Batch: TCA003W

SOP #	Rev. #
☑ EMAX-5310B	4
☑ EMAX-9060	4
☐ EMAX-	

STANDARDS ID		CONC. (mg/L)
S0	SW1A-011-19-03	0
S1	SW7B-02-17-07	1
S2		5
S3		10
S4		40
S5		80
S6		
ICV/LCS	SW7B-02-12-08	25
CCV	SW7B-02-12-09	25
HCO3/CO3	SW7B-02-12-04	1

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ TOC	
☐	

Analyzed By: KKS/ER
Date: 01/09/23

	Type	Analysis	Sample Name	Sample ID	Dilutio	Result	Comment
1	Standard	NPOC	ICAL - Instrum	TCA002-01	1.000		
2	Control	NPOC	ICV	TCA002-02	1.000	NPOC:25.53 mg/L	
3	Unknown	NPOC	ICB	TCA002-03	1.000	NPOC:0.1415 mg/L	
4	Unknown	NPOC	HCO3/CO3	TCA002-04	1.000	NPOC:0.2679 mg/L	
5	Unknown	NPOC	TCA003WB	TCA002-05	1.000	NPOC:0.05089 mg/L	
6	Unknown	NPOC	TCA003WL	TCA002-06	1.000	NPOC:25.10 mg/L	
7	Unknown	NPOC	TCA003WC	TCA002-07	1.000	NPOC:25.23 mg/L	
8	Unknown	NPOC	LOD @ 0.3	TCA002-08	1.000	NPOC:0.5142 mg/L	
9	Unknown	NPOC	LOD @ 0.5	TCA002-09	1.000	NPOC:0.6283 mg/L	
10	Unknown	NPOC	LOQ @ 1	TCA002-10	1.000	NPOC:1.165 mg/L	
11	Unknown	NPOC	L252-01	TCA002-11	1.000	NPOC:2.720 mg/L	
12	Unknown	NPOC	L252-02	TCA002-12	1.000	NPOC:2.127 mg/L	
13	Unknown	NPOC	L252-03	TCA002-13	1.000	NPOC:1.440 mg/L	
14	Control	NPOC	CCV1	TCA002-14	1.000	NPOC:24.51 mg/L	
15	Unknown	NPOC	CCB1	TCA002-15	1.000	NPOC:0.1285 mg/L	
16	Unknown	NPOC	L252-04	TCA002-16	1.000	NPOC:1.421 mg/L	
17	Unknown	NPOC	L226-06I	TCA002-17	2.000	NPOC:8.159 mg/L	DF=2, TURBID, SEDIMENT
18	Unknown	NPOC	L226-07	TCA002-18	1.000	NPOC:5.073 mg/L	
19	Unknown	NPOC	L226-08	TCA002-19	1.000	NPOC:0.1024 mg/L	
20	Unknown	NPOC	L226-08D	TCA002-20	1.000	NPOC:0.1005 mg/L	
21	Unknown	NPOC	L226-08M	TCA002-21	1.000	NPOC:24.56 mg/L	
22	Unknown	NPOC	L226-08S	TCA002-22	1.000	NPOC:24.36 mg/L	
23	Unknown	NPOC	L226-09	TCA002-23	1.000	NPOC:0.1874 mg/L	
24	Unknown	NPOC	L226-10	TCA002-24	1.000	NPOC:0.1242 mg/L	
25	Unknown	NPOC	L226-11	TCA002-25	1.000	NPOC:0.08799 mg/L	
26	Control	NPOC	CCV2	TCA002-26	1.000	NPOC:24.79 mg/L	
27	Unknown	NPOC	CCB2	TCA002-27	1.000	NPOC:0.1041 mg/L	
28	Unknown	NPOC	L226-12	TCA002-28	1.000	NPOC:0.1029 mg/L	
29	Unknown	NPOC	L226-13	TCA002-29	1.000	NPOC:0.1491 mg/L	
30	Unknown	NPOC	L226-14I	TCA002-30	2.000	NPOC:0.4208 mg/L	DF=2, TURBID, BROWN PRECIPITATE
31	Unknown	NPOC	L226-15	TCA002-31	1.000	NPOC:0.1385 mg/L	
32	Unknown	NPOC	L226-15D	TCA002-32	1.000	NPOC:0.1022 mg/L	
33	Unknown	NPOC	L226-15M	TCA002-33	1.000	NPOC:24.15 mg/L	
34	Unknown	NPOC	L226-15S	TCA002-34	1.000	NPOC:24.31 mg/L	
35	Unknown	NPOC	A023-01I	TCA002-35	2.000	NPOC:1.769 mg/L	DF=2, TURBID, SEDIMENT
36	Control	NPOC	CCV3	TCA002-36	1.000	NPOC:24.79 mg/L	
37	Unknown	NPOC	CCB3	TCA002-37	1.000	NPOC:0.07311 mg/L	
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EKS 01/18/23

	Type	Analysis	Sample Nam	Sample ID	Dilution	Result	Comment
1	Standard	NPOC	ICAL - Instru	TCA002-01	1.000		DF= Dilution Factor
2	Control	NPOC	ICV	TCA002-02	1.000	NPOC:25.53 mg/L	DF=X, Aliquot/Final Volume
3	Unknown	NPOC	ICB	TCA002-03	1.000	NPOC:0.1415 mg/L	
4	Unknown	NPOC	HCO3/CO3	TCA002-04	1.000	NPOC:0.2679 mg/L	
5	Unknown	NPOC	TCA003WB	TCA002-05	1.000	NPOC:0.05089 mg/L	
6	Unknown	NPOC	TCA003WL	TCA002-06	1.000	NPOC:25.10 mg/L	
7	Unknown	NPOC	TCA003WC	TCA002-07	1.000	NPOC:25.23 mg/L	
8	Unknown	NPOC	LOD @ 0.3	TCA002-08	1.000	NPOC:0.5142 mg/L	
9	Unknown	NPOC	LOD @ 0.5	TCA002-09	1.000	NPOC:0.6283 mg/L	
10	Unknown	NPOC	LOQ @ 1	TCA002-10	1.000	NPOC:1.165 mg/L	
11	Unknown	NPOC	L252-01	TCA002-11	1.000	NPOC:2.720 mg/L	
12	Unknown	NPOC	L252-02	TCA002-12	1.000	NPOC:2.127 mg/L	
13	Unknown	NPOC	L252-03	TCA002-13	1.000	NPOC:1.440 mg/L	
14	Control	NPOC	CCV1	TCA002-14	1.000	NPOC:24.51 mg/L	
15	Unknown	NPOC	CCB1	TCA002-15	1.000	NPOC:0.1285 mg/L	
16	Unknown	NPOC	L252-04	TCA002-16	1.000	NPOC:1.421 mg/L	
17	Unknown	NPOC	L226-06I	TCA002-17	2.000	NPOC:8.159 mg/L	DF=2X, 7.5ml/15ml
18	Unknown	NPOC	L226-07	TCA002-18	1.000	NPOC:5.073 mg/L	
19	Unknown	NPOC	L226-08	TCA002-19	1.000	NPOC:0.1024 mg/L	
20	Unknown	NPOC	L226-08D	TCA002-20	1.000	NPOC:0.1005 mg/L	
21	Unknown	NPOC	L226-08M	TCA002-21	1.000	NPOC:24.56 mg/L	
22	Unknown	NPOC	L226-08S	TCA002-22	1.000	NPOC:24.36 mg/L	
23	Unknown	NPOC	L226-09	TCA002-23	1.000	NPOC:0.1874 mg/L	
24	Unknown	NPOC	L226-10	TCA002-24	1.000	NPOC:0.1242 mg/L	
25	Unknown	NPOC	L226-11	TCA002-25	1.000	NPOC:0.08799 mg/L	
26	Control	NPOC	CCV2	TCA002-26	1.000	NPOC:24.79 mg/L	
27	Unknown	NPOC	CCB2	TCA002-27	1.000	NPOC:0.1041 mg/L	
28	Unknown	NPOC	L226-12	TCA002-28	1.000	NPOC:0.1029 mg/L	
29	Unknown	NPOC	L226-13	TCA002-29	1.000	NPOC:0.1491 mg/L	
30	Unknown	NPOC	L226-14I	TCA002-30	2.000	NPOC:0.4208 mg/L	DF=2X, 7.5ml/15ml
31	Unknown	NPOC	L226-15	TCA002-31	1.000	NPOC:0.1385 mg/L	
32	Unknown	NPOC	L226-15D	TCA002-32	1.000	NPOC:0.1022 mg/L	
33	Unknown	NPOC	L226-15M	TCA002-33	1.000	NPOC:24.15 mg/L	
34	Unknown	NPOC	L226-15S	TCA002-34	1.000	NPOC:24.31 mg/L	
35	Unknown	NPOC	A023-01I	TCA002-35	2.000	NPOC:1.769 mg/L	DF=2X, 7.5ml/15ml
36	Control	NPOC	CCV3	TCA002-36	1.000	NPOC:24.79 mg/L	
37	Unknown	NPOC	CCB3	TCA002-37	1.000	NPOC:0.07311 mg/L	
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Instr.Information

System	TOC-9060/415.1/5310B
Detector	Combustion
Catalyst	Regular Sensitivity
Cell Length	long

Cal. Curve

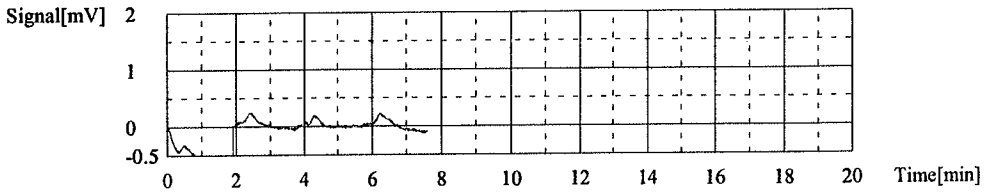
Sample Name:	ICAL - Instrument 62
Sample ID:	TCA002-01
Cal. Curve:	TCA002.2023_01_09_19_52_32.cal

Type	Anal.
Standard	NPOC

Conc: 0.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	0.1719	50uL	1	*******		01/09/23 08:01:02 PM
2	0.5616	50uL	1	*******		01/09/23 08:03:06 PM
3	0.4190	50uL	1	*******		01/09/23 08:05:10 PM
4	0.4802	50uL	1	*******		01/09/23 08:07:14 PM

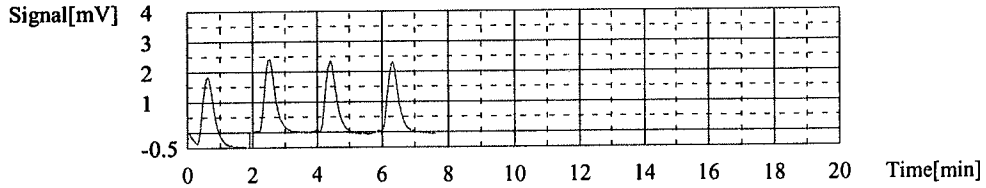
Acid Add. 2.500%
Sp. Time 90.00sec
Mean Area 0.4082



Conc: 1.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	5.003	50uL	1	*******		01/09/23 08:15:48 PM
2	5.368	50uL	1	*******		01/09/23 08:17:53 PM
3	5.534	50uL	1	*******		01/09/23 08:19:57 PM
4	5.495	50uL	1	*******		01/09/23 08:22:01 PM

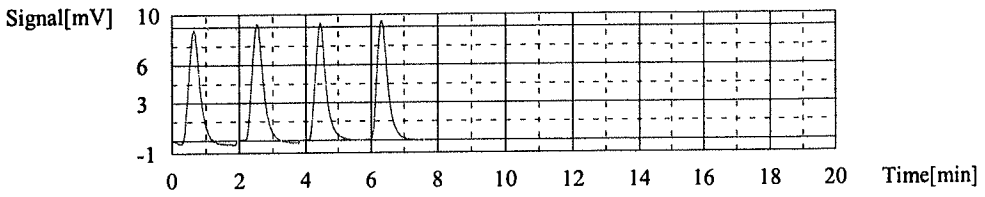
Acid Add. 2.500%
Sp. Time 90.00sec
Mean Area 5.350



Conc: 5.000mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	21.09	50uL	1	*******		01/09/23 08:30:35 PM
2	22.10	50uL	1	*******		01/09/23 08:32:40 PM
3	21.70	50uL	1	*******		01/09/23 08:34:44 PM
4	21.76	50uL	1	*******		01/09/23 08:36:48 PM

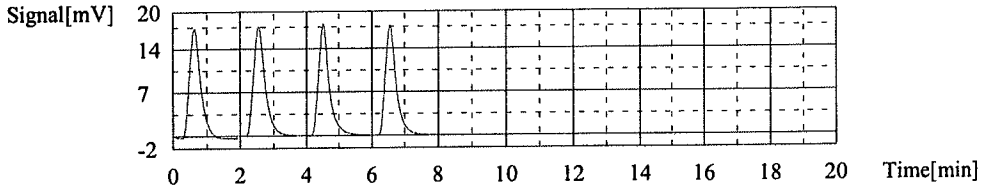
Acid Add. 2.500%
Sp. Time 90.00sec
Mean Area 21.66



Conc: 10.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	40.90	50uL	1	*******		01/09/23 08:45:24 PM
2	42.54	50uL	1	*******		01/09/23 08:47:33 PM
3	42.46	50uL	1	*******		01/09/23 08:49:46 PM
4	42.41	50uL	1	*******		01/09/23 08:51:54 PM

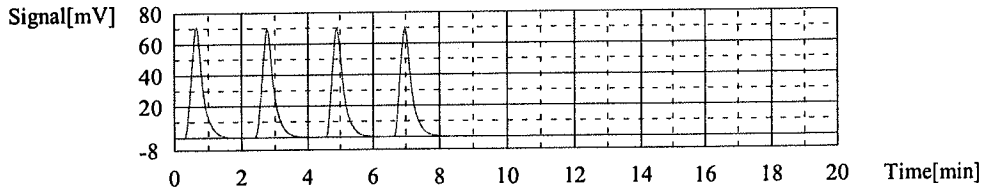
Acid Add. 2.500%
Sp. Time 90.00sec
Mean Area 42.08



Conc: 40.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	168.3	50uL	1	*******		01/09/23 09:00:45 PM
2	171.6	50uL	1	*******		01/09/23 09:03:05 PM
3	170.8	50uL	1	*******		01/09/23 09:05:20 PM
4	169.1	50uL	1	*******		01/09/23 09:07:33 PM

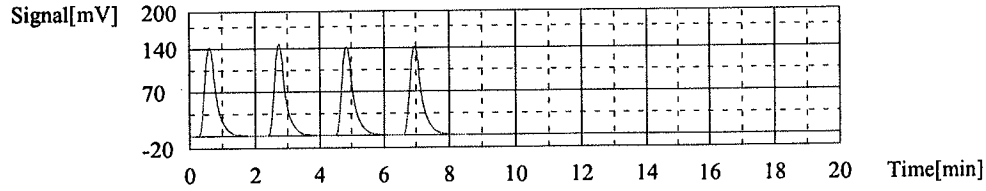
Acid Add. 2.500%
Sp. Time 90.00sec
Mean Area 169.9



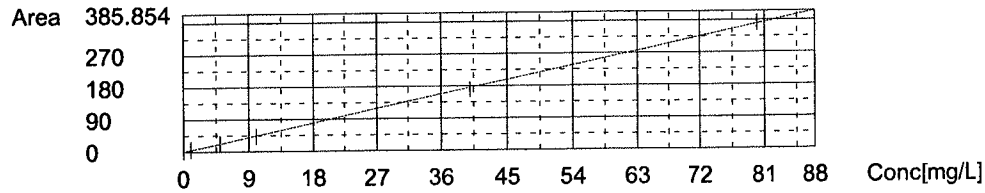
Conc: 80.00mg/L

No.	Area	Inj. Vol.	Aut. Dil.	Rem.	Ex.	Date / Time
1	351.7	50uL	1	*******		01/09/23 09:16:30 PM
2	352.2	50uL	1	*******		01/09/23 09:18:48 PM
3	354.6	50uL	1	*******		01/09/23 09:21:04 PM
4	351.4	50uL	1	*******		01/09/23 09:23:27 PM

Acid Add. 2.500%
Sp. Time 90.00sec
Mean Area 352.5



Slope: 4.385
Intercept 0.000
r^2 0.999654



Control Sample

Sample Name: ICV
Sample ID: TCA002-02
Method: TCA002.tpl
Chk. Result Control value: 25.53 / Control exceeds range!

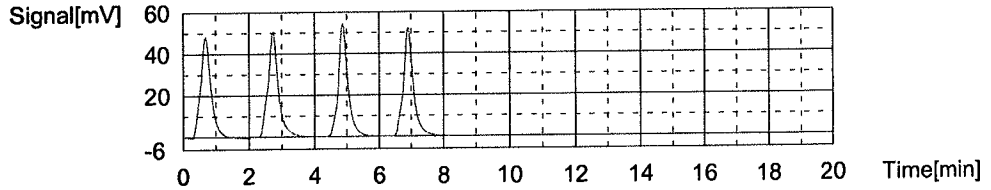
Type	Anal.	Dil.	Result
Control	NPOC	1.000	NPOC:25.53 mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	109.6	25.00mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:32:19 PM
2	112.9	25.75mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:34:36 PM
3	113.1	25.79mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:36:50 PM
4	112.1	25.57mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:39:04 PM

Mean Area 111.9
Mean Conc. 25.53mg/L



Sample

Sample Name: ICB
Sample ID: TCA002-03
Origin: TCA002.cal
Chk. Result

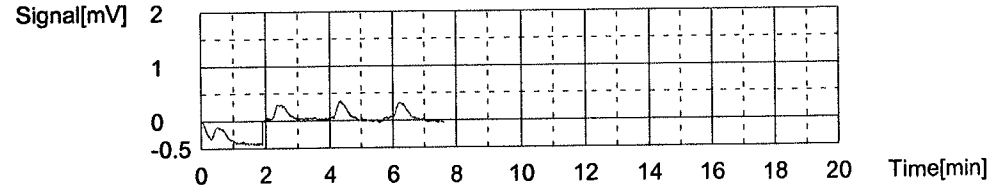
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1415 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4843	0.1105mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:47:48 PM
2	0.6821	0.1556mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:49:52 PM
3	0.6709	0.1530mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:51:57 PM
4	0.6453	0.1472mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 09:54:01 PM

Mean Area 0.6207
Mean Conc. 0.1415mg/L



Sample

Sample Name: HCO3/CO3
Sample ID: TCA002-04
Origin: TCA002.cal
Chk. Result

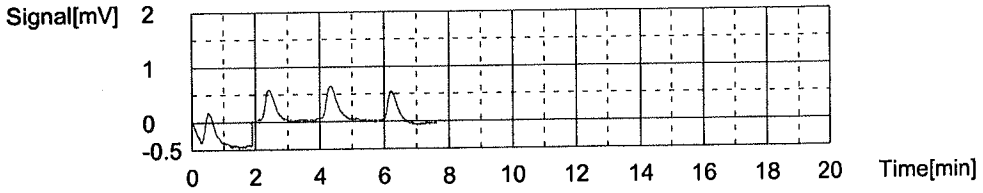
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.2679 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.9769	0.2228mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:02:38 PM
2	1.230	0.2805mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:04:42 PM
3	1.307	0.2981mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:06:47 PM
4	1.184	0.2700mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:08:51 PM

Mean Area 1.174
Mean Conc. 0.2679mg/L



Sample

Sample Name: TCA003WB
Sample ID: TCA002-05
Origin: TCA002.cal
Chk. Result

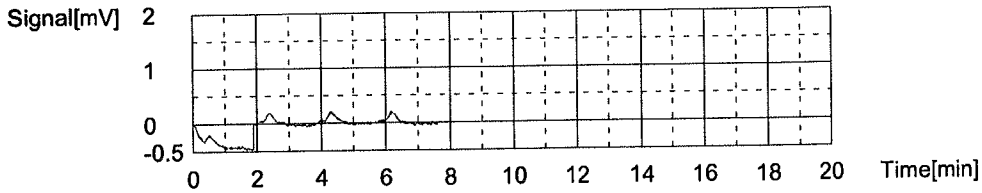
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.05089 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.1604	0.03658mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:30:12 PM
2	0.1700	0.03877mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:32:16 PM
3	0.3286	0.07494mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:34:21 PM
4	0.2335	0.05325mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:36:25 PM

Mean Area 0.2231
Mean Conc. 0.05089mg/L



Sample

Sample Name: TCA003WL
Sample ID: TCA002-06
Origin: TCA002.cal
Chk. Result

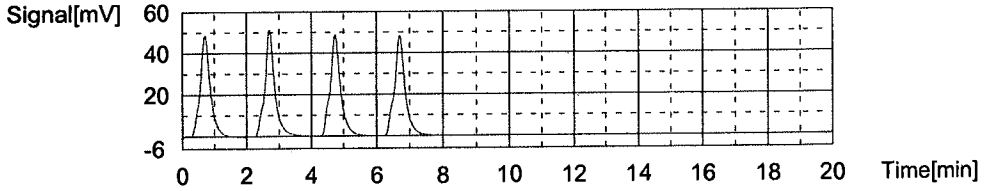
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:25.10 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	109.2	24.90mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:45:05 PM
2	110.7	25.25mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:47:18 PM
3	110.4	25.18mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:49:26 PM
4	109.9	25.06mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 10:51:35 PM

Mean Area 110.1
Mean Conc. 25.10mg/L



Sample

Sample Name: TCA003WC
Sample ID: TCA002-07
Origin: TCA002.cal
Chk. Result

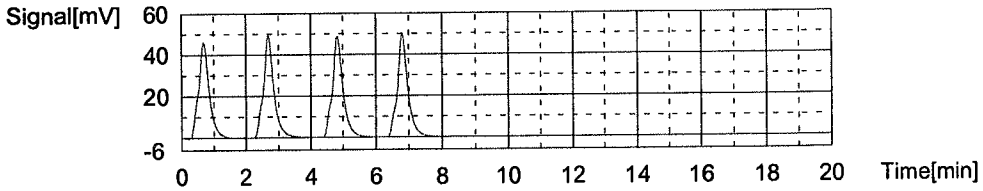
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:25.23 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	107.7	24.56mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:00:15 PM
2	111.6	25.45mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:02:33 PM
3	111.9	25.52mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:04:41 PM
4	111.3	25.38mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:06:49 PM

Mean Area 110.6
Mean Conc. 25.23mg/L



Sample

Sample Name: LOD @ 0.3
Sample ID: TCA002-08
Origin: TCA002.cal
Chk. Result

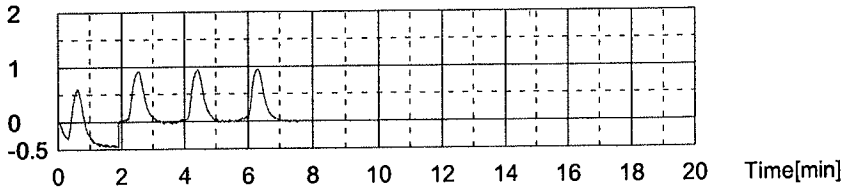
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.5142 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.027	0.4623mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:15:24 PM
2	2.388	0.5446mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:17:28 PM
3	2.344	0.5346mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:19:32 PM
4	2.260	0.5154mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:21:37 PM

Mean Area 2.255
Mean Conc. 0.5142mg/L



Sample

Sample Name: LOD @ 0.5
Sample ID: TCA002-09
Origin: TCA002.cal
Chk. Result

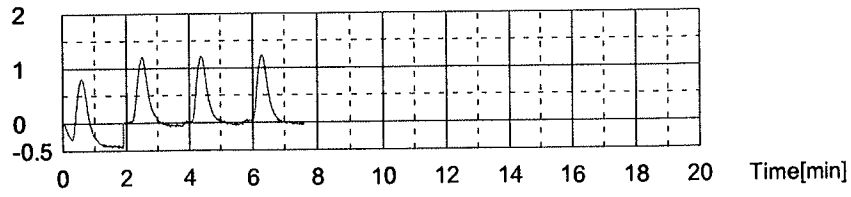
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.6283 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	2.572	0.5866mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:30:12 PM
2	2.820	0.6431mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:32:16 PM
3	2.875	0.6557mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:34:20 PM
4	2.753	0.6279mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:36:25 PM

Mean Area 2.755
Mean Conc. 0.6283mg/L



Sample

Sample Name: LOQ @ 1
Sample ID: TCA002-10
Origin: TCA002.cal
Chk. Result

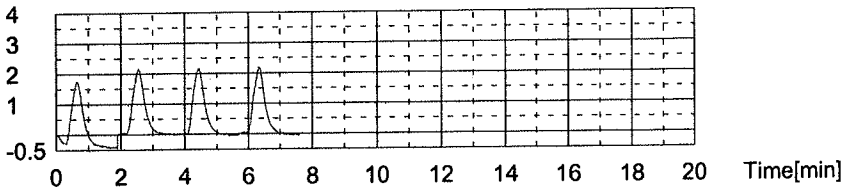
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.165 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	4.845	1.105mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:45:00 PM
2	5.099	1.163mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:47:04 PM
3	5.189	1.183mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:49:08 PM
4	5.302	1.209mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:51:13 PM

Mean Area 5.109
Mean Conc. 1.165mg/L



Sample

Sample Name: L252-01
Sample ID: TCA002-11
Origin: TCA002.cal
Chk. Result

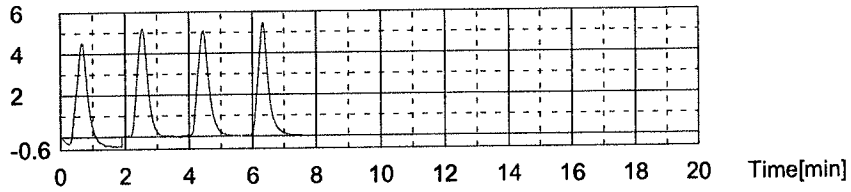
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:2.720 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	11.47	2.616mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/09/23 11:59:48 PM
2	11.83	2.698mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:01:52 AM
3	12.15	2.771mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:03:56 AM
4	12.26	2.796mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:06:01 AM

Mean Area 11.93
Mean Conc. 2.720mg/L



Sample

Sample Name: L252-02
Sample ID: TCA002-12
Origin: TCA002.cal
Chk. Result

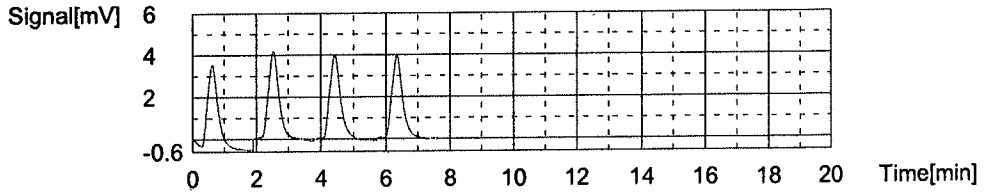
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:2.127 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	8.883	2.026mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:14:36 AM
2	9.458	2.157mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:16:40 AM
3	9.546	2.177mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:18:44 AM
4	9.417	2.148mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:20:49 AM

Mean Area 9.326
Mean Conc. 2.127mg/L



Sample

Sample Name: L252-03
Sample ID: TCA002-13
Origin: TCA002.cal
Chk. Result

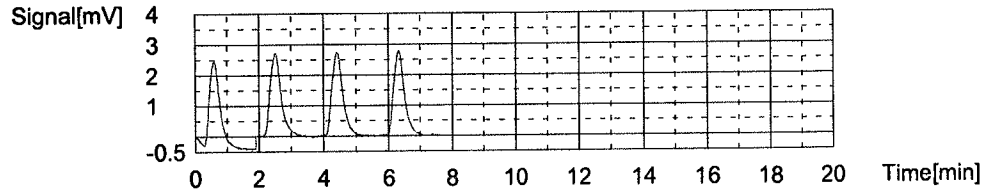
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.440 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	6.196	1.413mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:29:24 AM
2	6.306	1.438mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:31:28 AM
3	6.379	1.455mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:33:32 AM
4	6.380	1.455mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:35:36 AM

Mean Area 6.315
Mean Conc. 1.440mg/L



Control Sample

Sample Name: CCV1
Sample ID: TCA002-14
Method: TCA002.tpl
Chk. Result Control value: 24.51 / Control exceeds range!

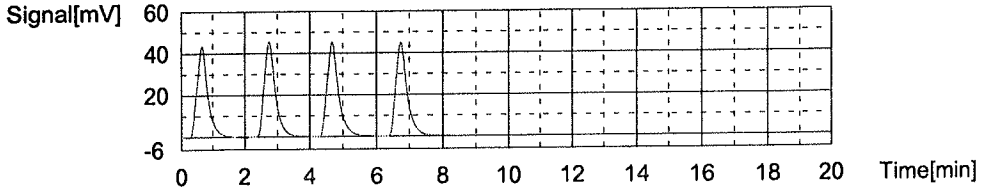
Type	Anal.	Dil.	Result
Control	NPOC	1.000	NPOC:24.51 mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	106.0	24.17mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:44:24 AM
2	108.0	24.63mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:46:30 AM
3	108.9	24.84mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:48:44 AM
4	106.9	24.38mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:51:00 AM

Mean Area 107.4
Mean Conc. 24.51mg/L



Sample

Sample Name: CCB1
Sample ID: TCA002-15
Origin: TCA002.cal
Chk. Result

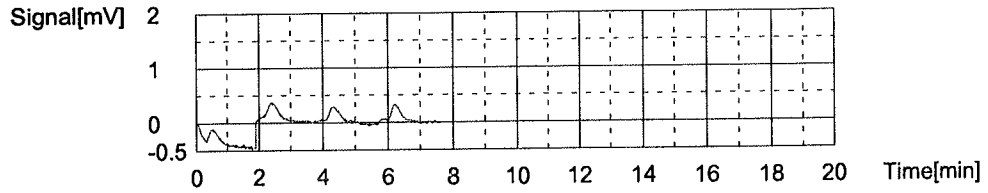
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1285 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3710	0.08461mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 12:59:45 AM
2	0.8544	0.1949mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:01:50 AM
3	0.5515	0.1258mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:03:54 AM
4	0.4761	0.1086mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:05:58 AM

Mean Area 0.5633
Mean Conc. 0.1285mg/L



Sample

Sample Name: L252-04
Sample ID: TCA002-16
Origin: TCA002.cal
Chk. Result

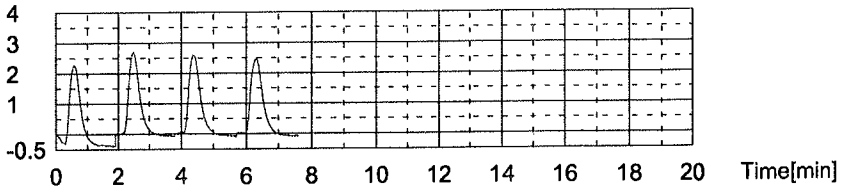
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:1.421 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	5.661	1.291mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:14:33 AM
2	6.497	1.482mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:16:38 AM
3	6.330	1.444mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:18:42 AM
4	6.431	1.467mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:20:46 AM

Mean Area 6.230
Mean Conc. 1.421mg/L



Sample

Sample Name: L226-06I
Sample ID: TCA002-17
Origin: TCA002.cal
Chk. Result

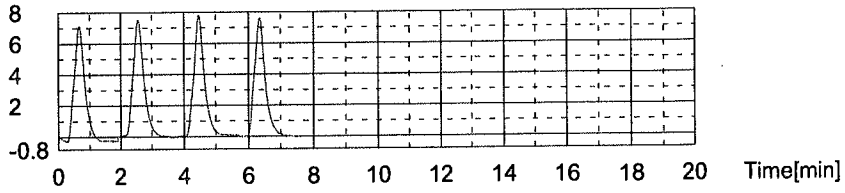
Type	Anal.	Dil.	Result
Unknown	NPOC	2.000	NPOC:8.159 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	17.11	7.804mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:29:21 AM
2	18.46	8.420mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:31:26 AM
3	17.92	8.174mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:33:30 AM
4	18.06	8.238mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:35:34 AM

Mean Area 17.89
Mean Conc. 8.159mg/L



Sample

Sample Name: L226-07
Sample ID: TCA002-18
Origin: TCA002.cal
Chk. Result

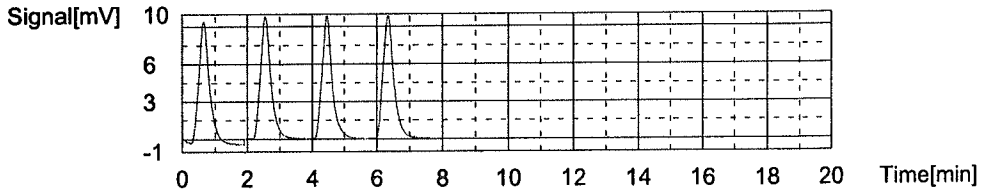
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:5.073 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	21.65	4.938mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:44:09 AM
2	22.23	5.070mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:46:14 AM
3	22.47	5.125mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:48:18 AM
4	22.62	5.159mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:50:22 AM

Mean Area 22.24
Mean Conc. 5.073mg/L



Sample

Sample Name: L226-08
Sample ID: TCA002-19
Origin: TCA002.cal
Chk. Result

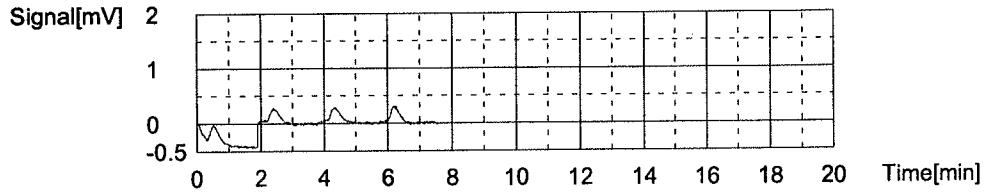
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1024 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3527	0.08044mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 01:58:57 AM
2	0.4344	0.09907mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:01:01 AM
3	0.4763	0.1086mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:03:06 AM
4	0.5325	0.1214mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:05:10 AM

Mean Area 0.4490
Mean Conc. 0.1024mg/L



Sample

Sample Name: L226-08D
Sample ID: TCA002-20
Origin: TCA002.cal
Chk. Result

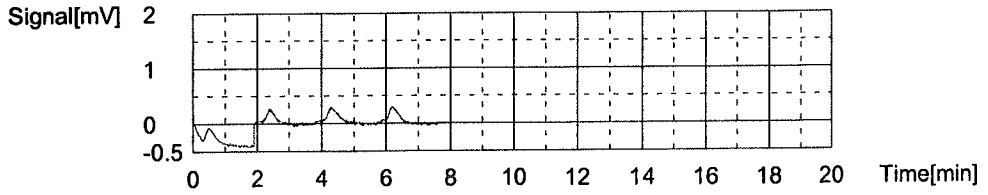
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1005 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3615	0.08245mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:13:45 AM
2	0.4335	0.09887mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:15:49 AM
3	0.4706	0.1073mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:17:54 AM
4	0.4969	0.1133mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:19:58 AM

Mean Area 0.4406
Mean Conc. 0.1005mg/L



Sample

Sample Name: L226-08M
Sample ID: TCA002-21
Origin: TCA002.cal
Chk. Result

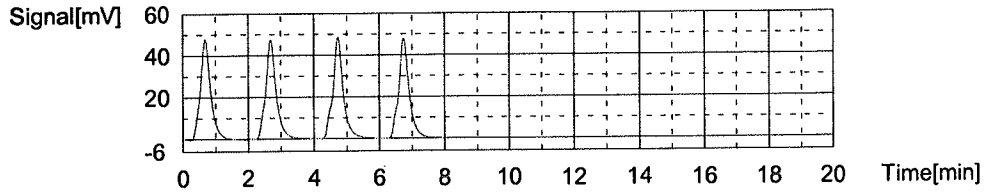
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.56 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	106.4	24.27mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:28:38 AM
2	108.8	24.81mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:30:50 AM
3	108.1	24.65mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:33:03 AM
4	107.4	24.49mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:35:13 AM

Mean Area 107.7
Mean Conc. 24.56mg/L



Sample

Sample Name: L226-08S
Sample ID: TCA002-22
Origin: TCA002.cal
Chk. Result

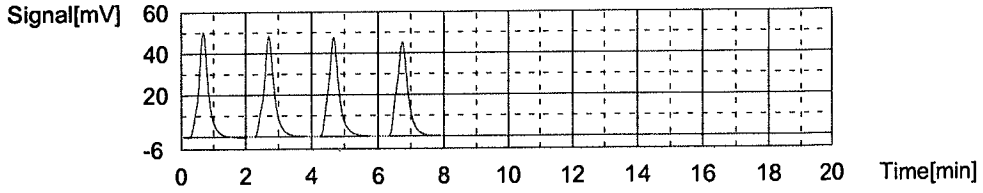
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.36 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	105.8	24.13mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:43:55 AM
2	107.2	24.45mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:46:04 AM
3	107.1	24.43mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:48:19 AM
4	107.1	24.43mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:50:23 AM

Mean Area 106.8
Mean Conc. 24.36mg/L



Sample

Sample Name: L226-09
Sample ID: TCA002-23
Origin: TCA002.cal
Chk. Result

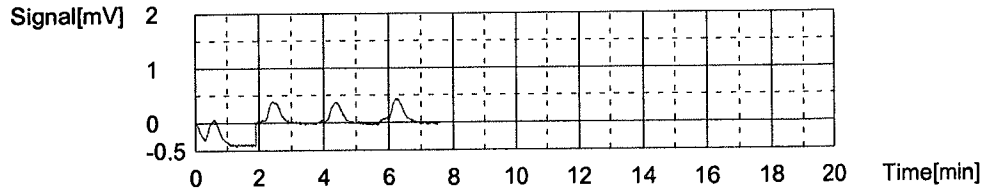
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1874 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7417	0.1692mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 02:58:58 AM
2	0.9179	0.2093mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:01:02 AM
3	0.8144	0.1857mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:03:07 AM
4	0.8136	0.1856mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:05:11 AM

Mean Area 0.8219
Mean Conc. 0.1874mg/L



Sample

Sample Name: L226-10
Sample ID: TCA002-24
Origin: TCA002.cal
Chk. Result

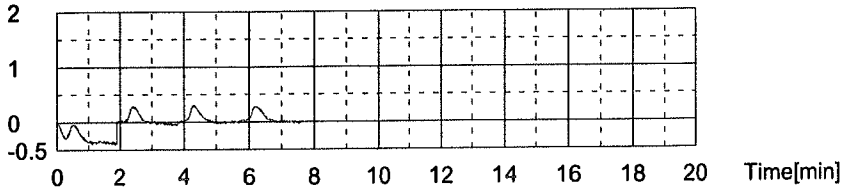
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1242 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5195	0.1185mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:13:46 AM
2	0.5182	0.1182mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:15:50 AM
3	0.5586	0.1274mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:17:55 AM
4	0.5815	0.1326mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:19:59 AM

Mean Area 0.5444
Mean Conc. 0.1242mg/L



Sample

Sample Name: L226-11
Sample ID: TCA002-25
Origin: TCA002.cal
Chk. Result

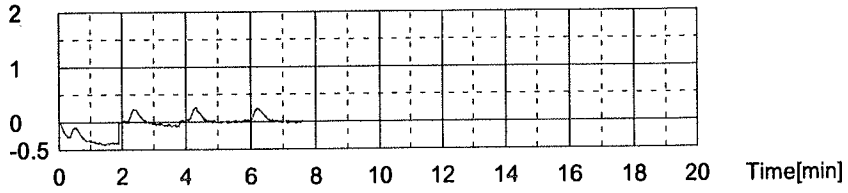
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.08799 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2940	0.06705mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:28:34 AM
2	0.4321	0.09855mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:30:38 AM
3	0.3752	0.08557mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:32:42 AM
4	0.4420	0.1008mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:34:47 AM

Mean Area 0.3858
Mean Conc. 0.08799mg/L



Control Sample

Sample Name: CCV2
Sample ID: TCA002-26
Method: TCA002.tpl
Chk. Result Control value: 24.79 / Control exceeds range!

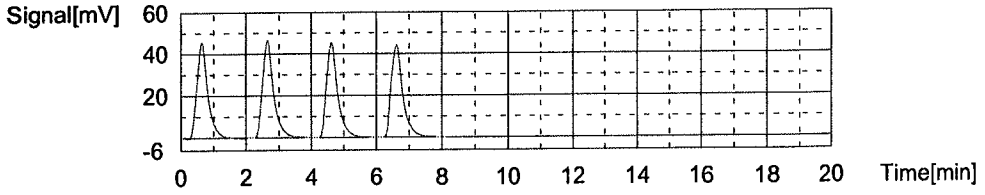
Type	Anal.	Dil.	Result
Control	NPOC	1.000	NPOC:24.79 mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	107.3	24.47mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:43:29 AM
2	109.6	25.00mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:45:38 AM
3	108.7	24.79mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:47:48 AM
4	109.1	24.88mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:50:04 AM

Mean Area 108.7
Mean Conc. 24.79mg/L



Sample

Sample Name: CCB2
Sample ID: TCA002-27
Origin: TCA002.cal
Chk. Result

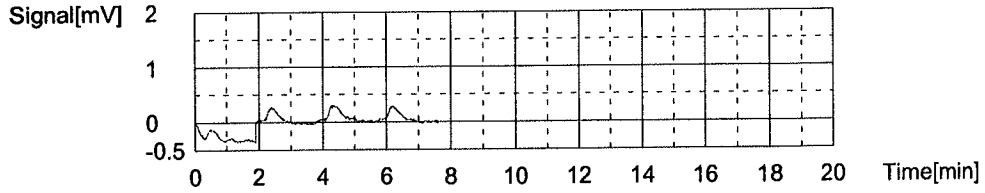
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1041 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2335	0.05325mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 03:58:50 AM
2	0.5293	0.1207mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:00:54 AM
3	0.5750	0.1311mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:02:58 AM
4	0.4878	0.1113mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:05:03 AM

Mean Area 0.4564
Mean Conc. 0.1041mg/L



Sample

Sample Name: L226-12
Sample ID: TCA002-28
Origin: TCA002.cal
Chk. Result

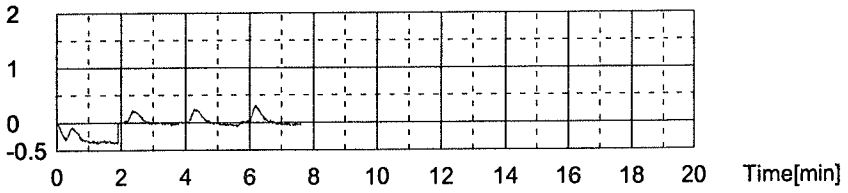
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1029 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3406	0.07768mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:13:38 AM
2	0.4671	0.1065mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:15:42 AM
3	0.4678	0.1067mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:17:46 AM
4	0.5297	0.1208mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:19:51 AM

Mean Area 0.4513
Mean Conc. 0.1029mg/L



Sample

Sample Name: L226-13
Sample ID: TCA002-29
Origin: TCA002.cal
Chk. Result

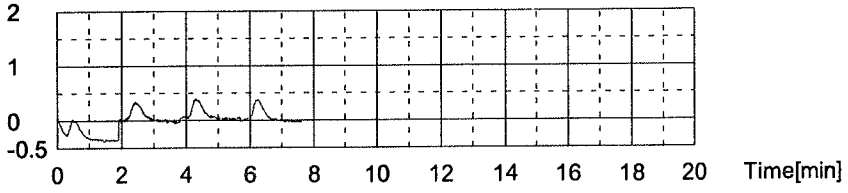
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1491 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.5234	0.1194mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:28:27 AM
2	0.7244	0.1652mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:30:31 AM
3	0.6670	0.1521mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:32:35 AM
4	0.7003	0.1597mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:34:40 AM

Mean Area 0.6538
Mean Conc. 0.1491mg/L



Sample

Sample Name: L226-14I
Sample ID: TCA002-30
Origin: TCA002.cal
Chk. Result

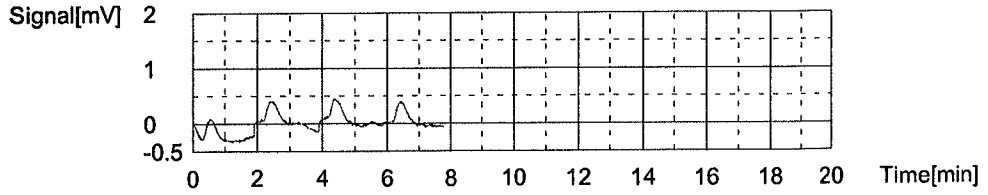
Type	Anal.	Dil.	Result
Unknown	NPOC	2.000	NPOC:0.4208 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.7220	0.3293mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:43:15 AM
2	1.175	0.5360mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:45:25 AM
3	0.9848	0.4492mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:47:34 AM
4	0.8084	0.3687mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:49:39 AM

Mean Area 0.9225
Mean Conc. 0.4208mg/L



Sample

Sample Name: L226-15
Sample ID: TCA002-31
Origin: TCA002.cal
Chk. Result

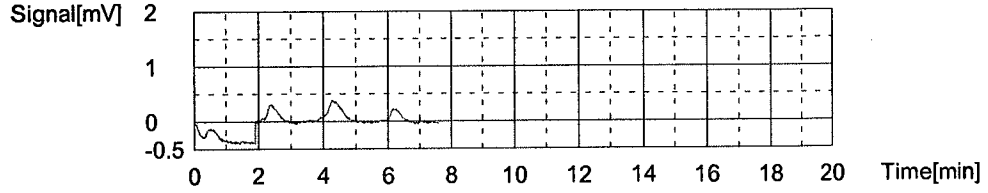
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1385 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.3060	0.06979mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 04:58:15 AM
2	0.6230	0.1421mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:00:19 AM
3	0.9903	0.2259mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:02:23 AM
4	0.5100	0.1163mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:04:27 AM

Mean Area 0.6073
Mean Conc. 0.1385mg/L



Sample

Sample Name: L226-15D
Sample ID: TCA002-32
Origin: TCA002.cal
Chk. Result

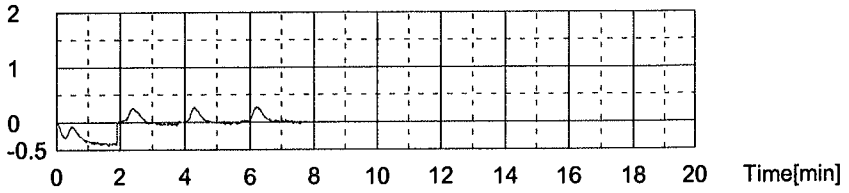
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.1022 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.4201	0.09581mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:13:03 AM
2	0.4065	0.09271mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:15:08 AM
3	0.4683	0.1068mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:17:12 AM
4	0.4973	0.1134mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:19:16 AM

Mean Area 0.4481
Mean Conc. 0.1022mg/L



Sample

Sample Name: L226-15M
Sample ID: TCA002-33
Origin: TCA002.cal
Chk. Result

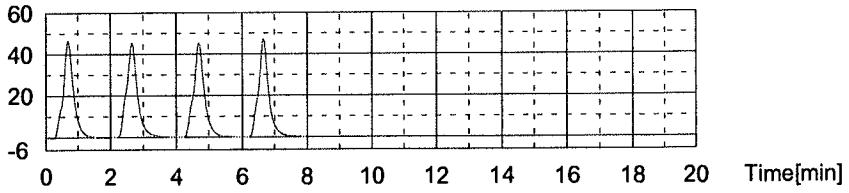
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.15 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	105.4	24.04mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:27:57 AM
2	106.4	24.27mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:30:09 AM
3	106.3	24.24mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:32:17 AM
4	105.5	24.06mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:34:28 AM

Mean Area 105.9
Mean Conc. 24.15mg/L



Sample

Sample Name: L226-15S
Sample ID: TCA002-34
Origin: TCA002.cal
Chk. Result

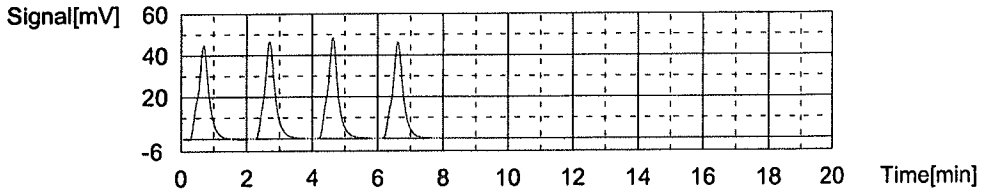
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:24.31 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	106.0	24.17mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:43:11 AM
2	106.2	24.22mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:45:18 AM
3	107.8	24.59mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:47:26 AM
4	106.4	24.27mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:49:33 AM

Mean Area 106.6
Mean Conc. 24.31mg/L



Sample

Sample Name: A023-011
Sample ID: TCA002-35
Origin: TCA002.cal
Chk. Result

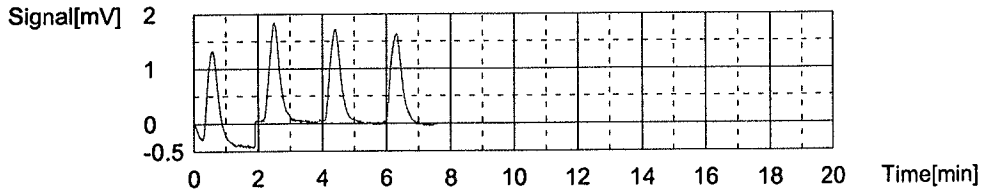
Type	Anal.	Dil.	Result
Unknown	NPOC	2.000	NPOC:1.769 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	3.708	1.691mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 05:58:09 AM
2	3.853	1.757mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:00:14 AM
3	3.888	1.773mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:02:18 AM
4	4.066	1.855mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:04:22 AM

Mean Area 3.879
Mean Conc. 1.769mg/L



Control Sample

Sample Name: CCV3
Sample ID: TCA002-36
Method: TCA002.tpl
Chk. Result Control value: 24.79 / Control exceeds range!

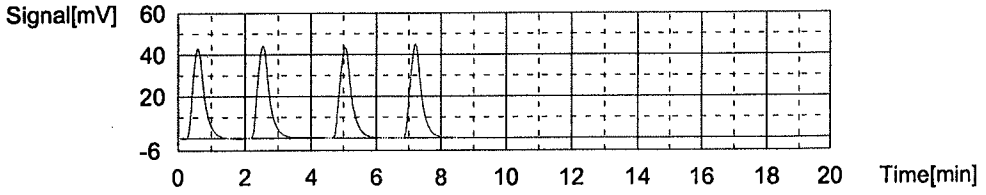
Type	Anal.	Dil.	Result
Control	NPOC	1.000	NPOC:24.79 mg/L

1. Det.

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	104.4	23.81mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:13:00 AM
2	110.4	25.18mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:15:39 AM
3	110.6	25.22mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:18:00 AM
4	109.4	24.95mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:20:07 AM

Mean Area 108.7
Mean Conc. 24.79mg/L



Sample

Sample Name: CCB3
Sample ID: TCA002-37
Origin: TCA002.cal
Chk. Result

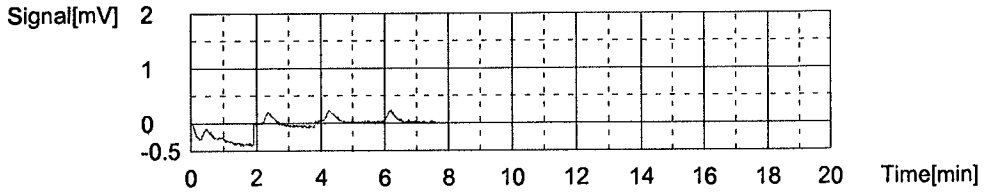
Type	Anal.	Dil.	Result
Unknown	NPOC	1.000	NPOC:0.07311 mg/L

1. Det

Anal.: NPOC

No.	Area	Conc.	Inj. Vol.	Aut. Dil.	Ex.	Cal. Curve	Date / Time
1	0.2305	0.05257mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:28:49 AM
2	0.3835	0.08746mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:30:53 AM
3	0.4011	0.09148mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:32:58 AM
4	0.2672	0.06094mg/L	50uL	1		TCA002.2023_01_09_19_52_32.cal	01/10/23 06:35:02 AM

Mean Area 0.3206
Mean Conc. 0.07311mg/L



EMAX LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 02-01-2023
EMAX Batch No.: 22L237

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 12/16/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-92-072-Q422	L237-01	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-91-045-Q422	L237-02	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-91-120-Q422	L237-03	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-91-170-Q422	L237-04	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-91-320-Q422	L237-05	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
EB-756-Q422	L237-06	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-085-Q422	L237-07	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-54-085-EB-Q422	L237-08	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-140-Q422	L237-09	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-54-140-EB-Q422	L237-10	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-195-Q422	L237-11	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-54-195-EB-Q422	L237-12	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-92-102-Q422	L237-13	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-92-122-Q422	L237-14	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-92-037-Q422	L237-15	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC
MW-930-Q422	L237-16	12/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED METALS BY ICP-MS NITRATE-N BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

EMAX LABORATORIES, INC.

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

22L237

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	
Submitted By: Riggie Teo		Phone: 916-786-3302 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/15/22	Sampled By: Riggie Teo		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - AZ RCM	Signature: Date: 12/15/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled		
2. Headspace		
3. Container Intact		
4. Seal Present		
5. IR number		
6. Method of Cooling:		
Sample Temp:		

Courier:

Tracking No.:

Matrix: Ground water (x) | Potable | NPDES | Surface | Sediment | Soil | Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved metals arsenic, manganese, molybdenum, selenium (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals Chromium; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	Nitrate (EPA 300.0) (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	"	MW-92-072-Q422	12/15/2022	9:28		X				X	X				X	E	3	P	BN	
2	"	MW-91-045-Q422	12/15/2022	7:56		X				X	X				X	E	3	P	BN	
3	"	MW-91-120-Q422	12/15/2022	8:16		X				X	X				X	E	3	P	BN	
4	"	MW-91-170-Q422	12/15/2022	8:49		X				X	X				X	E	3	P	BN	
5	"	MW-91-320-Q422	12/15/2022	9:10		X				X	X				X	E	3	P	BN	
6	"	EB-756-Q422	12/15/2022	10:30		X										E	1	P	B	
7																				
8																				
9																				
10																				

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Teo	12/15/22	FEDEX	12/15/22
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name): Received: JHowin Zamora	Date/Time: 12/16/22 1000
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

Temp: 2.0/2.6
CF: -0.2

EMAX LABORATORIES, INC.

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

22L237

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	
Submitted By: Rissie Tep		Phone: 916-786-3302 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/15/22	Sampled By: Rissie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - AZ RCM	Signature: Date: 12/15/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE				
Geotracker		RWQCB	✓	1. Chilled		
Labspec		CalTrans		2. Headspace		
Others	✓	LEVEL III		3. Container Intact		
Specify: RWQCB		LEVEL IV		4. Seal Present		
Global ID:		Regulatory		5. IR number		
		Specify State:		6. Method of Cooling:		
				Sample Temp:		

Matrix: Ground water | Sediment (x) | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Caltons Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved metals arsenic, manganese, molybdenum, selenium (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals Chromium; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	Nitrate (EPA 300.0) (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1		MW-54-085-Q422	12/15/2022	10:20		X				X	X				X	E	3	P	BN	
2		MW-54-085-EB-Q422	12/15/2022	10:03		X										E	1	P	BN	
3		MW-54-140-Q422	12/15/2022	9:57		X				X	X				X	E	3	P	BN	
4		MW-54-140-EB-Q422	12/15/2022	9:39		X										E	1	P	BN	
5		MW-54-195-Q422	12/15/2022	10:38		X				X	X				X	E	3	P	BN	
6		MW-54-195-EB-Q422	12/15/2022	10:10		X										E	1	P	BN	
7		MW-92-102-Q422	12/15/2022	8:58		X				X	X				X	E	3	P	BN	
8		MW-92-122-Q422	12/15/2022	8:24		X				X	X				X	E	3	P	BN	
9		MW-92-037-Q422	12/15/2022	9:56		X				X	X				X	E	3	P	BN	
10		MW-930-Q422	12/15/2022	10:06		X				X	X				X	E	3	P	BN	

Courier:

Tracking No.:

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Rissie Tep	12/15/22	FEDEX	12/15/22
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
		Received: Jhavin Zamora	12/16/22 1000
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 22L237
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7707 9320 2510	Recipient JHOWIN ZAMORA
☐ EMAX Courier ☐ Client Delivery		Date 12/16/22 Time 1000

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☐ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition (correction factor -0.2)	☑ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☑ Bags
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.8/2.6 °C	☐ Cooler 2 ____ °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	*A - S/N* ____	*B - S/N* 210760237	*C - S/N* ____	*D - S/N* 210760272	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
1-5,7-16	1,4,7,10,13,17,20	D12	received 125mL label reads	R8
	21,24,25,28,29,32,35		250mL	
	38			
1-5,7,9,11,13-16	2,5,8,11,14,18,22,26	D12	received 250mL poly label	
	30,33,36,39		reads 500mL	
1-5,7,9,11,13-16	3,6,9,12,15,19,23	D12	received 500mL poly label	
	27,31,34,37,40		reads 1 liter poly	
1-5,7,9,11,13-16	2,5,8,11,14,18,22,26	D1	only mentions SW6020	
	30,33,36,39			
14	33	D10		
6	16	D20		R8

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☐ NO

☐ Continue to next page.

LEGEND:

Code	Description- Sample Management
D1	Analysis is not indicated in label
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in ____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in ____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in ____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	____
D23	____
D24	____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	____
R10	____
R11	____
R12	____

REVIEWS:

Sample Labeling JHOWIN ZAMORA Date 12/16/22

SRF Date 12/16/22

PM Date 12/16/22

ORIGIN ID:IXDA (913) 998-6908
JANET CRUZ

8725 ROSEHILL ROAD
SUITE 350
LENEXA, KS 66215
UNITED STATES US

SHIP DATE: 15DEC22
ACTWGT: 15.00 LB
CAD: 256221133/INET4530
DIMS: 34x22x22 IN

BILL SENDER

TO **RECEIVING**
EMAX
3051 FUJITA ST

TORRANCE CA 90505
(310) 618-8889 REF: 30121866.4Q22GW
INV:
PO: DEPT:

581J39A97/FE2D

FedEx Express

E

J224222101801uv

FRI - 16 DEC 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7707 9320 2570**

XW HHRA

90505
CA-US **LAX**

10:00

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1,000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL IV

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

SDG#: 22L237

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L237

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of twelve(12) water samples were received on 12/16/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IML026WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IML026WL/IML026WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

L237-13 was reported from re-analysis due to internal-standard deficiency. Matrix interference was suspected.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22L237
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IML026WB	1	NA	01/30/2314:26	12/22/2213:01	H6A22049	H6A22047	IML026W	Method Blank
LCS1W	IML026WL	1	NA	01/30/2314:29	12/22/2213:01	H6A22050	H6A22047	IML026W	Lab Control Sample (LCS)
LCD1W	IML026WC	1	NA	01/30/2314:31	12/22/2213:01	H6A22051	H6A22047	IML026W	LCS Duplicate
MW-92-072-Q422	L237-01	1	NA	01/30/2314:34	12/22/2213:01	H6A22052	H6A22047	IML026W	Field Sample
MW-91-045-Q422	L237-02	1	NA	01/30/2314:37	12/22/2213:01	H6A22053	H6A22047	IML026W	Field Sample
MW-91-120-Q422	L237-03	1	NA	01/30/2314:39	12/22/2213:01	H6A22054	H6A22047	IML026W	Field Sample
MW-91-170-Q422	L237-04	1	NA	01/30/2314:42	12/22/2213:01	H6A22055	H6A22047	IML026W	Field Sample
MW-91-320-Q422	L237-05	1	NA	01/30/2314:44	12/22/2213:01	H6A22056	H6A22047	IML026W	Field Sample
MW-54-085-Q422	L237-07	1	NA	01/30/2314:47	12/22/2213:01	H6A22057	H6A22047	IML026W	Field Sample
MW-54-140-Q422	L237-09	1	NA	01/30/2315:05	12/22/2213:01	H6A22058	H6A22047	IML026W	Field Sample
MW-54-195-Q422	L237-11	1	NA	01/30/2315:46	12/22/2213:01	H6A22061	H6A22059	IML026W	Field Sample
MW-92-122-Q422	L237-14	1	NA	01/30/2315:51	12/22/2213:01	H6A22063	H6A22059	IML026W	Field Sample
MW-92-037-Q422	L237-15	1	NA	01/30/2315:54	12/22/2213:01	H6A22064	H6A22059	IML026W	Field Sample
MW-930-Q422	L237-16	1	NA	01/30/2315:56	12/22/2213:01	H6A22065	H6A22059	IML026W	Field Sample
MW-92-102-Q422	L237-13N	1	NA	01/31/2319:02	12/22/2213:01	H6A23082	H6A23080	IML026W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 09:28
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-92-072-Q422	Date Analyzed: 01/30/23 14:34
Lab Samp ID: L237-01	Dilution Factor: 1
Lab File ID: H6A22052	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22047	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	17.5	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	22.0	10.0	0.500
Molybdenum	20.3	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 07:56
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-91-045-Q422	Date Analyzed: 01/30/23 14:37
Lab Samp ID: L237-02	Dilution Factor: 1
Lab File ID: H6A22053	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22047	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	7.96	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	125	10.0	0.500
Molybdenum	ND	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	12/15/22 08:16
Project	: PG&E TOPOCK-GMP	Date Received:	12/16/22
SDG NO.	: 22L237	Date Extracted:	12/22/22 13:01
Sample ID:	MW-91-120-Q422	Date Analyzed:	01/30/23 14:39
Lab Samp ID:	L237-03	Dilution Factor:	1
Lab File ID:	H6A22054	Matrix:	WATER
Ext Btch ID:	IML026W	% Moisture:	NA
Calib. Ref.:	H6A22047	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.250
Chromium	17.9	1.00	0.250
Manganese	87.5	10.0	0.500
Molybdenum	11.7	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 08:49
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-91-170-Q422	Date Analyzed: 01/30/23 14:42
Lab Samp ID: L237-04	Dilution Factor: 1
Lab File ID: H6A22055	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22047	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	2.83	1.00	0.250
Chromium	3.41	1.00	0.250
Manganese	194	10.0	0.500
Molybdenum	157	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Sample ID: MW-91-320-Q422
Lab Samp ID: L237-05
Lab File ID: H6A22056
Ext Btch ID: IML026W
Calib. Ref.: H6A22047

Date Collected: 12/15/22 09:10
Date Received: 12/16/22
Date Extracted: 12/22/22 13:01
Date Analyzed: 01/30/23 14:44
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	9.70	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	1350	10.0	0.500
Molybdenum	48.8	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 10:20
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-54-085-Q422	Date Analyzed: 01/30/23 14:47
Lab Samp ID: L237-07	Dilution Factor: 1
Lab File ID: H6A22057	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22047	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	3.32	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	698	10.0	0.500
Molybdenum	49.7	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 09:57
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-54-140-Q422	Date Analyzed: 01/30/23 15:05
Lab Samp ID: L237-09	Dilution Factor: 1
Lab File ID: H6A22058	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22047	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	2.40	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	57.6	10.0	0.500
Molybdenum	55.7	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Sample ID: MW-54-195-Q422
Lab Samp ID: L237-11
Lab File ID: H6A22061
Ext Btch ID: IML026W
Calib. Ref.: H6A22059

Date Collected: 12/15/22 10:38
Date Received: 12/16/22
Date Extracted: 12/22/22 13:01
Date Analyzed: 01/30/23 15:46
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	366	10.0	0.500
Molybdenum	111	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Sample ID: MW-92-102-Q422
Lab Samp ID: L237-13N
Lab File ID: H6A23082
Ext Btch ID: IML026W
Calib. Ref.: H6A23080

Date Collected: 12/15/22 08:58
Date Received: 12/16/22
Date Extracted: 12/22/22 13:01
Date Analyzed: 01/31/23 19:02
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	20.4	1.00	0.250
Chromium	5.99	1.00	0.250
Manganese	ND	10.0	0.500
Molybdenum	37.0	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Sample ID: MW-92-122-Q422
Lab Samp ID: L237-14
Lab File ID: H6A22063
Ext Btch ID: IML026W
Calib. Ref.: H6A22059

Date Collected: 12/15/22 08:24
Date Received: 12/16/22
Date Extracted: 12/22/22 13:01
Date Analyzed: 01/30/23 15:51
Dilution Factor: 1
Matrix: WATER
% Moisture: NA
Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	10.9	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	184	10.0	0.500
Molybdenum	195	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.
Sample Amount : 50ml
Prepared by : CKaing

Final Volume:50ml
Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 09:56
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-92-037-Q422	Date Analyzed: 01/30/23 15:54
Lab Samp ID: L237-15	Dilution Factor: 1
Lab File ID: H6A22064	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22059	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	23.8	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	58.6	10.0	0.500
Molybdenum	13.5	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 12/15/22 10:06
Project : PG&E TOPOCK-GMP	Date Received: 12/16/22
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MW-930-Q422	Date Analyzed: 01/30/23 15:56
Lab Samp ID: L237-16	Dilution Factor: 1
Lab File ID: H6A22065	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22059	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	24.1	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	58.6	10.0	0.500
Molybdenum	13.3	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: NA
Project : PG&E TOPOCK-GMP	Date Received: NA
SDG NO. : 22L237	Date Extracted: 12/22/22 13:01
Sample ID: MBLK1W	Date Analyzed: 01/30/23 14:26
Lab Samp ID: IML026WB	Dilution Factor: 1
Lab File ID: H6A22049	Matrix: WATER
Ext Btch ID: IML026W	% Moisture: NA
Calib. Ref.: H6A22047	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Arsenic	ND	1.00	0.250
Chromium	ND	1.00	0.250
Manganese	ND	10.0	0.500
Molybdenum	ND	10.0	0.500
Selenium	ND	10.0	0.300

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:THuang

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L237
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IML026WB	IML026WL	IML026WC
LAB FILE ID	: H6A22049	H6A22050	H6A22051
DATE PREPARED	: 12/22/22 13:01	12/22/22 13:01	12/22/22 13:01
DATE ANALYZED	: 01/30/23 14:26	01/30/23 14:29	01/30/23 14:31
PREP BATCH	: IML026W	IML026W	IML026W
CALIBRATION REF	: H6A22047	H6A22047	H6A22047

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Arsenic	ND	30	31.3	104	30	30.9	103	1	85-115	20
Chromium	ND	30	32.8	109	30	32.2	107	2	85-115	20
Manganese	ND	30	31.4	105	30	31.0	103	1	85-115	20
Molybdenum	ND	30	30.2	101	30	29.4	98	3	85-115	20
Selenium	ND	30	31.6	105	30	31.9	106	1	85-115	20

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	3000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	300	25	20	0
B	100	300	50	20	0
Cd	500	300	250	20	0
Ca	50000	3000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	300	25000	100000	100000
Pb	500	300	250	20	0
Mg	50000	3000	25000	100000	100000
Mn	3000	300	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
K	50000	3000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	2000	0
Ag	50	30	25	20	0
Na	50000	3000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0
Li	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/30/23 12:10

End Date: 1/30/23 21:04

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

Micropipette ID: C42761702
C4270533
B42781098

see analytical sequence

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	IH6A22
Analytical Sequence:	H6A22
Method File:	E60W
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☐ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B270302	MRL1 (1)	SM6B-26-9502
S1	0401	MRL2 (2A)	9601
S2	0402	MRL3 (AT)	9602
S3	0501	MRL4	N/A
S4	0502	MRL5	
S5	0601	MRL6	
S6	N/A	Internal Standard	SM6B-26-6701
S7		Post-Spike 1	SM6A-23-0203
ICV	SM6B-26-71-01	Post-Spike 2	0204
CCV	SM6B-27-0602	Post-Spike 3	N/A
ICSA	0202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B-26-9701		
200.8 TUNE SOLN.			

Analyzed By: TH

Date: 1/30/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Method : METHOD SW6020A
Sequence : IH6A22
InstrumentID: H6

Lab Samp ID :		ICV				ICSA			ICSAB		
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120		
Lab File ID :		H6A22009				H6A22014			H6A22015		
DateAnalyed :		01/30/2312:27				01/30/2312:40			01/30/2312:52		
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.77	30	1.8	93	0.27763	0	>0	20.086	20	100
Beryllium		29.67	30	0.7	99	0.022942	0	<0.1	20.501	20	103
Boron		29.17	30	2.1	97	0.17824	0	<5.0	19.097	20	95
Sodium		31210	30000	2.1	104	110560	100000	111	101720	100000	102
Magnesium		30050	30000	2.9	100	108720	100000	109	97375	100000	97
Aluminum		30860	30000	3.3	103	109910	100000	110	98589	100000	99
Silicon		3163	3000	1.3	105	4.8841	0	<20	215.00	200	108
Phosphorus		288.1	300	2.4	96	108160	100000	108	100760	100000	101
Potassium		30930	30000	0.3	103	112370	100000	112	100770	100000	101
Calcium		30740	30000	1.4	102	112040	100000	112	102350	100000	102
Titanium		298.7	300	1.8	100	2263.3	2000	113	2054.3	2000	103
Vanadium		308.5	300	0.7	103	0.021603	0	<0.5	20.700	20	104
Chromium	T	312.2	300	1.3	104	2.3812	0	>0.25	23.330	20	117
Manganese	T	1973	2000	2.2	99	0.037832	0	<0.5	20.038	20	100
Iron		31170	30000	1.2	104	112360	100000	112	102750	100000	103
Cobalt		303.9	300	2.0	101	0.12635	0	<0.2	20.402	20	102
Nickel		311.9	300	1.0	104	0.44108	0	>0.2	21.356	20	107
Copper		326.2	300	1.2	109	0.0028416	0	<0.5	21.307	20	107
Zinc		308.6	300	1.7	103	2.9042	0	<10	22.219	20	111
Arsenic	T	300.5	300	1.8	100	0.039060	0	<0.25	20.204	20	101
Selenium	T	304.5	300	0.2	102	0.10491	0	<0.3	20.882	20	104
Strontium		305.5	300	1.7	102	0.87554	0	<1.0	21.170	20	106
Zirconium		31.33	30	2.2	104	0.20834	0	<2.0	10.959	20	55*
Molybdenum	T	301.1	300	2.2	100	2271.9	2000	114	2042.0	2000	102
Silver		30.43	30	1.8	101	0.084116	0	<0.2	20.262	20	101
Cadmium		297.0	300	1.6	99	0.017474	0	<0.2	20.361	20	102
Tin		303.6	300	1.7	101	0.12280	0	<0.2	20.385	20	102
Antimony		57.12	60	0.5	95	0.055467	0	<0.5	20.224	20	101
Barium		301.0	300	1.6	100	0.57991	0	>0.5	21.368	20	107
Tungsten		30.64	30	1.6	102	0.16045	0	<1.0	19.169	20	96
Mercury		2.860	3	0.9	95	0.0057680	0	<0.1	1.9536	2	98
Thallium		305.0	300	1.8	102	0.029216	0	<0.2	20.230	20	101
Lead		308.3	300	1.2	103	0.00077521	0	<0.1	20.665	20	103
Uranium		310.0	300	1.6	103	0.020448	0	<0.1	20.979	20	105

Unit: ug/L
T: Target analyte
EV: Expected Value
Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Method : METHOD SW6020A
Sequence : IH6A22
Instrument ID: H6

CCV SampleID		: CCV4			CCV5			CCV6		
CCV DataFileID		: H6A22047			H6A22059			H6A22066		
CCV DateTime		: 01/30/23 14:21			01/30/23 15:35			01/30/23 15:59		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	25.0	100	1.1	25.7	103	1.4	24.8	99	5.6
Beryllium		25	24.9	99	0.9	25.2	101	1.6	23.5	94	4.7
Boron		50	48.7	97	2.9	53.9	108	1.8	69.2	138*	8.2
Sodium		25000	25400	102	0.6	26200	105	0.5	27100	108	4.5
Magnesium		25000	25100	101	1.0	25600	103	2.6	24900	99	6.0
Aluminum		25000	25200	101	1.4	26000	104	1.5	24500	98	4.3
Silicon		2500	2570	103	0.3	2640	106	2.0	2700	108	4.4
Phosphorus		250	238	95	2.0	249	100	2.6	233	93	7.1
Potassium		25000	25300	101	0.1	25600	102	0.5	25200	101	0.6
Calcium		25000	25400	102	0.3	25600	103	1.2	26100	104	5.3
Titanium		250	247	99	0.8	255	102	1.9	232	93	5.8
Vanadium		250	254	102	0.7	259	103	0.7	249	100	0.5
Chromium	T	250	255	102	0.5	261	104	1.5	251	100	0.5
Manganese	T	1500	1500	100	0.3	1550	103	2.4	1390	92	5.8
Iron		25000	25700	103	0.5	25700	103	0.6	26000	104	5.3
Cobalt		250	250	100	1.1	260	104	2.8	233	93	6.0
Nickel		250	259	104	0.9	263	105	2.1	252	101	0.5
Copper		250	259	104	0.4	265	106	1.7	251	100	0.7
Zinc		250	252	101	1.4	259	104	2.8	239	96	4.6
Arsenic	T	250	251	100	1.1	252	101	0.3	249	100	0.7
Selenium	T	250	253	101	0.5	255	102	0.7	258	103	3.0
Strontium		250	257	103	2.1	265	106	2.0	245	98	4.7
Zirconium		25	25.7	103	2.2	26.7	107	1.9	24.3	97	5.7
Molybdenum	T	250	244	98	0.3	255	102	4.7	231	92	6.8
Silver		25	25.0	100	1.0	25.6	102	5.7	23.4	94	6.8
Cadmium		250	247	99	0.4	253	101	6.5	233	93	7.3
Tin		250	248	99	0.4	256	103	5.9	234	94	7.7
Antimony		50	49.4	99	0.5	50.9	102	6.2	46.5	93	6.9
Barium		500	506	101	1.4	528	106	5.8	480	96	6.9
Tungsten		25	24.9	100	0.3	25.9	103	6.4	23.7	95	7.8
Mercury		2.5	2.48	99	1.1	2.59	104	7.0	2.40	96	5.3
Thallium		250	252	101	1.5	268	107	7.4	246	98	5.9
Lead		250	252	101	1.7	267	107	7.4	245	98	6.7
Uranium		250	256	102	1.5	270	108	8.1	247	99	7.8

| Unit: ug/L
| T: Target analyte
|%Rec QC Limit: 90-110
| RSD QC Limit: <5
| CCV EV: CCV Expected Value ug/L
| Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Method : SW6020A
Sequence : IH6A22
Instrument ID: H6

CB SampleID		: ICB		CCB4		CCB5		CCB6	
CB DataFileID		: H6A22010		H6A22048		H6A22060		H6A22067	
CB DateTime		: 01/30/2312:29		01/30/2314:24		01/30/2315:43		01/30/2316:02	
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.1	>0	0.2	>0	0.6	>0	0.7	>0
Beryllium		0.1	0.01	<0.1	0.03	<0.1	0.05	<0.1	0.05	<0.1
Boron		5.0	0.9	<5.0	1	<5.0	4	<5.0	10	>5.0
Sodium		50	5	<50	10	<50	200	>50	400	>50
Magnesium		10	2	<10	4	<10	6	<10	6	<10
Aluminum		20	2	<20	4	<20	5	<20	4	<20
Silicon		20	4	<20	0.9	<20	3	<20	0.2	<20
Phosphorus		25	3	<25	8	<25	1	<25	4	<25
Potassium		20	0.7	<20	2	<20	10	<20	40	>20
Calcium		25	0.8	<25	30	>25	30	>25	20	<25
Titanium		0.5	0.03	<0.5	0.07	<0.5	0.06	<0.5	0.05	<0.5
Vanadium		0.5	0.01	<0.5	0.04	<0.5	0.04	<0.5	0.009	<0.5
Chromium	T	0.25	0.03	<0.25	0.1	<0.25	0.1	<0.25	0.1	<0.25
Manganese	T	0.5	0.2	<0.5	0.4	<0.5	0.4	<0.5	0.3	<0.5
Iron		10	1	<10	5	<10	6	<10	5	<10
Cobalt		0.2	0.02	<0.2	0.05	<0.2	0.06	<0.2	0.05	<0.2
Nickel		0.2	0.02	<0.2	0.06	<0.2	0.08	<0.2	0.08	<0.2
Copper		0.5	0.03	<0.5	0.2	<0.5	0.2	<0.5	0.1	<0.5
Zinc		10	0.04	<10	2	<10	2	<10	2	<10
Arsenic	T	0.25	0.03	<0.25	0.02	<0.25	0.03	<0.25	0.02	<0.25
Selenium	T	0.3	0.07	<0.3	0.01	<0.3	0.02	<0.3	0.02	<0.3
Strontium		1.0	0.02	<1.0	0.06	<1.0	0.05	<1.0	0.01	<1.0
Zirconium		2.0	0.001	<2.0	0.01	<2.0	0.01	<2.0	0.009	<2.0
Molybdenum	T	0.5	0.06	<0.5	0.02	<0.5	0.04	<0.5	0.009	<0.5
Silver		0.2	0.003	<0.2	0.005	<0.2	0.005	<0.2	0.003	<0.2
Cadmium		0.2	0.08	<0.2	0.01	<0.2	0.03	<0.2	0.01	<0.2
Tin		0.2	0.2	>0.2	0.02	<0.2	0.04	<0.2	0.002	<0.2
Antimony		0.5	0.009	<0.5	0.002	<0.5	0.001	<0.5	0.0003	<0.5
Barium		0.5	0.03	<0.5	0.1	<0.5	0.1	<0.5	0.08	<0.5
Tungsten		1.0	0.01	<1.0	0.002	<1.0	0.003	<1.0	0.002	<1.0
Mercury		0.1	0.04	<0.1	0.01	<0.1	0.003	<0.1	0.009	<0.1
Thallium		0.2	0.1	<0.2	0.007	<0.2	0.04	<0.2	0.02	<0.2
Lead		0.1	0.04	<0.1	0.05	<0.1	0.05	<0.1	0.009	<0.1
Uranium		0.1	0.03	<0.1	0.03	<0.1	0.04	<0.1	0.02	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	CalBlk	BLANK		1101	H6A22001.d		1
2	Skip	CalBlk	BLANK		1101	H6A22002.d		1
3	Skip	CalBlk	S0		1102	H6A22003.d		1
4	Skip	CalStd	S1		1103	H6A22004.d		2
5	Skip	CalStd	S2		1104	H6A22005.d		3
6	Skip	CalStd	S3		1105	H6A22006.d		4
7	Skip	CalStd	S4		1106	H6A22007.d		5
8	Skip	CalStd	S5		1107	H6A22008.d		6
9	Skip	ICV	ICV		1204	H6A22009.d	1	
10	Skip	ICB	ICB		1102	H6A22010.d	1	
11	Skip	LLCCV	MRLA3001	1/100/10 ppb ↑Zn	1306	H6A22011.d	1	
12	Skip	LLCCV2	MRLA3002	0.4/40/4 ppb	1307	H6A22012.d	1	
13	Skip	Sample	MRLA3003	20 ppb Zn ✓	1301	H6A22013.d	1	
14	Skip	ICS-A	ICSA		1304	H6A22014.d	1	
15	Skip	ICSB	ICSAB		1305	H6A22015.d	1	
16	Skip	Sample	MRLA3004	500 ppb CAT	1207	H6A22016.d	1	
17	Skip	CCV	CCV1		1206	H6A22017.d	1	
18	Skip	CCB	CCB1		1102	H6A22018.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	Blank	IML026WB		2101	H6A22019.d	1	
2	Skip	LCSW	IML026WL		2102	H6A22020.d	1	
3	Skip	LCSW	IML026WC		2103	H6A22021.d	1	
4	Skip	Sample	L268-02		2104	H6A22022.d	1	
5	Skip	Sample	L268-03A		2105	H6A22023.d	1	
6	Skip	Sample	L268-03		2106	H6A22024.d	1	
7	Skip	Sample	L268-03J		2107	H6A22025.d	5	
8	Skip	Sample	L268-03M		2108	H6A22026.d	1	
9	Skip	Sample	L268-03S		2109	H6A22027.d	1	
10	Skip	Sample	L268-04		2110	H6A22028.d	1	
11	Skip	CCV	CCV2		1206	H6A22029.d	1	
12		CCB	CCB2		1102	H6A22030.d	1	
13		Sample	L268-05		2111	H6A22031.d	1	
14		Sample	L268-06		2112	H6A22032.d	1	
15		Sample	L268-07		2201	H6A22033.d	1	
16		Sample	L268-10		2202	H6A22034.d	1	
17		Sample	L268-11		2203	H6A22035.d	1	
18		CCV	CCV3		1206	H6A22036.d	1	
19		CCB	CCB3		1102	H6A22037.d	1	
20		Blank	IMA003WB		2204	H6A22038.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
21		LCSW	IMA003WL		2205	H6A22039.d	1	
22		LCSW	IMA003WC		2206	H6A22040.d	1	
23		Sample	L298-01I	YELLOW	2207	H6A22041.d	10	
24		Sample	A008-06A		2208	H6A22042.d	1	
25		Sample	A008-06		2209	H6A22043.d	1	
26		Sample	A008-06J		2210	H6A22044.d	5	
27		Sample	A008-06M		2211	H6A22045.d	1	
28		Sample	A008-06S		2212	H6A22046.d	1	
29		CCV	CCV4		1206	H6A22047.d	1	
30		CCB	CCB4		1102	H6A22048.d	1	
31		Blank	IML026WB		2301	H6A22049.d	1	
32		LCSW	IML026WL		2302	H6A22050.d	1	
33		LCSW	IML026WC		2303	H6A22051.d	1	
34		Sample	L237-01		2304	H6A22052.d	As Cr Mn Se Mo	
35		Sample	L237-02		2305	H6A22053.d	1	
36		Sample	L237-03		2306	H6A22054.d	1	
37		Sample	L237-04		2307	H6A22055.d	1	
38		Sample	L237-05		2308	H6A22056.d	1	
39		Sample	L237-07		2309	H6A22057.d	1	
40		Sample	L237-09		2310	H6A22058.d	1	
41		CCV	CCV5	Be IS fail	1206	H6A22059.d	1	
42		CCB	CCB5		1102	H6A22060.d	1	
43		Sample	L237-11		2311	H6A22061.d	1	
44		Sample	L237-13	Mn IS fail	2312	H6A22062.d	1	
45		Sample	L237-14		2401	H6A22063.d	1	
46		Sample	L237-15		2402	H6A22064.d	1	
47		Sample	L237-16		2403	H6A22065.d	1	
48		CCV	CCV6	✓ Li6[NH], Sc45[NH], 72[NH] Tb[NH] >110%	1206	H6A22066.d	1	
49		CCB	CCB6	✓	1102	H6A22067.d	1	
50		Blank	IML027WB		2404	H6A22068.d	1	
51		LCSW	IML027WL	Li6 IS?	2405	H6A22069.d	1	
52		LCSW	IML027WC	Li6, Sc45 [NH]	2406	H6A22070.d	1	
53		Sample	L180-05I	23	2407	H6A22071.d	10	23 Metals CAM
54		Sample	L228-02I		2408	H6A22072.d	10	
55		Sample	L228-03I	Li6, Sc45 [NH], Tb159[NH]	2409	H6A22073.d	10	
56		Sample	L228-04A		2410	H6A22074.d	10	
57		Sample	L228-04I		2411	H6A22075.d	10	
58		Sample	L228-04J		2412	H6A22076.d	50	
59		Sample	L228-04M	Tb159[NH]	2501	H6A22077.d	10	
60		CCV	CCV7		1206	H6A22078.d	1	
61		CCB	CCB7		1102	H6A22079.d	1	
62		Sample	L228-04S	Tb159[NH]	2502	H6A22080.d	10	
63		Sample	L228-05I		2503	H6A22081.d	10	
64		Sample	L228-06I		2504	H6A22082.d	10	
65		Sample	L228-07I		2505	H6A22083.d	10	
66		Sample	L228-08I		2506	H6A22084.d	10	
67		Sample	L228-09I		2507	H6A22085.d	10	
68		Sample	L228-10I		2508	H6A22086.d	10	
69		CCV	CCV8		1206	H6A22087.d	1	
70		CCB	CCB8	Li6, Tb159[NH]	1102	H6A22088.d	1	
71		Sample	K224-02A	Tb159[NH]	2509	H6A22089.d	Pb 5	
72		Sample	K224-02G		2510	H6A22090.d	5	
73		Sample	K224-02J		2511	H6A22091.d	25	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name		Total Dil.	Level
74		Sample	K224-02M		2512	H6A22092.d	Pb	5	
75		Sample	K224-02S		3101	H6A22093.d	↓	5	
76		Sample	K224-09G		3102	H6A22094.d	Zn	5	
77		CCV	CCV9		1206	H6A22095.d		1	
78		CCB	CCB9	Tb159[NG]	1102	H6A22096.d		1	
79		Sample	L024-11S		3103	H6A22097.d	Be	1	
80		Sample	L024-12N		3104	H6A22098.d		1	
81		Sample	L024-13N		3105	H6A22099.d		1	
82		Sample	L024-14N		3106	H6A22100.d	↓	1	
83		CCV	CCV10	Lib, Tb159[NG]	1206	H6A22101.d		1	
84		CCB	CCB10	Lib, Tb159[NG]	1102	H6A22102.d		1	
85		Sample	L025-02N		3107	H6A22103.d	Be	1	
86		Sample	L025-03N		3108	H6A22104.d		1	
87		Sample	L025-04N		3109	H6A22105.d		1	
88		Sample	L025-05N		3110	H6A22106.d		1	
89		Sample	L025-06N		3111	H6A22107.d		1	
90		Sample	L025-07N		3112	H6A22108.d		1	
91		Sample	L025-08N		3201	H6A22109.d		1	
92		Sample	L025-09N		3202	H6A22110.d		1	
93		Sample	L025-10N		3203	H6A22111.d	↓	1	
94		Sample	L226-12T		3204	H6A22112.d	Na	100	
95		CCV	CCV11		1206	H6A22113.d		1	
96		CCB	CCB11		1102	H6A22114.d		1	
97		ICS-A	ICSA2		1304	H6A22115.d		1	
98		ICSB	ICSAB2		1305	H6A22116.d		1	
99		Blank	IMA025WB		3205	H6A22117.d		1	
100		LCSW	IMA025WL		3206	H6A22118.d		1	
101		LCSW	IMA025WC		3207	H6A22119.d		1	
102		Sample	A204-01	TOT	3208	H6A22120.d	CAMtSn	1	
103		Sample	A204-02A	TOT	3209	H6A22121.d		1	
104		Sample	A204-02	TOT	3210	H6A22122.d		1	
105		Sample	A204-02J	TOT	3211	H6A22123.d		5	
106		Sample	A204-02M	TOT	3212	H6A22124.d		1	
107		CCV	CCV12		1206	H6A22125.d		1	
108		CCB	CCB12		1102	H6A22126.d	↓	1	
109		Sample	A204-02S	TOT	3301	H6A22127.d		1	
110		Sample	A204-01	DISS	3302	H6A22128.d	23Metals	1	
111		Sample	A204-02	DISS	3303	H6A22129.d	↓	1	
112		Sample	A258-01	TOT	3304	H6A22130.d	CAMtSn	1	
113		Sample	A258-01	DISS	3305	H6A22131.d	↓	1	
114		LLCCV	MRLA3005	1/100/10 ppb	1306	H6A22132.d		1	
115		LLCCV2	MRLA3006	0.4/40/4 ppb	1307	H6A22133.d		1	
116		CCV	CCV13		1206	H6A22134.d		1	
117		CCB	CCB13		1102	H6A22135.d		1	
118		Blank	IML028WB		3306	H6A22136.d	(Cu Mn)	1	
119		LCSW	IML028WL		3307	H6A22137.d		1	
120		LCSW	IML028WC		3308	H6A22138.d		1	
121		Sample	L232-01N		3309	H6A22139.d		1	
122		Sample	L232-02N		3310	H6A22140.d		1	
123		Sample	L263-01N		3311	H6A22141.d		1	
124		Sample	L263-02N		3312	H6A22142.d		1	
125		Sample	L247-02G		3401	H6A22143.d		10	Cat
126		Sample	L247-02I		3402	H6A22144.d	↓	100	+

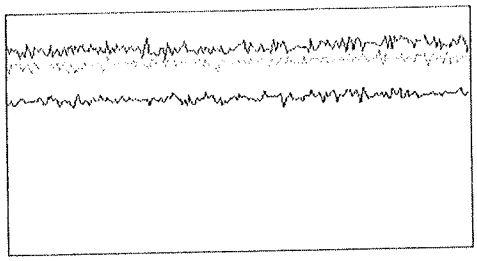
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
127		Sample	L247-02T		3403	H6A22145.d	500	
128		CCV	CCV14		1206	H6A22146.d	1	
129		CCB	CCB14		1102	H6A22147.d	1	
130		Sample	L196-03G		3404	H6A22148.d	10	
131		Sample	L196-03I		3405	H6A22149.d	100	
132		Sample	L196-03T		3406	H6A22150.d	500	
133		CCV	CCV15		1206	H6A22151.d	1	
134		CCB	CCB15		1102	H6A22152.d	1	
135		Blank	IMK033WB		3407	H6A22153.d	1	
136		LCSW	IMK033WL		3408	H6A22154.d	1	
137		LCSW	IMK033WC		3409	H6A22155.d	1	
138		Sample	K240-01N	TOT	3410	H6A22156.d	1	
139		Sample	K240-02N	TOT	3411	H6A22157.d	1	
140		Sample	K240-03N	TOT	3412	H6A22158.d	1	
141		Sample	K240-04N	TOT	3501	H6A22159.d	1	
142		Sample	K240-05N	TOT	3502	H6A22160.d	1	
143		CCV	CCV16		1206	H6A22161.d	1	
144		CCB	CCB16		1102	H6A22162.d	1	
145		Sample	K240-06A	TOT	3503	H6A22163.d	1	
146		Sample	K240-06N	TOT	3504	H6A22164.d	1	
147		Sample	K240-06J	TOT	3505	H6A22165.d	5	
148		Sample	K240-06M	TOT	3506	H6A22166.d	1	
149		Sample	K240-06S	TOT	3507	H6A22167.d	1	
150		Sample	K240-07N	TOT	3508	H6A22168.d	1	
151		Sample	K240-08N	TOT	3509	H6A22169.d	1	
152		CCV	CCV17		1206	H6A22170.d	1	
153		CCB	CCB17		1102	H6A22171.d	1	
154		Sample	K240-01N	DISS	3510	H6A22172.d	1	
155		Sample	K240-02N	DISS	3511	H6A22173.d	1	
156		Sample	K240-03N	DISS	3512	H6A22174.d	1	
157		Sample	K240-04N	DISS	4101	H6A22175.d	1	
158		Sample	K240-05N	DISS	4102	H6A22176.d	1	
159		Sample	K240-06N	DISS	4103	H6A22177.d	1	
160		Sample	K240-07N	DISS	4104	H6A22178.d	1	
161		Sample	K240-08N	DISS	4105	H6A22179.d	1	
162		Sample	A900-02N		4106	H6A22180.d	1	
163		Sample	A907-01N		4107	H6A22181.d	1	
164		CCV	CCV18		1206	H6A22182.d	1	
165		CCB	CCB18		1102	H6A22183.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-30 09:44:42
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



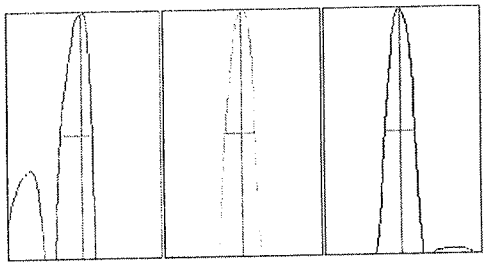
Mass	Range	Count	RSD%	Background
7	5000	4262	2.128	0.350
89	20000	15812	1.787	1.400
205	20000	12806	2.028	3.450

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 1.141 %
Doubly Charged	70 / 140 1.543 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	4265.11	7.00	0.62	0.76
89	15700.77	89.00	0.58	0.76
205	12756.63	205.00	0.58	0.79

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.2 V	Deflect	13.4 V
Extract 2	-190.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.2 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.4 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	122	Axis Gain	0.9996
Mass Offset	125	Axis Offset	-0.06

EM

Discriminator	3.3 mV	Analog HV	2773 V	Pulse HV	1510 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.99	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.17E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.8	°C
Nebulizer Gas(DP)	5.44E+0	kPa
MU./Dil. Gas(DP)	-1.16E-2	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	3.69E+2	kPa
MU./Dil. Gas(BP)	-3.28E-1	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.31E+1	kPa
S/C Temp (H)	16.1	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.7	V
IF/BK Press	2.35E+2	Pa
Analyzer Press	7.77E-5	Pa
IG HV	178	V
IG Emission	4.96	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.3	%
TMP Current	2.75	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	202.7	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.2	V
+U Voltage	5.1	V

Name	Value	Unit
-U Voltage	-12.4	V
V Voltage	31.6	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	608.6	V
-120V	-129.6	V
-720V	-738.2	V
Prefilter Bias	-5.11	V
Pickup Heater I	0.08	A
QP PS +48V	47.6	V
QP PS +48V I	0.00	A
Analog HV	-2777	V
Pulse HV	1524	V
EM Gate	100.0	V
Pulse Gate	0.1	V
EM Entrance	0.1	V
EM HV Gain	-1444.2	V
Inner Pole	-300.3	V
Outer Pole	20.0	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.2	V
RF PS +48V	47.7	V
Forward Power	1550	W
Reflected Power	4	W
Plasma Freq.	26.70	MHz
Drain I 1	11.33	A
Drain I 2	10.84	A
Drain I 3	10.74	A
Drain I 4	10.09	A
Temp Sensor	2.8	V
Driver I	5.66	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.46	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.56E+0	kPa
ORS AMFC Temp	29.6	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-190.3	V
Omega Bias	-110.0	V
Omega Lens	8.0	V
Cell Entrance	-29.9	V
Cell Exit	-50.2	V
Deflect	13.3	V
Plate Bias	-35.0	V
HV+530V	524	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	27.7	°C
Internal Temp	33.5	°C
+24V	23.6	V
Water Temp	18.1	°C
Water RF/WC/IF	1.41	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

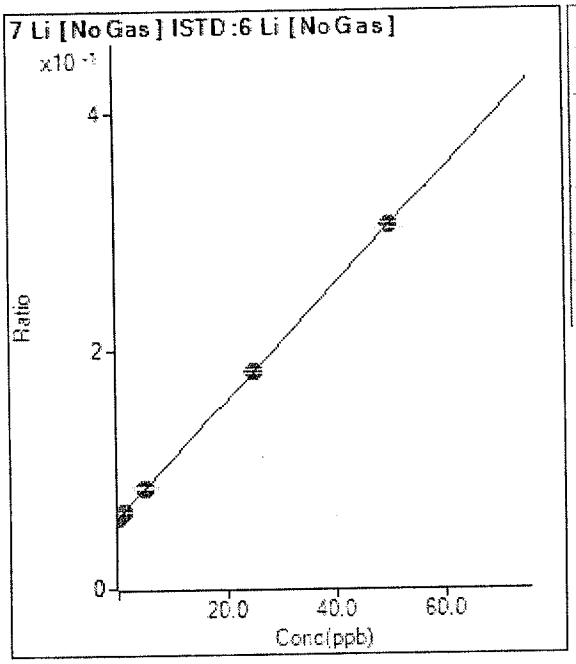
Performance Report History

Sensitivity

Calibration for H6A22009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b\
Analysis File: IH6A22.batch.bin
DA Date-Time: 2023-01-30 12:29:04
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

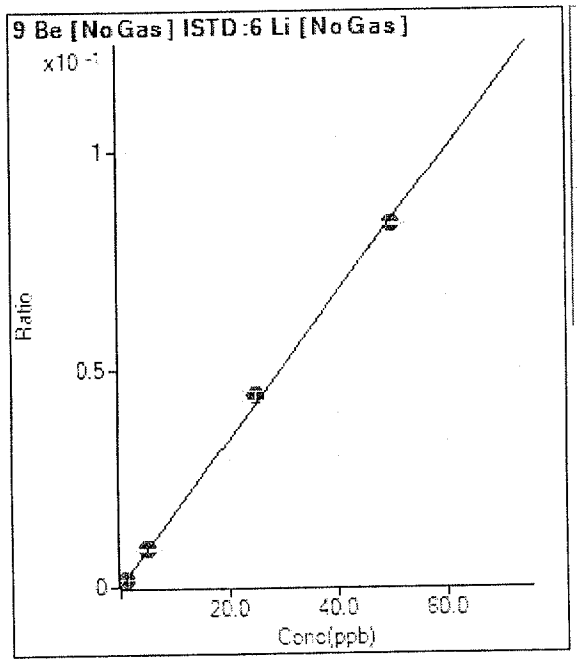
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A22003.d	S0	2023-01-30 12:10:22
2	H6A22004.d	S1	2023-01-30 12:13:13
3	H6A22005.d	S2	2023-01-30 12:16:03
4	H6A22006.d	S3	2023-01-30 12:18:54
5	H6A22007.d	S4	2023-01-30 12:21:44
6	H6A22008.d	S5	2023-01-30 12:24:34



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54672.49	0.0598	P	1.3
2	☐	0.500	0.514	60900.38	0.0624	P	1.0
3	☐	1.000	1.097	68239.01	0.0652	P	0.5
4	☐	5.000	5.065	81669.19	0.0847	P	1.4
5	☐	25.000	24.991	166592.83	0.1626	P	2.2
6	☐	50.000	49.996	311028.60	0.3054	P	1.6

y = 0.0049 * x + 0.0598
R = 1.0000
DL = 0.4764
BEC = 12.19

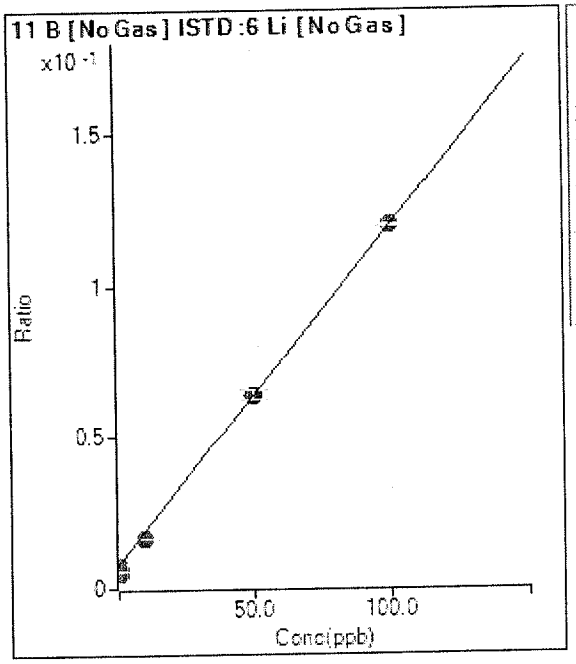
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	105.55	0.0001	P	24.1
2	☐	0.500	0.518	963.37	0.0010	P	4.4
3	☐	1.000	0.940	1773.45	0.0017	P	5.0
4	☐	5.000	5.140	8429.21	0.0088	P	3.5
5	☐	25.000	26.064	39970.03	0.0439	P	5.7
6	☐	50.000	49.455	84788.65	0.0832	P	0.8

y = 0.0017 * x + 1.1587E-004
R = 0.9997
DL = 0.04983
BEC = 0.06894

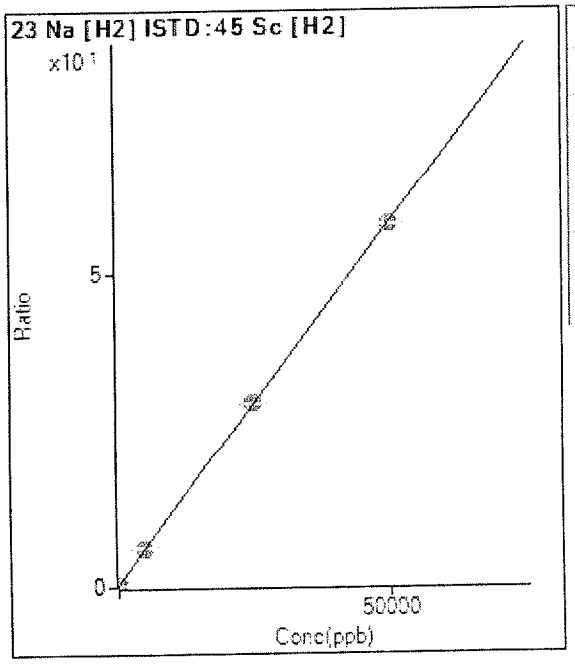
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7234.09	0.0079	P	4.9
2	☐	0.500	-2.631	4863.07	0.0050	P	1.7
3	☐	1.000	-1.777	6205.82	0.0059	P	2.4
4	☐	10.000	7.542	15759.98	0.0163	P	1.7
5	☐	50.000	50.024	58150.16	0.0638	P	4.4
6	☐	100.000	100.277	122253.97	0.1200	P	0.7

y = 0.0011 * x + 0.0079
R = 0.9996
DL = 1.046
BEC = 7.084

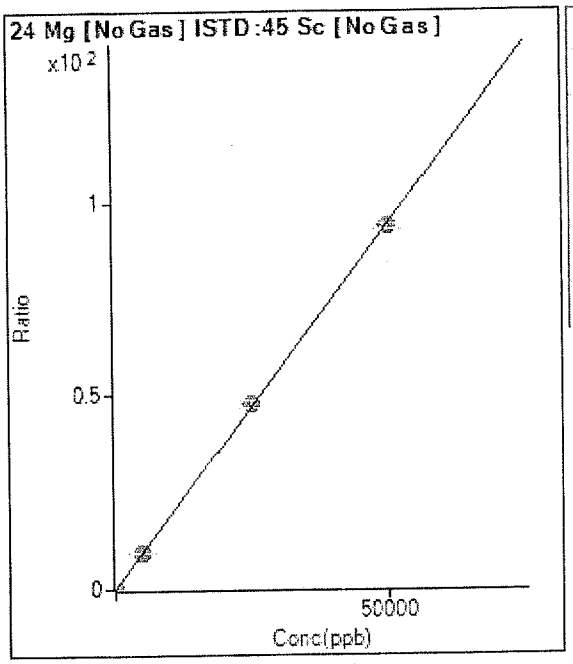
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	793667.19	0.2595	A	0.8
2	☐	50.000	46.856	960647.44	0.3136	A	0.4
3	☐	100.000	97.523	1138999.58	0.3721	A	0.6
4	☐	5000.000	5215.818	19257104.00	6.2835	A	0.5
5	☐	25000.000	25182.931	89527368.00	29.3443	A	1.6
6	☐	50000.000	49886.961	177557034.67	57.8761	A	0.7

y = 0.0012 * x + 0.2595
R = 1.0000
DL = 5.251
BEC = 224.7

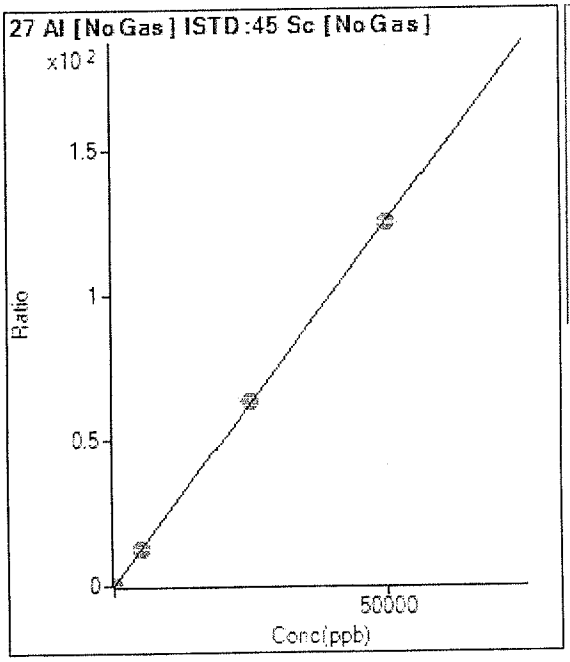
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67952.27	0.0191	P	1.2
2	☐	50.000	46.632	399612.25	0.1069	P	0.3
3	☐	100.000	96.633	808317.77	0.2009	M	1.4
4	☐	5000.000	5125.222	36186550.67	9.6615	A	0.4
5	☐	25000.000	25363.013	171032928.00	47.7360	A	4.6
6	☐	50000.000	49805.982	375859189.33	93.7220	A	1.3

y = 0.0019 * x + 0.0191
R = 1.0000
DL = 0.3585
BEC = 10.17

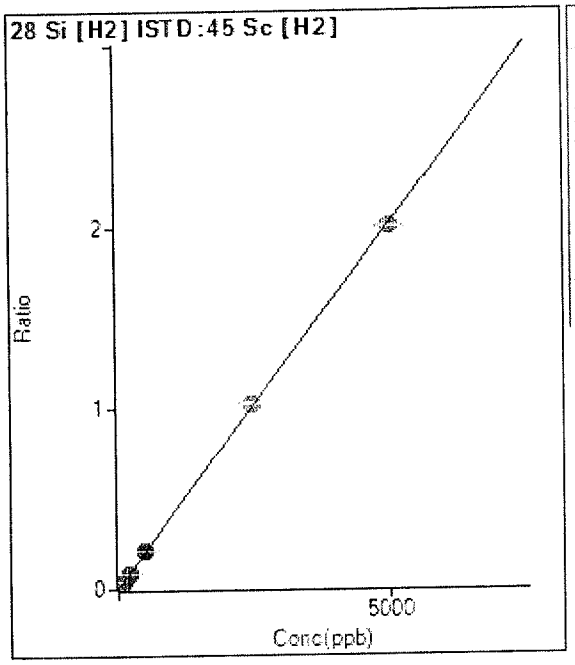
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50822.64	0.0143	P	1.4
2	☐	50.000	47.030	492977.30	0.1318	P	0.7
3	☐	100.000	96.338	1026006.55	0.2551	A	1.1
4	☐	5000.000	5079.756	47552175.96	12.7081	A	1.6
5	☐	25000.000	25300.496	226651209.96	63.2375	A	4.3
6	☐	50000.000	49841.787	499554872.55	124.5636	A	0.6

y = 0.0025 * x + 0.0143
R = 1.0000
DL = 0.2384
BEC = 5.728

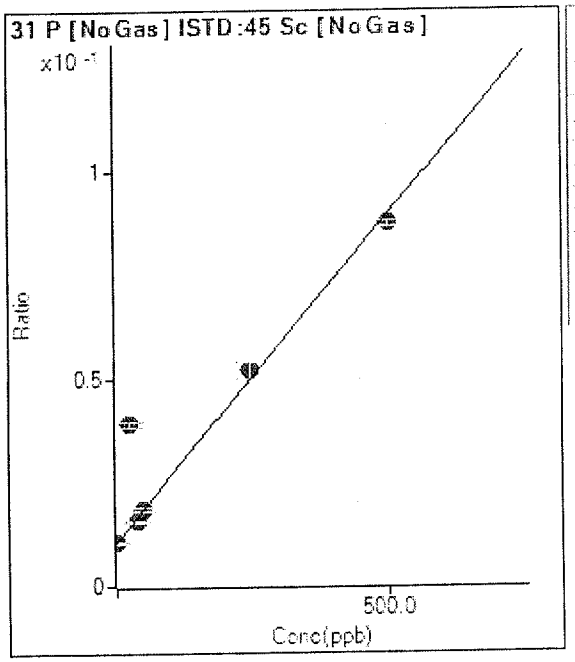
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7632.09	0.0025	P	1.5
2	☐	100.000	104.061	136224.26	0.0445	P	0.8
3	☐	200.000	203.414	258770.34	0.0845	P	1.5
4	☐	500.000	530.189	663069.33	0.2164	P	0.8
5	☐	2500.000	2540.096	3133673.17	1.0271	A	1.1
6	☐	5000.000	4976.715	6166238.83	2.0099	A	0.9

y = 4.0337E-004 * x + 0.0025
R = 0.9999
DL = 0.2735
BEC = 6.186

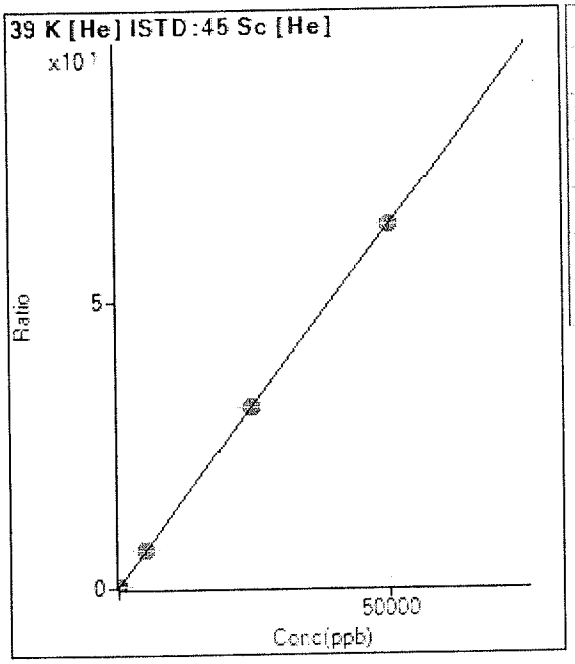
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36942.34	0.0104	P	0.8
2	☐	25.000	181.812	146104.91	0.0391	P	4.1
3	☐	40.000	32.431	62451.93	0.0155	P	1.4
4	☐	50.000	50.194	68495.69	0.0183	P	4.6
5	☐	250.000	263.667	185841.64	0.0520	P	8.1
6	☐	500.000	485.912	349483.39	0.0871	P	1.3

y = 1.5793E-004 * x + 0.0104
R = 0.9430
DL = 1.486
BEC = 65.87

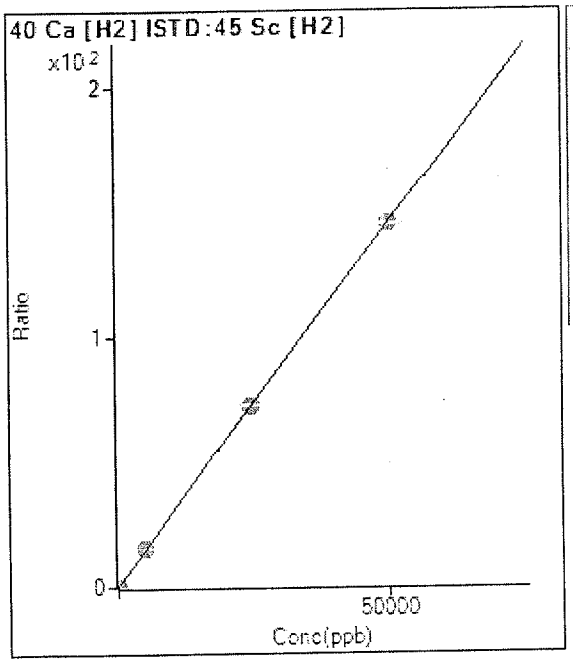
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80210.67	0.1724	P	2.8
2	☐	50.000	56.300	109226.20	0.2436	P	5.5
3	☐	100.000	98.426	138203.38	0.2969	P	1.5
4	☐	5000.000	5107.292	3087109.58	6.6305	A	1.1
5	☐	25000.000	24919.600	14144105.00	31.6830	A	0.4
6	☐	50000.000	50029.468	28781697.33	63.4342	A	0.1

y = 0.0013 * x + 0.1724
R = 1.0000
DL = 11.54
BEC = 136.4

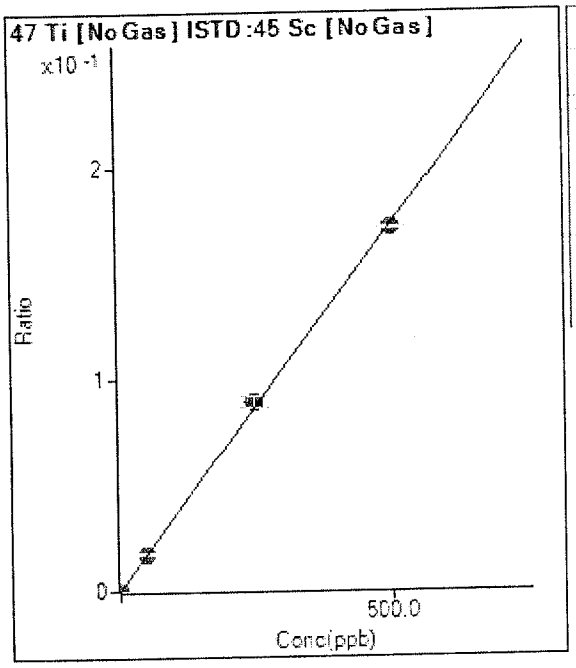
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	378313.23	0.1237	P	0.5
2	☐	50.000	28.341	630493.89	0.2058	P	0.3
3	☐	100.000	80.541	1093012.96	0.3571	A	1.2
4	☐	5000.000	5138.133	46017182.67	15.0149	A	0.3
5	☐	25000.000	24999.742	221435669.33	72.5773	A	1.0
6	☐	50000.000	49986.376	444834325.33	144.9929	A	0.6

y = 0.0029 * x + 0.1237
R = 1.0000
DL = 0.6301
BEC = 42.68

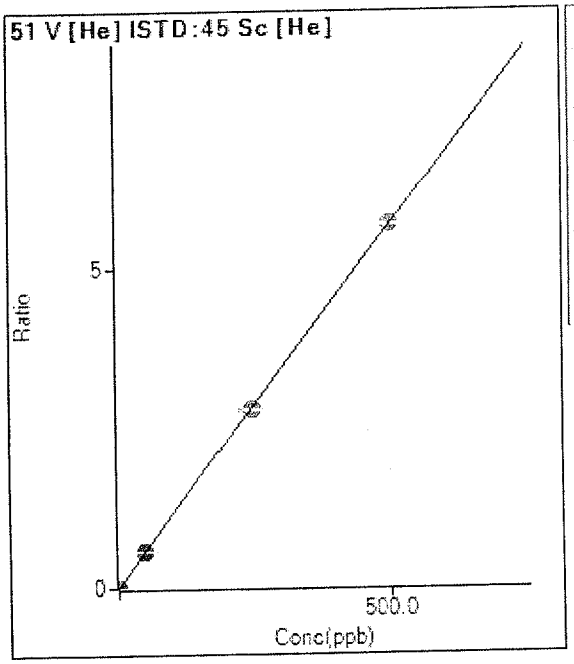
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	262.00	0.0001	P	9.4
2	☐	0.500	0.526	955.37	0.0003	P	2.4
3	☐	1.000	0.992	1674.77	0.0004	P	5.7
4	☐	50.000	50.859	66029.30	0.0176	P	1.0
5	☐	250.000	257.420	318412.69	0.0890	P	5.4
6	☐	500.000	496.204	687493.46	0.1714	P	0.6

y = 3.4533E-004 * x + 7.3787E-005
R = 0.9998
DL = 0.06044
BEC = 0.2137

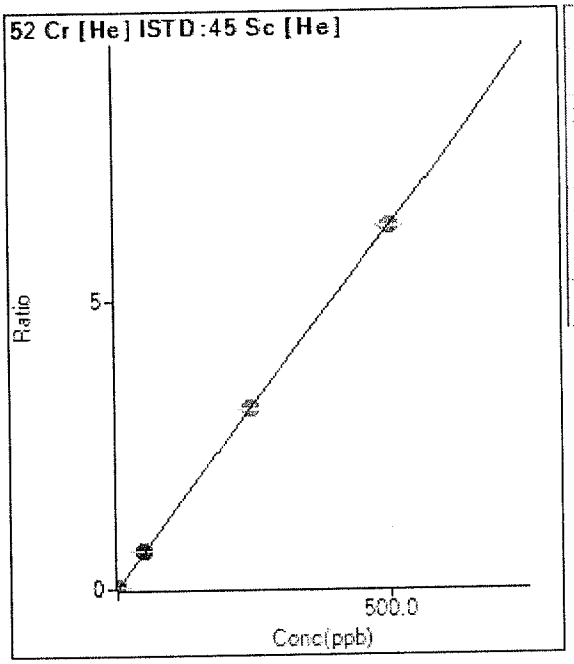
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1454.08	0.0031	P	2.6
2	☐	0.500	0.465	3760.52	0.0084	P	2.4
3	☐	1.000	0.962	6517.55	0.0140	P	1.4
4	☐	50.000	51.378	271771.58	0.5837	P	0.6
5	☐	250.000	246.336	1244067.79	2.7868	A	0.4
6	☐	500.000	501.694	2573692.67	5.6724	A	0.6

y = 0.0113 * x + 0.0031
R = 1.0000
DL = 0.02166
BEC = 0.2766

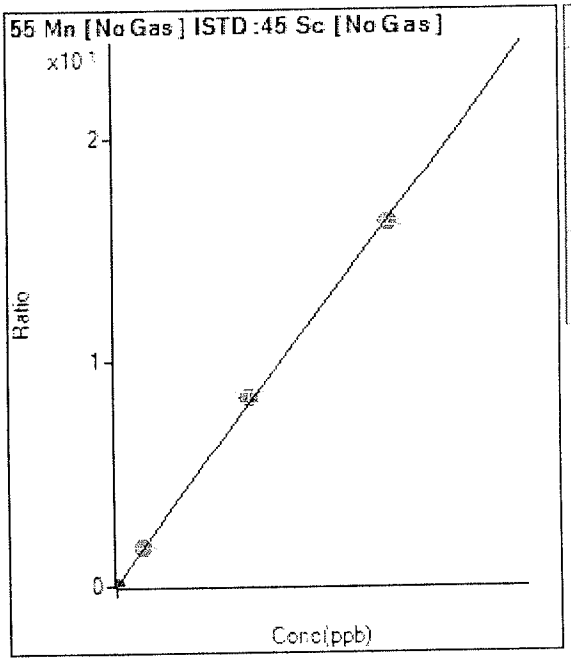
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2040.82	0.0044	P	0.9
2	☐	0.500	0.500	4790.84	0.0107	P	1.0
3	☐	1.000	1.011	7965.65	0.0171	P	0.7
4	☐	50.000	52.957	312295.28	0.6707	P	0.6
5	☐	250.000	248.349	1397268.54	3.1294	A	1.2
6	☐	500.000	500.530	2859615.83	6.3026	A	0.8

y = 0.0126 * x + 0.0044
R = 1.0000
DL = 0.0096
BEC = 0.3487

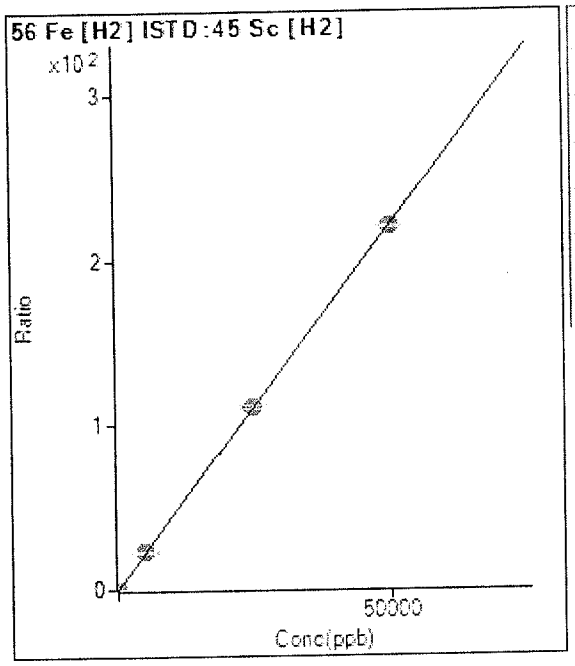
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14696.56	0.0041	P	1.0
2	☐	0.500	0.203	19574.00	0.0052	P	3.3
3	☐	1.000	0.709	32132.99	0.0080	P	0.6
4	☐	300.000	309.905	6312279.00	1.6866	A	1.3
5	☐	1500.000	1540.619	29937975.33	8.3683	A	6.0
6	☐	3000.000	2978.700	64870813.33	16.1758	A	1.3

y = 0.0054 * x + 0.0041
R = 0.9999
DL = 0.02275
BEC = 0.7623

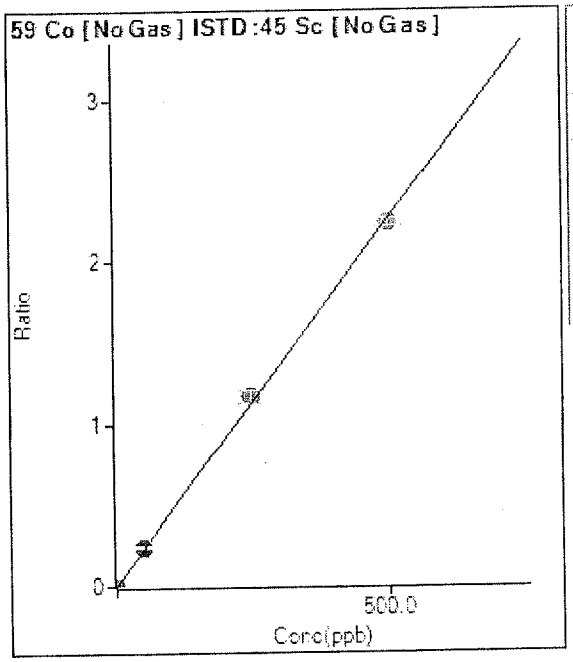
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	99015.53	0.0324	P	0.5
2	☐	50.000	48.426	753078.98	0.2458	P	0.9
3	☐	100.000	99.194	1437475.37	0.4696	A	0.4
4	☐	5000.000	5162.802	69844077.33	22.7906	A	1.0
5	☐	25000.000	25130.469	338080053.33	110.8105	A	1.2
6	☐	50000.000	49918.488	675178090.67	220.0791	A	0.8

y = 0.0044 * x + 0.0324
R = 1.0000
DL = 0.1176
BEC = 7.344

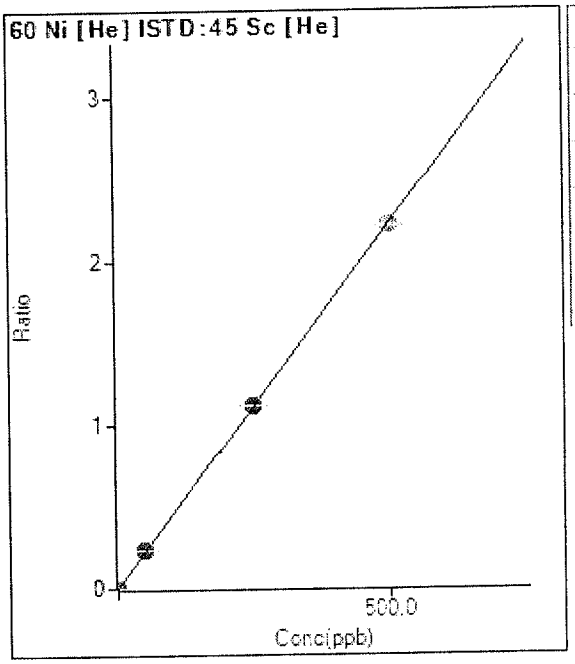
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1396.07	0.0004	P	4.3
2	☐	0.500	0.498	9878.91	0.0026	P	0.3
3	☐	1.000	1.020	20097.45	0.0050	P	1.9
4	☐	50.000	53.488	904742.14	0.2418	P	1.6
5	☐	250.000	258.745	4176136.42	1.1680	A	7.0
6	☐	500.000	495.279	8964476.33	2.2354	A	2.0

y = 0.0045 * x + 3.9309E-004
R = 0.9998
DL = 0.01132
BEC = 0.08711

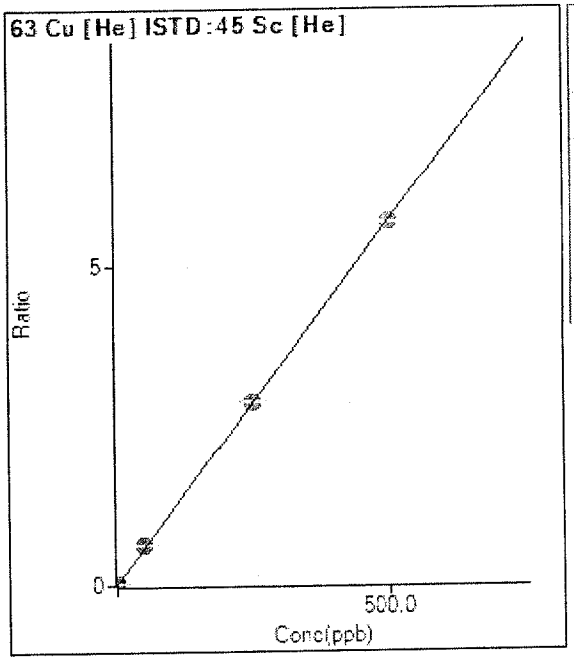
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	292.00	0.0006	P	5.[illegible]
2	☐	0.500	0.484	1248.73	0.0028	P	2.9
3	☐	1.000	1.007	2378.21	0.0051	P	2.0
4	☐	50.000	53.071	110192.30	0.2367	P	1.0
5	☐	250.000	251.544	499719.18	1.1194	P	0.5
6	☐	500.000	498.921	1007129.60	2.2197	M	0.2

y = 0.0044 * x + 6.2777E-004
R = 1.0000
DL = 0.02142
BEC = 0.1411

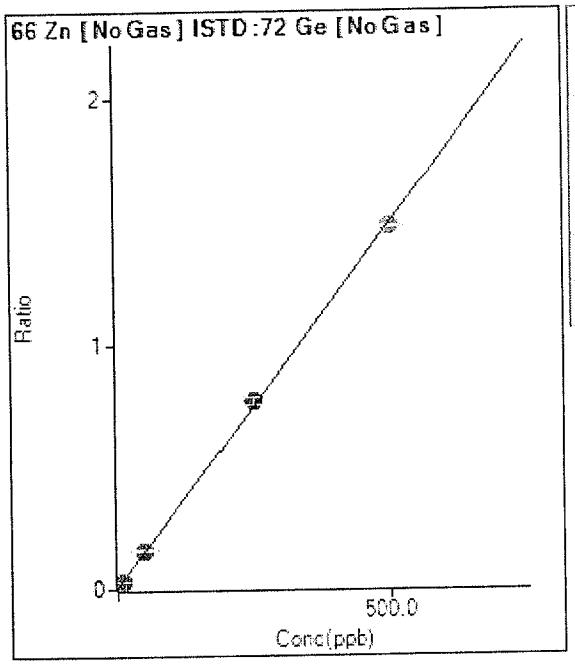
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3042.34	0.0065	P	3.0
2	☐	0.500	0.502	5493.11	0.0122	P	1.8
3	☐	1.000	1.051	8605.39	0.0185	P	0.2
4	☐	50.000	54.827	293251.23	0.6299	P	1.5
5	☐	250.000	251.639	1280055.46	2.8674	A	0.5
6	☐	500.000	498.698	2575361.33	5.6761	A	0.6

y = 0.0114 * x + 0.0065
R = 0.9999
DL = 0.05112
BEC = 0.5753

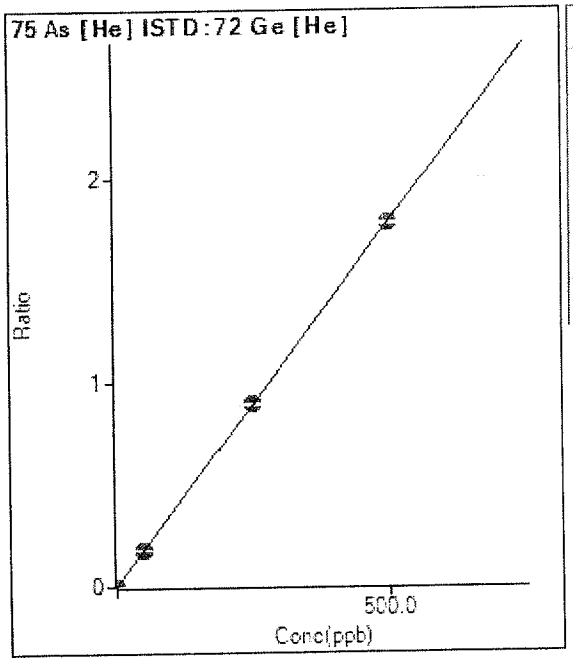
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5667.18	0.0070	P	1.6
2	☐	1.000	-0.202	5577.15	0.0064	P	4.5
3	☐	10.000	8.777	30573.67	0.0330	P	1.6
4	☐	50.000	51.823	141626.28	0.1607	P	1.8
5	☐	250.000	256.784	657293.52	0.7689	P	4.7
6	☐	500.000	496.452	1378434.54	1.4801	A	0.2

y = 0.0030 * x + 0.0070
R = 0.9998
DL = 0.1128
BEC = 2.347

Weight: <None>
Min Conc: 0

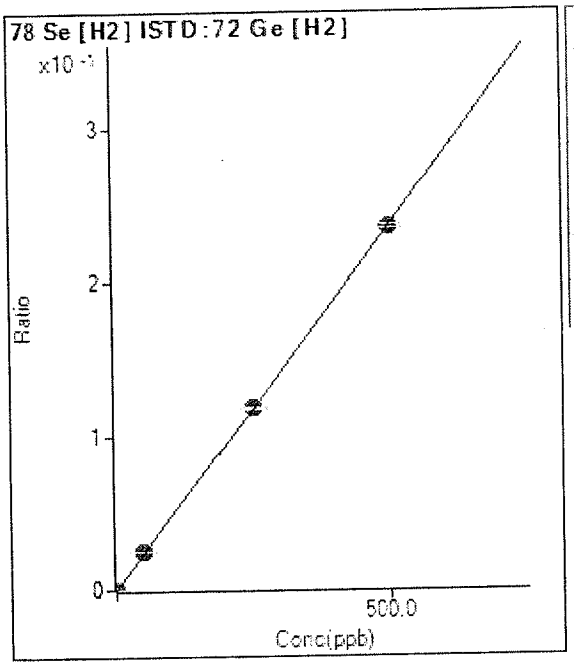


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	138.67	0.0005	P	10.2
2	☐	0.500	0.465	580.01	0.0022	P	6.3
3	☐	1.000	0.972	1091.38	0.0040	P	1.2
4	☐	50.000	50.547	49671.03	0.1805	P	0.6
5	☐	250.000	251.167	235751.01	0.8946	P	1.1
6	☐	500.000	499.362	472283.50	1.7780	P	0.7

y = 0.0036 * x + 5.2597E-004
R = 1.0000
DL = 0.04532
BEC = 0.1478

Weight: <None>
Min Conc: 0

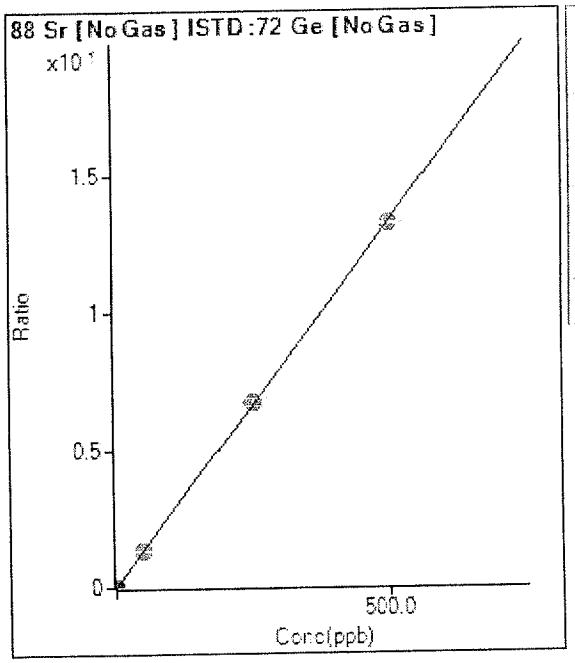
Calibration for H6A22009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.67	0.0000	P	3.9
2	☐	0.500	0.457	215.67	0.0003	P	5.2
3	☐	1.000	0.976	418.01	0.0005	P	3.7
4	☐	50.000	52.033	20452.48	0.0246	P	0.9
5	☐	250.000	250.905	97508.87	0.1186	P	1.2
6	☐	500.000	499.344	193507.33	0.2360	P	0.9

y = 4.7251E-004 * x + 4.1973E-005
R = 1.0000
DL = 0.01044
BEC = 0.08883

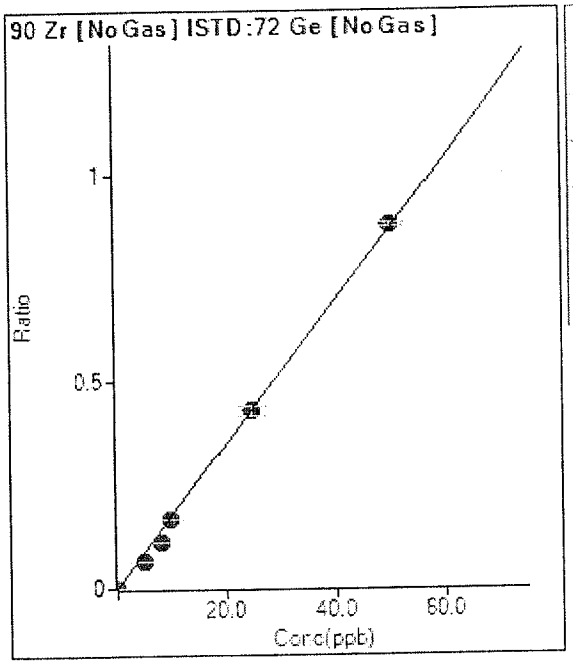
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2329.09	0.0029	P	4.2
2	☐	0.500	0.456	13104.22	0.0149	P	1.1
3	☐	1.000	0.950	25966.24	0.0280	P	0.4
4	☐	50.000	50.465	1180622.56	1.3397	A	0.7
5	☐	250.000	253.468	5745626.86	6.7171	A	4.1
6	☐	500.000	498.220	12293284.51	13.2005	A	0.5

y = 0.0265 * x + 0.0029
R = 1.0000
DL = 0.01346
BEC = 0.1081

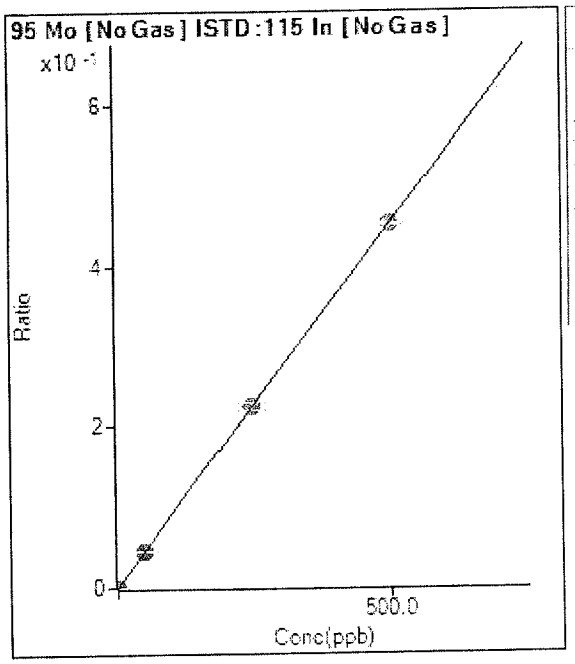
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	273.34	0.0003	P	24.8
2	☐	5.000	3.700	56526.15	0.0644	P	1.6
3	☐	8.000	6.517	104916.65	0.1133	P	0.2
4	☐	10.000	9.692	148298.69	0.1683	P	0.8
5	☐	25.000	24.779	367419.66	0.4297	P	4.6
6	☐	50.000	50.539	815810.06	0.8760	P	0.9

y = 0.0173 * x + 3.3572E-004
R = 0.9995
DL = 0.01441
BEC = 0.01938

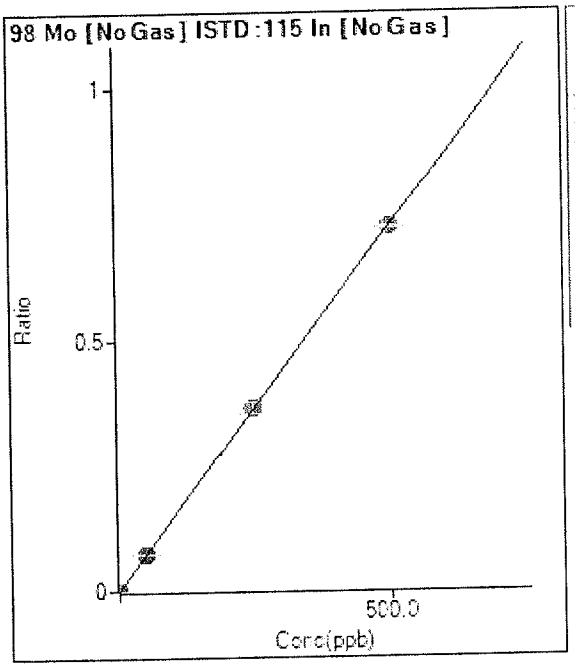
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	282.23	0.0001	P	4.5
2	☐	0.500	0.442	2367.99	0.0005	P	3.4
3	☐	1.000	0.893	4748.63	0.0009	P	4.7
4	☐	50.000	49.866	230738.48	0.0450	P	0.7
5	☐	250.000	249.164	1095990.13	0.2244	A	4.8
6	☐	500.000	500.431	2359750.05	0.4506	A	0.7

y = 9.0027E-004 * x + 5.7863E-005
R = 1.0000
DL = 0.008606
BEC = 0.06427

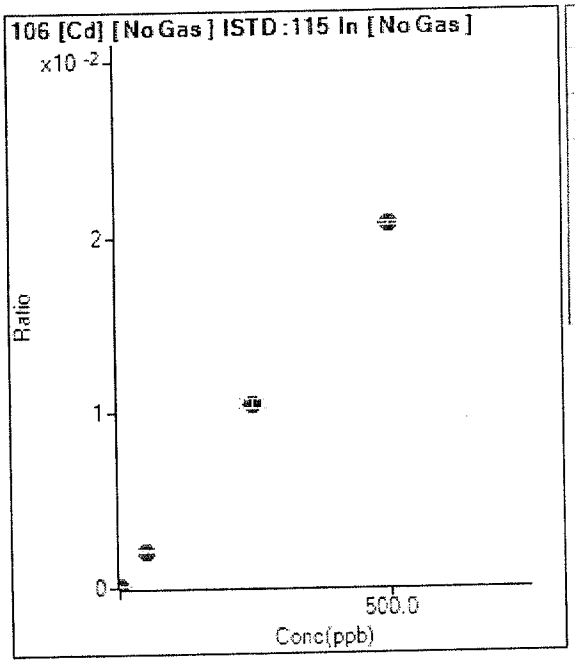
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	476.68	0.0001	P	8.8
2	☐	0.500	0.419	3663.84	0.0007	P	1.7
3	☐	1.000	0.918	7863.44	0.0014	P	3.5
4	☐	50.000	49.847	371151.71	0.0723	P	0.5
5	☐	250.000	251.309	1778380.97	0.3641	A	5.4
6	☐	500.000	499.361	3788753.04	0.7234	A	0.9

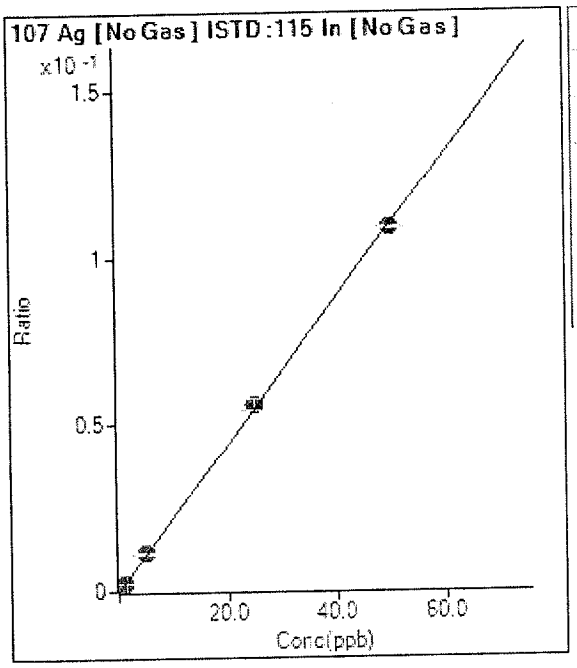
y = 0.0014 * x + 9.7657E-005
R = 1.0000
DL = 0.01779
BEC = 0.06742

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		12.67	0.0000	P	42.5
2	☐	0.500		285.33	0.0001	P	6.4
3	☐	1.000		552.34	0.0001	P	4.9
4	☐	50.000		10869.80	0.0021	P	2.0
5	☐	250.000		50855.39	0.0104	P	5.3
6	☐	500.000		108314.30	0.0207	P	0.9

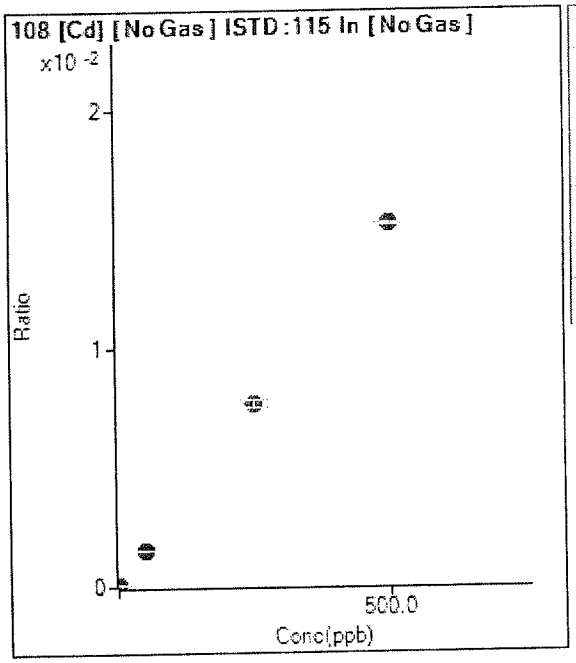
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	167.78	0.0000	P	9.7
2	☐	0.500	0.584	6824.00	0.0013	P	2.9
3	☐	1.000	1.057	12931.88	0.0023	P	1.6
4	☐	5.000	5.139	57881.96	0.0113	P	0.8
5	☐	25.000	25.527	272885.66	0.0559	P	5.5
6	☐	50.000	49.720	569875.01	0.1088	P	0.4

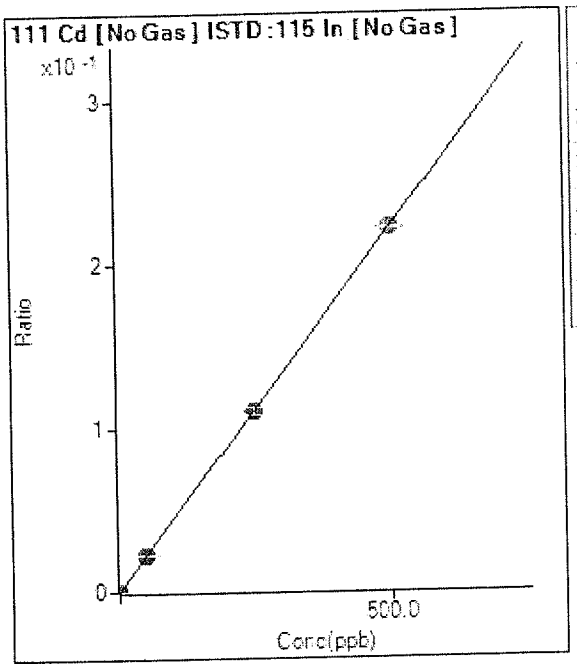
y = 0.0022 * x + 3.4406E-005
R = 0.9999
DL = 0.00429
BEC = 0.01573

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		19.33	0.0000	P	25.7
2	☐	0.500		188.00	0.0000	P	5.0
3	☐	1.000		313.33	0.0001	P	2.5
4	☐	50.000		8023.77	0.0016	P	0.8
5	☐	250.000		37388.11	0.0077	P	4.0
6	☐	500.000		79578.88	0.0152	P	0.6

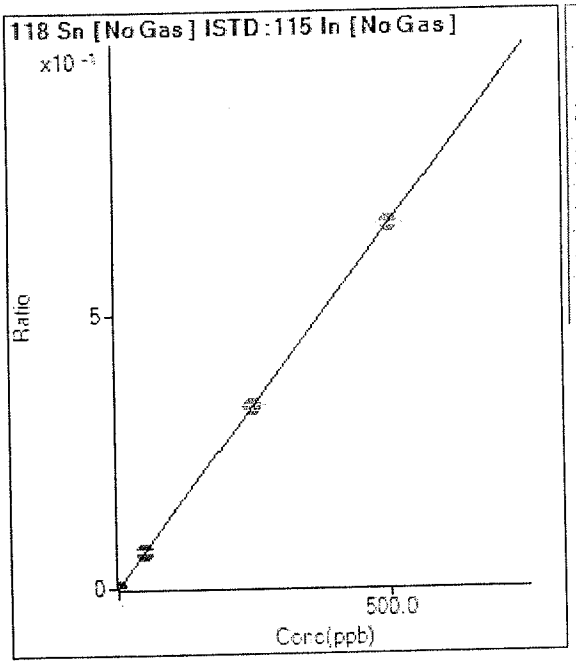
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	118.93	0.0000	P	16.7
2	☐	0.500	0.492	1265.66	0.0002	P	3.5
3	☐	1.000	1.013	2615.02	0.0005	P	2.5
4	☐	50.000	49.918	114062.15	0.0222	P	0.9
5	☐	250.000	249.978	543210.41	0.1112	P	4.4
6	☐	500.000	500.019	1164705.36	0.2224	A	0.4

y = 4.4472E-004 * x + 2.4383E-005
R = 1.0000
DL = 0.02743
BEC = 0.05483

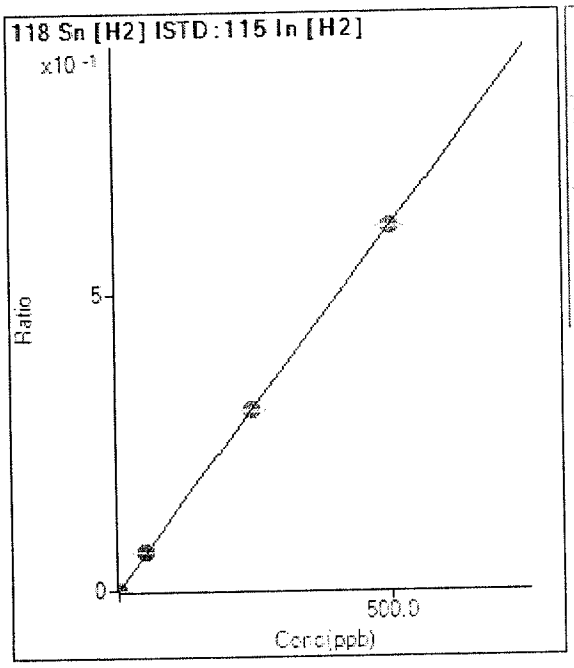
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1238.95	0.0003	P	1.8
2	☐	0.500	0.442	4367.40	0.0008	P	4.3
3	☐	1.000	0.924	8161.42	0.0015	P	0.5
4	☐	50.000	51.573	353004.36	0.0688	P	0.2
5	☐	250.000	248.358	1614103.83	0.3302	A	3.7
6	☐	500.000	500.664	3484390.21	0.6653	A	0.2

y = 0.0013 * x + 2.5392E-004
R = 1.0000
DL = 0.01054
BEC = 0.1912

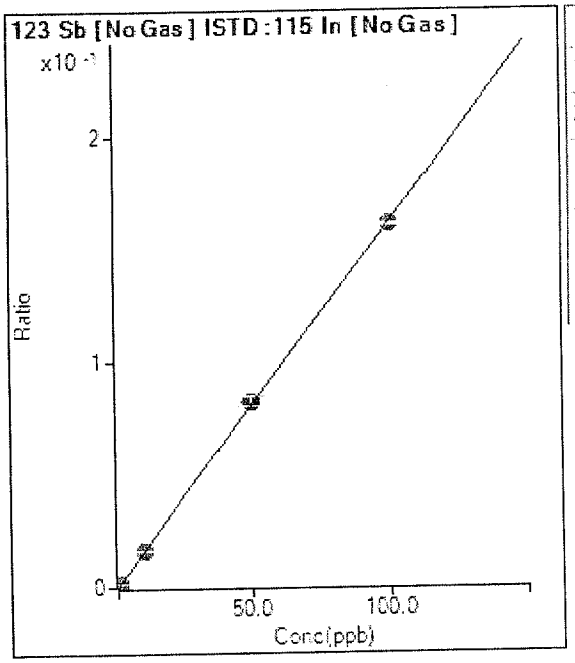
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1546.76	0.0002	P	2.6
2	☐	0.500	0.435	4982.06	0.0008	P	3.1
3	☐	1.000	0.936	8791.83	0.0014	P	0.8
4	☐	50.000	52.510	403647.15	0.0644	P	0.2
5	☐	250.000	248.616	1870264.92	0.3042	A	1.3
6	☐	500.000	500.441	3708173.46	0.6120	A	0.5

y = 0.0012 * x + 2.4420E-004
R = 1.0000
DL = 0.01566
BEC = 0.1998

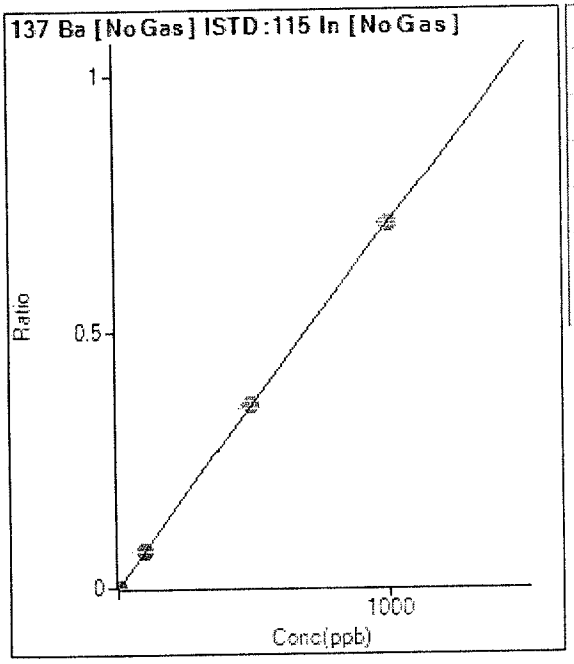
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	233.33	0.0000	P	4.8
2	☐	0.500	0.463	4137.32	0.0008	P	4.4
3	☐	1.000	0.935	8585.03	0.0016	P	2.4
4	☐	10.000	10.067	83707.74	0.0163	P	1.3
5	☐	50.000	50.789	400888.67	0.0821	P	4.9
6	☐	100.000	99.600	842867.19	0.1609	P	0.5

y = 0.0016 * x + 4.7826E-005
R = 1.0000
DL = 0.004305
BEC = 0.02961

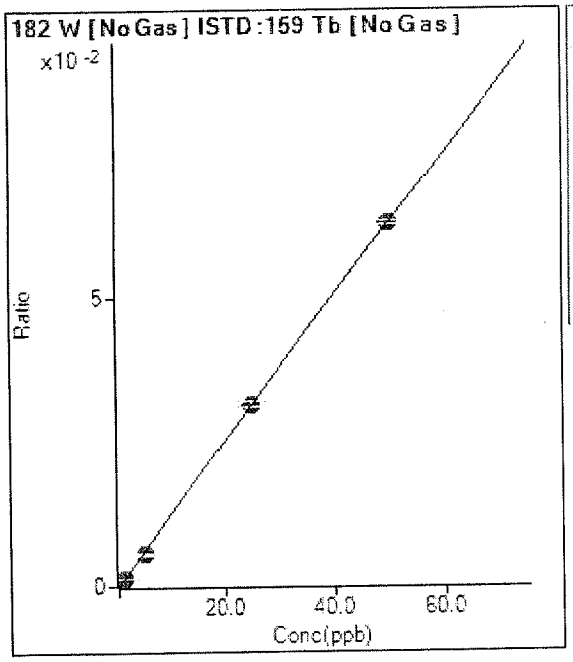
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	548.90	0.0001	P	8.9
2	☐	0.500	0.416	2119.06	0.0004	P	1.9
3	☐	1.000	0.893	4110.65	0.0007	P	2.0
4	☐	100.000	101.075	368842.90	0.0718	P	0.2
5	☐	500.000	502.247	1741860.03	0.3565	A	4.2
6	☐	1000.000	998.772	3712320.96	0.7088	A	1.0

y = 7.0960E-004 * x + 1.1255E-004
R = 1.0000
DL = 0.04216
BEC = 0.1586

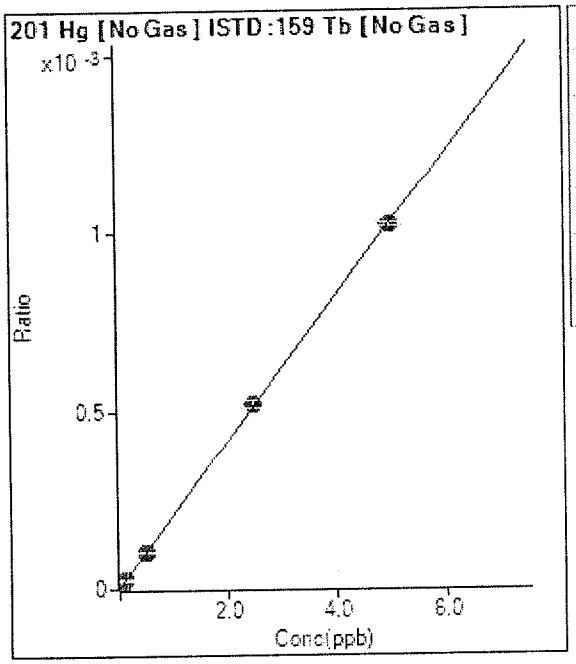
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0000	P	22.3
2	☐	0.500	0.263	2640.28	0.0003	P	6.6
3	☐	1.000	0.999	10277.54	0.0013	P	3.0
4	☐	5.000	4.375	42030.05	0.0055	P	1.3
5	☐	25.000	24.964	231547.12	0.0313	P	3.1
6	☐	50.000	50.083	511259.69	0.0627	P	1.0

y = 0.0013 * x + 1.6764E-005
R = 0.9999
DL = 0.008984
BEC = 0.0134

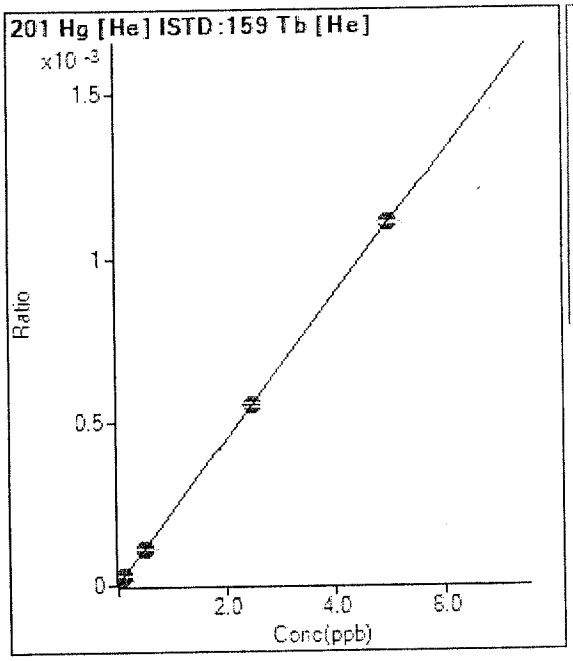
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.33	0.0000	P	8.4
2	☐	0.050	0.048	96.50	0.0000	P	8.4
3	☐	0.100	0.108	202.50	0.0000	P	8.5
4	☐	0.500	0.494	794.36	0.0001	P	2.9
5	☐	2.500	2.530	3852.60	0.0005	P	3.8
6	☐	5.000	4.985	8338.11	0.0010	P	0.9

y = 2.0447E-004 * x + 2.8392E-006
R = 1.0000
DL = 0.003514
BEC = 0.01389

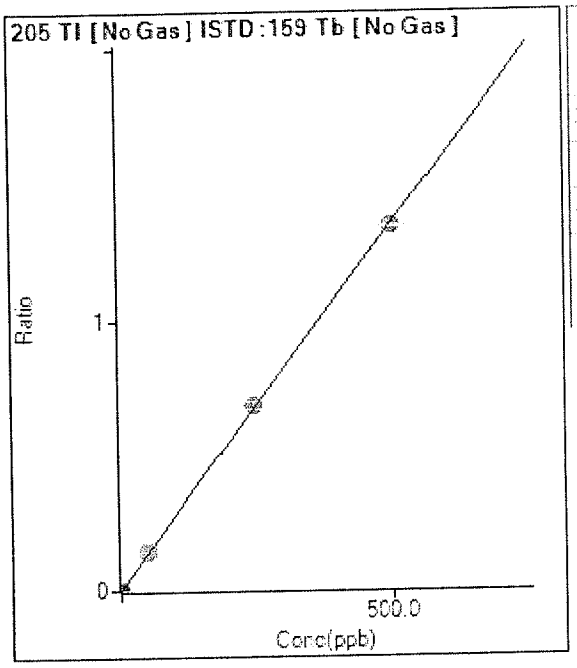
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18.67	0.0000	P	18.9
2	☐	0.050	0.052	82.33	0.0000	P	11.0
3	☐	0.100	0.108	156.67	0.0000	P	4.9
4	☐	0.500	0.485	643.69	0.0001	P	2.7
5	☐	2.500	2.486	3104.72	0.0006	P	1.3
6	☐	5.000	5.008	6390.29	0.0011	P	0.7

y = 2.2034E-004 * x + 3.2436E-006
R = 1.0000
DL = 0.008361
BEC = 0.01472

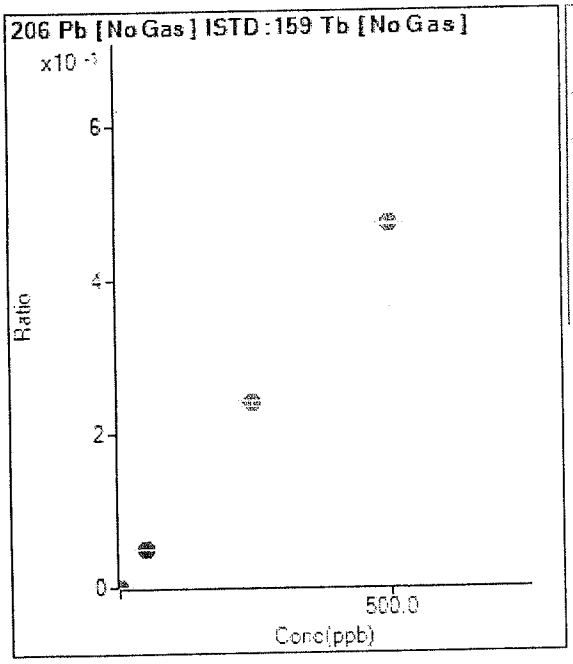
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1445.64	0.0002	P	3.7
2	☐	0.500	0.464	11081.61	0.0015	P	0.7
3	☐	1.000	0.983	23140.30	0.0029	P	1.2
4	☐	50.000	51.968	1073106.24	0.1404	M	2.0
5	☐	250.000	253.631	5070703.97	0.6844	A	3.7
6	☐	500.000	497.988	10959122.34	1.3436	A	0.8

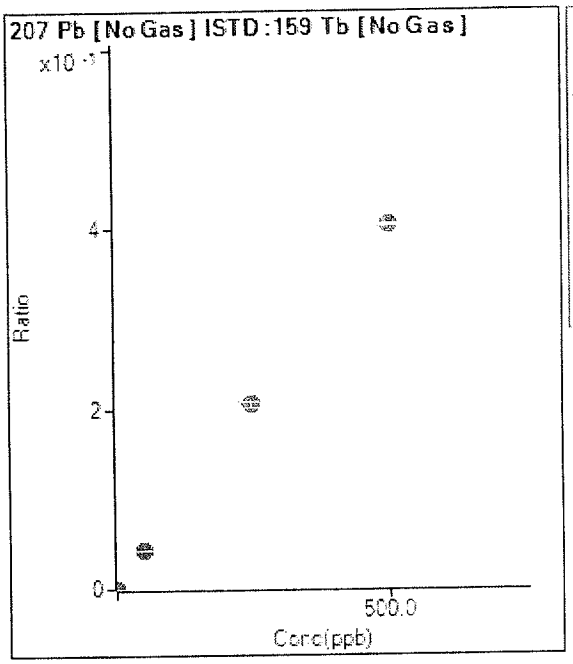
y = 0.0027 * x + 2.0188E-004
R = 1.0000
DL = 0.008306
BEC = 0.07484

Weight: <None>
Min Conc: 0



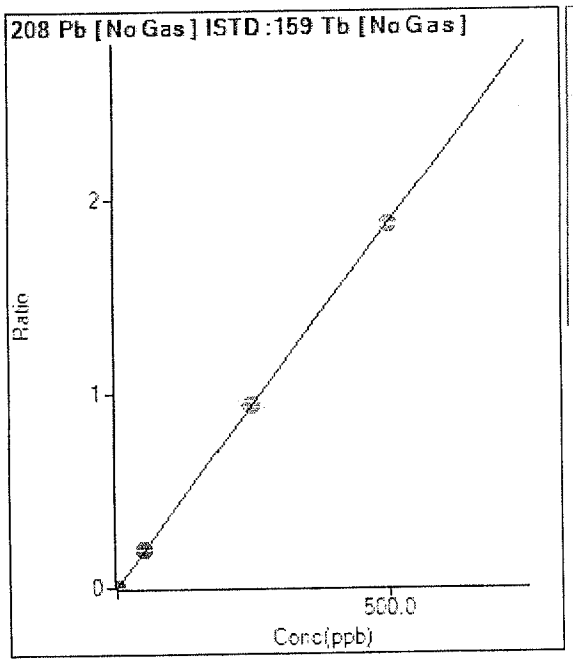
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		696.69	0.0001	P	21.0
2	☐	0.500		4120.69	0.0005	P	5.4
3	☐	1.000		8646.35	0.0011	P	5.5
4	☐	50.000		377868.52	0.0494	P	1.2
5	☐	250.000		1770405.44	0.2389	A	3.0
6	☐	500.000		3845739.01	0.4715	A	0.4

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		500.01	0.0001	P	10.4
2	☐	0.500		3593.86	0.0005	P	1.9
3	☐	1.000		7612.38	0.0009	P	7.9
4	☐	50.000		327583.26	0.0428	P	0.7
5	☐	250.000		1516410.34	0.2046	A	2.7
6	☐	500.000		3296627.25	0.4042	A	0.7

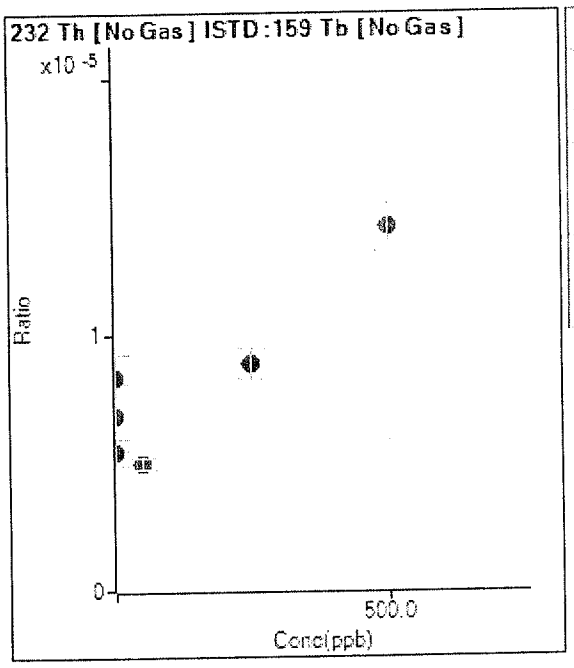
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2571.22	0.0004	P	4.3
2	☐	0.500	0.481	16443.18	0.0022	P	1.7
3	☐	1.000	1.034	34273.96	0.0042	P	4.0
4	☐	50.000	52.355	1500217.96	0.1961	P	0.6
5	☐	250.000	252.231	6991675.92	0.9435	A	3.4
6	☐	500.000	498.649	15211247.32	1.8649	A	0.7

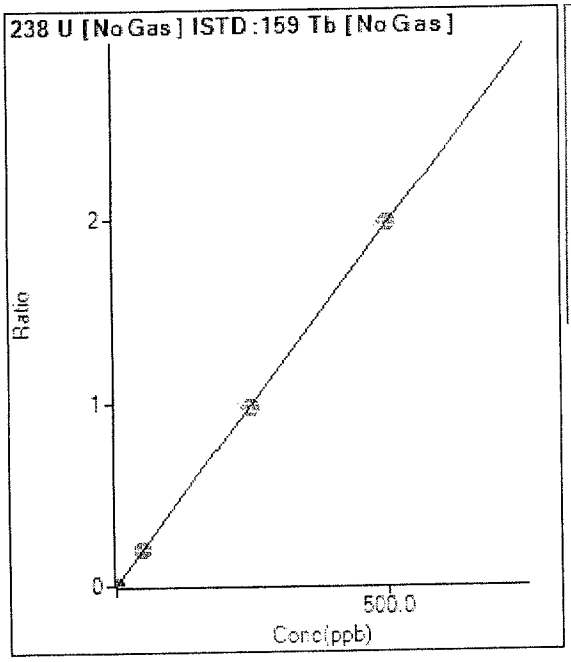
y = 0.0037 * x + 3.5908E-004
R = 1.0000
DL = 0.01239
BEC = 0.09603

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		48.89	0.0000	P	38.4
2	☐	0.500		41.11	0.0000	P	19.9
3	☐	1.000		67.78	0.0000	P	21.4
4	☐	50.000		37.78	0.0000	P	8.8
5	☐	250.000		65.56	0.0000	P	13.4
6	☐	500.000		115.56	0.0000	P	13.0

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1192.28	0.0002	P	10.1
2	☐	0.500	0.460	15107.12	0.0020	P	1.9
3	☐	1.000	0.973	32490.78	0.0040	P	1.8
4	☐	50.000	49.947	1509067.13	0.1972	A	0.7
5	☐	250.000	246.941	7223088.46	0.9745	A	3.7
6	☐	500.000	501.535	16143133.80	1.9791	A	1.4

y = 0.0039 * x + 1.6654E-004
R = 1.0000
DL = 0.01276
BEC = 0.04221

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq. Date-Time	2023-01-30 10:43:54
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

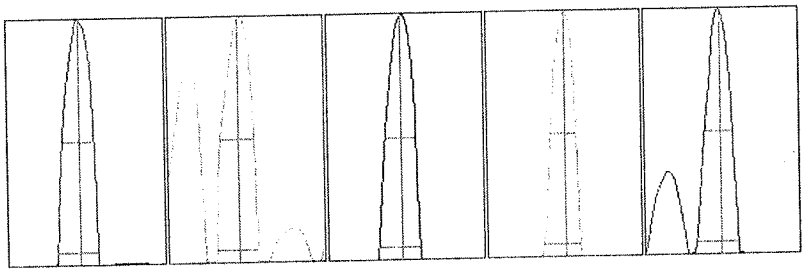
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	19210	192103.95			3.056	5.000
24	10.00	91369	913692.42			3.156	5.000
59	10.00	203936	2039358.50			2.931	5.000
115	10.00	244715	2447150.46			4.862	5.000
208	10.00	140092	1400923.29			4.615	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	18969	18901	18988	18934	20259
24	89492	89978	90432	90467	96478
59	199522	201213	202101	202404	214439
115	237336	239769	241046	239559	265865
208	135457	136143	139197	138338	151327

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	34693.46	8.90	8.90 - 9.10	
24	161548.23	23.90	23.90 - 24.10	
59	369373.70	58.95	58.90 - 59.10	
115	497735.24	115.05	114.90 - 115.10	
208	266173.48	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.778	0.900	
24	0.63	0.787	0.900	
59	0.58	0.779	0.900	
115	0.51	0.721	0.900	
208	0.55	0.811	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.3 V	Deflect	13.2 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-105 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.4 mm		

EM

Discriminator	3.3 mV	Analog HV	2773 V	Pulse HV	1510 V

Calibration Blank Report

Sample Name	S0
File Name	H6A22003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:10:22
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	54672.49	0.9
Be	9	6	No Gas	105.55	22.2
B	11	6	No Gas	7234.09	4.3
Na	23	45	H2	793667.19	0.5
Mg	24	45	No Gas	67952.27	1.1
Al	27	45	No Gas	50822.64	0.3
Si	28	45	H2	7632.09	1.7
P	31	45	No Gas	36942.34	0.5
K	39	45	He	80210.67	3.0
Ca	40	45	H2	378313.23	0.8
Ti	47	45	No Gas	262.00	9.3
V	51	45	He	1454.08	2.7
Cr	52	45	He	2040.82	0.7
Mn	55	45	No Gas	14696.56	0.7
Fe	56	45	H2	99015.53	0.6
Co	59	45	No Gas	1396.07	4.7
Ni	60	45	He	292.00	4.8
Cu	63	45	He	3042.34	3.0
Zn	66	72	No Gas	5667.18	1.4
As	75	72	He	138.67	10.8
Se	78	72	H2	33.67	3.4
Sr	88	72	No Gas	2329.09	3.0
Zr	90	72	No Gas	273.34	24.9
Mo	95	115	No Gas	282.23	3.6
Mo	98	115	No Gas	476.68	9.6
[Cd]	106	115	No Gas	12.67	43.5
Ag	107	115	No Gas	167.78	8.3
[Cd]	108	115	No Gas	19.33	26.5
Cd	111	115	No Gas	118.93	16.5
Sn	118	115	No Gas	1238.95	2.7
Sn	118	115	H2	1546.76	2.8
Sb	123	115	No Gas	233.33	4.9
Ba	137	115	No Gas	548.90	8.3
W	182	159	No Gas	120.00	22.0
Hg	201	159	No Gas	20.33	8.6

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	18.67	17.8
Tl	205	159	No Gas	1445.64	3.7
Pb	206	159	No Gas	696.69	20.9
Pb	207	159	No Gas	500.01	10.0
Pb	208	159	No Gas	2571.22	4.1
Th	232	159	No Gas	48.89	38.8
U	238	159	No Gas	1192.28	9.7

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	913794.78	1.9
Sc	45	No Gas	3551284.17	1.1
Sc	45	H2	3058687.42	0.3
Sc	45	He	465177.56	0.3
Ge	72	No Gas	813952.92	1.6
Ge	72	H2	802203.96	0.5
Ge	72	He	263530.43	0.9
In	115	No Gas	4878774.56	0.9
Tb	159	No Gas	7160929.99	0.4
Tb	159	He	5763662.17	1.2

Calibration Standard Report

Sample Name	S1
File Name	H6A22004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:13:13
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	60900.38	4.6
Be	9	6	No Gas	963.37	4.8
B	11	6	No Gas	4863.07	6.0
Na	23	45	H2	960647.44	0.3
Mg	24	45	No Gas	399612.25	4.3
Al	27	45	No Gas	492977.30	4.3
Si	28	45	H2	136224.26	0.6
P	31	45	No Gas	146104.91	0.6
K	39	45	He	109226.20	2.6
Ca	40	45	H2	630493.89	0.2
Tl	47	45	No Gas	955.37	4.3
V	51	45	He	3760.52	3.2
Cr	52	45	He	4790.84	2.0
Mn	55	45	No Gas	19574.00	1.9
Fe	56	45	H2	753078.98	0.8
Co	59	45	No Gas	9878.91	4.4
Ni	60	45	He	1248.73	5.5
Cu	63	45	He	5493.11	1.2
Zn	66	72	No Gas	5577.15	1.1
As	75	72	He	580.01	4.7
Se	78	72	H2	215.67	5.8
Sr	88	72	No Gas	13104.22	4.7
Zr	90	72	No Gas	56526.15	3.7
Mo	95	115	No Gas	2367.99	3.1
Ag	107	115	No Gas	6824.00	3.5
Cd	111	115	No Gas	1265.66	6.7
Sn	118	115	No Gas	4367.40	2.7
Sb	123	115	No Gas	4137.32	1.3
Ba	137	115	No Gas	2119.06	1.9
W	182	159	No Gas	2640.28	7.1
Hg	201	159	He	82.33	10.0
Tl	205	159	No Gas	11081.61	3.5
Pb	208	159	No Gas	16443.18	3.4
U	238	159	No Gas	15107.12	5.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	976565.08	4.5	913794.78	106.87	70	120	
Sc	45	No Gas	3739678.42	4.6	3551284.17	105.3	70	120	
Sc	45	H2	3063305.67	0.2	3058687.42	100.15	70	120	
Sc	45	He	448843.85	3.0	465177.56	96.49	70	120	
Ge	72	No Gas	877253.02	3.6	813952.92	107.78	70	120	
Ge	72	H2	835940.17	1.1	802203.96	104.21	70	120	
Ge	72	He	266007.92	2.6	263530.43	100.94	70	120	
In	115	No Gas	5200917.14	3.8	4878774.56	106.6	70	120	
Tb	159	No Gas	7626530.25	3.8	7160929.99	106.5	70	120	
Tb	159	He	5617787.50	3.4	5763662.17	97.47	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6A22005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:16:03
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	68239.01	0.5
Be	9	6	No Gas	1773.45	5.1
B	11	6	No Gas	6205.82	1.6
Na	23	45	H2	1138999.58	0.6
Mg	24	45	No Gas	808317.77	1.0
Al	27	45	No Gas	1026006.55	0.7
Si	28	45	H2	258770.34	0.9
P	31	45	No Gas	62451.93	0.6
K	39	45	He	138203.38	1.3
Ca	40	45	H2	1093012.96	0.5
Ti	47	45	No Gas	1674.77	4.8
V	51	45	He	6517.55	1.2
Cr	52	45	He	7965.65	0.8
Mn	55	45	No Gas	32132.99	0.4
Fe	56	45	H2	1437475.37	0.3
Co	59	45	No Gas	20097.45	1.2
Ni	60	45	He	2378.21	2.1
Cu	63	45	He	8605.39	0.4
Zn	66	72	No Gas	30573.67	1.2
As	75	72	He	1091.38	1.6
Se	78	72	H2	418.01	3.5
Sr	88	72	No Gas	25966.24	1.1
Zr	90	72	No Gas	104916.65	1.2
Mo	95	115	No Gas	4748.63	3.2
Ag	107	115	No Gas	12931.88	1.8
Cd	111	115	No Gas	2615.02	1.3
Sn	118	115	No Gas	8161.42	1.9
Sb	123	115	No Gas	8585.03	2.3
Ba	137	115	No Gas	4110.65	0.6
W	182	159	No Gas	10277.54	3.2
Hg	201	159	He	156.67	4.5
Tl	205	159	No Gas	23140.30	1.2
Pb	208	159	No Gas	34273.96	3.1
U	238	159	No Gas	32490.78	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1046175.53	1.0	913794.78	114.49	70	120	
Sc	45	No Gas	4022984.42	0.9	3551284.17	113.28	70	120	
Sc	45	H2	3060921.33	0.7	3058687.42	100.07	70	120	
Sc	45	He	465524.40	0.2	465177.56	100.07	70	120	
Ge	72	No Gas	926341.39	1.0	813952.92	113.81	70	120	
Ge	72	H2	830728.00	0.6	802203.96	103.56	70	120	
Ge	72	He	273816.10	0.5	263530.43	103.9	70	120	
In	115	No Gas	5509444.62	1.5	4878774.56	112.93	70	120	
Tb	159	No Gas	8111686.07	0.9	7160929.99	113.28	70	120	
Tb	159	He	5785567.67	0.7	5763662.17	100.38	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6A22006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:18:54
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	81669.19	7.6
Be	9	6	No Gas	8429.21	5.2
B	11	6	No Gas	15759.98	7.3
Na	23	45	H2	19257104.00	0.9
Mg	24	45	No Gas	36186550.67	7.4
Al	27	45	No Gas	47552175.96	5.3
Si	28	45	H2	663069.33	0.9
P	31	45	No Gas	68495.69	2.5
K	39	45	He	3087109.58	0.6
Ca	40	45	H2	46017182.67	1.0
Ti	47	45	No Gas	66029.30	6.6
V	51	45	He	271771.58	0.1
Cr	52	45	He	312295.28	0.3
Mn	55	45	No Gas	6312279.00	5.7
Fe	56	45	H2	69844077.33	0.5
Co	59	45	No Gas	904742.14	5.7
Ni	60	45	He	110192.30	0.6
Cu	63	45	He	293251.23	1.1
Zn	66	72	No Gas	141626.28	4.4
As	75	72	He	49671.03	0.2
Se	78	72	H2	20452.48	0.3
Sr	88	72	No Gas	1180622.56	4.9
Zr	90	72	No Gas	148298.69	5.2
Mo	95	115	No Gas	230738.48	5.7
Ag	107	115	No Gas	57881.96	5.4
Cd	111	115	No Gas	114062.15	5.2
Sn	118	115	No Gas	353004.36	5.9
Sb	123	115	No Gas	83707.74	5.3
Ba	137	115	No Gas	368842.90	6.3
W	182	159	No Gas	42030.05	8.2
Hg	201	159	He	643.69	2.6
Tl	205	159	No Gas	1073106.24	5.2
Pb	208	159	No Gas	1500217.96	6.7
U	238	159	No Gas	1509067.13	7.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	964427.62	8.3	913794.78	105.54	70	120	
Sc	45	No Gas	3744696.67	7.0	3551284.17	105.45	70	120	
Sc	45	H2	3064809.25	1.1	3058687.42	100.2	70	120	
Sc	45	He	465603.46	0.4	465177.56	100.09	70	120	
Ge	72	No Gas	881531.19	5.7	813952.92	108.3	70	120	
Ge	72	H2	830500.54	1.1	802203.96	103.53	70	120	
Ge	72	He	275263.72	0.5	263530.43	104.45	70	120	
In	115	No Gas	5134256.87	6.1	4878774.56	105.24	70	120	
Tb	159	No Gas	7650702.48	7.1	7160929.99	106.84	70	120	
Tb	159	He	5840207.17	0.6	5763662.17	101.33	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6A22007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:21:44
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	166592.83	9.0
Be	9	6	No Gas	39970.03	4.8
B	11	6	No Gas	58150.16	6.4
Na	23	45	H2	89527368.00	1.0
Mg	24	45	No Gas	171032928.00	8.2
Al	27	45	No Gas	226651209.96	8.7
Si	28	45	H2	3133673.17	0.8
P	31	45	No Gas	185841.64	3.0
K	39	45	He	14144105.00	3.3
Ca	40	45	H2	221435669.33	0.7
Ti	47	45	No Gas	318412.69	6.5
V	51	45	He	1244067.79	3.2
Cr	52	45	He	1397268.54	4.2
Mn	55	45	No Gas	29937975.33	6.1
Fe	56	45	H2	338080053.33	0.5
Co	59	45	No Gas	4176136.42	5.6
Ni	60	45	He	499719.18	3.1
Cu	63	45	He	1280055.46	3.3
Zn	66	72	No Gas	657293.52	3.9
As	75	72	He	235751.01	1.1
Se	78	72	H2	97508.87	0.6
Sr	88	72	No Gas	5745626.86	6.0
Zr	90	72	No Gas	367419.66	5.5
Mo	95	115	No Gas	1095990.13	5.4
Ag	107	115	No Gas	272885.66	5.1
Cd	111	115	No Gas	543210.41	5.4
Sn	118	115	No Gas	1614103.83	6.8
Sb	123	115	No Gas	400888.67	4.8
Ba	137	115	No Gas	1741860.03	5.7
W	182	159	No Gas	231547.12	7.1
Hg	201	159	He	3104.72	1.3
Tl	205	159	No Gas	5070703.97	7.3
Pb	208	159	No Gas	6991675.92	7.6
U	238	159	No Gas	7223088.46	8.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	913674.49	10.8	913794.78	99.99	70	120	
Sc	45	No Gas	3591644.67	10.9	3551284.17	101.14	70	120	
Sc	45	H2	3051307.00	1.5	3058687.42	99.76	70	120	
Sc	45	He	446449.18	3.5	465177.56	95.97	70	120	
Ge	72	No Gas	856402.33	7.4	813952.92	105.22	70	120	
Ge	72	H2	822213.06	0.5	802203.96	102.49	70	120	
Ge	72	He	263576.80	2.2	263530.43	100.02	70	120	
In	115	No Gas	4895581.64	8.6	4878774.56	100.34	70	120	
Tb	159	No Gas	7420797.34	9.4	7160929.99	103.63	70	120	
Tb	159	He	5636231.17	2.6	5763662.17	97.79	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A22008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:24:34
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	311028.60	1.0
Be	9	6	No Gas	84788.65	0.3
B	11	6	No Gas	122253.97	1.2
Na	23	45	H2	177557034.67	0.2
Mg	24	45	No Gas	375859189.33	0.9
Al	27	45	No Gas	499554872.55	0.3
Si	28	45	H2	6166238.83	0.3
P	31	45	No Gas	349483.39	0.9
K	39	45	He	28781697.33	0.3
Ca	40	45	H2	444834325.33	0.9
Tl	47	45	No Gas	687493.46	0.2
V	51	45	He	2573692.67	0.6
Cr	52	45	He	2859615.83	0.6
Mn	55	45	No Gas	64870813.33	0.9
Fe	56	45	H2	675178090.67	0.4
Co	59	45	No Gas	8964476.33	1.6
Ni	60	45	He	1007129.60	0.3
Cu	63	45	He	2575361.33	0.4
Zn	66	72	No Gas	1378434.54	0.6
As	75	72	He	472283.50	0.4
Se	78	72	H2	193507.33	0.4
Sr	88	72	No Gas	12293284.51	0.1
Zr	90	72	No Gas	815810.06	1.1
Mo	95	115	No Gas	2359750.05	0.7
Ag	107	115	No Gas	569875.01	0.3
Cd	111	115	No Gas	1164705.36	0.4
Sn	118	115	No Gas	3484390.21	0.5
Sb	123	115	No Gas	842867.19	0.8
Ba	137	115	No Gas	3712320.96	1.1
W	182	159	No Gas	511259.69	0.7
Hg	201	159	He	6390.29	0.9
Tl	205	159	No Gas	10959122.34	0.7
Pb	208	159	No Gas	15211247.32	0.5
U	238	159	No Gas	16143133.80	1.3

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1018631.11	0.9	913794.78	111.47	70	120	
Sc	45	No Gas	4010505.67	0.4	3551284.17	112.93	70	120	
Sc	45	H2	3067961.75	0.5	3058687.42	100.3	70	120	
Sc	45	He	453724.91	0.3	465177.56	97.54	70	120	
Ge	72	No Gas	931287.92	0.4	813952.92	114.42	70	120	
Ge	72	H2	820017.63	0.7	802203.96	102.22	70	120	
Ge	72	He	265623.31	0.3	263530.43	100.79	70	120	
In	115	No Gas	5237148.71	0.3	4878774.56	107.35	70	120	
Tb	159	No Gas	8156822.73	0.4	7160929.99	113.91	70	120	
Tb	159	He	5773652.00	0.1	5763662.17	100.17	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6A22009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:27:20
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.769	ppb	1.8	198552.97	30	92.56	90	110	
Be	9	6	No Gas	29.673	ppb	0.7	50585.38	30	98.91	90	110	
B	11	6	No Gas	29.174	ppb	2.1	41025.39	30	97.25	90	110	
Na	23	45	H2	31207.013	ppb	2.1	109898650.67	30000	104.02	90	110	
Mg	24	45	No Gas	30045.369	ppb	2.9	222771536.00	30000	100.15	90	110	
Al	27	45	No Gas	30861.923	ppb	3.3	303911868.81	30000	102.87	90	110	
Si	28	45	H2	3162.915	ppb	1.3	3870208.75	3000	105.43	90	110	
P	31	45	No Gas	288.100	ppb	2.4	220205.48	300	96.03	90	110	
K	39	45	He	30934.675	ppb	0.3	17722739.33	30000	103.12	90	110	
Ca	40	45	H2	30745.223	ppb	1.4	270134656.00	30000	102.48	90	110	
Ti	47	45	No Gas	298.660	ppb	1.8	406527.78	300	99.55	90	110	
V	51	45	He	308.544	ppb	0.7	1574177.96	300	102.85	90	110	
Cr	52	45	He	312.249	ppb	1.3	1774220.59	300	104.08	90	110	
Mn	55	45	No Gas	1973.110	ppb	2.2	42213677.33	2000	98.66	90	110	
Fe	56	45	H2	31173.666	ppb	1.2	416128128.00	30000	103.91	90	110	
Co	59	45	No Gas	303.941	ppb	2.0	5404069.83	300	101.31	90	110	
Ni	60	45	He	311.912	ppb	1.0	626041.25	300	103.97	90	110	
Cu	63	45	He	326.211	ppb	1.2	1675742.25	300	108.74	90	110	
Zn	66	72	No Gas	308.608	ppb	1.7	833836.48	300	102.87	90	110	
As	75	72	He	300.521	ppb	1.8	283316.03	300	100.17	90	110	
Se	78	72	H2	304.523	ppb	0.2	116416.70	300	101.51	90	110	
Sr	88	72	No Gas	305.460	ppb	1.7	7314182.21	300	101.82	90	110	
Zr	90	72	No Gas	31.329	ppb	2.2	490844.63	30	104.43	90	110	
Mo	95	115	No Gas	301.049	ppb	2.2	1409319.00	300	100.35	90	110	
Ag	107	115	No Gas	30.435	ppb	1.8	346333.57	30	101.45	90	110	
Cd	111	115	No Gas	296.974	ppb	1.6	686681.17	300	98.99	90	110	
Sn	118	115	No Gas	303.630	ppb	1.7	2098000.75	300	101.21	90	110	
Sb	123	115	No Gas	57.123	ppb	0.5	479824.41	60	95.2	90	110	
Ba	137	115	No Gas	301.040	ppb	1.6	1111063.39	300	100.35	90	110	
W	182	159	No Gas	30.637	ppb	1.6	307777.67	30	102.12	90	110	
Hg	201	159	No Gas	2.860	ppb	0.9	4714.22	3	95.33	90	110	
Hg	201	159	He	2.941	ppb	0.8	3790.74	3	98.03	90	110	
Tl	205	159	No Gas	305.001	ppb	1.8	6604646.96	300	101.67	90	110	
Pb	208	159	No Gas	308.307	ppb	1.2	9252398.79	300	102.77	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	310.041	ppb	1.6	9819689.33	300	103.35	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1011788.78	3.5	913794.78	110.72	70	120	
Sc	45	No Gas	3937547.75	2.9	3551284.17	110.88	70	120	
Sc	45	H2	3027815.92	1.3	3058687.42	98.99	70	120	
Sc	45	He	451091.35	1.0	465177.56	96.97	70	120	
Ge	72	No Gas	903434.36	2.4	813952.92	110.99	70	120	
Ge	72	H2	808834.29	0.9	802203.96	100.83	70	120	
Ge	72	He	264738.05	0.7	263530.43	100.46	70	120	
In	115	No Gas	5196774.00	3.1	4878774.56	106.52	70	120	
Tb	159	No Gas	8022826.07	3.5	7160929.99	112.04	70	120	
Tb	159	He	5820456.83	0.2	5763662.17	100.99	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A22010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:29:57
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	58773.67	0.4	
Be	9	6	No Gas	0.011	ppb	75.6	133.33	0.08	
B	11	6	No Gas	0.925	ppb	6.8	8865.03	4	
Na	23	45	H2	<0.000	ppb	N/A	764056.00	40	
Mg	24	45	No Gas	1.554	ppb	45.6	82375.60	10	
Al	27	45	No Gas	2.069	ppb	38.2	72884.23	15	
Si	28	45	H2	4.491	ppb	35.5	12959.63	8	
P	31	45	No Gas	<0.000	ppb	N/A	36878.17	10	
K	39	45	He	0.670	ppb	738.8	78822.81	20	
Ca	40	45	H2	0.838	ppb	22.5	379585.22	25	
Ti	47	45	No Gas	0.030	ppb	41.0	312.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1354.74	0.5	
Cr	52	45	He	0.028	ppb	65.7	2153.50	0.2	
Mn	55	45	No Gas	0.182	ppb	24.4	19140.16	0.2	
Fe	56	45	H2	1.483	ppb	2.7	117116.20	10	
Co	59	45	No Gas	0.024	ppb	9.3	1865.46	0.15	
Ni	60	45	He	0.020	ppb	24.6	326.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2832.96	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	5747.22	2	
As	75	72	He	0.034	ppb	18.3	168.33	0.2	
Se	78	72	H2	0.071	ppb	31.9	60.00	0.2	
Sr	88	72	No Gas	0.020	ppb	47.0	2863.64	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	263.33	2	
Mo	95	115	No Gas	0.065	ppb	11.1	601.12	0.2	
Ag	107	115	No Gas	0.003	ppb	39.6	207.78	0.08	
Cd	111	115	No Gas	0.083	ppb	16.7	317.98	0.2	
Sn	118	115	No Gas	0.209	ppb	2.1	2756.96	0.2	>LOD
Sb	123	115	No Gas	0.009	ppb	31.6	324.45	0.4	
Ba	137	115	No Gas	0.032	ppb	61.0	704.46	0.2	
W	182	159	No Gas	0.012	ppb	25.3	246.67	0.3	
Hg	201	159	No Gas	0.039	ppb	7.0	83.00	0.1	
Hg	201	159	He	0.027	ppb	12.5	54.33	0.1	
Tl	205	159	No Gas	0.114	ppb	20.1	3931.75	0.1	>LOD
Pb	208	159	No Gas	0.039	ppb	59.4	3894.70	0.1	

TH 1/30/23

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.033	ppb	25.4	2303.56	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	990286.04	6.4	913794.78	108.37	70	120	
Sc	45	No Gas	3724877.67	6.4	3551284.17	104.89	70	120	
Sc	45	H2	3009895.83	0.3	3058687.42	98.4	70	120	
Sc	45	He	454848.76	0.6	465177.56	97.78	70	120	
Ge	72	No Gas	841711.15	5.1	813952.92	103.41	70	120	
Ge	72	H2	794034.39	1.1	802203.96	98.98	70	120	
Ge	72	He	259812.03	1.0	263530.43	98.59	70	120	
In	115	No Gas	5180389.16	4.9	4878774.56	106.18	70	120	
Tb	159	No Gas	7696460.25	4.6	7160929.99	107.48	70	120	
Tb	159	He	5848716.83	0.6	5763662.17	101.48	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3001
File Name	H6A22011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:32:32
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.953	ppb	15.6	67035.60	1	95.3	80	120	
Be	9	6	No Gas	0.954	ppb	3.8	1785.67	1	95.4	80	120	
B	11	6	No Gas	9.136	ppb	0.8	18838.18	10	91.36	80	120	
Na	23	45	H2	92.409	ppb	0.0	1106977.29	100	92.41	80	120	
Mg	24	45	No Gas	97.367	ppb	0.4	789014.94	100	97.37	80	120	
Al	27	45	No Gas	98.379	ppb	0.4	1014563.84	100	98.38	80	120	
Si	28	45	H2	102.365	ppb	1.4	132357.22	100	102.36	80	120	
P	31	45	No Gas	41.982	ppb	2.6	66425.08	50	83.96	80	120	
K	39	45	He	98.910	ppb	8.1	137304.93	100	98.91	80	120	
Ca	40	45	H2	113.228	ppb	0.8	1365835.79	100	113.23	80	120	
Ti	47	45	No Gas	0.993	ppb	2.2	1624.76	1	99.3	80	120	
V	51	45	He	0.927	ppb	1.5	6278.11	1	92.7	80	120	
Cr	52	45	He	1.008	ppb	3.7	7881.60	1	100.8	80	120	
Mn	55	45	No Gas	0.931	ppb	1.6	35841.58	1	93.1	80	120	
Fe	56	45	H2	100.327	ppb	0.8	1434729.79	100	100.33	80	120	
Co	59	45	No Gas	1.026	ppb	1.1	19591.42	1	102.6	80	120	
Ni	60	45	He	1.019	ppb	4.0	2380.87	1	101.9	80	120	
Cu	63	45	He	1.056	ppb	1.3	8558.69	1	105.6	80	120	
Zn	66	72	No Gas	12.311	ppb	0.4	38977.91	10	123.11	80	120	> +/- 20%
As	75	72	He	1.001	ppb	2.0	1103.05	1	100.1	80	120	
Se	78	72	H2	0.977	ppb	3.0	413.68	1	97.7	80	120	
Sr	88	72	No Gas	2.082	ppb	0.7	51998.48	2	104.1	80	120	
Zr	90	72	No Gas	4.329	ppb	1.7	67500.01	5	86.58	80	120	
Mo	95	115	No Gas	0.934	ppb	0.5	4850.89	1	93.4	80	120	
Ag	107	115	No Gas	1.088	ppb	0.6	13028.65	1	108.8	80	120	
Cd	111	115	No Gas	1.009	ppb	4.6	2552.98	1	100.9	80	120	
Sn	118	115	No Gas	1.116	ppb	2.6	9374.46	1	111.6	80	120	
Sb	123	115	No Gas	0.916	ppb	4.0	8247.05	1	91.6	80	120	
Ba	137	115	No Gas	0.976	ppb	1.6	4345.17	1	97.6	80	120	
W	182	159	No Gas	1.938	ppb	0.5	19588.58	2	96.9	80	120	
Hg	201	159	No Gas	0.131	ppb	2.8	237.33	0.1	131	80	120	> +/- 20%
Hg	201	159	He	0.120	ppb	4.3	174.17	0.1	120	80	120	
Tl	205	159	No Gas	1.052	ppb	1.2	24396.03	1	105.2	80	120	
Pb	208	159	No Gas	1.046	ppb	3.2	34269.67	1	104.6	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	0.983	ppb	1.0	32467.45	1	98.3	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1038916.07	1.8	913794.78	113.69	70	120	
Sc	45	No Gas	3900038.17	1.8	3551284.17	109.82	70	120	
Sc	45	H2	3022792.92	0.5	3058687.42	98.83	70	120	
Sc	45	He	461601.48	0.7	465177.56	99.23	70	120	
Ge	72	No Gas	896129.85	1.8	813952.92	110.1	70	120	
Ge	72	H2	821349.08	0.8	802203.96	102.39	70	120	
Ge	72	He	269813.88	1.4	263530.43	102.38	70	120	
In	115	No Gas	5397112.30	2.2	4878774.56	110.62	70	120	
Tb	159	No Gas	8023971.91	1.6	7160929.99	112.05	70	120	
Tb	159	He	5871323.33	0.5	5763662.17	101.87	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3002
File Name	H6A22012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:35:31
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.334	ppb	41.7	64607.54	0.4	83.5	80	120	
Be	9	6	No Gas	0.356	ppb	10.0	751.13	0.4	89	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	7427.52	0.4	-190	80	120	> +/- 20%
Na	23	45	H2	36.076	ppb	6.9	905704.39	40	90.19	80	120	
Mg	24	45	No Gas	37.584	ppb	2.5	356692.70	40	93.96	80	120	
Al	27	45	No Gas	38.203	ppb	3.8	435871.28	40	95.51	80	120	
K	39	45	He	39.674	ppb	14.8	101800.13	40	99.18	80	120	
Ca	40	45	H2	49.709	ppb	1.2	805274.90	40	124.27	80	120	> +/- 20%
Ti	47	45	No Gas	0.377	ppb	3.1	810.02	0.4	94.25	80	120	
V	51	45	He	0.383	ppb	3.4	3406.42	0.4	95.75	80	120	
Cr	52	45	He	0.518	ppb	3.4	4988.24	0.4	129.5	80	120	> +/- 20%
Mn	55	45	No Gas	0.231	ppb	5.0	21404.74	0.4	57.75	80	120	> +/- 20%
Fe	56	45	H2	40.773	ppb	1.0	637928.25	40	101.93	80	120	
Co	59	45	No Gas	0.372	ppb	3.4	8227.15	0.4	93	80	120	
Ni	60	45	He	0.410	ppb	5.6	1122.05	0.4	102.5	80	120	
Cu	63	45	He	0.422	ppb	4.3	5186.32	0.4	105.5	80	120	
Zn	66	72	No Gas	5.855	ppb	2.9	21386.17	4	146.38	80	120	> +/- 20%
As	75	72	He	0.376	ppb	3.7	488.68	0.4	94	80	120	
Se	78	72	H2	0.429	ppb	3.3	192.67	0.4	107.25	80	120	
Sr	88	72	No Gas	0.410	ppb	2.2	12062.13	0.4	102.5	80	120	
Mo	95	115	No Gas	0.342	ppb	9.5	2007.93	0.4	85.5	80	120	
Ag	107	115	No Gas	0.396	ppb	4.7	4954.26	0.4	99	80	120	
Cd	111	115	No Gas	0.370	ppb	0.9	1039.79	0.4	92.5	80	120	
Sn	118	115	No Gas	0.499	ppb	4.8	5045.42	0.4	124.75	80	120	> +/- 20%
Sb	123	115	No Gas	0.389	ppb	4.3	3714.97	0.4	97.25	80	120	
Ba	137	115	No Gas	0.396	ppb	7.0	2165.74	0.4	99	80	120	
Tl	205	159	No Gas	0.391	ppb	4.0	10292.03	0.4	97.75	80	120	
Pb	208	159	No Gas	0.401	ppb	3.0	15216.93	0.4	100.25	80	120	
U	238	159	No Gas	0.381	ppb	1.1	13687.66	0.4	95.25	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1050794.41	0.8	913794.78	114.99	70	120	
Sc	45	No Gas	3969755.58	1.1	3551284.17	111.78	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	3007672.75	0.9	3058687.42	98.33	70	120	
Sc	45	He	457348.78	0.3	465177.56	98.32	70	120	
Ge	72	No Gas	878661.67	1.0	813952.92	107.95	70	120	
Ge	72	H2	787981.98	0.6	802203.96	98.23	70	120	
Ge	72	He	262000.16	0.5	263530.43	99.42	70	120	
In	115	No Gas	5500670.44	1.7	4878774.56	112.75	70	120	
Tb	159	No Gas	8193891.90	1.3	7160929.99	114.42	70	120	
Tb	159	He	5843200.83	0.4	5763662.17	101.38	70	120	

Sample Report

Sample Name	MRLA3003
File Name	H6A22013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:38:07
Sample Type	Sample
Total Dilution	1.0000
Comment	20 ppb Zn
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	63010.35	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	103.33	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4574.08	100	
Na	23	45	H2	<0.000	<0.000	ppb	N/A	768015.96	50000	
Mg	24	45	No Gas	6.304	6.304	ppb	4.5	124249.09	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	28773.20	50000	
Si	28	45	H2	6.183	6.183	ppb	3.5	15196.30	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	36229.17	500	
K	39	45	He	<0.000	<0.000	ppb	N/A	77098.60	50000	
Ca	40	45	H2	252.881	252.881	ppb	0.2	2609023.08	50000	
Ti	47	45	No Gas	<0.000	<0.000	ppb	N/A	214.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1326.06	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1672.10	500	
Mn	55	45	No Gas	0.448	0.448	ppb	5.5	26351.38	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	51873.46	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	530.68	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	208.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2526.90	500	
Zn	66	72	No Gas	20.700	20.700	ppb	3.4	60842.10	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	116.00	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	29.00	500	
Sr	88	72	No Gas	0.072	0.072	ppb	8.9	4241.79	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	250.00	50	
Mo	95	115	No Gas	<0.000	<0.000	ppb	N/A	62.22	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	103.33	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	74.59	500	
Sn	118	115	No Gas	0.093	0.093	ppb	7.1	2056.83	500	
Sb	123	115	No Gas	<0.000	<0.000	ppb	N/A	221.12	100	
Ba	137	115	No Gas	<0.000	<0.000	ppb	N/A	344.45	1000	
W	182	159	No Gas	<0.000	<0.000	ppb	N/A	66.67	50	
Hg	201	159	No Gas	0.007	0.007	ppb	37.8	34.17	5	
Hg	201	159	He	0.004	0.004	ppb	95.1	24.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	883.37	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1756.72	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	88.89	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1061057.98	0.5	913794.78	116.12	70	120	
Sc	45	No Gas	4008329.50	1.0	3551284.17	112.87	70	120	
Sc	45	H2	3045873.50	0.5	3058687.42	99.58	70	120	
Sc	45	He	460276.16	0.7	465177.56	98.95	70	120	
Ge	72	No Gas	889649.09	0.3	813952.92	109.3	70	120	
Ge	72	H2	796298.40	1.7	802203.96	99.26	70	120	
Ge	72	He	261561.96	0.3	263530.43	99.25	70	120	
In	115	No Gas	5456960.76	0.4	4878774.56	111.85	70	120	
Tb	159	No Gas	8165976.90	0.7	7160929.99	114.04	70	120	
Tb	159	He	5897179.00	0.7	5763662.17	102.32	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6A22014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:40:42
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.278	ppb	75.3	59125.93	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	74.44	0.4	-50	50	
B	11	6	No Gas	0.178	ppb	198.8	7839.97	10	-50	50	
Na	23	45	H2	110558.151	ppb	0.7	349165738.67	100000	80	120	
Mg	24	45	No Gas	108716.091	ppb	0.9	784886336.00	100000	80	120	
Al	27	45	No Gas	109908.663	ppb	1.6	1053867290.96	100000	80	120	
Si	28	45	H2	4.884	ppb	4.4	12189.35	50	-50	50	
P	31	45	No Gas	108157.112	ppb	0.5	65592593.33	100000	80	120	
K	39	45	He	112369.479	ppb	1.5	59170956.00	100000	80	120	
Ca	40	45	H2	112039.033	ppb	0.4	886359040.00	100000	80	120	
Ti	47	45	No Gas	2263.272	ppb	0.8	2999086.83	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1196.05	1	-50	50	
Cr	52	45	He	2.381	ppb	0.6	14292.13	1	-50	50	> +/- 20%
Mn	55	45	No Gas	<0.000	ppb	N/A	15084.31	1	-50	50	
Fe	56	45	H2	112363.959	ppb	0.3	1351642709.33	100000	80	120	
Co	59	45	No Gas	0.126	ppb	7.1	3693.84	0.75	-50	50	
Ni	60	45	He	0.441	ppb	3.4	1078.04	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2703.60	2	-50	50	
Zn	66	72	No Gas	2.904	ppb	2.8	13587.47	20	-50	50	
As	75	72	He	0.039	ppb	42.0	165.33	1	-50	50	
Se	78	72	H2	0.105	ppb	63.4	66.67	1	-50	50	
Sr	88	72	No Gas	0.876	ppb	1.0	22723.71	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.208	ppb	2.2	3440.45	10	-50	50	
Mo	95	115	No Gas	2271.918	ppb	1.2	10234538.76	2000	80	120	
Ag	107	115	No Gas	0.084	ppb	9.3	1092.27	0.4	-50	50	
Cd	111	115	No Gas	0.017	ppb	55.7	160.63	1	-50	50	
Sn	118	115	No Gas	0.123	ppb	5.8	2086.83	1	-50	50	
Sb	123	115	No Gas	0.055	ppb	3.3	687.80	1	-50	50	
Ba	137	115	No Gas	0.580	ppb	5.6	2623.60	1	-50	50	> +/- 20%
W	182	159	No Gas	0.160	ppb	8.6	1703.46	1	-50	50	
Hg	201	159	No Gas	0.006	ppb	10.6	31.50	0.5	-50	50	
Hg	201	159	He	0.003	ppb	90.9	21.00	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	963.37	0.5	-50	50	
Pb	208	159	No Gas	<0.000	ppb	N/A	2790.13	0.5	-50	50	

TH 1/30/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	673.35	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	966011.91	2.1	913794.78	105.71	70	120	
Sc	45	No Gas	3837445.58	2.9	3551284.17	108.06	70	120	
Sc	45	H2	2728773.75	3.0	3058687.42	89.21	70	120	
Sc	45	He	416114.89	4.9	465177.56	89.45	70	120	
Ge	72	No Gas	872202.23	2.0	813952.92	107.16	70	120	
Ge	72	H2	730592.12	2.4	802203.96	91.07	70	120	
Ge	72	He	249120.68	3.5	263530.43	94.53	70	120	
In	115	No Gas	5004054.05	2.1	4878774.56	102.57	70	120	
Tb	159	No Gas	7840675.24	2.4	7160929.99	109.49	70	120	
Tb	159	He	5403996.33	4.5	5763662.17	93.76	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6A22015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:52:29
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**THuang**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.086	ppb	1.6	147927.08	20	80	120	
Be	9	6	No Gas	20.501	ppb	0.6	32293.85	20	80	120	
B	11	6	No Gas	19.097	ppb	3.7	27292.07	20	80	120	
Na	23	45	H2	101716.274	ppb	1.9	342422144.00	100000	80	120	
Mg	24	45	No Gas	97375.489	ppb	1.2	685469248.00	100000	80	120	
Al	27	45	No Gas	98588.947	ppb	2.5	921784092.93	100000	80	120	
Si	28	45	H2	215.002	ppb	0.9	259378.40	200	80	120	
P	31	45	No Gas	100756.631	ppb	2.4	59504968.00	100000	80	120	
K	39	45	He	100772.669	ppb	0.3	54744984.00	100000	80	120	
Ca	40	45	H2	102347.648	ppb	1.0	862895488.00	100000	80	120	
Ti	47	45	No Gas	2054.333	ppb	1.9	2654450.33	2000	80	120	
V	51	45	He	20.700	ppb	0.4	101698.01	20	80	120	
Cr	52	45	He	23.330	ppb	1.3	127830.17	20	80	120	
Mn	55	45	No Gas	20.038	ppb	2.0	422565.93	20	80	120	
Fe	56	45	H2	102745.336	ppb	1.0	1316961578.67	100000	80	120	
Co	59	45	No Gas	20.402	ppb	1.1	345864.69	20	80	120	
Ni	60	45	He	21.356	ppb	0.8	41020.91	20	80	120	
Cu	63	45	He	21.307	ppb	0.9	106733.74	20	80	120	
Zn	66	72	No Gas	22.219	ppb	2.1	62540.73	20	80	120	
As	75	72	He	20.204	ppb	1.1	18457.26	20	80	120	
Se	78	72	H2	20.882	ppb	0.6	7717.21	20	80	120	
Sr	88	72	No Gas	21.170	ppb	2.1	483580.88	20	80	120	
Zr	90	72	No Gas	10.959	ppb	2.2	162992.13	20	80	120	> +/- 20%
Mo	95	115	No Gas	2041.965	ppb	1.9	9044253.81	2000	80	120	
Ag	107	115	No Gas	20.262	ppb	0.9	218099.39	20	80	120	
Cd	111	115	No Gas	20.361	ppb	0.8	44646.51	20	80	120	
Sn	118	115	No Gas	20.385	ppb	2.3	134461.75	20	80	120	
Sb	123	115	No Gas	20.224	ppb	1.0	160889.68	20	80	120	
Ba	137	115	No Gas	21.368	ppb	1.0	75101.13	20	80	120	
W	182	159	No Gas	19.169	ppb	1.3	187463.39	20	80	120	
Hg	201	159	No Gas	1.954	ppb	1.7	3141.73	2	80	120	
Hg	201	159	He	2.004	ppb	0.6	2565.60	2	80	120	
Tl	205	159	No Gas	20.230	ppb	2.0	427938.76	20	80	120	
Pb	208	159	No Gas	20.665	ppb	1.5	606322.32	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.979	ppb	3.7	648438.22	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	933738.89	7.5	913794.78	102.18	70	120	
Sc	45	No Gas	3740891.67	6.8	3551284.17	105.34	70	120	
Sc	45	H2	2907404.83	2.9	3058687.42	95.05	70	120	
Sc	45	He	429037.69	0.4	465177.56	92.23	70	120	
Ge	72	No Gas	857464.06	4.8	813952.92	105.35	70	120	
Ge	72	H2	778881.92	2.2	802203.96	97.09	70	120	
Ge	72	He	254785.28	0.1	263530.43	96.68	70	120	
In	115	No Gas	4916598.41	5.0	4878774.56	100.78	70	120	
Tb	159	No Gas	7807172.19	5.4	7160929.99	109.02	70	120	
Tb	159	He	5768255.17	0.5	5763662.17	100.08	70	120	

Sample Report

Sample Name	MRLA3004
File Name	H6A22016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A22.b
Acq Time	2023-01-30 12:55:07
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	<0.000	<0.000	ppb	N/A	62298.30	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	88.89	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4552.96	100	
Na	23	45	H2	525.425	525.425	ppb	1.9	2574516.00	50000	
Mg	24	45	No Gas	516.152	516.152	ppb	2.0	3935993.00	50000	
Al	27	45	No Gas	517.533	517.533	ppb	1.8	5197527.84	50000	
Si	28	45	H2	<0.000	<0.000	ppb	N/A	6048.00	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	38211.14	500	
K	39	45	He	522.889	522.889	ppb	0.9	365082.15	50000	
Ca	40	45	H2	510.623	510.623	ppb	1.2	4765305.67	50000	
Ti	47	45	No Gas	0.099	0.099	ppb	8.0	428.68	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1058.04	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1552.09	500	
Mn	55	45	No Gas	<0.000	<0.000	ppb	N/A	10142.43	3000	
Fe	56	45	H2	538.681	538.681	ppb	1.5	7152516.83	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	803.36	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	260.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1956.81	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	4516.09	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	94.67	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	32.33	500	
Sr	88	72	No Gas	<0.000	<0.000	ppb	N/A	1463.42	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	223.33	50	
Mo	95	115	No Gas	0.235	0.235	ppb	18.6	1500.09	500	
Ag	107	115	No Gas	0.063	0.063	ppb	3.6	958.92	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	71.62	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	1305.62	500	
Sb	123	115	No Gas	<0.000	<0.000	ppb	N/A	253.34	100	
Ba	137	115	No Gas	<0.000	<0.000	ppb	N/A	342.23	1000	
W	182	159	No Gas	0.013	0.013	ppb	46.1	276.67	50	
Hg	201	159	No Gas	0.021	0.021	ppb	24.0	59.00	5	
Hg	201	159	He	0.014	0.014	ppb	37.5	37.33	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	1324.52	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	2174.53	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	486.68	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1053965.25	0.6	913794.78	115.34	70	120	
Sc	45	No Gas	3974537.75	1.3	3551284.17	111.92	70	120	
Sc	45	H2	2972031.67	1.4	3058687.42	97.17	70	120	
Sc	45	He	437934.14	1.2	465177.56	94.14	70	120	
Ge	72	No Gas	889081.54	1.8	813952.92	109.23	70	120	
Ge	72	H2	784355.00	0.5	802203.96	97.78	70	120	
Ge	72	He	254567.40	1.9	263530.43	96.6	70	120	
In	115	No Gas	5569042.64	1.9	4878774.56	114.15	70	120	
Tb	159	No Gas	8388791.89	0.9	7160929.99	117.15	70	120	
Tb	159	He	5892811.17	2.2	5763662.17	102.24	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6A22017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 12:57:43
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.921	ppb	2.1	184272.21	25	99.68	90	110	
Be	9	6	No Gas	24.978	ppb	2.5	42574.30	25	99.91	90	110	
B	11	6	No Gas	47.205	ppb	3.9	61378.25	50	94.41	90	110	
Na	23	45	H2	26299.734	ppb	0.7	90945040.00	25000	105.2	90	110	
Mg	24	45	No Gas	25794.046	ppb	2.3	192469498.67	25000	103.18	90	110	
Al	27	45	No Gas	25732.180	ppb	0.7	254974309.54	25000	102.93	90	110	
Si	28	45	H2	2617.495	ppb	0.6	3141816.50	2500	104.7	90	110	
P	31	45	No Gas	244.972	ppb	2.1	194622.12	250	97.99	90	110	
K	39	45	He	26048.132	ppb	0.6	14303008.67	25000	104.19	90	110	
Ca	40	45	H2	26012.699	ppb	0.8	224179712.00	25000	104.05	90	110	
Ti	47	45	No Gas	254.291	ppb	1.4	348420.07	250	101.72	90	110	
V	51	45	He	263.957	ppb	0.6	1289937.71	250	105.58	90	110	
Cr	52	45	He	266.795	ppb	1.3	1452306.59	250	106.72	90	110	
Mn	55	45	No Gas	1539.512	ppb	2.5	33153632.67	1500	102.63	90	110	
Fe	56	45	H2	26432.012	ppb	0.5	345991285.33	25000	105.73	90	110	
Co	59	45	No Gas	257.300	ppb	2.3	4604820.50	250	102.92	90	110	
Ni	60	45	He	272.197	ppb	1.2	523331.82	250	108.88	90	110	
Cu	63	45	He	273.649	ppb	1.2	1346918.71	250	109.46	90	110	
Zn	66	72	No Gas	258.983	ppb	1.2	705161.77	250	103.59	90	110	
As	75	72	He	258.517	ppb	1.5	238650.01	250	103.41	90	110	
Se	78	72	H2	259.493	ppb	0.5	98587.02	250	103.8	90	110	
Sr	88	72	No Gas	259.925	ppb	1.0	6263575.59	250	103.97	90	110	
Zr	90	72	No Gas	26.296	ppb	2.4	414655.29	25	105.18	90	110	
Mo	95	115	No Gas	254.058	ppb	2.4	1204292.59	250	101.62	90	110	
Ag	107	115	No Gas	25.637	ppb	1.5	295434.72	25	102.55	90	110	
Cd	111	115	No Gas	255.613	ppb	1.2	598478.98	250	102.25	90	110	
Sn	118	115	No Gas	255.925	ppb	1.6	1790869.79	250	102.37	90	110	
Sb	123	115	No Gas	51.380	ppb	0.7	437133.06	50	102.76	90	110	
Ba	137	115	No Gas	519.773	ppb	1.9	1942154.02	500	103.95	90	110	
W	182	159	No Gas	25.791	ppb	0.2	265888.56	25	103.16	90	110	
Hg	201	159	No Gas	2.606	ppb	2.2	4411.44	2.5	104.24	90	110	
Hg	201	159	He	2.640	ppb	1.1	3372.79	2.5	105.6	90	110	
Tl	205	159	No Gas	263.185	ppb	1.8	5848931.71	250	105.27	90	110	
Pb	208	159	No Gas	264.852	ppb	1.7	8158902.95	250	105.94	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	268.860	ppb	2.1	8738037.15	250	107.54	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1011207.97	0.7	913794.78	110.66	70	120	
Sc	45	No Gas	3964262.33	0.7	3551284.17	111.63	70	120	
Sc	45	H2	2968729.92	0.7	3058687.42	97.06	70	120	
Sc	45	He	431992.73	2.3	465177.56	92.87	70	120	
Ge	72	No Gas	909304.69	0.9	813952.92	111.71	70	120	
Ge	72	H2	803793.00	1.1	802203.96	100.2	70	120	
Ge	72	He	259258.40	2.6	263530.43	98.38	70	120	
In	115	No Gas	5263687.95	0.9	4878774.56	107.89	70	120	
Tb	159	No Gas	8235384.95	1.1	7160929.99	115	70	120	
Tb	159	He	5767394.17	3.6	5763662.17	100.06	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6A22018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 13:00:19
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	56128.71	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	91.11	0.08	
B	11	6	No Gas	0.606	ppb	114.5	8017.85	4	
Na	23	45	H2	19.334	ppb	102.8	781095.69	40	
Mg	24	45	No Gas	2.197	ppb	67.9	81691.06	10	
Al	27	45	No Gas	1.640	ppb	53.4	64795.79	15	
Si	28	45	H2	1.426	ppb	33.2	8520.64	8	
P	31	45	No Gas	<0.000	ppb	N/A	34648.05	10	
K	39	45	He	6.066	ppb	33.8	77484.43	20	
Ca	40	45	H2	1.089	ppb	52.7	352568.76	25	
Ti	47	45	No Gas	0.040	ppb	85.5	307.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1218.72	0.5	
Cr	52	45	He	0.010	ppb	140.7	1939.47	0.2	
Mn	55	45	No Gas	0.087	ppb	125.7	16166.91	0.2	
Fe	56	45	H2	2.358	ppb	5.3	118871.02	10	
Co	59	45	No Gas	<0.000	ppb	N/A	1282.73	0.15	
Ni	60	45	He	0.006	ppb	198.7	281.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2218.85	0.4	
Zn	66	72	No Gas	0.136	ppb	141.6	5841.26	2	
As	75	72	He	0.011	ppb	152.1	139.67	0.2	
Se	78	72	H2	0.084	ppb	21.4	59.67	0.2	
Sr	88	72	No Gas	0.016	ppb	78.3	2601.37	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	216.67	2	
Mo	95	115	No Gas	0.062	ppb	17.5	556.68	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	156.67	0.08	
Cd	111	115	No Gas	0.049	ppb	32.0	224.16	0.2	
Sn	118	115	No Gas	0.095	ppb	21.3	1854.58	0.2	
Sb	123	115	No Gas	0.009	ppb	84.2	302.22	0.4	
Ba	137	115	No Gas	0.040	ppb	41.7	685.57	0.2	
W	182	159	No Gas	0.027	ppb	30.6	373.34	0.3	
Hg	201	159	No Gas	0.033	ppb	19.0	71.50	0.1	
Hg	201	159	He	0.020	ppb	21.4	42.67	0.1	
Tl	205	159	No Gas	0.072	ppb	22.9	2937.02	0.1	
Pb	208	159	No Gas	0.021	ppb	67.1	3239.06	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.017	ppb	37.1	1739.02	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	938126.70	11.7	913794.78	102.66	70	120	
Sc	45	No Gas	3546988.25	14.4	3551284.17	99.88	70	120	
Sc	45	H2	2780909.75	6.1	3058687.42	90.92	70	120	
Sc	45	He	430324.30	2.4	465177.56	92.51	70	120	
Ge	72	No Gas	797261.42	10.3	813952.92	97.95	70	120	
Ge	72	H2	732043.21	5.2	802203.96	91.25	70	120	
Ge	72	He	247005.01	2.6	263530.43	93.73	70	120	
In	115	No Gas	4898669.99	10.4	4878774.56	100.41	70	120	
Tb	159	No Gas	7428066.37	11.5	7160929.99	103.73	70	120	
Tb	159	He	5623759.17	2.7	5763662.17	97.57	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV4
File Name	H6A22047.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:21:36
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.020	ppb	1.1	187674.25	25	100.08	90	110	
Be	9	6	No Gas	24.871	ppb	0.9	43058.03	25	99.48	90	110	
B	11	6	No Gas	48.741	ppb	2.9	64116.06	50	97.48	90	110	
Na	23	45	H2	25374.984	ppb	0.6	89828682.67	25000	101.5	90	110	
Mg	24	45	No Gas	25131.121	ppb	1.0	189421066.67	25000	100.52	90	110	
Al	27	45	No Gas	25160.676	ppb	1.4	251831716.25	25000	100.64	90	110	
Si	28	45	H2	2572.865	ppb	0.3	3160707.08	2500	102.91	90	110	
P	31	45	No Gas	238.126	ppb	2.0	192262.81	250	95.25	90	110	
K	39	45	He	25322.287	ppb	0.1	14588989.33	25000	101.29	90	110	
Ca	40	45	H2	25426.613	ppb	0.3	224265914.67	25000	101.71	90	110	
Ti	47	45	No Gas	247.205	ppb	0.8	342188.69	250	98.88	90	110	
V	51	45	He	253.795	ppb	0.7	1301065.08	250	101.52	90	110	
Cr	52	45	He	255.394	ppb	0.5	1458303.87	250	102.16	90	110	
Mn	55	45	No Gas	1499.226	ppb	0.3	32613770.67	1500	99.95	90	110	
Fe	56	45	H2	25669.627	ppb	0.5	343892394.67	25000	102.68	90	110	
Co	59	45	No Gas	249.642	ppb	1.1	4513176.50	250	99.86	90	110	
Ni	60	45	He	259.317	ppb	0.9	522944.10	250	103.73	90	110	
Cu	63	45	He	259.258	ppb	0.4	1338652.42	250	103.7	90	110	
Zn	66	72	No Gas	252.447	ppb	1.4	687811.58	250	100.98	90	110	
As	75	72	He	251.014	ppb	1.1	238937.93	250	100.41	90	110	
Se	78	72	H2	252.959	ppb	0.5	97324.53	250	101.18	90	110	
Sr	88	72	No Gas	256.712	ppb	2.1	6189036.28	250	102.68	90	110	
Zr	90	72	No Gas	25.704	ppb	2.2	405466.34	25	102.82	90	110	
Mo	95	115	No Gas	244.010	ppb	0.3	1192598.25	250	97.6	90	110	
Ag	107	115	No Gas	24.994	ppb	1.0	296959.01	25	99.98	90	110	
Cd	111	115	No Gas	246.918	ppb	0.4	596139.80	250	98.77	90	110	
Sn	118	115	No Gas	247.971	ppb	0.4	1789213.09	250	99.19	90	110	
Sb	123	115	No Gas	49.358	ppb	0.5	433004.74	50	98.72	90	110	
Ba	137	115	No Gas	505.824	ppb	1.4	1948863.19	500	101.16	90	110	
W	182	159	No Gas	24.902	ppb	0.3	261144.55	25	99.61	90	110	
Hg	201	159	No Gas	2.478	ppb	1.1	4268.40	2.5	99.12	90	110	
Hg	201	159	He	2.548	ppb	1.4	3365.45	2.5	101.92	90	110	
Tl	205	159	No Gas	251.927	ppb	1.5	5694585.61	250	100.77	90	110	
Pb	208	159	No Gas	251.701	ppb	1.7	7884648.60	250	100.68	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	255.692	ppb	1.5	8450899.11	250	102.28	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1027136.76	1.6	913794.78	112.4	70	120	
Sc	45	No Gas	4004904.00	2.4	3551284.17	112.77	70	120	
Sc	45	H2	3038261.00	0.3	3058687.42	99.33	70	120	
Sc	45	He	453181.70	1.0	465177.56	97.42	70	120	
Ge	72	No Gas	909649.13	0.8	813952.92	111.76	70	120	
Ge	72	H2	813982.19	0.6	802203.96	101.47	70	120	
Ge	72	He	267252.69	0.5	263530.43	101.41	70	120	
In	115	No Gas	5427379.46	2.4	4878774.56	111.24	70	120	
Tb	159	No Gas	8377505.50	3.2	7160929.99	116.99	70	120	
Tb	159	He	5959252.50	0.2	5763662.17	103.39	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB4
File Name	H6A22048.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:24:13
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	63317.31	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	72.22	0.08	
B	11	6	No Gas	1.216	ppb	48.4	9952.42	4	
Na	23	45	H2	<0.000	ppb	N/A	745406.46	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	42726.74	10	
Al	27	45	No Gas	<0.000	ppb	N/A	14140.77	15	
Si	28	45	H2	0.908	ppb	21.4	8749.42	8	
P	31	45	No Gas	<0.000	ppb	N/A	36616.82	10	
K	39	45	He	<0.000	ppb	N/A	77612.71	20	
Ca	40	45	H2	<0.000	ppb	N/A	144024.17	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	201.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1240.06	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1372.74	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	8886.23	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	29825.80	10	
Co	59	45	No Gas	<0.000	ppb	N/A	584.68	0.15	
Ni	60	45	He	<0.000	ppb	N/A	160.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1922.14	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	1862.80	2	
As	75	72	He	<0.000	ppb	N/A	114.00	0.2	
Se	78	72	H2	0.015	ppb	62.8	38.33	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1074.49	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	123.33	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	238.89	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	125.56	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	109.95	0.2	
Sn	118	115	No Gas	0.022	ppb	64.9	1586.77	0.2	
Sb	123	115	No Gas	<0.000	ppb	N/A	253.34	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	202.23	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	120.00	0.3	
Hg	201	159	No Gas	0.012	ppb	31.4	44.33	0.1	
Hg	201	159	He	0.009	ppb	24.5	31.33	0.1	
Tl	205	159	No Gas	0.007	ppb	213.3	1851.25	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1447.81	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	546.68	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1073966.74	2.5	913794.78	117.53	70	120	
Sc	45	No Gas	4004145.25	3.2	3551284.17	112.75	70	120	
Sc	45	H2	3057836.75	0.6	3058687.42	99.97	70	120	
Sc	45	He	457828.32	0.6	465177.56	98.42	70	120	
Ge	72	No Gas	883938.92	1.3	813952.92	108.6	70	120	
Ge	72	H2	784894.10	0.5	802203.96	97.84	70	120	
Ge	72	He	259391.87	0.7	263530.43	98.43	70	120	
In	115	No Gas	5594882.03	2.0	4878774.56	114.68	70	120	
Tb	159	No Gas	8414269.39	2.1	7160929.99	117.5	70	120	
Tb	159	He	6005169.17	0.1	5763662.17	104.19	70	120	

Blank Report

Sample Name	IML026WB
File Name	H6A22049.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:26:48
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.151	ppb	148.0	57450.35	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	101.11	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	5897.91	4	
Na	23	45	H2	1.612	ppb	449.2	772434.84	40	
Mg	24	45	No Gas	<0.000	ppb	N/A	55359.49	10	
Al	27	45	No Gas	<0.000	ppb	N/A	32855.53	15	
Si	28	45	H2	1.800	ppb	9.7	9526.60	8	
P	31	45	No Gas	<0.000	ppb	N/A	37087.56	10	
K	39	45	He	<0.000	ppb	N/A	79300.12	20	
Ca	40	45	H2	<0.000	ppb	N/A	219483.24	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	255.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1102.05	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1798.12	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	9311.83	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	54802.21	10	
Co	59	45	No Gas	<0.000	ppb	N/A	444.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	164.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1924.13	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	2943.65	2	
As	75	72	He	<0.000	ppb	N/A	94.67	0.2	
Se	78	72	H2	0.010	ppb	92.5	36.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1077.82	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	263.33	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	90.00	0.2	
Ag	107	115	No Gas	0.004	ppb	78.4	223.34	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	44.29	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1057.82	0.2	
Sb	123	115	No Gas	0.011	ppb	35.5	336.67	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	572.23	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	90.00	0.3	
Hg	201	159	No Gas	0.004	ppb	49.5	28.50	0.1	
Hg	201	159	He	0.003	ppb	38.2	23.83	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	780.03	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1152.25	0.1	

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	96.67	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	948508.66	4.7	913794.78	103.8	70	120	
Sc	45	No Gas	3648730.83	6.3	3551284.17	102.74	70	120	
Sc	45	H2	2957574.33	3.1	3058687.42	96.69	70	120	
Sc	45	He	463048.44	0.4	465177.56	99.54	70	120	
Ge	72	No Gas	835883.87	4.2	813952.92	102.69	70	120	
Ge	72	H2	783929.27	2.6	802203.96	97.72	70	120	
Ge	72	He	265372.84	0.7	263530.43	100.7	70	120	
In	115	No Gas	5161131.48	4.5	4878774.56	105.79	70	120	
Tb	159	No Gas	7686839.70	5.4	7160929.99	107.34	70	120	
Tb	159	He	5983829.67	1.1	5763662.17	103.82	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML026WL
File Name	H6A22050.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:29:23
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	31.203	ppb	3.0	224146.75	30	104.01	85	115	
Be	9	6	No Gas	29.992	ppb	2.1	53151.61	30	99.97	83	121	
B	11	6	No Gas	25.194	ppb	6.1	37969.20	30	83.98	85	115	FAIL
Na	23	45	H2	3225.752	ppb	1.4	12290997.67	3000	107.53	85	117	
Mg	24	45	No Gas	3145.582	ppb	2.4	23835615.33	3000	104.85	83	118	
Al	27	45	No Gas	3145.038	ppb	2.4	31604108.69	3000	104.83	84	117	
Si	28	45	H2	3.563	ppb	4.1	12128.62	3000	0.12	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	37624.32	300	-2.16	85	115	FAIL
K	39	45	He	3175.246	ppb	0.7	1938907.42	3000	105.84	87	115	
Ca	40	45	H2	3142.021	ppb	0.2	28468578.00	3000	104.73	87	118	
Ti	47	45	No Gas	30.710	ppb	0.9	42863.66	30	102.37	85	115	
V	51	45	He	31.724	ppb	0.6	167433.99	30	105.75	86	115	
Cr	52	45	He	32.796	ppb	0.2	193112.82	30	109.32	85	116	
Mn	55	45	No Gas	31.351	ppb	1.6	699780.10	30	104.5	87	115	
Fe	56	45	H2	3216.774	ppb	0.7	43836288.00	3000	107.23	87	118	
Co	59	45	No Gas	32.114	ppb	2.1	583323.56	30	107.05	86	115	
Ni	60	45	He	32.950	ppb	0.9	68149.70	30	109.83	85	117	
Cu	63	45	He	34.015	ppb	0.3	182086.06	30	113.38	85	118	
Zn	66	72	No Gas	63.997	ppb	1.9	178588.31	60	106.66	83	119	
As	75	72	He	31.328	ppb	0.5	30381.75	30	104.43	84	116	
Se	78	72	H2	31.551	ppb	0.6	12344.98	30	105.17	80	120	
Sr	88	72	No Gas	32.344	ppb	2.8	779975.82	30	107.81	85	115	
Zr	90	72	No Gas	0.006	ppb	30.5	406.68	30	0.02	85	115	FAIL
Mo	95	115	No Gas	30.213	ppb	1.6	151296.36	30	100.71	85	115	
Ag	107	115	No Gas	31.224	ppb	1.8	379367.02	30	104.08	85	117	
Cd	111	115	No Gas	30.189	ppb	1.9	74659.03	30	100.63	87	115	
Sn	118	115	No Gas	31.467	ppb	1.2	233406.91	30	104.89	85	115	
Sb	123	115	No Gas	30.257	ppb	1.5	271559.49	30	100.86	85	117	
Ba	137	115	No Gas	30.729	ppb	0.9	121639.96	30	102.43	86	114	
W	182	159	No Gas	<0.000	ppb	N/A	93.33	30	-0.01	85	115	FAIL
Hg	201	159	No Gas	0.001	ppb	572.8	24.50	2.5	0.04	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	18.00	2.5	-0.04	82	119	FAIL
Tl	205	159	No Gas	32.481	ppb	0.5	728351.93	30	108.27	82	116	
Pb	208	159	No Gas	32.619	ppb	1.0	1014561.37	30	108.73	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	31.239	ppb	1.0	1023649.85	30	104.13	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1051713.77	1.8	913794.78	115.09	70	120	
Sc	45	No Gas	4013171.25	3.1	3551284.17	113.01	70	120	
Sc	45	H2	3084411.17	0.6	3058687.42	100.84	70	120	
Sc	45	He	463026.82	0.2	465177.56	99.54	70	120	
Ge	72	No Gas	907037.54	2.0	813952.92	111.44	70	120	
Ge	72	H2	825734.50	0.4	802203.96	102.93	70	120	
Ge	72	He	271165.67	0.2	263530.43	102.9	70	120	
In	115	No Gas	5549444.57	2.0	4878774.56	113.75	70	120	
Tb	159	No Gas	8292735.78	2.2	7160929.99	115.81	70	120	
Tb	159	He	6013295.67	0.4	5763662.17	104.33	70	120	

Laboratory Control Sample (LCS) Report

Sample Name	IML026WC
File Name	H6A22051.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:31:57
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	30.219	ppb	4.0	212903.23	30	100.73	85	115	
Be	9	6	No Gas	29.484	ppb	1.4	50774.18	30	98.28	83	121	
B	11	6	No Gas	24.896	ppb	3.1	36548.89	30	82.99	85	115	FAIL
Na	23	45	H2	3184.934	ppb	0.6	11731617.67	3000	106.16	85	117	
Mg	24	45	No Gas	3119.359	ppb	2.0	22931932.67	3000	103.98	83	118	
Al	27	45	No Gas	3141.720	ppb	1.8	30633547.05	3000	104.72	84	117	
Si	28	45	H2	2.199	ppb	4.7	10074.32	3000	0.07	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	37533.93	300	-1.58	85	115	FAIL
K	39	45	He	3154.101	ppb	0.9	1923642.37	3000	105.14	87	115	
Ca	40	45	H2	3117.687	ppb	0.7	27290519.33	3000	103.92	87	118	
Ti	47	45	No Gas	30.264	ppb	1.2	40985.46	30	100.88	85	115	
V	51	45	He	31.067	ppb	0.6	163752.62	30	103.56	86	115	
Cr	52	45	He	32.204	ppb	0.9	189374.49	30	107.35	85	116	
Mn	55	45	No Gas	31.046	ppb	1.9	672628.52	30	103.49	87	115	
Fe	56	45	H2	3193.985	ppb	0.7	42046892.00	3000	106.47	87	118	
Co	59	45	No Gas	31.740	ppb	1.8	559369.60	30	105.8	86	115	
Ni	60	45	He	32.391	ppb	0.5	66896.83	30	107.97	85	117	
Cu	63	45	He	33.927	ppb	0.8	181345.88	30	113.09	85	118	
Zn	66	72	No Gas	63.531	ppb	0.9	174103.93	60	105.88	83	119	
As	75	72	He	30.864	ppb	0.2	30022.63	30	102.88	84	116	
Se	78	72	H2	31.932	ppb	1.1	12080.41	30	106.44	80	120	
Sr	88	72	No Gas	31.486	ppb	1.1	745784.07	30	104.95	85	115	
Zr	90	72	No Gas	0.003	ppb	33.7	343.34	30	0.01	85	115	FAIL
Mo	95	115	No Gas	29.359	ppb	0.8	144207.83	30	97.86	85	115	
Ag	107	115	No Gas	31.061	ppb	0.8	370147.57	30	103.54	85	117	
Cd	111	115	No Gas	29.982	ppb	1.2	72724.90	30	99.94	87	115	
Sn	118	115	No Gas	30.827	ppb	1.1	224312.94	30	102.76	85	115	
Sb	123	115	No Gas	29.551	ppb	1.0	260035.20	30	98.5	85	117	
Ba	137	115	No Gas	29.862	ppb	1.4	115941.55	30	99.54	86	114	
W	182	159	No Gas	<0.000	ppb	N/A	103.33	30	-0.01	85	115	FAIL
Hg	201	159	No Gas	0.003	ppb	146.9	27.17	2.5	0.12	85	115	FAIL
Hg	201	159	He	<0.000	ppb	N/A	18.17	2.5	-0.04	82	119	FAIL
Tl	205	159	No Gas	31.617	ppb	3.1	691869.21	30	105.39	82	116	
Pb	208	159	No Gas	32.136	ppb	1.7	975021.55	30	107.12	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	30.767	ppb	1.8	983501.11	30	102.56	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1021766.17	3.8	913794.78	111.82	70	120	
Sc	45	No Gas	3892633.25	5.0	3551284.17	109.61	70	120	
Sc	45	H2	2979273.33	2.9	3058687.42	97.4	70	120	
Sc	45	He	462334.50	0.5	465177.56	99.39	70	120	
Ge	72	No Gas	890840.85	4.8	813952.92	109.45	70	120	
Ge	72	H2	798453.60	2.4	802203.96	99.53	70	120	
Ge	72	He	271969.59	0.5	263530.43	103.2	70	120	
In	115	No Gas	5443395.50	4.6	4878774.56	111.57	70	120	
Tb	159	No Gas	8086646.07	4.1	7160929.99	112.93	70	120	
Tb	159	He	6009892.67	0.7	5763662.17	104.27	70	120	

Sample Report

Sample Name	L237-01
File Name	H6A22052.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:34:32
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	176.230	176.230	ppb	0.5	860155.50	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	52.22	50	
B	11	6	No Gas	681.472	681.472	ppb	2.0	715989.29	100	>LDR
Na	23	45	H2	439512.768	439512.768	ppb	0.2	1531540650.67	50000	>LDR
Mg	24	45	No Gas	1592.036	1592.036	ppb	2.3	11404125.67	50000	
Al	27	45	No Gas	3.482	3.482	ppb	11.2	87059.45	50000	
Si	28	45	H2	11624.150	11624.150	ppb	0.8	14147176.67	5000	>LDR
P	31	45	No Gas	48.777	48.777	ppb	7.0	68483.29	500	
K	39	45	He	8864.358	8864.358	ppb	0.8	5124686.83	50000	
Ca	40	45	H2	21293.377	21293.377	ppb	0.7	186472245.33	50000	
Ti	47	45	No Gas	0.378	0.378	ppb	4.3	773.36	500	
V	51	45	He	6.924	6.924	ppb	1.0	36637.50	500	
Cr	52	45	He	0.113	0.113	ppb	9.1	2614.25	500	
Mn	55	45	No Gas	22.015	22.015	ppb	2.2	467888.48	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	93460.67	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	850.03	500	
Ni	60	45	He	0.386	0.386	ppb	2.2	1055.37	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1760.78	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	2678.93	500	
As	75	72	He	17.511	17.511	ppb	1.6	16640.23	500	
Se	78	72	H2	0.528	0.528	ppb	4.0	235.67	500	
Sr	88	72	No Gas	498.193	498.193	ppb	1.3	11521335.93	500	>LDR
Zr	90	72	No Gas	0.018	0.018	ppb	33.4	563.35	50	
Mo	95	115	No Gas	20.323	20.323	ppb	0.8	92613.25	500	
Ag	107	115	No Gas	0.008	0.008	ppb	45.2	263.34	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	47.52	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	881.14	500	
Sb	123	115	No Gas	0.105	0.105	ppb	3.2	1097.83	100	
Ba	137	115	No Gas	79.254	79.254	ppb	2.2	284231.73	1000	
W	182	159	No Gas	3.427	3.427	ppb	1.7	33394.16	50	
Hg	201	159	No Gas	0.001	0.001	ppb	119.5	24.17	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	16.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	903.37	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1192.24	500	
U	238	159	No Gas	4.856	4.856	ppb	2.8	149845.00	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	929750.43	4.4	913794.78	101.75	70	120	
Sc	45	No Gas	3786895.67	6.2	3551284.17	106.63	70	120	
Sc	45	H2	3015604.08	0.3	3058687.42	98.59	70	120	
Sc	45	He	450269.41	0.3	465177.56	96.8	70	120	
Ge	72	No Gas	873152.27	4.5	813952.92	107.27	70	120	
Ge	72	H2	808190.90	0.6	802203.96	100.75	70	120	
Ge	72	He	264744.97	0.8	263530.43	100.46	70	120	
In	115	No Gas	5047115.98	4.7	4878774.56	103.45	70	120	
Tb	159	No Gas	7761768.30	5.6	7160929.99	108.39	70	120	
Tb	159	He	5767797.00	0.5	5763662.17	100.07	70	120	

Sample Report

Sample Name	L237-02
File Name	H6A22053.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:37:08
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	120.526	120.526	ppb	5.0	619766.87	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	71.11	50	
B	11	6	No Gas	487.135	487.135	ppb	3.9	525582.29	100	>LDR
Na	23	45	H2	270541.203	270541.203	ppb	1.6	934426304.00	50000	>LDR
Mg	24	45	No Gas	13552.652	13552.652	ppb	6.4	97279968.00	50000	
Al	27	45	No Gas	2.234	2.234	ppb	17.1	75937.79	50000	
Si	28	45	H2	12741.513	12741.513	ppb	0.4	15362432.00	5000	>LDR
P	31	45	No Gas	46.320	46.320	ppb	14.5	67568.72	500	
K	39	45	He	4044.552	4044.552	ppb	1.5	2394894.83	50000	
Ca	40	45	H2	41335.069	41335.069	ppb	0.8	358287136.00	50000	
Ti	47	45	No Gas	0.470	0.470	ppb	5.8	902.70	500	
V	51	45	He	4.998	4.998	ppb	1.9	26999.20	500	
Cr	52	45	He	0.212	0.212	ppb	4.8	3199.04	500	
Mn	55	45	No Gas	124.518	124.518	ppb	6.9	2592250.67	3000	
Fe	56	45	H2	4.674	4.674	ppb	1.2	158268.29	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	1341.40	500	
Ni	60	45	He	0.101	0.101	ppb	7.0	487.34	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1654.10	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	3911.90	500	
As	75	72	He	7.964	7.964	ppb	1.7	7756.23	500	
Se	78	72	H2	0.977	0.977	ppb	5.6	404.68	500	
Sr	88	72	No Gas	801.394	801.394	ppb	4.0	18684167.04	500	>LDR
Zr	90	72	No Gas	0.008	0.008	ppb	68.2	413.34	50	
Mo	95	115	No Gas	7.435	7.435	ppb	4.3	34764.27	500	
Ag	107	115	No Gas	0.173	0.173	ppb	11.1	2124.61	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	25.98	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	696.68	500	
Sb	123	115	No Gas	0.099	0.099	ppb	11.4	1066.71	100	
Ba	137	115	No Gas	111.825	111.825	ppb	5.2	408962.74	1000	
W	182	159	No Gas	0.679	0.679	ppb	3.0	6875.23	50	
Hg	201	159	No Gas	0.000	0.000	ppb	259.2	23.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	16.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	521.12	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1138.91	500	
U	238	159	No Gas	2.171	2.171	ppb	5.4	69158.99	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	953212.25	7.8	913794.78	104.31	70	120	
Sc	45	No Gas	3827168.75	9.1	3551284.17	107.77	70	120	
Sc	45	H2	2987491.25	1.9	3058687.42	97.67	70	120	
Sc	45	He	453047.99	1.1	465177.56	97.39	70	120	
Ge	72	No Gas	881496.21	6.5	813952.92	108.3	70	120	
Ge	72	H2	802966.42	2.8	802203.96	100.1	70	120	
Ge	72	He	268633.26	1.0	263530.43	101.94	70	120	
In	115	No Gas	5158699.20	6.9	4878774.56	105.74	70	120	
Tb	159	No Gas	7941286.63	7.2	7160929.99	110.9	70	120	
Tb	159	He	5858781.00	0.2	5763662.17	101.65	70	120	

Sample Report

Sample Name	L237-03
File Name	H6A22054.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:39:43
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	472.907	472.907	ppb	1.1	2193198.80	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	57.78	50	
B	11	6	No Gas	1086.527	1086.527	ppb	1.9	1126095.02	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	34283.248	34283.248	ppb	2.4	248600938.67	50000	
Al	27	45	No Gas	<0.000	<0.000	ppb	N/A	51816.64	50000	
Si	28	45	H2	11960.557	11960.557	ppb	0.5	14811657.00	5000	>LDR
P	31	45	No Gas	5.586	5.586	ppb	7.1	43469.24	500	
K	39	45	He	12165.409	12165.409	ppb	0.7	7182746.50	50000	
Ca	40	45	H2	229609.574	229609.574	ppb	0.8	2042329386.67	50000	>LDR
Ti	47	45	No Gas	0.424	0.424	ppb	6.5	848.03	500	
V	51	45	He	0.889	0.889	ppb	1.6	6082.69	500	
Cr	52	45	He	17.880	17.880	ppb	0.1	105908.55	500	
Mn	55	45	No Gas	87.548	87.548	ppb	1.0	1846882.08	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	61594.28	50000	
Co	59	45	No Gas	0.266	0.266	ppb	4.1	6140.72	500	
Ni	60	45	He	0.627	0.627	ppb	3.1	1578.09	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2110.83	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	5638.51	500	
As	75	72	He	0.882	0.882	ppb	0.4	975.04	500	
Se	78	72	H2	0.817	0.817	ppb	7.3	338.33	500	
Sr	88	72	No Gas	5134.911	5134.911	ppb	1.1	117557777.55	500	>LDR
Zr	90	72	No Gas	0.007	0.007	ppb	39.8	396.68	50	
Mo	95	115	No Gas	11.724	11.724	ppb	1.1	52742.01	500	
Ag	107	115	No Gas	0.018	0.018	ppb	16.9	366.67	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	73.22	500	
Sn	118	115	No Gas	0.031	0.031	ppb	32.3	1470.09	500	
Sb	123	115	No Gas	0.052	0.052	ppb	9.5	655.57	100	
Ba	137	115	No Gas	28.061	28.061	ppb	0.7	99482.49	1000	
W	182	159	No Gas	0.476	0.476	ppb	0.6	4620.86	50	
Hg	201	159	No Gas	0.009	0.009	ppb	17.4	35.67	5	
Hg	201	159	He	0.001	0.001	ppb	213.6	19.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	874.48	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1437.81	500	
U	238	159	No Gas	41.898	41.898	ppb	1.3	1249733.07	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	920784.11	4.9	913794.78	100.76	70	120	
Sc	45	No Gas	3851461.67	2.9	3551284.17	108.45	70	120	
Sc	45	H2	3068584.50	0.8	3058687.42	100.32	70	120	
Sc	45	He	461727.00	1.2	465177.56	99.26	70	120	
Ge	72	No Gas	864188.79	3.5	813952.92	106.17	70	120	
Ge	72	H2	790978.73	0.4	802203.96	98.6	70	120	
Ge	72	He	265990.07	0.8	263530.43	100.93	70	120	
In	115	No Gas	4968706.42	3.1	4878774.56	101.84	70	120	
Tb	159	No Gas	7553631.09	2.8	7160929.99	105.48	70	120	
Tb	159	He	5401478.67	1.9	5763662.17	93.72	70	120	

Sample Report

Sample Name	L237-04
File Name	H6A22055.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:42:19
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	561.541	561.541	ppb	1.6	2693950.45	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	61.11	50	
B	11	6	No Gas	1391.636	1391.636	ppb	2.0	1495214.70	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	5428.718	5428.718	ppb	3.2	39703489.33	50000	
Al	27	45	No Gas	2.386	2.386	ppb	3.9	78648.67	50000	
Si	28	45	H2	6971.205	6971.205	ppb	0.7	8518904.33	5000	>LDR
P	31	45	No Gas	40.106	40.106	ppb	4.5	64930.75	500	
K	39	45	He	14778.609	14778.609	ppb	5.9	8591047.33	50000	
Ca	40	45	H2	155464.201	155464.201	ppb	0.7	1364147882.67	50000	>LDR
Ti	47	45	No Gas	0.305	0.305	ppb	5.4	694.69	500	
V	51	45	He	1.242	1.242	ppb	8.3	7816.23	500	
Cr	52	45	He	3.411	3.411	ppb	6.4	21550.27	500	
Mn	55	45	No Gas	194.225	194.225	ppb	1.6	4106805.08	3000	
Fe	56	45	H2	18.727	18.727	ppb	1.8	347835.64	50000	
Co	59	45	No Gas	0.060	0.060	ppb	13.8	2581.58	500	
Ni	60	45	He	0.035	0.035	ppb	47.3	358.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1086.71	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	4992.25	500	
As	75	72	He	2.829	2.829	ppb	10.2	2760.61	500	
Se	78	72	H2	1.100	1.100	ppb	7.3	445.68	500	
Sr	88	72	No Gas	3398.339	3398.339	ppb	1.6	77465079.14	500	>LDR
Zr	90	72	No Gas	0.014	0.014	ppb	32.3	500.01	50	
Mo	95	115	No Gas	156.526	156.526	ppb	1.8	685202.99	500	
Ag	107	115	No Gas	0.006	0.006	ppb	79.3	233.34	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	46.80	500	
Sn	118	115	No Gas	0.098	0.098	ppb	11.9	1866.80	500	
Sb	123	115	No Gas	0.057	0.057	ppb	14.8	682.24	100	
Ba	137	115	No Gas	108.743	108.743	ppb	1.9	375545.38	1000	
W	182	159	No Gas	1.438	1.438	ppb	1.0	13353.73	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.33	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	8.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	578.91	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1251.14	500	
U	238	159	No Gas	2.190	2.190	ppb	1.0	64777.30	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	955834.91	3.5	913794.78	104.6	70	120	
Sc	45	No Gas	3878799.58	1.9	3551284.17	109.22	70	120	
Sc	45	H2	3026937.25	1.0	3058687.42	98.96	70	120	
Sc	45	He	456484.62	5.4	465177.56	98.13	70	120	
Ge	72	No Gas	860344.54	2.0	813952.92	105.7	70	120	
Ge	72	H2	793447.23	1.1	802203.96	98.91	70	120	
Ge	72	He	261823.15	7.9	263530.43	99.35	70	120	
In	115	No Gas	4860123.40	2.0	4878774.56	99.62	70	120	
Tb	159	No Gas	7353281.65	1.5	7160929.99	102.69	70	120	
Tb	159	He	5096409.67	9.4	5763662.17	88.42	70	120	

Sample Report

Sample Name	L237-05
File Name	H6A22056.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:44:55
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1334.209	1334.209	ppb	2.4	5694235.88	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	67.78	50	
B	11	6	No Gas	3410.060	3410.060	ppb	3.1	3290240.98	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	24359.800	24359.800	ppb	1.7	165066010.67	50000	
Al	27	45	No Gas	1.177	1.177	ppb	9.6	62118.73	50000	
Si	28	45	H2	5617.482	5617.482	ppb	0.7	6451552.17	5000	>LDR
P	31	45	No Gas	134.357	134.357	ppb	0.8	113824.01	500	
K	39	45	He	68109.195	68109.195	ppb	7.4	37357529.33	50000	>LDR
Ca	40	45	H2	414317.618	414317.618	ppb	1.1	3415341653.33	50000	>LDR
Ti	47	45	No Gas	0.535	0.535	ppb	6.4	931.37	500	
V	51	45	He	0.032	0.032	ppb	74.5	1507.42	500	
Cr	52	45	He	0.162	0.162	ppb	14.5	2787.62	500	
Mn	55	45	No Gas	1348.606	1348.606	ppb	0.9	26370416.67	3000	
Fe	56	45	H2	1248.023	1248.023	ppb	0.8	15738431.33	50000	
Co	59	45	No Gas	0.262	0.262	ppb	3.1	5679.19	500	
Ni	60	45	He	0.101	0.101	ppb	9.5	468.01	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1126.05	500	
Zn	66	72	No Gas	0.752	0.752	ppb	31.8	7760.24	500	
As	75	72	He	9.699	9.699	ppb	3.7	9273.51	500	
Se	78	72	H2	0.320	0.320	ppb	21.6	149.00	500	
Sr	88	72	No Gas	9448.950	9448.950	ppb	0.9	210852373.84	500	>LDR
Zr	90	72	No Gas	0.154	0.154	ppb	4.7	2523.58	50	
Mo	95	115	No Gas	48.831	48.831	ppb	1.9	192839.91	500	
Ag	107	115	No Gas	0.012	0.012	ppb	2.9	263.34	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	81.83	500	
Sn	118	115	No Gas	0.925	0.925	ppb	14.4	6501.64	500	
Sb	123	115	No Gas	0.100	0.100	ppb	4.3	917.81	100	
Ba	137	115	No Gas	67.215	67.215	ppb	0.3	209403.66	1000	
W	182	159	No Gas	0.344	0.344	ppb	6.3	2900.34	50	
Hg	201	159	No Gas	0.002	0.002	ppb	50.2	20.83	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	7.33	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	1212.28	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	2025.63	500	
U	238	159	No Gas	0.227	0.227	ppb	1.9	6905.29	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	860834.20	2.8	913794.78	94.2	70	120	
Sc	45	No Gas	3599119.08	3.0	3551284.17	101.35	70	120	
Sc	45	H2	2844177.75	0.8	3058687.42	92.99	70	120	
Sc	45	He	434368.07	6.8	465177.56	93.38	70	120	
Ge	72	No Gas	842410.79	3.8	813952.92	103.5	70	120	
Ge	72	H2	771834.96	0.4	802203.96	96.21	70	120	
Ge	72	He	264825.24	3.9	263530.43	100.49	70	120	
In	115	No Gas	4379993.16	1.6	4878774.56	89.78	70	120	
Tb	159	No Gas	6494463.63	0.9	7160929.99	90.69	70	120	
Tb	159	He	4409971.58	6.1	5763662.17	76.51	70	120	

Sample Report

Sample Name	L237-07
File Name	H6A22057.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 14:47:32
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	362.161	362.161	ppb	2.5	1753924.76	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	71.11	50	
B	11	6	No Gas	1309.557	1309.557	ppb	2.0	1404135.85	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	85525.790	85525.790	ppb	1.8	620999402.67	50000	>LDR
Al	27	45	No Gas	2.500	2.500	ppb	6.7	79336.53	50000	
Si	28	45	H2	19840.897	19840.897	ppb	22.6	21572530.67	5000	>LDR
P	31	45	No Gas	18.580	18.580	ppb	5.4	51461.73	500	
K	39	45	He	13711.196	13711.196	ppb	1.5	8169566.00	50000	
Ca	40	45	H2	177638.156	177638.156	ppb	22.9	1387003434.67	50000	>LDR
Ti	47	45	No Gas	0.853	0.853	ppb	3.7	1420.74	500	
V	51	45	He	3.253	3.253	ppb	0.3	18609.28	500	
Cr	52	45	He	0.222	0.222	ppb	1.1	3350.41	500	
Mn	55	45	No Gas	697.743	697.743	ppb	2.3	14634354.33	3000	
Fe	56	45	H2	7.106	7.106	ppb	45.1	171734.42	50000	
Co	59	45	No Gas	0.420	0.420	ppb	2.2	8825.53	500	
Ni	60	45	He	0.793	0.793	ppb	2.7	1937.48	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	2076.83	500	
Zn	66	72	No Gas	1.781	1.781	ppb	2.7	10532.76	500	
As	75	72	He	3.324	3.324	ppb	2.8	3263.06	500	
Se	78	72	H2	0.411	0.411	ppb	26.9	167.00	500	
Sr	88	72	No Gas	3939.193	3939.193	ppb	0.5	89743023.10	500	>LDR
Zr	90	72	No Gas	0.005	0.005	ppb	57.3	360.01	50	
Mo	95	115	No Gas	49.686	49.686	ppb	1.0	209830.37	500	
Ag	107	115	No Gas	0.010	0.010	ppb	36.7	263.34	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	50.96	500	
Sn	118	115	No Gas	0.000	0.000	ppb	3481.7	1191.17	500	
Sb	123	115	No Gas	0.093	0.093	ppb	10.4	927.81	100	
Ba	137	115	No Gas	41.775	41.775	ppb	0.4	139403.74	1000	
W	182	159	No Gas	2.185	2.185	ppb	0.6	18820.74	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	17.17	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	10.50	5	
Tl	205	159	No Gas	0.813	0.813	ppb	0.4	16381.88	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	2115.63	500	
U	238	159	No Gas	2.496	2.496	ppb	1.6	68545.85	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	953852.50	1.4	913794.78	104.38	70	120	
Sc	45	No Gas	3858597.25	0.8	3551284.17	108.65	70	120	
Sc	45	H2	2775858.33	19.4	3058687.42	90.75	70	120	
Sc	45	He	466581.51	0.4	465177.56	100.3	70	120	
Ge	72	No Gas	859999.19	1.4	813952.92	105.66	70	120	
Ge	72	H2	720709.23	13.1	802203.96	89.84	70	120	
Ge	72	He	264061.33	0.2	263530.43	100.2	70	120	
In	115	No Gas	4684760.89	1.2	4878774.56	96.02	70	120	
Tb	159	No Gas	6842584.87	0.5	7160929.99	95.55	70	120	
Tb	159	He	5019038.17	0.8	5763662.17	87.08	70	120	

Sample Report

Sample Name	L237-09
File Name	H6A22058.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:05:49
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	730.807	730.807	ppb	0.9	3305803.76	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	32.22	50	
B	11	6	No Gas	1749.821	1749.821	ppb	1.7	1780073.75	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	16561.342	16561.342	ppb	2.0	116786552.00	50000	
Al	27	45	No Gas	0.040	0.040	ppb	451.5	53957.86	50000	
Si	28	45	H2	13710.745	13710.745	ppb	2.6	16308425.00	5000	>LDR
P	31	45	No Gas	11.951	11.951	ppb	14.9	46030.15	500	
K	39	45	He	20594.934	20594.934	ppb	2.4	13196326.33	50000	
Ca	40	45	H2	144085.745	144085.745	ppb	3.9	1230903680.00	50000	>LDR
Ti	47	45	No Gas	0.538	0.538	ppb	1.0	972.70	500	
V	51	45	He	1.062	1.062	ppb	6.4	7610.11	500	
Cr	52	45	He	0.112	0.112	ppb	19.9	2918.98	500	
Mn	55	45	No Gas	57.598	57.598	ppb	2.1	1186635.21	3000	
Fe	56	45	H2	2.508	2.508	ppb	14.4	127984.19	50000	
Co	59	45	No Gas	0.088	0.088	ppb	8.0	2954.32	500	
Ni	60	45	He	0.095	0.095	ppb	17.9	528.68	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1358.74	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	5221.68	500	
As	75	72	He	2.402	2.402	ppb	2.0	2590.25	500	
Se	78	72	H2	0.288	0.288	ppb	13.3	138.33	500	
Sr	88	72	No Gas	3165.236	3165.236	ppb	1.3	71828012.70	500	>LDR
Zr	90	72	No Gas	0.004	0.004	ppb	29.8	353.34	50	
Mo	95	115	No Gas	55.728	55.728	ppb	2.0	245848.41	500	
Ag	107	115	No Gas	0.007	0.007	ppb	55.0	241.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	44.50	500	
Sn	118	115	No Gas	0.029	0.029	ppb	39.3	1428.97	500	
Sb	123	115	No Gas	0.043	0.043	ppb	10.7	576.68	100	
Ba	137	115	No Gas	39.941	39.941	ppb	2.5	139256.58	1000	
W	182	159	No Gas	1.010	1.010	ppb	3.8	9603.67	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	20.00	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	8.33	5	
Tl	205	159	No Gas	0.468	0.468	ppb	4.0	10979.27	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1436.71	500	
U	238	159	No Gas	10.940	10.940	ppb	4.7	324907.71	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	906216.89	4.3	913794.78	99.17	70	120	
Sc	45	No Gas	3748012.25	5.4	3551284.17	105.54	70	120	
Sc	45	H2	2948967.42	2.9	3058687.42	96.41	70	120	
Sc	45	He	503599.90	2.6	465177.56	108.26	70	120	
Ge	72	No Gas	856965.19	4.6	813952.92	105.28	70	120	
Ge	72	H2	776742.86	2.5	802203.96	96.83	70	120	
Ge	72	He	285471.90	2.2	263530.43	108.33	70	120	
In	115	No Gas	4896803.19	3.6	4878774.56	100.37	70	120	
Tb	159	No Gas	7507174.70	4.2	7160929.99	104.84	70	120	
Tb	159	He	5841416.00	2.4	5763662.17	101.35	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV5
File Name	H6A22059.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:35:42
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	25.744	ppb	1.4	193696.04	25	102.98	90	110	
Be	9	6	No Gas	25.235	ppb	1.6	44227.22	25	100.94	90	110	
B	11	6	No Gas	53.935	ppb	1.8	70934.04	50	107.87	90	110	
Na	23	45	H2	26152.893	ppb	0.5	93189946.67	25000	104.61	90	110	
Mg	24	45	No Gas	25637.010	ppb	2.6	194812128.00	25000	102.55	90	110	
Al	27	45	No Gas	25953.147	ppb	1.5	261967269.43	25000	103.81	90	110	
Si	28	45	H2	2639.325	ppb	2.0	3264083.17	2500	105.57	90	110	
P	31	45	No Gas	248.897	ppb	2.6	200744.33	250	99.56	90	110	
K	39	45	He	25607.757	ppb	0.5	14867061.33	25000	102.43	90	110	
Ca	40	45	H2	25625.963	ppb	1.2	227556496.00	25000	102.5	90	110	
Ti	47	45	No Gas	254.783	ppb	1.9	355563.66	250	101.91	90	110	
V	51	45	He	258.601	ppb	0.7	1335991.25	250	103.44	90	110	
Cr	52	45	He	261.054	ppb	1.5	1502054.71	250	104.42	90	110	
Mn	55	45	No Gas	1545.056	ppb	2.4	33887284.67	1500	103	90	110	
Fe	56	45	H2	25747.044	ppb	0.6	347280640.00	25000	102.99	90	110	
Co	59	45	No Gas	259.716	ppb	2.8	4733494.33	250	103.89	90	110	
Ni	60	45	He	263.160	ppb	2.1	534757.04	250	105.26	90	110	
Cu	63	45	He	264.661	ppb	1.7	1376973.12	250	105.86	90	110	
Zn	66	72	No Gas	259.271	ppb	2.8	718579.17	250	103.71	90	110	
As	75	72	He	251.883	ppb	0.3	244489.69	250	100.75	90	110	
Se	78	72	H2	255.062	ppb	0.7	99611.16	250	102.02	90	110	
Sr	88	72	No Gas	265.011	ppb	2.0	6502053.49	250	106	90	110	
Zr	90	72	No Gas	26.652	ppb	1.9	427848.90	25	106.61	90	110	
Mo	95	115	No Gas	254.723	ppb	4.7	1252518.32	250	101.89	90	110	
Ag	107	115	No Gas	25.623	ppb	5.7	306169.90	25	102.49	90	110	
Cd	111	115	No Gas	253.193	ppb	6.5	614582.64	250	101.28	90	110	
Sn	118	115	No Gas	256.411	ppb	5.9	1860659.93	250	102.56	90	110	
Sb	123	115	No Gas	50.916	ppb	6.2	449148.25	50	101.83	90	110	
Ba	137	115	No Gas	527.849	ppb	5.8	2045067.49	500	105.57	90	110	
W	182	159	No Gas	25.866	ppb	6.4	274302.40	25	103.46	90	110	
Hg	201	159	No Gas	2.590	ppb	7.0	4509.65	2.5	103.6	90	110	
Hg	201	159	He	2.571	ppb	2.1	3474.31	2.5	102.84	90	110	
Tl	205	159	No Gas	268.163	ppb	7.4	6128189.90	250	107.27	90	110	
Pb	208	159	No Gas	267.086	ppb	7.4	8459418.08	250	106.83	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	270.062	ppb	8.1	9021785.75	250	108.02	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1040061.74	3.1	913794.78	113.82	70	120	
Sc	45	No Gas	4039778.50	3.7	3551284.17	113.76	70	120	
Sc	45	H2	3059029.00	0.7	3058687.42	100.01	70	120	
Sc	45	He	456706.53	1.2	465177.56	98.18	70	120	
Ge	72	No Gas	926180.15	3.7	813952.92	113.79	70	120	
Ge	72	H2	826249.79	0.6	802203.96	103	70	120	
Ge	72	He	272526.84	0.4	263530.43	103.41	70	120	
In	115	No Gas	5469691.72	5.8	4878774.56	112.11	70	120	
Tb	159	No Gas	8495494.11	7.1	7160929.99	118.64	70	120	
Tb	159	He	6098597.83	1.4	5763662.17	105.81	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB5
File Name	H6A22060.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:43:59
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.551	ppb	28.6	59710.81	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	28.89	0.08	
B	11	6	No Gas	3.675	ppb	19.5	11470.25	4	
Na	23	45	H2	194.812	ppb	7.4	1470289.21	40	>LOD
Mg	24	45	No Gas	<0.000	ppb	N/A	29670.27	10	
Al	27	45	No Gas	<0.000	ppb	N/A	8849.65	15	
Si	28	45	H2	<0.000	ppb	N/A	4361.36	8	
P	31	45	No Gas	1.048	ppb	310.6	38448.01	10	
K	39	45	He	11.363	ppb	50.0	86456.12	20	
Ca	40	45	H2	<0.000	ppb	N/A	144451.55	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	192.00	0.5	
V	51	45	He	<0.000	ppb	N/A	1224.06	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1331.40	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	7464.70	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	19834.38	10	
Co	59	45	No Gas	<0.000	ppb	N/A	378.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	119.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2014.15	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	1819.46	2	
As	75	72	He	<0.000	ppb	N/A	109.33	0.2	
Se	78	72	H2	<0.000	ppb	N/A	26.67	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	1334.51	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	126.67	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	101.11	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	116.67	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	47.30	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1016.71	0.2	
Sb	123	115	No Gas	<0.000	ppb	N/A	238.89	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	138.89	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	103.33	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	17.33	0.1	
Hg	201	159	He	<0.000	ppb	N/A	12.17	0.1	
Tl	205	159	No Gas	<0.000	ppb	N/A	770.03	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1474.49	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	136.67	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	954676.62	2.7	913794.78	104.47	70	120	
Sc	45	No Gas	3644950.25	6.1	3551284.17	102.64	70	120	
Sc	45	H2	3036796.25	2.9	3058687.42	99.28	70	120	
Sc	45	He	462907.76	0.6	465177.56	99.51	70	120	
Ge	72	No Gas	833040.19	5.6	813952.92	102.35	70	120	
Ge	72	H2	794345.21	2.4	802203.96	99.02	70	120	
Ge	72	He	265910.15	0.5	263530.43	100.9	70	120	
In	115	No Gas	5234669.64	4.9	4878774.56	107.29	70	120	
Tb	159	No Gas	7810492.75	4.0	7160929.99	109.07	70	120	
Tb	159	He	6203622.00	0.3	5763662.17	107.63	70	120	

Sample Report

Sample Name	L237-11
File Name	H6A22061.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:46:35
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	925.302	925.302	ppb	8.3	3775456.87	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	24.44	50	
B	11	6	No Gas	2609.565	2609.565	ppb	9.1	2396458.79	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	4441.628	4441.628	ppb	11.3	30113028.00	50000	
Al	27	45	No Gas	1.632	1.632	ppb	57.3	65997.20	50000	
Si	28	45	H2	8947.575	8947.575	ppb	1.8	10391655.00	5000	>LDR
P	31	45	No Gas	16.602	16.602	ppb	44.1	46840.99	500	
K	39	45	He	33021.820	33021.820	ppb	0.5	19051862.67	50000	
Ca	40	45	H2	121954.144	121954.144	ppb	1.0	1017371456.00	50000	>LDR
Ti	47	45	No Gas	0.502	0.502	ppb	24.6	884.70	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1142.71	500	
Cr	52	45	He	0.178	0.178	ppb	7.6	3010.33	500	
Mn	55	45	No Gas	365.886	365.886	ppb	10.1	7156020.83	3000	
Fe	56	45	H2	142.100	142.100	ppb	0.9	1895586.71	50000	
Co	59	45	No Gas	0.046	0.046	ppb	31.9	2158.17	500	
Ni	60	45	He	0.012	0.012	ppb	143.0	309.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	985.37	500	
Zn	66	72	No Gas	4.084	4.084	ppb	11.0	15921.40	500	
As	75	72	He	0.978	0.978	ppb	1.4	1065.04	500	
Se	78	72	H2	0.142	0.142	ppb	15.7	84.00	500	
Sr	88	72	No Gas	3063.445	3063.445	ppb	8.7	67501166.21	500	>LDR
Zr	90	72	No Gas	0.051	0.051	ppb	33.8	1016.71	50	
Mo	95	115	No Gas	110.901	110.901	ppb	11.6	466261.96	500	
Ag	107	115	No Gas	0.004	0.004	ppb	129.8	202.23	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	29.56	500	
Sn	118	115	No Gas	0.319	0.319	ppb	21.5	3162.61	500	
Sb	123	115	No Gas	0.083	0.083	ppb	32.4	840.03	100	
Ba	137	115	No Gas	39.289	39.289	ppb	11.9	130616.70	1000	
W	182	159	No Gas	2.468	2.468	ppb	11.2	22222.95	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	19.17	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	503.35	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1948.95	500	
U	238	159	No Gas	0.639	0.639	ppb	11.1	19262.93	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	824277.53	13.0	913794.78	90.2	70	120	
Sc	45	No Gas	3625756.42	14.0	3551284.17	102.1	70	120	
Sc	45	H2	2877759.25	1.6	3058687.42	94.08	70	120	
Sc	45	He	454398.83	0.9	465177.56	97.68	70	120	
Ge	72	No Gas	836759.69	11.3	813952.92	102.8	70	120	
Ge	72	H2	769980.27	2.5	802203.96	95.98	70	120	
Ge	72	He	265707.78	1.5	263530.43	100.83	70	120	
In	115	No Gas	4713972.27	13.4	4878774.56	96.62	70	120	
Tb	159	No Gas	7230944.16	13.6	7160929.99	100.98	70	120	
Tb	159	He	5007086.33	0.6	5763662.17	86.87	70	120	

Sample Report

Sample Name	L237-14
File Name	H6A22063.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:51:46
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	707.558	707.558	ppb	3.3	3281434.45	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	31.11	50	
B	11	6	No Gas	2800.511	2800.511	ppb	5.4	2911454.81	100	>LDR
Na	23	45	H2	OR	OR	ppb	OR	OR	50000	
Mg	24	45	No Gas	3847.817	3847.817	ppb	3.4	27702813.33	50000	
Al	27	45	No Gas	5.314	5.314	ppb	12.9	105485.09	50000	
Si	28	45	H2	8144.287	8144.287	ppb	0.5	9032695.33	5000	>LDR
P	31	45	No Gas	201.568	201.568	ppb	7.2	161045.89	500	
K	39	45	He	29589.498	29589.498	ppb	0.5	16661712.67	50000	
Ca	40	45	H2	74190.829	74190.829	ppb	0.6	591101589.33	50000	>LDR
Ti	47	45	No Gas	0.432	0.432	ppb	3.7	850.70	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1120.71	500	
Cr	52	45	He	0.062	0.062	ppb	42.5	2287.53	500	
Mn	55	45	No Gas	184.297	184.297	ppb	3.6	3834901.50	3000	
Fe	56	45	H2	179.559	179.559	ppb	0.6	2263607.00	50000	
Co	59	45	No Gas	0.005	0.005	ppb	52.1	1594.76	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	265.33	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	863.36	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	3535.80	500	
As	75	72	He	10.909	10.909	ppb	0.6	10091.43	500	
Se	78	72	H2	0.130	0.130	ppb	37.3	76.33	500	
Sr	88	72	No Gas	1889.655	1889.655	ppb	2.4	43049113.84	500	>LDR
Zr	90	72	No Gas	0.419	0.419	ppb	1.6	6531.62	50	
Mo	95	115	No Gas	194.746	194.746	ppb	3.1	832783.61	500	
Ag	107	115	No Gas	0.006	0.006	ppb	18.7	223.34	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	40.46	500	
Sn	118	115	No Gas	0.129	0.129	ppb	21.5	2021.27	500	
Sb	123	115	No Gas	0.043	0.043	ppb	16.6	560.01	100	
Ba	137	115	No Gas	97.469	97.469	ppb	1.8	329120.25	1000	
W	182	159	No Gas	3.606	3.606	ppb	3.2	32067.46	50	
Hg	201	159	No Gas	0.003	0.003	ppb	149.1	23.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	9.50	5	
Ti	205	159	No Gas	<0.000	<0.000	ppb	N/A	307.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1406.70	500	
U	238	159	No Gas	0.392	0.392	ppb	0.9	12143.82	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	928422.46	4.3	913794.78	101.6	70	120	
Sc	45	No Gas	3817639.50	4.1	3551284.17	107.5	70	120	
Sc	45	H2	2747481.00	0.2	3058687.42	89.83	70	120	
Sc	45	He	443248.94	1.6	465177.56	95.29	70	120	
Ge	72	No Gas	859673.33	2.9	813952.92	105.62	70	120	
Ge	72	H2	738966.54	0.2	802203.96	92.12	70	120	
Ge	72	He	256418.55	1.5	263530.43	97.3	70	120	
In	115	No Gas	4750041.91	4.4	4878774.56	97.36	70	120	
Tb	159	No Gas	7083221.80	6.2	7160929.99	98.91	70	120	
Tb	159	He	4835126.67	2.1	5763662.17	83.89	70	120	

Sample Report

Sample Name	L237-15
File Name	H6A22064.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:54:22
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	163.809	163.809	ppb	3.4	946670.31	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	24.44	50	
B	11	6	No Gas	575.343	575.343	ppb	6.1	711968.01	100	>LDR
Na	23	45	H2	352313.797	352313.797	ppb	0.6	1213017685.33	50000	>LDR
Mg	24	45	No Gas	2044.480	2044.480	ppb	2.2	16102239.67	50000	
Al	27	45	No Gas	3.716	3.716	ppb	13.6	98165.39	50000	
Si	28	45	H2	11706.904	11706.904	ppb	0.3	14076237.67	5000	>LDR
P	31	45	No Gas	142.043	142.043	ppb	7.5	136587.80	500	
K	39	45	He	7539.219	7539.219	ppb	13.8	4667850.67	50000	
Ca	40	45	H2	17539.178	17539.178	ppb	0.4	151824122.67	50000	
Ti	47	45	No Gas	0.510	0.510	ppb	8.2	1042.71	500	
V	51	45	He	0.088	0.088	ppb	68.8	1978.14	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	2060.16	500	
Mn	55	45	No Gas	58.593	58.593	ppb	1.4	1342237.29	3000	
Fe	56	45	H2	24.794	24.794	ppb	0.6	422087.18	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	636.01	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	174.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1385.41	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	3829.21	500	
As	75	72	He	23.836	23.836	ppb	12.2	23843.35	500	
Se	78	72	H2	0.008	0.008	ppb	110.3	36.67	500	
Sr	88	72	No Gas	347.205	347.205	ppb	1.1	8537319.94	500	
Zr	90	72	No Gas	0.010	0.010	ppb	48.8	470.01	50	
Mo	95	115	No Gas	13.520	13.520	ppb	2.7	64700.24	500	
Ag	107	115	No Gas	0.006	0.006	ppb	34.8	247.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	16.51	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	687.80	500	
Sb	123	115	No Gas	0.009	0.009	ppb	31.0	326.67	100	
Ba	137	115	No Gas	116.316	116.316	ppb	1.2	437032.14	1000	
W	182	159	No Gas	1.174	1.174	ppb	4.4	11705.46	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	15.67	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	10.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	328.89	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1598.93	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	452.23	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1096142.26	6.8	913794.78	119.95	70	120	
Sc	45	No Gas	4166158.58	4.9	3551284.17	117.31	70	120	
Sc	45	H2	2979389.08	1.9	3058687.42	97.41	70	120	
Sc	45	He	486777.98	13.3	465177.56	104.64	70	120	
Ge	72	No Gas	927862.33	3.6	813952.92	113.99	70	120	
Ge	72	H2	798232.92	1.7	802203.96	99.5	70	120	
Ge	72	He	281707.09	10.6	263530.43	106.9	70	120	
In	115	No Gas	5288713.37	3.8	4878774.56	108.4	70	120	
Tb	159	No Gas	7886041.91	4.5	7160929.99	110.13	70	120	
Tb	159	He	5904372.83	12.3	5763662.17	102.44	70	120	

Sample Report

Sample Name	L237-16
File Name	H6A22065.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:56:57
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	164.798	164.798	ppb	1.2	912261.30	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	35.56	50	
B	11	6	No Gas	563.340	563.340	ppb	0.9	668908.34	100	>LDR
Na	23	45	H2	356827.125	356827.125	ppb	0.8	1301225770.67	50000	>LDR
Mg	24	45	No Gas	2011.349	2011.349	ppb	2.1	15319349.67	50000	
Al	27	45	No Gas	4.289	4.289	ppb	7.8	100849.58	50000	
Si	28	45	H2	11606.546	11606.546	ppb	0.7	14780746.33	5000	>LDR
P	31	45	No Gas	138.802	138.802	ppb	4.1	130029.66	500	
K	39	45	He	8058.061	8058.061	ppb	1.3	4929542.83	50000	
Ca	40	45	H2	17696.834	17696.834	ppb	0.4	162226805.33	50000	
Ti	47	45	No Gas	0.543	0.543	ppb	7.2	1050.71	500	
V	51	45	He	0.111	0.111	ppb	15.2	2084.83	500	
Cr	52	45	He	0.071	0.071	ppb	42.1	2512.90	500	
Mn	55	45	No Gas	58.590	58.590	ppb	1.8	1297829.79	3000	
Fe	56	45	H2	26.780	26.780	ppb	0.7	474637.50	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	614.68	500	
Ni	60	45	He	<0.000	<0.000	ppb	N/A	234.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1512.08	500	
Zn	66	72	No Gas	<0.000	<0.000	ppb	N/A	3660.49	500	
As	75	72	He	24.067	24.067	ppb	0.5	23932.49	500	
Se	78	72	H2	<0.000	<0.000	ppb	N/A	32.67	500	
Sr	88	72	No Gas	353.802	353.802	ppb	3.4	8441363.83	500	
Zr	90	72	No Gas	0.012	0.012	ppb	26.1	483.34	50	
Mo	95	115	No Gas	13.342	13.342	ppb	1.5	63034.86	500	
Ag	107	115	No Gas	0.004	0.004	ppb	24.4	225.56	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	6.45	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	661.13	500	
Sb	123	115	No Gas	0.012	0.012	ppb	21.3	347.78	100	
Ba	137	115	No Gas	118.160	118.160	ppb	0.5	438405.45	1000	
W	182	159	No Gas	1.160	1.160	ppb	1.9	11568.68	50	
Hg	201	159	No Gas	<0.000	<0.000	ppb	N/A	17.00	5	
Hg	201	159	He	<0.000	<0.000	ppb	N/A	11.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	341.11	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1671.17	500	
U	238	159	No Gas	<0.000	<0.000	ppb	N/A	502.23	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1049157.17	6.3	913794.78	114.81	70	120	
Sc	45	No Gas	4025635.25	4.3	3551284.17	113.36	70	120	
Sc	45	H2	3155426.92	0.2	3058687.42	103.16	70	120	
Sc	45	He	475751.18	0.3	465177.56	102.27	70	120	
Ge	72	No Gas	899516.56	4.5	813952.92	110.51	70	120	
Ge	72	H2	835255.39	0.7	802203.96	104.12	70	120	
Ge	72	He	277657.32	0.5	263530.43	105.36	70	120	
In	115	No Gas	5220583.10	6.0	4878774.56	107.01	70	120	
Tb	159	No Gas	7885480.24	6.5	7160929.99	110.12	70	120	
Tb	159	He	6119932.33	0.5	5763662.17	106.18	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV6
File Name	H6A22066.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 15:59:34
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.767	ppb	5.6	216940.06	25	99.07	90	110	
Be	9	6	No Gas	23.495	ppb	4.7	47327.23	25	93.98	90	110	
B	11	6	No Gas	69.182	ppb	8.2	101746.77	50	138.36	90	110	> +/- 10%
Na	23	45	H2	27114.996	ppb	4.5	95802266.67	25000	108.46	90	110	
Mg	24	45	No Gas	24857.462	ppb	6.0	208255178.67	25000	99.43	90	110	
Al	27	45	No Gas	24521.291	ppb	4.3	273000522.60	25000	98.09	90	110	
Si	28	45	H2	2702.637	ppb	4.4	3315278.00	2500	108.11	90	110	
P	31	45	No Gas	232.909	ppb	7.1	210068.52	250	93.16	90	110	
K	39	45	He	25184.653	ppb	0.6	15055440.00	25000	100.74	90	110	
Ca	40	45	H2	26053.137	ppb	5.3	229405408.00	25000	104.21	90	110	
Ti	47	45	No Gas	232.352	ppb	5.8	357478.78	250	92.94	90	110	
V	51	45	He	248.962	ppb	0.5	1324324.29	250	99.58	90	110	
Cr	52	45	He	251.064	ppb	0.5	1487541.63	250	100.43	90	110	
Mn	55	45	No Gas	1386.447	ppb	5.8	33524596.67	1500	92.43	90	110	
Fe	56	45	H2	25999.289	ppb	5.3	347745621.33	25000	104	90	110	
Co	59	45	No Gas	233.434	ppb	6.0	4690472.33	250	93.37	90	110	
Ni	60	45	He	252.203	ppb	0.5	527748.81	250	100.88	90	110	
Cu	63	45	He	250.649	ppb	0.7	1342980.92	250	100.26	90	110	
Zn	66	72	No Gas	239.261	ppb	4.6	704559.60	250	95.7	90	110	
As	75	72	He	248.895	ppb	0.7	244634.54	250	99.56	90	110	
Se	78	72	H2	257.889	ppb	3.0	100270.93	250	103.16	90	110	
Sr	88	72	No Gas	245.120	ppb	4.7	6382990.16	250	98.05	90	110	
Zr	90	72	No Gas	24.299	ppb	5.7	413935.05	25	97.2	90	110	
Mo	95	115	No Gas	231.201	ppb	6.8	1212440.89	250	92.48	90	110	
Ag	107	115	No Gas	23.409	ppb	6.8	298403.96	25	93.64	90	110	
Cd	111	115	No Gas	232.885	ppb	7.3	603058.80	250	93.15	90	110	
Sn	118	115	No Gas	234.237	ppb	7.7	1812614.86	250	93.69	90	110	
Sb	123	115	No Gas	46.460	ppb	6.9	437284.80	50	92.92	90	110	
Ba	137	115	No Gas	479.509	ppb	6.9	1981981.87	500	95.9	90	110	
W	182	159	No Gas	23.734	ppb	7.8	265519.50	25	94.94	90	110	
Hg	201	159	No Gas	2.403	ppb	5.3	4421.78	2.5	96.12	90	110	
Hg	201	159	He	2.510	ppb	0.8	3469.48	2.5	100.4	90	110	
Tl	205	159	No Gas	245.897	ppb	5.9	5934869.35	250	98.36	90	110	
Pb	208	159	No Gas	245.284	ppb	6.7	8203205.20	250	98.11	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	247.051	ppb	7.8	8713009.66	250	98.82	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1197151.12	6.3	913794.78	131.01	70	120	ISTD Failed
Sc	45	No Gas	4462108.67	6.5	3551284.17	125.65	70	120	ISTD Failed
Sc	45	H2	3038117.08	4.6	3058687.42	99.33	70	120	
Sc	45	He	470209.02	0.3	465177.56	101.08	70	120	
Ge	72	No Gas	984288.65	5.7	813952.92	120.93	70	120	ISTD Failed
Ge	72	H2	822976.21	2.4	802203.96	102.59	70	120	
Ge	72	He	275963.38	0.4	263530.43	104.72	70	120	
In	115	No Gas	5842917.51	7.7	4878774.56	119.76	70	120	
Tb	159	No Gas	8972140.48	8.1	7160929.99	125.29	70	120	ISTD Failed
Tb	159	He	6235720.00	0.9	5763662.17	108.19	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB6
File Name	H6A22067.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 16:02:11
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.698	ppb	23.1	75402.95	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	44.45	0.08	
B	11	6	No Gas	13.170	ppb	5.4	26979.18	4	>LOD
Na	23	45	H2	444.741	ppb	2.1	2404467.17	40	>LOD
Mg	24	45	No Gas	<0.000	ppb	N/A	36917.51	10	
Al	27	45	No Gas	<0.000	ppb	N/A	22622.04	15	
Si	28	45	H2	<0.000	ppb	N/A	7450.00	8	
P	31	45	No Gas	<0.000	ppb	N/A	41271.17	10	
K	39	45	He	42.031	ppb	11.3	100779.79	20	>LOD
Ca	40	45	H2	<0.000	ppb	N/A	164432.08	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	239.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1353.40	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1383.40	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	9968.97	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	37639.02	10	
Co	59	45	No Gas	<0.000	ppb	N/A	672.02	0.15	
Ni	60	45	He	<0.000	ppb	N/A	120.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2242.19	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	1982.15	2	
As	75	72	He	0.022	ppb	28.6	155.00	0.2	
Se	78	72	H2	0.023	ppb	54.9	43.00	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	2326.87	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	166.67	2	
Mo	95	115	No Gas	<0.000	ppb	N/A	287.78	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	160.00	0.08	
Cd	111	115	No Gas	<0.000	ppb	N/A	110.16	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	1451.19	0.2	
Sb	123	115	No Gas	0.000	ppb	1718.9	278.89	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	302.23	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	120.00	0.3	
Hg	201	159	No Gas	0.009	ppb	11.6	41.50	0.1	
Hg	201	159	He	0.002	ppb	124.5	21.17	0.1	
Tl	205	159	No Gas	0.019	ppb	116.3	2200.20	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	2815.68	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	852.25	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1191941.05	1.5	913794.78	130.44	70	120	ISTD Failed
Sc	45	No Gas	4234463.42	1.6	3551284.17	119.24	70	120	
Sc	45	H2	3110298.92	0.9	3058687.42	101.69	70	120	
Sc	45	He	446801.12	0.6	465177.56	96.05	70	120	
Ge	72	No Gas	919222.69	2.0	813952.92	112.93	70	120	
Ge	72	H2	813218.39	0.9	802203.96	101.37	70	120	
Ge	72	He	256541.76	0.5	263530.43	97.35	70	120	
In	115	No Gas	5783691.41	1.8	4878774.56	118.55	70	120	
Tb	159	No Gas	8703795.21	1.7	7160929.99	121.55	70	120	ISTD Failed
Tb	159	He	5772657.33	1.5	5763662.17	100.16	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A22115.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 18:07:13
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.916	ppb	9.5	60205.96	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	48.89	0.4	-50	50	
B	11	6	No Gas	6.775	ppb	7.2	14490.79	10	-50	50	> +/- 20%
Na	23	45	H2	112654.231	ppb	1.8	387643445.33	100000	80	120	
Mg	24	45	No Gas	109305.239	ppb	0.1	752503680.00	100000	80	120	
Al	27	45	No Gas	109786.207	ppb	1.4	1004021771.70	100000	80	120	
Si	28	45	H2	4.011	ppb	8.3	12230.12	50	-50	50	
P	31	45	No Gas	116314.228	ppb	0.3	67252030.67	100000	80	120	
K	39	45	He	109248.360	ppb	0.4	61616796.00	100000	80	120	
Ca	40	45	H2	111929.055	ppb	0.6	964667008.00	100000	80	120	
Ti	47	45	No Gas	2260.143	ppb	0.3	2856092.67	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1181.38	1	-50	50	
Cr	52	45	He	2.278	ppb	0.3	14723.24	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.226	ppb	9.0	19634.08	1	-50	50	
Fe	56	45	H2	111380.494	ppb	1.1	1458957696.00	100000	80	120	
Co	59	45	No Gas	0.110	ppb	2.0	3251.05	0.75	-50	50	
Ni	60	45	He	0.437	ppb	5.2	1144.72	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2052.16	2	-50	50	
Zn	66	72	No Gas	3.129	ppb	3.8	13859.76	20	-50	50	
As	75	72	He	0.040	ppb	41.3	175.00	1	-50	50	
Se	78	72	H2	0.082	ppb	39.5	63.67	1	-50	50	
Sr	88	72	No Gas	0.914	ppb	0.4	23084.37	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.146	ppb	4.9	2443.57	10	-50	50	
Mo	95	115	No Gas	2241.853	ppb	1.3	9913528.21	2000	80	120	
Ag	107	115	No Gas	0.075	ppb	3.8	976.70	0.4	-50	50	
Cd	111	115	No Gas	0.033	ppb	166.3	191.72	1	-50	50	
Sn	118	115	No Gas	0.032	ppb	34.0	1453.41	1	-50	50	
Sb	123	115	No Gas	0.061	ppb	8.4	716.69	1	-50	50	
Ba	137	115	No Gas	0.616	ppb	2.6	2699.17	1	-50	50	> +/- 20%
W	182	159	No Gas	0.149	ppb	5.9	1583.44	1	-50	50	
Hg	201	159	No Gas	0.002	ppb	72.4	25.33	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	19.67	0.5	-50	50	
Tl	205	159	No Gas	<0.000	ppb	N/A	701.13	0.5	-50	50	
Pb	208	159	No Gas	<0.000	ppb	N/A	2659.00	0.5	-50	50	

TH 1/31/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	821.14	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	935700.77	1.7	913794.78	102.4	70	120	
Sc	45	No Gas	3658920.50	1.8	3551284.17	103.03	70	120	
Sc	45	H2	2972186.50	4.2	3058687.42	97.17	70	120	
Sc	45	He	445469.48	0.9	465177.56	95.76	70	120	
Ge	72	No Gas	852771.42	1.9	813952.92	104.77	70	120	
Ge	72	H2	792774.71	3.3	802203.96	98.82	70	120	
Ge	72	He	261345.09	0.4	263530.43	99.17	70	120	
In	115	No Gas	4912244.19	1.8	4878774.56	100.69	70	120	
Tb	159	No Gas	7806850.52	1.9	7160929.99	109.02	70	120	
Tb	159	He	6089361.50	0.3	5763662.17	105.65	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A22116.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A22.b
Acq Time	2023-01-30 18:09:51
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A22003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Fail
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.780	ppb	1.1	174193.94	20	80	120	
Be	9	6	No Gas	19.768	ppb	2.9	35880.18	20	80	120	
B	11	6	No Gas	23.099	ppb	1.3	36302.40	20	80	120	
Na	23	45	H2	96593.361	ppb	7.4	351493418.67	100000	80	120	
Mg	24	45	No Gas	100116.936	ppb	1.1	758559829.33	100000	80	120	
Al	27	45	No Gas	100324.689	ppb	1.9	1009689931.62	100000	80	120	
Si	28	45	H2	201.482	ppb	6.9	263390.80	200	80	120	
P	31	45	No Gas	96467.160	ppb	1.8	61388381.33	100000	80	120	
K	39	45	He	97687.778	ppb	2.7	54424557.33	100000	80	120	
Ca	40	45	H2	95182.249	ppb	7.5	867421141.33	100000	80	120	
Tl	47	45	No Gas	2037.612	ppb	2.0	2833516.50	2000	80	120	
V	51	45	He	20.141	ppb	1.8	101519.28	20	80	120	
Cr	52	45	He	22.514	ppb	1.9	126581.83	20	80	120	
Mn	55	45	No Gas	19.894	ppb	0.5	451545.12	20	80	120	
Fe	56	45	H2	95064.587	ppb	8.3	1316666965.33	100000	80	120	
Co	59	45	No Gas	19.887	ppb	0.5	362900.99	20	80	120	
Ni	60	45	He	20.638	ppb	2.4	40663.15	20	80	120	
Cu	63	45	He	20.302	ppb	1.6	104436.01	20	80	120	
Zn	66	72	No Gas	21.809	ppb	0.8	65708.78	20	80	120	
As	75	72	He	19.760	ppb	1.2	18529.02	20	80	120	
Se	78	72	H2	19.531	ppb	6.5	7703.53	20	80	120	
Sr	88	72	No Gas	21.327	ppb	0.8	520496.84	20	80	120	
Zr	90	72	No Gas	10.218	ppb	1.9	162566.94	20	80	120	> +/- 20%
Mo	95	115	No Gas	2019.568	ppb	1.9	9693844.34	2000	80	120	
Ag	107	115	No Gas	19.873	ppb	3.5	231915.78	20	80	120	
Cd	111	115	No Gas	20.060	ppb	2.8	47681.91	20	80	120	
Sn	118	115	No Gas	20.282	ppb	2.5	144973.01	20	80	120	
Sb	123	115	No Gas	19.996	ppb	2.4	172452.00	20	80	120	
Ba	137	115	No Gas	21.791	ppb	1.7	83053.56	20	80	120	
W	182	159	No Gas	19.321	ppb	4.0	208989.76	20	80	120	
Hg	201	159	No Gas	1.948	ppb	2.0	3466.15	2	80	120	
Hg	201	159	He	1.953	ppb	3.4	2655.45	2	80	120	
Tl	205	159	No Gas	20.598	ppb	2.5	481847.81	20	80	120	
Pb	208	159	No Gas	20.766	ppb	2.3	674135.47	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	21.742	ppb	3.2	742551.71	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	1075956.04	1.4	913794.78	117.75	70	120	
Sc	45	No Gas	4026328.83	1.9	3551284.17	113.38	70	120	
Sc	45	H2	3154938.50	7.6	3058687.42	103.15	70	120	
Sc	45	He	440059.15	1.0	465177.56	94.6	70	120	
Ge	72	No Gas	916767.75	2.7	813952.92	112.63	70	120	
Ge	72	H2	833113.77	6.0	802203.96	103.85	70	120	
Ge	72	He	261494.20	0.7	263530.43	99.23	70	120	
In	115	No Gas	5334270.22	4.2	4878774.56	109.34	70	120	
Tb	159	No Gas	8647698.27	5.1	7160929.99	120.76	70	120	ISTD Failed
Tb	159	He	6127544.83	1.3	5763662.17	106.31	70	120	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 1/31/23 14:11

End Date: 1/31/23 21:55

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: N/A

see analytical sequence

Micropipette ID: CU2761702
CU2705 33
BU2781098

Book #:	AH6-013
Instrument No.:	H6
Analytical Batch:	1H6A23
Analytical Sequence:	H6A23
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☐ ICP-06
Micropipette ID:	☐ A42761607
Micropipette ID:	☐ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☐ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-26-8701	MRL1 (1)	SM6B-26-9502
S1	8702	MRL2 (0.4)	9601
S2	8801	MRL3 (CA)	9602
S3	8802	MRL4	N/A
S4	8901	MRL5	
S5	8902	MRL6	
S6	N/A	Internal Standard	SM6B-26-6701
S7		Post-Spike 1	SM6A-230203
ICV	SM6B-26-7101	Post-Spike 2	0204
CCV	9002	Post-Spike 3	N/A
ICSA	SM6B-270202	Post-Spike 4	
ICSAB	0301		
6020 TUNE SOLN.	SM6B26-9701		
200.8 TUNE SOLN.	9701		

Analyzed By: TH

Date: 2/1/23

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Method : METHOD SW6020A
Sequence : IH6A23
InstrumentID: H6

Lab Samp ID :	ICV	ICSA	ICSAB
QC Limit :	%R:90-110/RSD:<5	%R:80-120/<LOD	%R:80-120
Lab File ID :	H6A23009	H6A23013	H6A23014
DateAnalyed :	01/31/2314:29	01/31/2315:03	01/31/2315:05

Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		27.91	30	1.8	93	0.62909	0	>0	20.404	20	102
Beryllium		30.48	30	3.0	102	0.0062042	0	<0.1	20.466	20	102
Boron		29.17	30	1.8	97	0.88189	0	<5.0	18.770	20	94
Sodium		31040	30000	0.6	103	112040	100000	112	99891	100000	100
Magnesium		30320	30000	1.6	101	108940	100000	109	96428	100000	96
Aluminum		31260	30000	0.5	104	110580	100000	111	97959	100000	98
Silicon		3157	3000	0.7	105	7.0233	0	<20	212.69	200	106
Phosphorus		285.8	300	1.2	95	104950	100000	105	91790	100000	92
Potassium		31440	30000	1.5	105	112950	100000	113	100160	100000	100
Calcium		30930	30000	0.7	103	112870	100000	113	100630	100000	101
Titanium		301.0	300	1.1	100	2267.8	2000	113	2019.3	2000	101
Vanadium		312.9	300	0.7	1040	.00019564	0	<0.5	20.584	20	103
Chromium	T	316.1	300	0.4	105	2.4104	0	>0.25	23.039	20	115
Manganese	T	2014	2000	1.4	101	0.65852	0	>0.5	20.784	20	104
Iron		31100	30000	0.3	104	112780	100000	113	100160	100000	100
Cobalt		308.5	300	1.8	103	0.17391	0	<0.2	20.446	20	102
Nickel		315.5	300	1.6	105	0.47806	0	>0.2	20.926	20	105
Copper		327.4	300	1.6	109	1.2991	0	>0.5	19.577	20	98
Zinc		312.8	300	1.5	104	4.4988	0	<10	23.584	20	118
Arsenic	T	306.9	300	0.7	102	0.077940	0	<0.25	20.111	20	101
Selenium	T	304.4	300	0.1	101	0.070070	0	<0.3	20.266	20	101
Strontium		305.8	300	0.8	102	0.96526	0	<1.0	20.996	20	105
Zirconium		31.07	30	0.7	104	0.17178	0	<2.0	9.7353	20	49*
Molybdenum	T	296.9	300	1.6	99	2249.9	2000	112	2009.8	2000	100
Silver		30.79	30	1.6	103	0.090868	0	<0.2	20.059	20	100
Cadmium		299.8	300	0.9	100	0.044530	0	<0.2	20.165	20	101
Tin		305.8	300	0.6	102	0.10831	0	<0.2	20.068	20	100
Antimony		56.70	60	0.6	95	0.070456	0	<0.5	19.937	20	100
Barium		301.6	300	0.6	101	0.73128	0	>0.5	21.288	20	106
Tungsten		30.71	30	1.4	102	0.19043	0	<1.0	19.084	20	95
Mercury		2.856	3	1.6	95	0.0044935	0	<0.1	1.9030	2	95
Thallium		304.0	300	0.6	101	0.0058886	0	<0.2	20.156	20	101
Lead		304.6	300	0.8	102	0.066197	0	<0.1	20.404	20	102
Uranium		304.9	300	0.8	102	0.021096	0	<0.1	20.967	20	105

| Unit: ug/L
| T: Target analyte
| EV: Expected Value
| Comment: * Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Method : METHOD SW6020A
Sequence : IH6A23
Instrument ID: H6

CCV SampleID		: CCV7			CCV8		
CCV DataFileID		: H6A23080			H6A23090		
CCV DateTime		: 01/31/23 18:57			01/31/23 19:23		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	24.5	98	2.2	24.6	98	2.5
Beryllium		25	25.3	101	0.6	24.7	99	2.5
Boron		50	51.0	102	2.4	48.6	97	3.2
Sodium		25000	24600	98	1.4	24800	99	1.7
Magnesium		25000	24300	97	1.6	24900	100	2.0
Aluminum		25000	24200	97	1.9	24800	99	0.7
Silicon		2500	2340	94	0.8	2370	95	0.4
Phosphorus		250	252	101	1.0	241	96	4.4
Potassium		25000	24400	97	0.7	24700	99	0.4
Calcium		25000	24300	97	0.1	24200	97	1.2
Titanium		250	236	94	1.4	240	96	0.5
Vanadium		250	248	99	0.3	252	101	0.7
Chromium	T	250	248	99	0.4	252	101	0.9
Manganese	T	1500	1460	98	1.2	1480	99	1.1
Iron		25000	24700	99	1.9	25200	101	0.2
Cobalt		250	242	97	1.8	242	97	1.1
Nickel		250	253	101	1.9	263	105	1.0
Copper		250	249	100	0.8	256	102	1.2
Zinc		250	248	99	0.9	245	98	0.7
Arsenic	T	250	240	96	0.4	257	103	0.3
Selenium	T	250	250	100	1.2	262	105	0.9
Strontium		250	243	97	2.0	250	100	2.0
Zirconium		25	24.7	99	1.6	24.5	98	1.4
Molybdenum	T	250	233	93	0.8	232	93	0.9
Silver		25	24.1	97	3.0	24.1	96	1.0
Cadmium		250	244	98	1.9	245	98	0.4
Tin		250	238	95	2.0	240	96	2.0
Antimony		50	47.3	95	1.7	46.8	94	1.8
Barium		500	492	98	0.9	491	98	0.5
Tungsten		25	24.8	99	2.1	24.9	100	2.2
Mercury		2.5	2.54	102	2.0	2.50	100	0.2
Thallium		250	247	99	1.0	248	99	0.6
Lead		250	247	99	1.2	246	99	0.7
Uranium		250	245	98	1.3	250	100	1.6

| Unit: ug/L
| T: Target analyte
|%Rec QC Limit: 90-110
| RSD QC Limit: <5
| CCV EV: CCV Expected Value ug/L
| Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22L237
Method : SW6020A
Sequence : IH6A23
Instrument ID: H6

CB SampleID		: ICB		CCB7		CCB8		
CB DataFileID		: H6A23010		H6A23081		H6A23091		
CB DateTime		: 01/31/2314:45		01/31/2319:00		01/31/2319:26		
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.1	>0	0.3	>0	0.4	>0
Beryllium		0.1	0.0005	<0.1	0.001	<0.1	0.008	<0.1
Boron		5.0	0.2	<5.0	0.09	<5.0	0.5	<5.0
Sodium		50	10	<50	10	<50	0.2	<50
Magnesium		10	0.2	<10	1	<10	2	<10
Aluminum		20	0.08	<20	0.6	<20	2	<20
Silicon		20	0.3	<20	1	<20	2	<20
Phosphorus		25	0.3	<25	7	<25	2	<25
Potassium		20	1	<20	8	<20	10	<20
Calcium		25	0.1	<25	6	<25	10	<25
Titanium		0.5	0.007	<0.5	0.02	<0.5	0.02	<0.5
Vanadium		0.5	0.002	<0.5	0.05	<0.5	0.05	<0.5
Chromium	T	0.25	0.02	<0.25	0.03	<0.25	0.02	<0.25
Manganese	T	0.5	0.002	<0.5	0.2	<0.5	0.2	<0.5
Iron		10	0.08	<10	0.8	<10	2	<10
Cobalt		0.2	0.0008	<0.2	0.0005	<0.2	0.007	<0.2
Nickel		0.2	0.02	<0.2	0.05	<0.2	0.05	<0.2
Copper		0.5	0.8	>0.5	2	>0.5	2	>0.5
Zinc		10	0.01	<10	0.1	<10	0.1	<10
Arsenic	T	0.25	0.02	<0.25	0.005	<0.25	0.02	<0.25
Selenium	T	0.3	0.0004	<0.3	0.03	<0.3	0.05	<0.3
Strontium		1.0	0.002	<1.0	0.02	<1.0	0.03	<1.0
Zirconium		2.0	0.004	<2.0	0.005	<2.0	0.006	<2.0
Molybdenum	T	0.5	0.002	<0.5	0.02	<0.5	0.04	<0.5
Silver		0.2	0.0002	<0.2	0.002	<0.2	0.002	<0.2
Cadmium		0.2	0.006	<0.2	0.03	<0.2	0.04	<0.2
Tin		0.2	0.03	<0.2	0.006	<0.2	0.002	<0.2
Antimony		0.5	0.004	<0.5	0.07	<0.5	0.08	<0.5
Barium		0.5	0.006	<0.5	0.02	<0.5	0.04	<0.5
Tungsten		1.0	0.002	<1.0	0.002	<1.0	0.005	<1.0
Mercury		0.1	0.006	<0.1	0.02	<0.1	0.008	<0.1
Thallium		0.2	0.01	<0.2	0.04	<0.2	0.06	<0.2
Lead		0.1	0.002	<0.1	0.006	<0.1	0.02	<0.1
Uranium		0.1	0.002	<0.1	0.02	<0.1	0.03	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	CalBlk	BLANK		1101	H6A23001.d		1
2	Skip	CalBlk	BLANK		1101	H6A23002.d		1
3	Skip	CalBlk	S0		1102	H6A23003.d		1
4	Skip	CalStd	S1		1103	H6A23004.d		2
5	Skip	CalStd	S2		1104	H6A23005.d		3
6	Skip	CalStd	S3		1105	H6A23006.d		4
7	Skip	CalStd	S4		1106	H6A23007.d		5
8	Skip	CalStd	S5		1107	H6A23008.d		6
9	Skip	ICV	ICV		1204	H6A23009.d	1	
10	Skip	ICB	ICB		1102	H6A23010.d	1	
11	Skip	LLCCV	MRLA3101	1/100/10 ppb ↓Cu	1306	H6A23011.d	1	
12	Skip	LLCCV2	MRLA3102	0.4/40/4 ppb	1307	H6A23012.d	1	
13	Skip	ICS-A	ICSA		1304	H6A23013.d	1	
14	Skip	ICSB	ICSAB		1305	H6A23014.d	1	
15	Skip	Sample	MRLA3103	500 ppb CAT	1207	H6A23015.d	1	
16	Skip	CCV	CCV1		1206	H6A23016.d	1	
17	Skip	CCB	CCB1		1102	H6A23017.d	1	

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
1	Skip	Blank	IMA017WB	↑Na	2101	H6A23018.d	1	
2	Skip	LCSW	IMA017WL	↓B	2102	H6A23019.d	1	
3	Skip	LCSW	IMA017WC		2103	H6A23020.d	1	
4	Skip	Sample	A148-02	TOT ↑Zn	2104	H6A23021.d	1	
5	Skip	Sample	A148-02	DISS ↑Ca Zn	2105	H6A23022.d	1	
6	Skip	Sample	A169-01	TOT ↑Zn	2106	H6A23023.d	1	
7	Skip	Sample	A169-02	TOT	2107	H6A23024.d	1	
8	Skip	Blank	IMA017WB ✓	REPREP	2101	H6A23025.d	1	
9	Skip	LCSW	IMA017WL ✓	REPREP	2102	H6A23026.d	1	
10	Skip	CCV	CCV2		1206	H6A23027.d	1	
11	Skip	CCB	CCB2		1102	H6A23028.d	1	
12	Skip	Sample	A169-01	DISS ↑B Na Ca Zn	2108	H6A23029.d	1	
13	Skip	Sample	A169-02	DISS ↑B Mg Na Ca	2109	H6A23030.d	1	
14	Skip	Sample	A148-02I	TOT	2110	H6A23031.d	10	
15	Skip	Sample	A148-02I	DISS	2111	H6A23032.d	10	
16	Skip	Sample	A169-01I	TOT	2112	H6A23033.d	10	
17	Skip	Sample	A169-02I	TOT	2201	H6A23034.d	10	
18	Skip	Sample	A169-01I	DISS	2202	H6A23035.d	10	
19	Skip	Sample	A169-02I	DISS	2203	H6A23036.d	10	
20	Skip	LLCCV	MRLA3104	1/100/10 ppb ↓Cu	1306	H6A23037.d	1	
21	Skip	LLCCV2	MRLA3105	0.4/40/4 ppb	1307	H6A23038.d	1	

Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
22	Skip	CCV	CCV3		1206	H6A23039.d	1	
23	Skip	CCB	CCB3		1102	H6A23040.d	1	
24	Skip	Sample	A145-02A	TOT	2204	H6A23041.d	1	
25	Skip	Sample	A145-02	TOT	2205	H6A23042.d	1	
26	Skip	Sample	A145-02J	TOT	2206	H6A23043.d	5	
27	Skip	Sample	A145-02M	TOT	2207	H6A23044.d	1	
28	Skip	Sample	A145-02S	TOT	2208	H6A23045.d	1	
29	Skip	Sample	A145-03	TOT	2209	H6A23046.d	1	
30	Skip	Sample	A145-04	TOT	2210	H6A23047.d	1	
31	Skip	Sample	A145-05	TOT	2211	H6A23048.d	1	
32	Skip	Sample	A145-06	TOT	2212	H6A23049.d	1	
33	Skip	CCV	CCV4		1206	H6A23050.d	1	
34	Skip	CCB	CCB4		1102	H6A23051.d	1	
35	Skip	Sample	A145-02A	DISS	2301	H6A23052.d	1	
36	Skip	Sample	A145-02	DISS	2302	H6A23053.d	1	
37	Skip	Sample	A145-02J	DISS	2303	H6A23054.d	5	
38	Skip	Sample	A145-02M	DISS	2304	H6A23055.d	1	
39	Skip	Sample	A145-02S	DISS	2305	H6A23056.d	1	
40	Skip	Sample	A145-03	DISS	2306	H6A23057.d	1	
41	Skip	Sample	A145-04	DISS	2307	H6A23058.d	1	
42	Skip	Sample	A145-05	DISS	2308	H6A23059.d	1	
43	Skip	Sample	A145-06	DISS	2309	H6A23060.d	1	
44	Skip	CCV	CCV5		1206	H6A23061.d	1	
45	Skip	CCB	CCB5		1102	H6A23062.d	1	
46	Skip	Blank	IMA025WB		2504	H6A23063.d	1	
47	Skip	LCSW	IMA025WL		2505	H6A23064.d	1	
48	Skip	LCSW	IMA025WC		2506	H6A23065.d	1	
49	Skip	Sample	A204-01N	TOT	2507	H6A23066.d	1	
50	Skip	Sample	A204-02A	TOT ↑Na Ca Zn	2508	H6A23067.d	1	
51	Skip	Sample	A204-02N	TOT	2509	H6A23068.d	1	
52	Skip	Sample	A204-02J	TOT	2510	H6A23069.d	5	
53	Skip	Sample	A204-02M	TOT	2511	H6A23070.d	1	
54	Skip	Sample	A204-02S	TOT	2512	H6A23071.d	1	
55		CCV	CCV6		1206	H6A23072.d	1	
56		CCB	CCB6		1102	H6A23073.d	1	
57		Sample	A204-01N	DISS	3101	H6A23074.d	1	
58		Sample	A204-02N	DISS ↑Na Ca	3102	H6A23075.d	1	
59		Sample	A258-01N	TOT	3103	H6A23076.d	1	
60		Sample	A258-01N	DISS	3104	H6A23077.d	1	
61		LLCCV	MRLA3106	1/100/10 ppb Na, Mn↑	1306	H6A23078.d	1	
62		LLCCV2	MRLA3107	0.4/40/4 ppb	1307	H6A23079.d	1	
63		CCV	CCV7		1206	H6A23080.d	1	
64		CCB	CCB7		1102	H6A23081.d	1	
65		Sample	L237-13N		3105	H6A23082.d	1	
66		Sample	A900-02N		3106	H6A23083.d	1	
67		Sample	A907-01N		3107	H6A23084.d	1	
68		Sample	A008-06A		3108	H6A23085.d	5	
69		Sample	A008-06G		3109	H6A23086.d	5	
70		Sample	A008-06J		3110	H6A23087.d	25	
71		Sample	A008-06M		3111	H6A23088.d	5	
72		Sample	A008-06S		3112	H6A23089.d	5	
73		CCV	CCV8		1206	H6A23090.d	1	
74		CCB	CCB8		1102	H6A23091.d	1	

Sample List

# Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
75	Sample	L024-11S		3201	H6A23092.d	1	
76	Sample	L024-12N		3202	H6A23093.d	1	
77	Sample	L024-13N		3203	H6A23094.d	1	
78	Sample	L024-14N		3204	H6A23095.d	1	
79	Sample	K224-02A		3205	H6A23096.d	5	
80	Sample	K224-02G		3206	H6A23097.d	5	
81	Sample	K224-02J		3207	H6A23098.d	25	
82	Sample	K224-02M		3208	H6A23099.d	5	
83	Sample	K224-02S		3209	H6A23100.d	5	
84	Sample	K224-09G		3210	H6A23101.d	5	
85	CCV	CCV9		1206	H6A23102.d	1	
86	CCB	CCB9		1102	H6A23103.d	1	
87	Sample	L025-02N		3211	H6A23104.d	1	
88	Sample	L025-03N		3212	H6A23105.d	1	
89	Sample	L025-04N		3301	H6A23106.d	1	
90	Sample	L025-05N		3302	H6A23107.d	1	
91	Sample	L025-06N		3303	H6A23108.d	1	
92	Sample	L025-07N		3304	H6A23109.d	1	
93	Sample	L025-08N		3305	H6A23110.d	1	
94	Sample	L025-09N		3306	H6A23111.d	1	
95	Sample	L025-10N		3307	H6A23112.d	1	
96	Sample	L025-11N		3308	H6A23113.d	1	
97	CCV	CCV10		1206	H6A23114.d	1	
98	CCB	CCB10		1102	H6A23115.d	1	
99	Blank	IML024WB		3309	H6A23116.d	1	
100	LCSW	IML024WL		3310	H6A23117.d	1	
101	LCSW	IML024WC		3311	H6A23118.d	1	
102	Sample	L207-01K	TOT	3312	H6A23119.d	20	
103	Sample	L207-02K	TOT	3401	H6A23120.d	20	
104	Sample	L207-03K	TOT	3402	H6A23121.d	20	
105	Sample	L207-04A	TOT	3403	H6A23122.d	20	
106	Sample	L207-04K	TOT	3404	H6A23123.d	20	
107	Sample	L207-04J	TOT	3405	H6A23124.d	100	
108	Sample	L207-04M	TOT	3406	H6A23125.d	20	
109	CCV	CCV11		1206	H6A23126.d	1	
110	CCB	CCB11		1102	H6A23127.d	1	
111	Sample	L207-04S	TOT	3407	H6A23128.d	20	
112	Sample	L207-05K	TOT	3408	H6A23129.d	20	
113	CCV	CCV12		1206	H6A23130.d	1	
114	CCB	CCB12		1102	H6A23131.d	1	
115	Sample	L207-01G	DISS ↑Na	3409	H6A23132.d	5	
116	Sample	L207-02G	DISS	3410	H6A23133.d	5	
117	Sample	L207-03G	DISS	3411	H6A23134.d	5	
118	Sample	L207-04A	DISS	3412	H6A23135.d	5	
119	Sample	L207-04G	DISS	3501	H6A23136.d	5	
120	Sample	L207-04J	DISS	3502	H6A23137.d	25	
121	Sample	L207-04M	DISS	3503	H6A23138.d	5	
122	Sample	L207-04S	DISS	3504	H6A23139.d	5	
123	Sample	L207-05G	DISS	3505	H6A23140.d	5	
124	CCV	CCV13	↓Sb Mo	1206	H6A23141.d	1	
125	CCB	CCB13		1102	H6A23142.d	1	
126	Sample	L206-01G		3506	H6A23143.d	5	
127	Sample	L206-03G		3507	H6A23144.d	5	

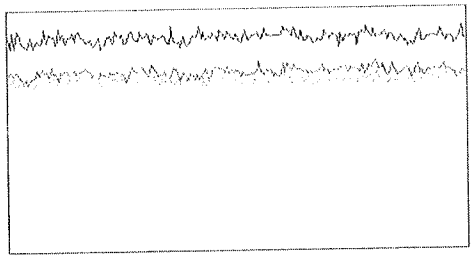
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Total Dil.	Level
128		ICS-A	ICSA2		1304	H6A23145.d	1	
129		ICSB	ICSAB2		1305	H6A23146.d	1	
130		CCV	CCV14		1206	H6A23147.d	1	
131		CCB	CCB14		1102	H6A23148.d	1	

Performance Report

Operator Name	THuang
Acq. Date-Time	2023-01-31 11:33:19
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



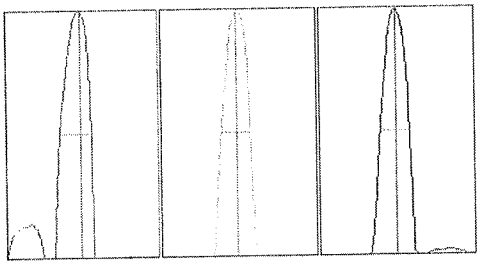
Mass	Range	Count	RSD%	Background
7	5000	3713	2.161	0.300
89	20000	14132	1.889	1.900
205	10000	8848	2.261	5.650

Sampling Period [sec]	0.311
Integration Time [sec]	0.1

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.898 %
Doubly Charged	70 / 140 1.751 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	3704.74	7.00	0.62	0.76
89	14413.51	89.00	0.57	0.75
205	8850.18	205.00	0.58	0.77

Integration Time [sec]	0.1
Acquisition Time [sec]	22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.09 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	7.6 V	Deflect	13.6 V
Extract 2	-200.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-110 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.3 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.2 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.04 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	122	Axis Gain	0.9996
Mass Offset	125	Axis Offset	-0.06

EM

Discriminator	3.2 mV	Analog HV	2797 V	Pulse HV	1512 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.09	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	14.98	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.18E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	28.8	°C
Nebulizer Gas(DP)	4.81E+0	kPa
MU./Dil. Gas(DP)	-1.16E-2	kPa
Aux Gas(DP)	1.15E+1	kPa
Plasma Gas(DP)	1.11E+1	kPa
Nebulizer Gas(BP)	4.22E+2	kPa
MU./Dil. Gas(BP)	-1.93E-2	kPa
Aux Gas(BP)	5.43E+1	kPa
Plasma Gas(BP)	4.31E+1	kPa
S/C Temp (H)	16.2	°C
S/C Temp (L)	1.8	°C
Peltier Voltage	2.2	V
IF/BK Press	2.43E+2	Pa
Analyzer Press	7.28E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.65	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	204.4	V
OctP RF Set	3.9	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.1	V
+U Voltage	5.2	V

Name	Value	Unit
-U Voltage	-12.0	V
V Voltage	31.6	V
QPRF Fader	0.0	V
Pickup Temp	55.0	°C
PWR Amp Temp	0.1	V
+600V	609.0	V
-120V	-129.7	V
-720V	-738.7	V
Prefilter Bias	-5.00	V
Pickup Heater I	0.07	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2801	V
Pulse HV	1526	V
EM Gate	98.9	V
Pulse Gate	2.6	V
EM Entrance	0.2	V
EM HV Gain	-1470.0	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	63.6	V
RF PS +48V	48.0	V
Forward Power	1551	W
Reflected Power	4	W
Plasma Freq.	26.72	MHz
Drain I 1	11.30	A
Drain I 2	10.86	A
Drain I 3	10.69	A
Drain I 4	10.04	A
Temp Sensor	2.8	V
Driver I	5.58	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	-7.8	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.69E+0	kPa
ORS AMFC Temp	30.7	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-200.3	V
Omega Bias	-110.1	V
Omega Lens	7.6	V
Cell Entrance	-29.9	V
Cell Exit	-50.1	V
Deflect	13.5	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	237	V
HV-360V	-357	V
Inlet Temp	28.2	°C
Internal Temp	34.0	°C
+24V	23.6	V
Water Temp	18.2	°C
Water RF/WC/IF	1.42	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

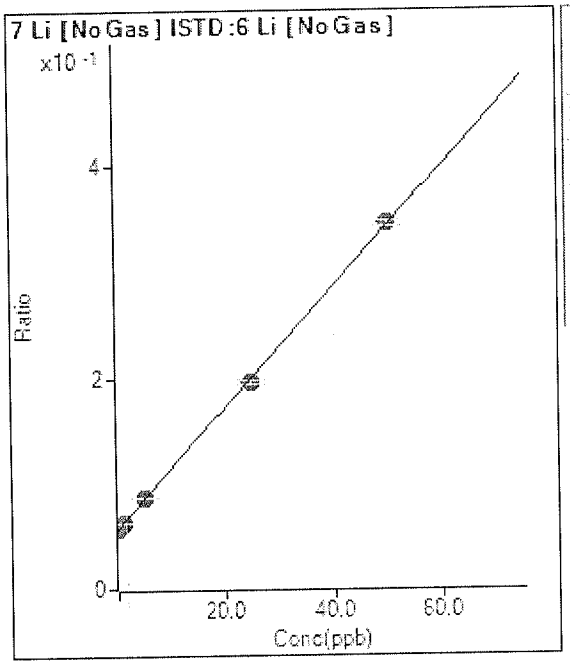
Performance Report History

Sensitivity

Calibration for H6A23009.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b\
Analysis File: IH6A23.batch.bin
DA Date-Time: 2023-01-31 14:30:52
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6A23003.d	S0	2023-01-31 14:11:52
2	H6A23004.d	S1	2023-01-31 14:14:42
3	H6A23005.d	S2	2023-01-31 14:17:33
4	H6A23006.d	S3	2023-01-31 14:20:24
5	H6A23007.d	S4	2023-01-31 14:23:32
6	H6A23008.d	S5	2023-01-31 14:26:23



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	41810.71	0.0570	P	0.3
2	☐	0.500	0.629	44372.96	0.0606	P	0.9
3	☐	1.000	0.992	38665.16	0.0627	P	1.1
4	☐	5.000	4.984	61719.10	0.0855	P	0.6
5	☐	25.000	24.296	124047.75	0.1959	P	1.6
6	☐	50.000	50.353	252202.88	0.3450	P	1.3

y = 0.0057 * x + 0.0570

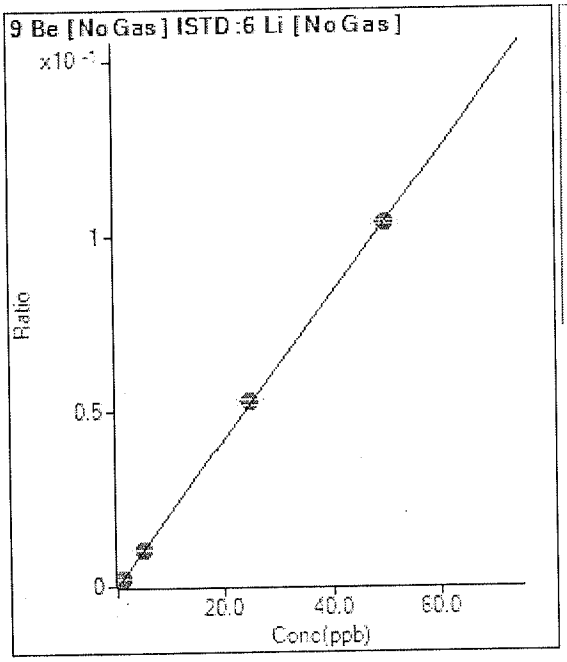
R = 0.9998

DL = 0.07603

BEC = 9.969

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	12.4
2	☐	0.500	0.440	696.68	0.0010	P	9.3
3	☐	1.000	0.973	1271.17	0.0021	P	4.1
4	☐	5.000	4.996	7529.80	0.0104	P	2.2
5	☐	25.000	25.278	33301.58	0.0526	P	3.3
6	☐	50.000	49.863	75892.57	0.1038	P	0.9

y = 0.0021 * x + 3.6354E-005

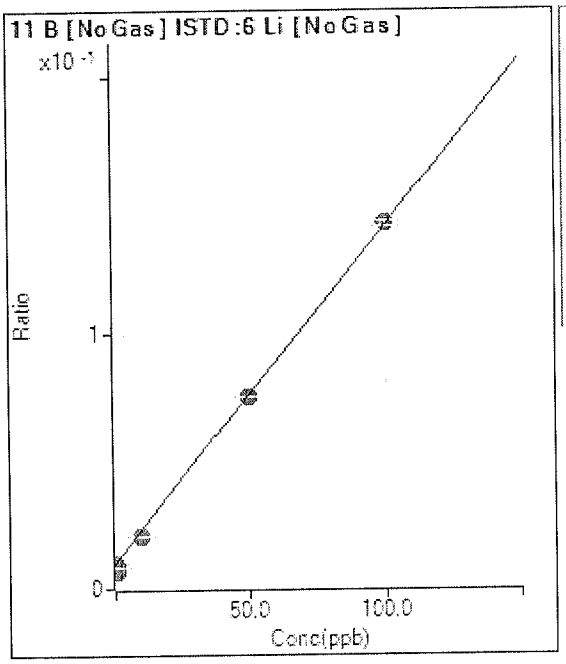
R = 1.0000

DL = 0.006477

BEC = 0.01747

Weight: <None>

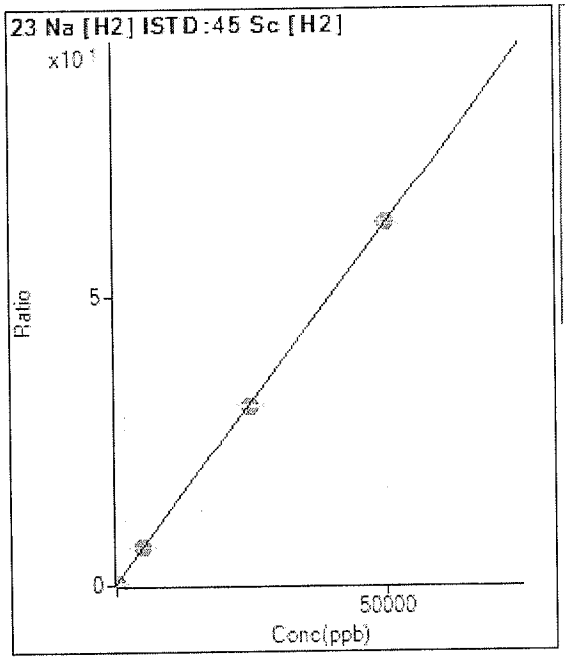
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7218.52	0.0098	P	2.0
2	☐	0.500	-2.273	5014.23	0.0068	P	2.9
3	☐	1.000	-0.927	5317.68	0.0086	P	1.3
4	☐	10.000	7.911	14623.15	0.0203	P	1.5
5	☐	50.000	49.180	47257.17	0.0746	P	0.4
6	☐	100.000	100.652	104126.94	0.1424	P	1.9

y = 0.0013 * x + 0.0098
R = 0.9997
DL = 0.4532
BEC = 7.472

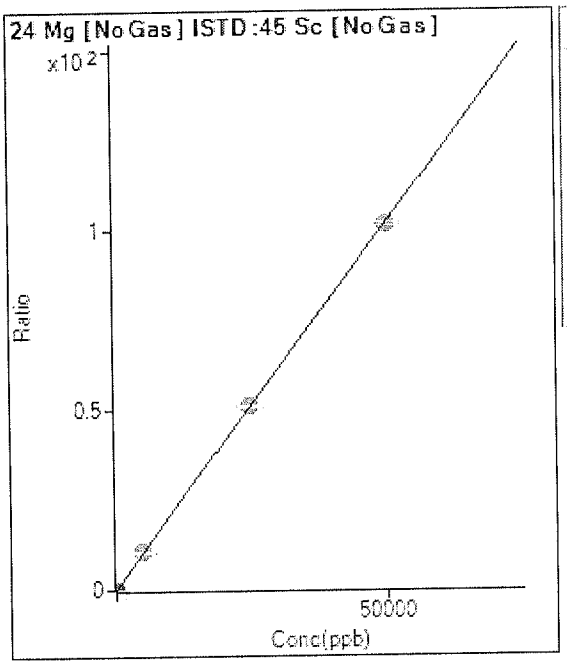
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	970383.79	0.3661	A	0.7
2	☐	50.000	53.894	1144177.00	0.4334	A	0.5
3	☐	100.000	97.543	1305306.00	0.4879	A	0.4
4	☐	5000.000	5109.353	18032048.00	6.7488	A	0.7
5	☐	25000.000	24696.412	86057866.67	31.2172	A	0.5
6	☐	50000.000	50140.860	173960234.67	63.0028	A	1.0

y = 0.0012 * x + 0.3661
R = 1.0000
DL = 5.805
BEC = 293.1

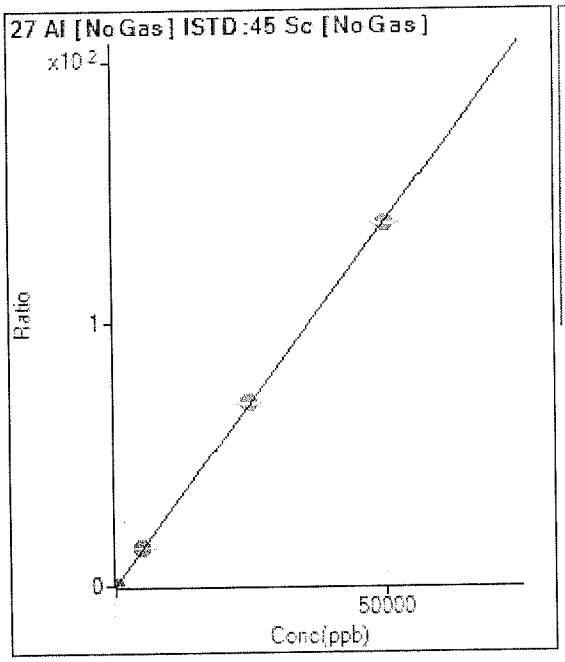
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7574.78	0.0024	P	13.9
2	☐	50.000	51.214	337570.51	0.1062	P	0.0
3	☐	100.000	103.336	559769.39	0.2119	P	1.1
4	☐	5000.000	5171.764	33518038.00	10.4881	A	0.9
5	☐	25000.000	25050.820	1434044416.00	50.7928	A	1.4
6	☐	50000.000	49957.406	341455050.67	101.2907	A	0.9

y = 0.0020 * x + 0.0024
R = 1.0000
DL = 0.4859
BEC = 1.168

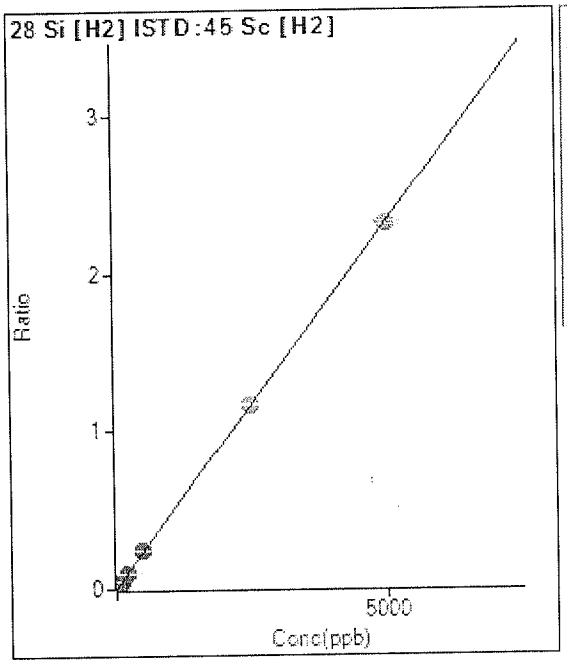
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8249.17	0.0026	P	9.5
2	☐	50.000	51.387	460769.55	0.1450	P	2.3
3	☐	100.000	103.700	765958.16	0.2899	P	2.4
4	☐	5000.000	5175.020	45837097.65	14.3425	A	0.5
5	☐	25000.000	25243.133	197563310.39	69.9510	A	0.6
6	☐	50000.000	49860.922	465750326.39	138.1666	A	0.5

y = 0.0028 * x + 0.0026
R = 1.0000
DL = 0.2643
BEC = 0.9304

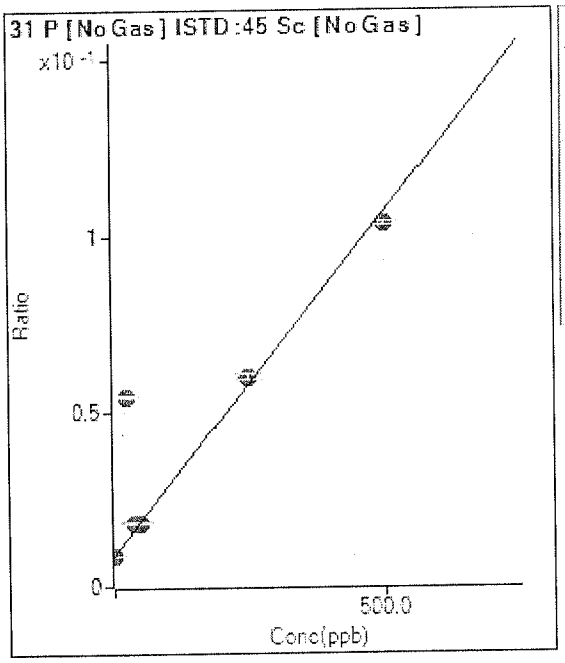
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3177.03	0.0012	P	2.4
2	☐	100.000	101.596	127513.82	0.0483	P	0.7
3	☐	200.000	200.902	252383.58	0.0943	P	0.4
4	☐	500.000	523.610	651874.67	0.2440	P	0.7
5	☐	2500.000	2517.975	3221555.67	1.1686	A	0.7
6	☐	5000.000	4988.584	6389457.67	2.3141	A	1.0

y = 4.6363E-004 * x + 0.0012
R = 1.0000
DL = 0.188
BEC = 2.585

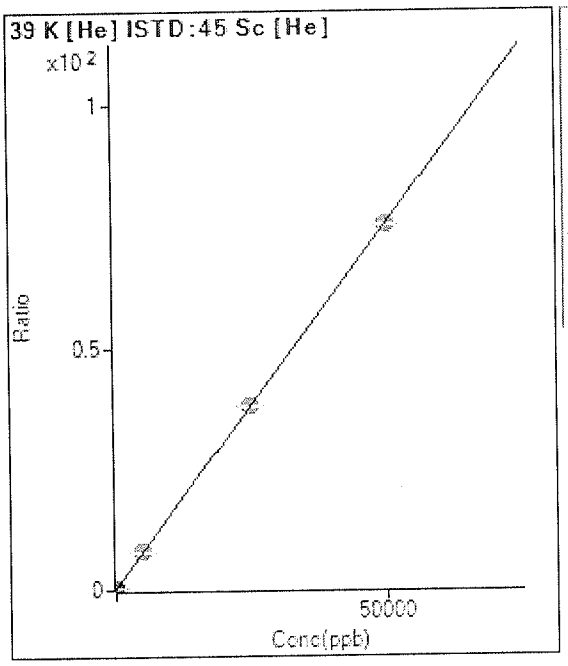
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28178.54	0.0088	P	0.5
2	☐	25.000	233.364	173200.44	0.0545	P	0.8
3	☐	40.000	48.355	48264.95	0.0183	P	1.3
4	☐	50.000	48.813	58672.87	0.0184	P	0.9
5	☐	250.000	261.557	169381.59	0.0600	P	2.1
6	☐	500.000	483.253	348604.95	0.1034	P	0.9

y = 1.9578E-004 * x + 0.0088
R = 0.9008
DL = 0.6329
BEC = 44.96

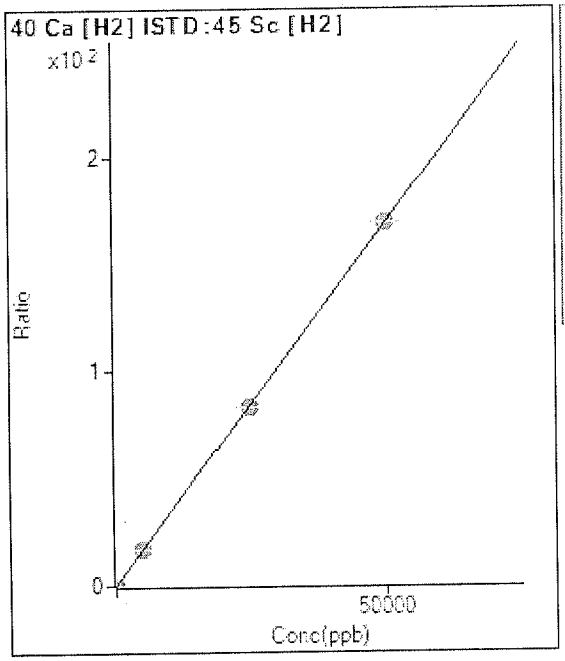
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	92077.08	0.2277	P	4.5
2	☐	50.000	51.735	123628.30	0.3052	P	2.8
3	☐	100.000	102.875	156408.76	0.3819	P	2.1
4	☐	5000.000	5083.398	3159033.25	7.8493	A	2.5
5	☐	25000.000	24972.586	15929469.33	37.6694	A	1.9
6	☐	50000.000	50005.359	32161536.00	75.2015	A	0.7

y = 0.0015 * x + 0.2277
R = 1.0000
DL = 20.39
BEC = 151.8

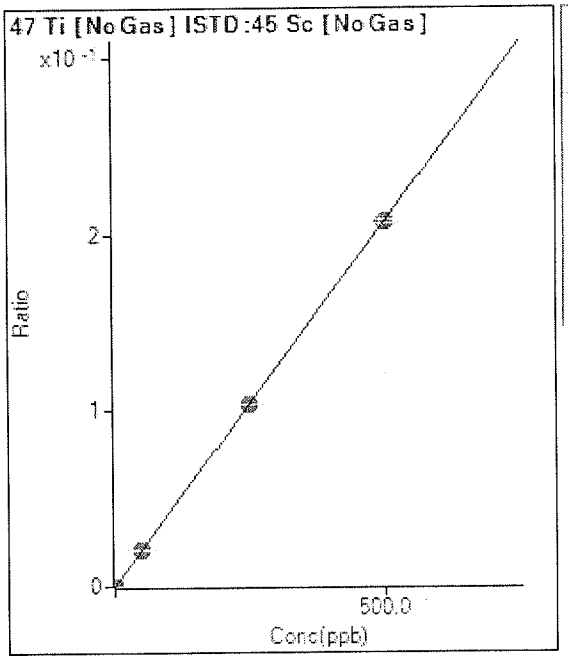
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	69007.78	0.0260	P	0.6
2	☐	50.000	54.340	552222.10	0.2092	P	0.4
3	☐	100.000	100.464	975462.77	0.3646	A	0.6
4	☐	5000.000	5031.837	45384568.00	16.9856	A	0.7
5	☐	25000.000	24671.007	229302997.33	83.1786	A	0.6
6	☐	50000.000	50161.308	466917674.67	169.0925	A	0.1

y = 0.0034 * x + 0.0260
R = 1.0000
DL = 0.1483
BEC = 7.724

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	132.00	0.0000	P	20.1
2	☐	0.500	0.569	878.69	0.0003	P	6.5
3	☐	1.000	1.052	1258.73	0.0005	P	7.0
4	☐	50.000	50.833	67334.96	0.0211	P	0.3
5	☐	250.000	249.757	291882.83	0.1034	P	0.3
6	☐	500.000	500.038	697418.88	0.2069	P	1.1

y = 4.1366E-004 * x + 4.1198E-005

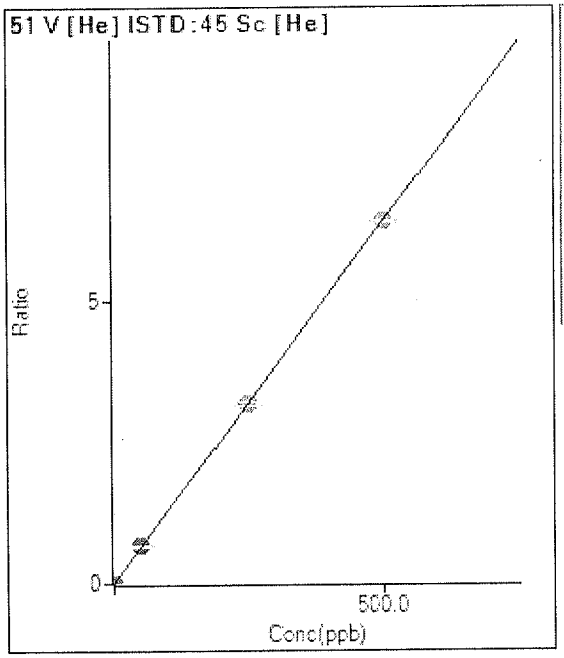
R = 1.0000

DL = 0.06007

BEC = 0.09959

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1484.08	0.0037	P	1.6
2	☐	0.500	0.496	4060.61	0.0100	P	0.9
3	☐	1.000	1.023	6873.72	0.0168	P	2.5
4	☐	50.000	51.594	267637.04	0.6650	P	3.5
5	☐	250.000	248.940	1350933.54	3.1946	A	1.3
6	☐	500.000	500.371	2744681.75	6.4174	A	0.8

y = 0.0128 * x + 0.0037

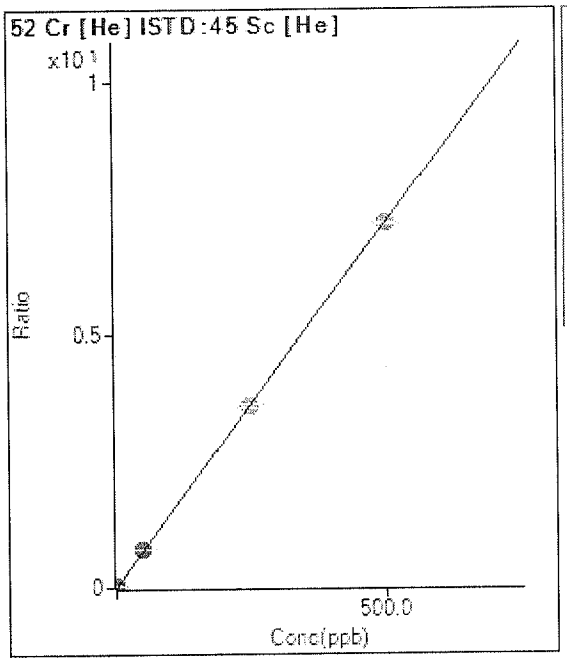
R = 1.0000

DL = 0.01363

BEC = 0.2862

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2022.81	0.0050	P	2.6
2	☐	0.500	0.557	5273.02	0.0130	P	2.8
3	☐	1.000	1.069	8355.88	0.0204	P	2.4
4	☐	50.000	52.365	305514.03	0.7592	P	3.1
5	☐	250.000	249.439	1521302.96	3.5975	A	1.6
6	☐	500.000	500.044	3082248.75	7.2068	A	0.4

y = 0.0144 * x + 0.0050

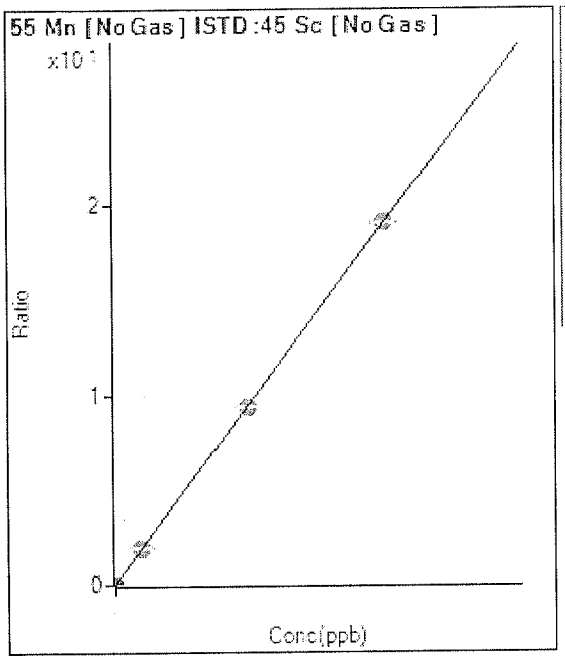
R = 1.0000

DL = 0.02659

BEC = 0.3472

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	7360.65	0.0023	P	3.6
2	☐	0.500	0.541	18231.47	0.0057	P	2.3
3	☐	1.000	1.109	24694.26	0.0093	P	0.9
4	☐	300.000	310.276	6307905.17	1.9738	A	0.4
5	☐	1500.000	1485.982	26665535.33	9.4440	A	0.9
6	☐	3000.000	3005.981	64393204.00	19.1019	A	0.6

y = 0.0064 * x + 0.0023

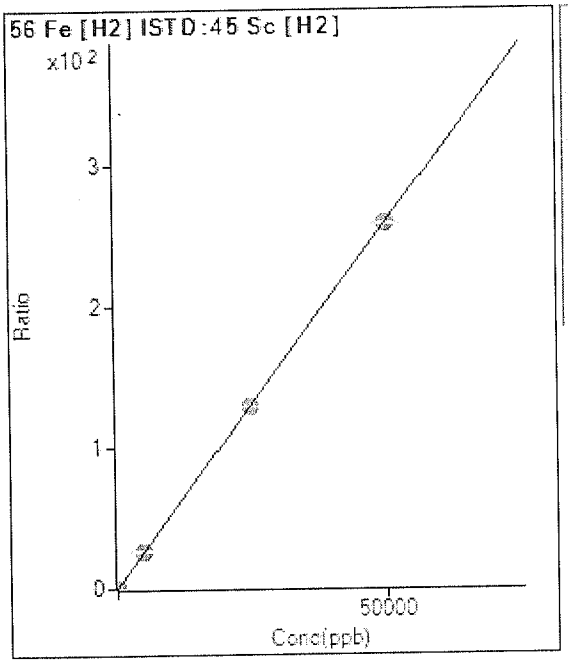
R = 1.0000

DL = 0.03921

BEC = 0.3619

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13970.47	0.0053	P	2.1
2	☐	50.000	52.701	734226.21	0.2781	P	0.9
3	☐	100.000	102.667	1435987.50	0.5368	A	1.3
4	☐	5000.000	5146.851	71212720.00	26.6521	A	0.9
5	☐	25000.000	24994.001	356745098.67	129.4067	A	0.2
6	☐	50000.000	49988.307	714627840.00	258.8097	A	0.7

y = 0.0052 * x + 0.0053

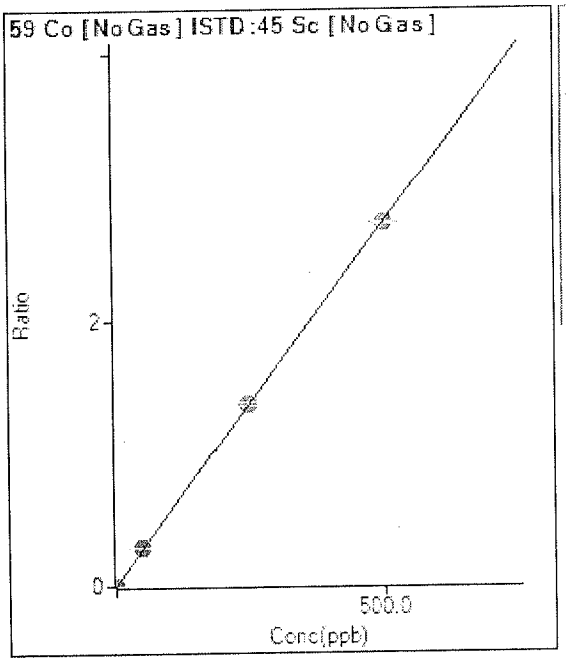
R = 1.0000

DL = 0.06403

BEC = 1.018

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	452.01	0.0001	P	4.0
2	☐	0.500	0.541	9834.88	0.0031	P	2.2
3	☐	1.000	1.095	16166.92	0.0061	P	3.4
4	☐	50.000	53.311	930705.46	0.2913	P	1.9
5	☐	250.000	250.985	3870141.75	1.3707	A	1.5
6	☐	500.000	499.176	9189106.00	2.7260	A	0.4

y = 0.0055 * x + 1.4123E-004

R = 1.0000

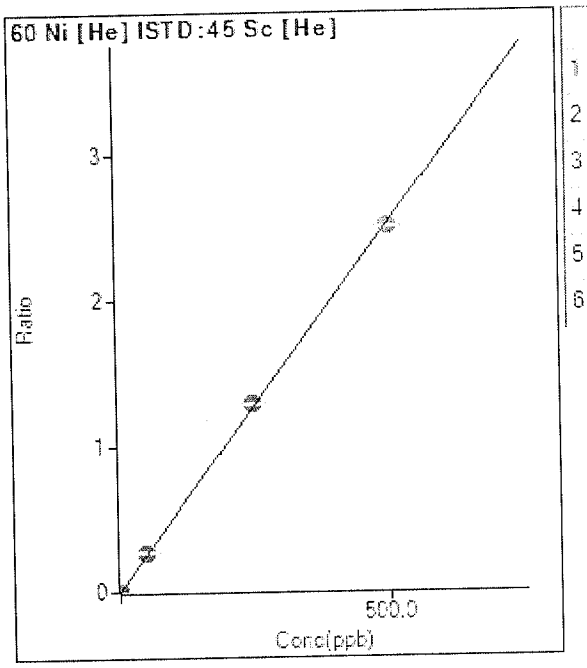
DL = 0.003121

BEC = 0.02586

Weight: <None>

Min Conc: 0

Calibration for H6A23009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	234.67	0.0006	P	9.3
2	☐	0.500	0.523	1303.40	0.0032	P	4.3
3	☐	1.000	1.106	2521.57	0.0062	P	2.4
4	☐	50.000	53.443	108662.25	0.2700	P	2.6
5	☐	250.000	254.725	543157.42	1.2845	P	1.7
6	☐	500.000	497.293	1072223.50	2.5071	A	0.4

y = 0.0050 * x + 5.8032E-004

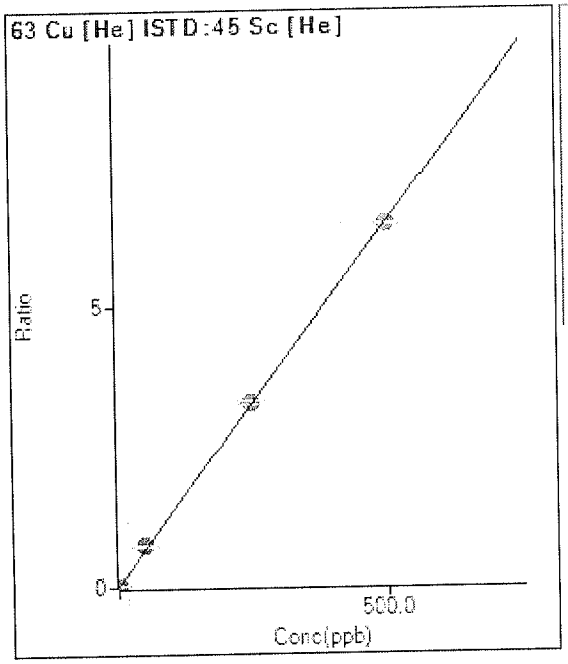
R = 0.9999

DL = 0.03228

BEC = 0.1151

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10768.26	0.0266	P	0.5
2	☐	0.500	0.603	13939.13	0.0344	P	2.2
3	☐	1.000	0.816	15227.85	0.0372	P	1.5
4	☐	50.000	55.226	298302.68	0.7414	P	3.5
5	☐	250.000	252.319	1392176.09	3.2922	A	1.3
6	☐	500.000	498.318	2769750.42	6.4760	A	0.4

y = 0.0129 * x + 0.0266

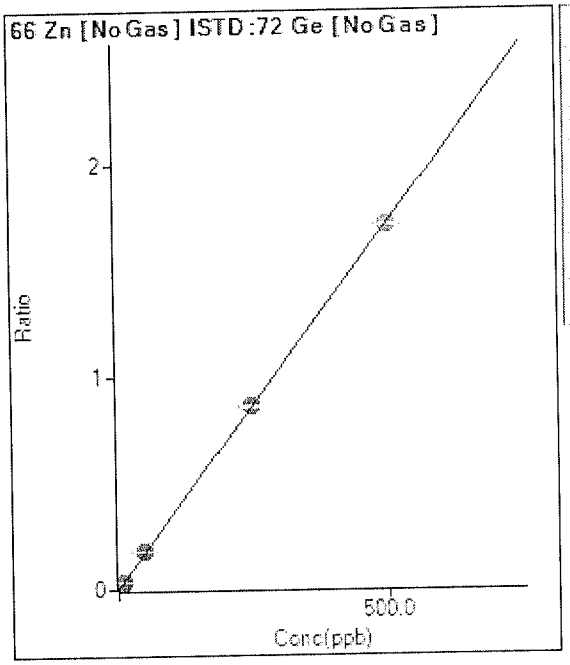
R = 0.9999

DL = 0.03234

BEC = 2.057

Weight: <None>

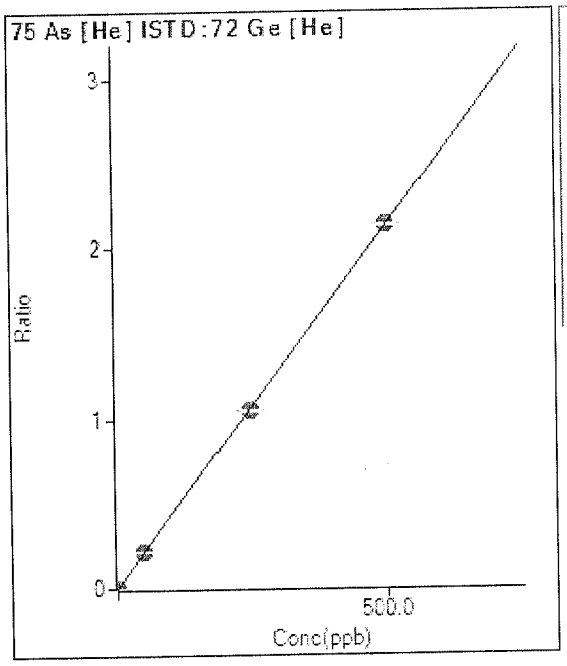
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1214.72	0.0017	P	6.1
2	☐	1.000	1.237	4446.06	0.0059	P	2.2
3	☐	10.000	10.258	23363.40	0.0369	P	0.3
4	☐	50.000	51.439	136828.36	0.1782	P	0.5
5	☐	250.000	250.372	587635.27	0.8609	P	1.5
6	☐	500.000	499.665	1356317.25	1.7164	A	0.6

y = 0.0034 * x + 0.0017
R = 1.0000
DL = 0.08983
BEC = 0.4886

Weight: <None>
Min Conc: 0

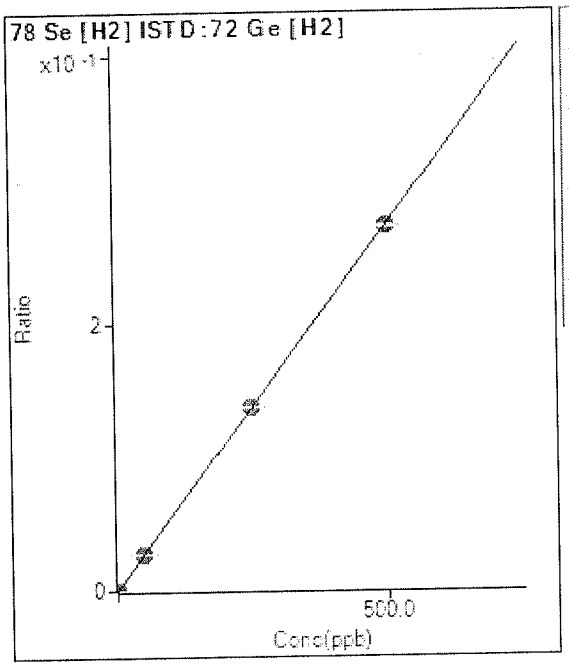


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	115.67	0.0005	P	6.4
2	☐	0.500	0.457	585.68	0.0024	P	5.4
3	☐	1.000	1.003	1138.71	0.0048	P	5.5
4	☐	50.000	50.129	51392.47	0.2137	P	1.6
5	☐	250.000	246.296	259612.82	1.0481	P	0.5
6	☐	500.000	501.839	528613.96	2.1350	P	0.2

y = 0.0043 * x + 4.9908E-004
R = 1.0000
DL = 0.0227
BEC = 0.1173

Weight: <None>
Min Conc: 0

Calibration for H6A23009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37.67	0.0001	P	12.6
2	☐	0.500	0.476	232.00	0.0003	P	3.4
3	☐	1.000	1.011	451.01	0.0006	P	5.5
4	☐	50.000	50.812	20819.71	0.0278	P	0.8
5	☐	250.000	251.138	104002.74	0.1372	P	0.6
6	☐	500.000	499.350	208367.69	0.2727	P	0.3

y = 5.4605E-004 * x + 5.3126E-005

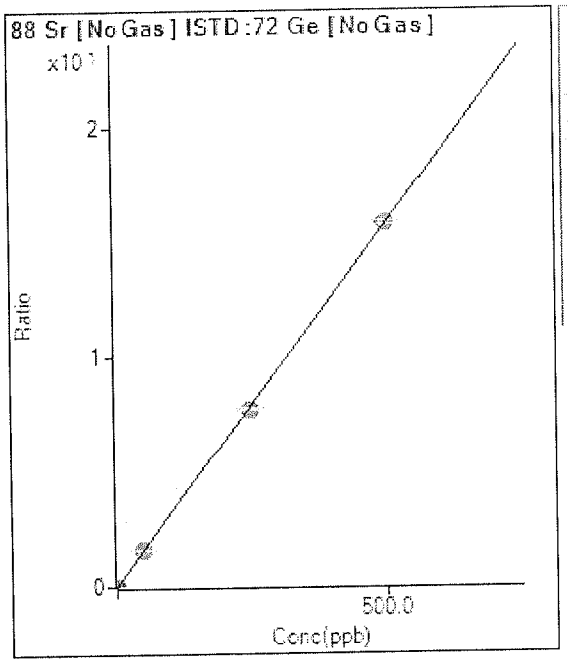
R = 1.0000

DL = 0.03688

BEC = 0.09729

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	511.12	0.0007	P	7.1
2	☐	0.500	0.503	12412.42	0.0165	P	1.7
3	☐	1.000	1.001	20376.61	0.0322	P	1.2
4	☐	50.000	50.537	1220587.73	1.5896	A	0.5
5	☐	250.000	245.650	5276795.21	7.7242	A	0.9
6	☐	500.000	502.121	12475117.84	15.7879	A	1.1

y = 0.0314 * x + 7.0507E-004

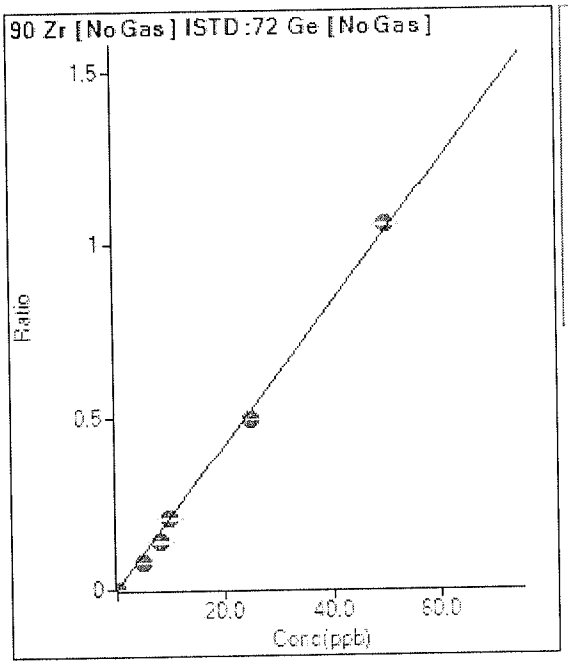
R = 0.9999

DL = 0.004796

BEC = 0.02243

Weight: <None>

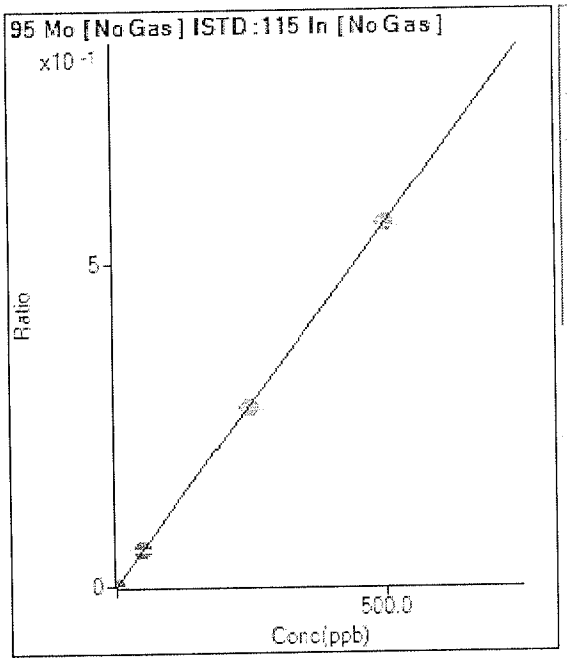
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	203.33	0.0003	P	22.8
2	☐	5.000	3.759	58742.13	0.0782	P	1.9
3	☐	8.000	6.631	87254.05	0.1378	P	3.2
4	☐	10.000	9.896	157792.00	0.2055	P	2.6
5	☐	25.000	23.810	337371.05	0.4940	P	0.7
6	☐	50.000	50.959	835144.96	1.0569	P	0.8

y = 0.0207 * x + 2.8086E-004
R = 0.9992
DL = 0.009248
BEC = 0.01355

Weight: <None>
Min Conc: 0

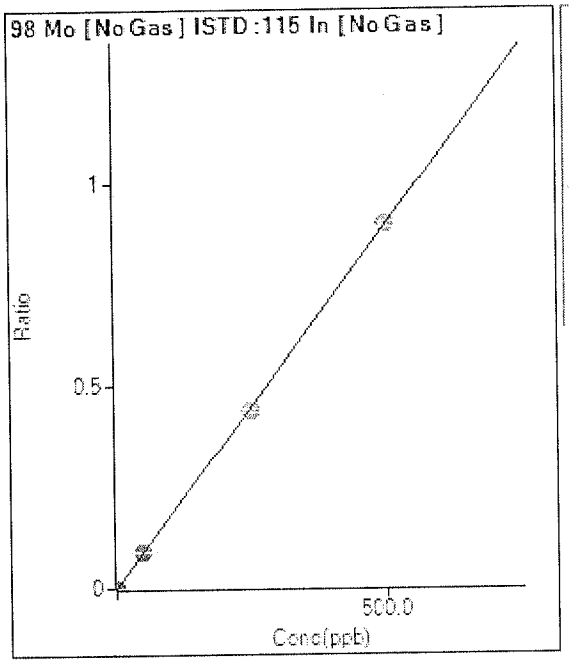


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	45.56	0.0000	P	25.9
2	☐	0.500	0.469	2326.87	0.0005	P	4.2
3	☐	1.000	0.918	3754.98	0.0010	P	2.5
4	☐	50.000	49.257	234429.66	0.0552	P	0.7
5	☐	250.000	248.049	1026633.05	0.2778	M	2.1
6	☐	500.000	501.050	2380846.92	0.5612	A	1.6

y = 0.0011 * x + 1.0661E-005
R = 1.0000
DL = 0.007409
BEC = 0.009518

Weight: <None>
Min Conc: 0

Calibration for H6A23009.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	217.78	0.0001	P	14.7
2	☐	0.500	0.453	3727.19	0.0009	P	1.9
3	☐	1.000	0.923	6139.20	0.0017	P	4.7
4	☐	50.000	49.369	374581.99	0.0882	P	0.5
5	☐	250.000	245.560	1618956.60	0.4383	A	2.5
6	☐	500.000	502.283	3803350.82	0.8965	A	1.7

y = 0.0018 * x + 5.0937E-005

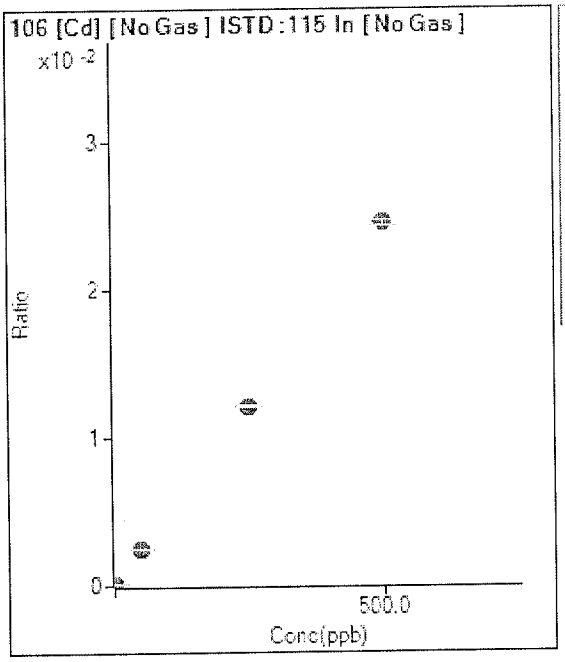
R = 0.9999

DL = 0.01262

BEC = 0.02854

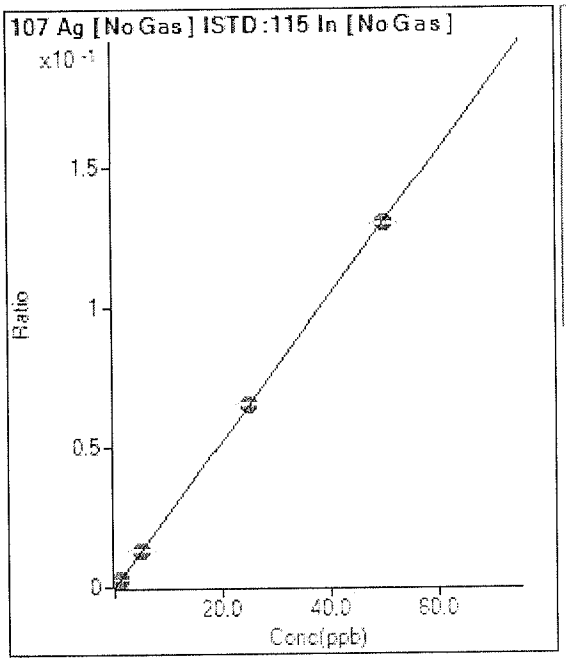
Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		4.00	0.0000	P	44.3
2	☐	0.500		255.33	0.0001	P	5.4
3	☐	1.000		409.01	0.0001	P	8.4
4	☐	50.000		10584.22	0.0025	P	1.1
5	☐	250.000		44712.16	0.0121	P	1.3
6	☐	500.000		103934.12	0.0245	P	1.8

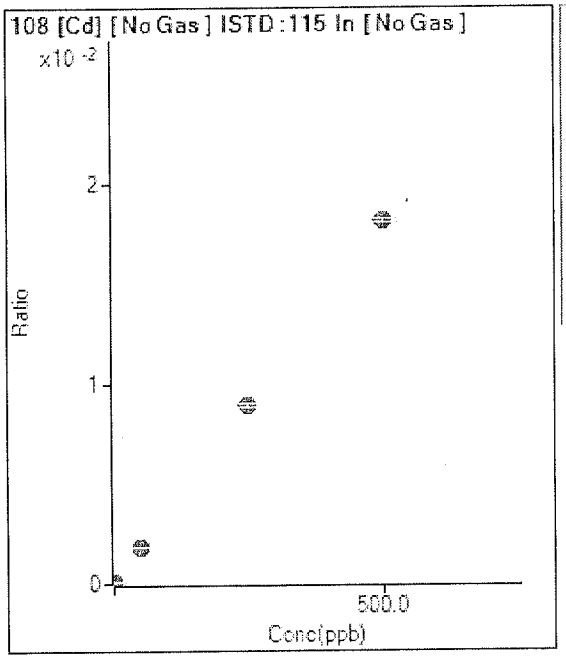
Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	23.4
2	☐	0.500	0.590	6699.48	0.0015	P	5.2
3	☐	1.000	1.094	10334.04	0.0029	P	1.6
4	☐	5.000	5.136	56888.51	0.0134	P	1.7
5	☐	25.000	25.222	242739.36	0.0657	P	1.7
6	☐	50.000	49.873	551521.69	0.1300	P	0.9

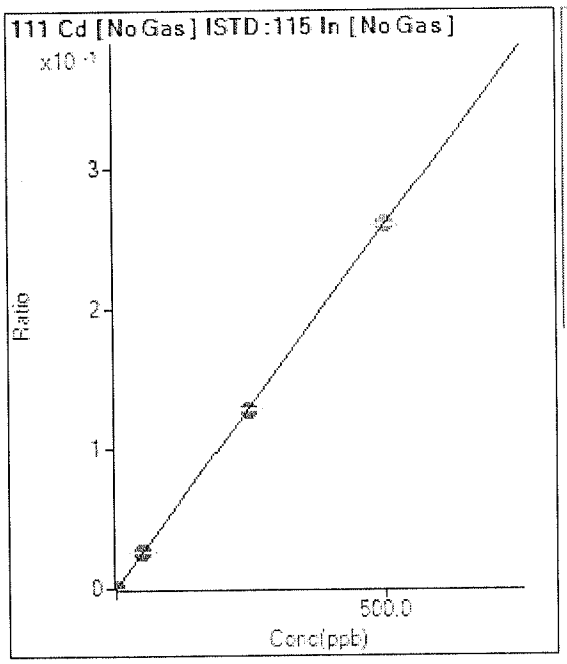
y = 0.0026 * x + 7.0336E-006
R = 1.0000
DL = 0.001891
BEC = 0.002699

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		6.67	0.0000	P	29.6
2	☐	0.500		169.67	0.0000	P	2.4
3	☐	1.000		253.33	0.0001	P	6.8
4	☐	50.000		7628.86	0.0018	P	1.1
5	☐	250.000		33121.47	0.0090	P	1.4
6	☐	500.000		77137.19	0.0182	P	1.2

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	27.90	0.0000	F	33.1
2	☐	0.500	0.496	1143.07	0.0003	F	2.9
3	☐	1.000	1.031	1954.46	0.0005	F	2.3
4	☐	50.000	50.100	110313.73	0.0260	F	1.2
5	☐	250.000	247.546	473648.07	0.1283	F	0.9
6	☐	500.000	501.217	1101945.37	0.2597	A	0.6

y = 5.1816E-004 * x + 6.5491E-006

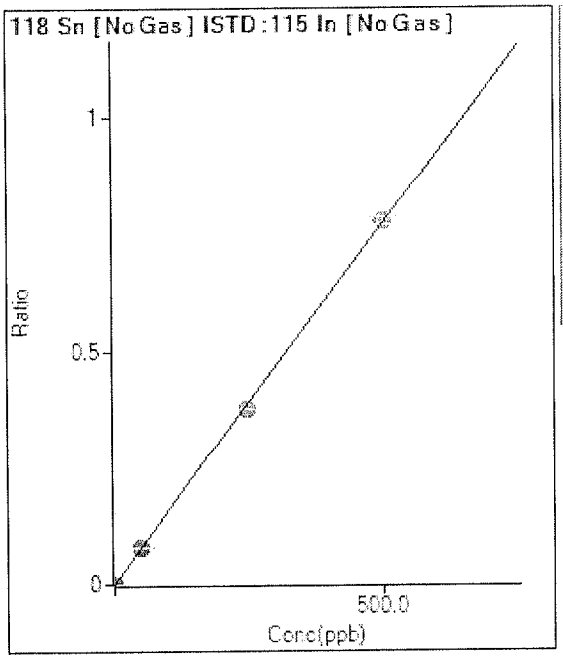
R = 1.0000

DL = 0.01256

BEC = 0.01264

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	906.70	0.0002	F	10.9
2	☐	0.500	0.492	4210.68	0.0010	F	1.5
3	☐	1.000	0.923	5912.45	0.0016	F	5.0
4	☐	50.000	50.572	332472.71	0.0783	F	0.6
5	☐	250.000	243.134	1386694.32	0.3754	A	0.5
6	☐	500.000	503.376	3296445.50	0.7770	A	2.1

y = 0.0015 * x + 2.1207E-004

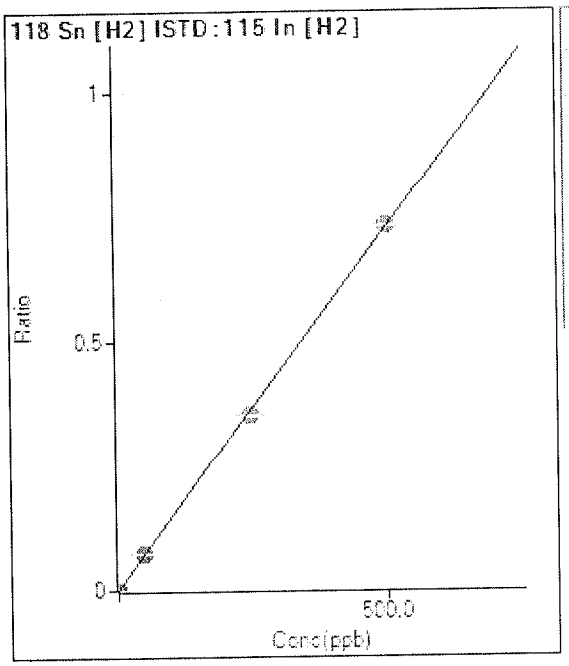
R = 0.9999

DL = 0.04492

BEC = 0.1374

Weight: <None>

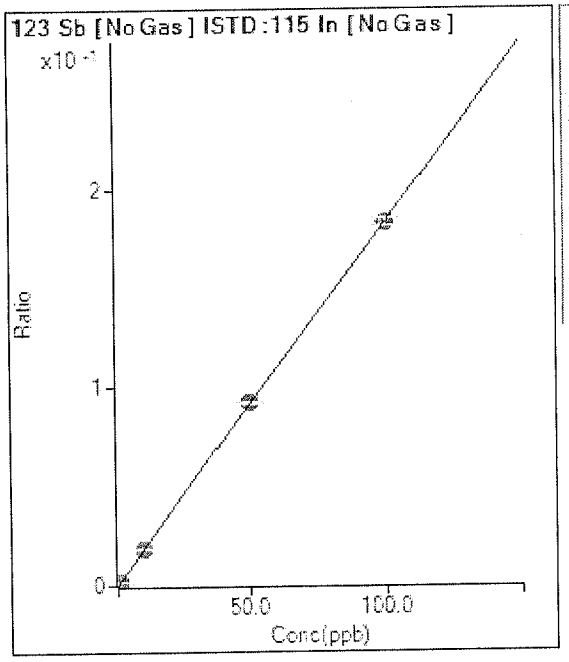
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1061.15	0.0002	P	5.0
2	☐	0.500	0.478	4697.51	0.0009	P	2.9
3	☐	1.000	0.984	8602.81	0.0016	P	2.2
4	☐	50.000	50.508	381682.13	0.0736	P	0.8
5	☐	250.000	241.921	1845935.20	0.3518	A	0.4
6	☐	500.000	503.989	3751547.91	0.7327	A	0.7

y = 0.0015 * x + 2.0562E-004
R = 0.9998
DL = 0.02119
BEC = 0.1415

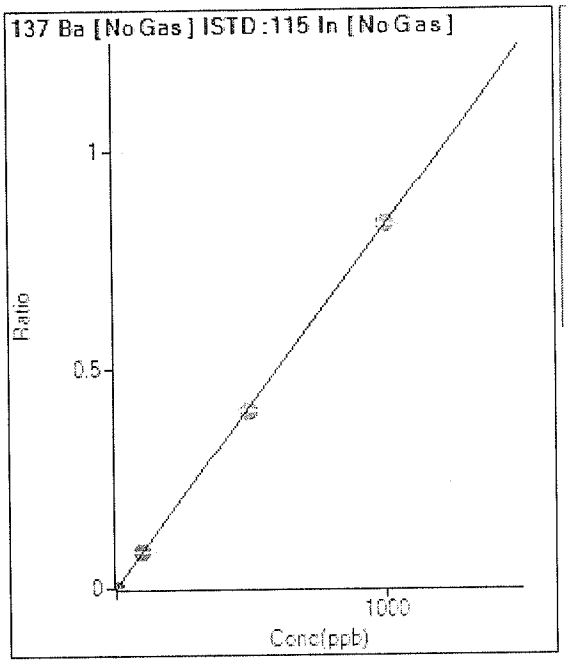
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	177.78	0.0000	P	20.2
2	☐	0.500	0.454	3786.11	0.0009	P	2.8
3	☐	1.000	0.964	6532.74	0.0018	P	2.9
4	☐	10.000	9.891	77128.28	0.0182	P	1.4
5	☐	50.000	50.070	338656.37	0.0917	P	1.2
6	☐	100.000	99.976	776853.79	0.1831	P	2.1

y = 0.0018 * x + 4.1631E-005
R = 1.0000
DL = 0.01379
BEC = 0.02274

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	83.33	0.0000	P	39.2
2	☐	0.500	0.517	1939.04	0.0004	P	6.4
3	☐	1.000	1.056	3229.29	0.0009	P	0.7
4	☐	100.000	99.756	350498.40	0.0825	P	1.1
5	☐	500.000	491.934	1502313.87	0.4068	A	1.8
6	☐	1000.000	1004.057	3522482.36	0.8302	A	0.7

y = 8.2684E-004 * x + 1.9524E-005

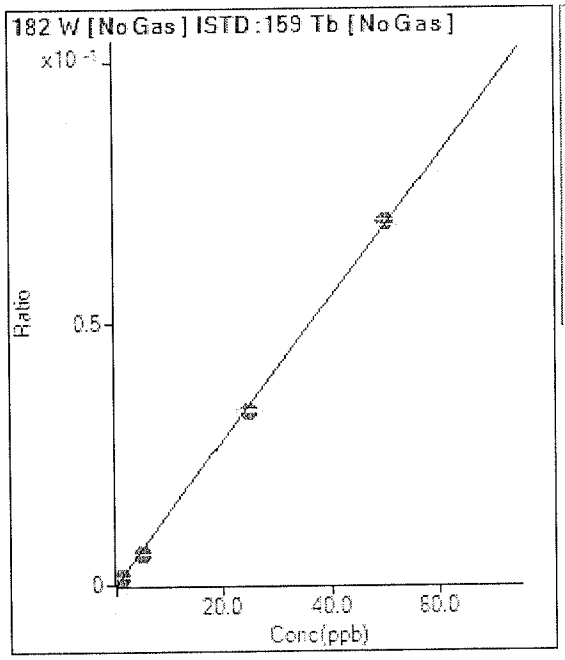
R = 1.0000

DL = 0.02779

BEC = 0.02361

Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	44.3
2	☐	0.500	0.256	2046.84	0.0004	P	4.9
3	☐	1.000	0.961	6244.90	0.0013	P	2.8
4	☐	5.000	4.327	33835.21	0.0060	P	1.2
5	☐	25.000	24.201	167706.78	0.0333	P	2.1
6	☐	50.000	50.470	408622.40	0.0694	P	1.5

y = 0.0014 * x + 9.9906E-006

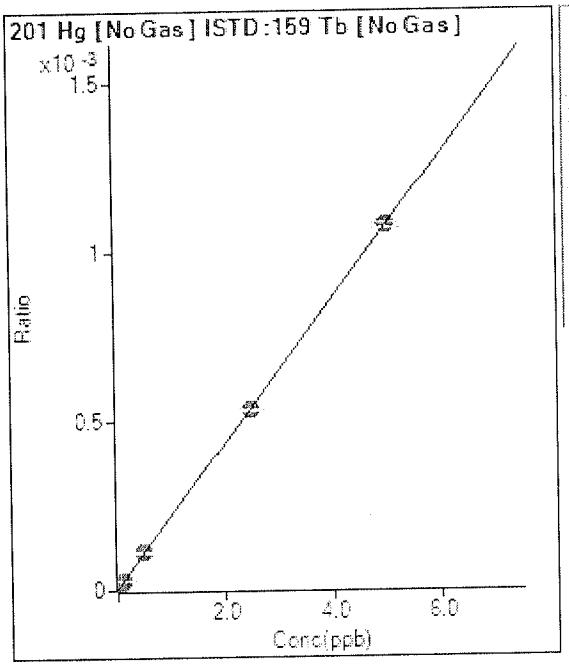
R = 0.9998

DL = 0.009657

BEC = 0.007263

Weight: <None>

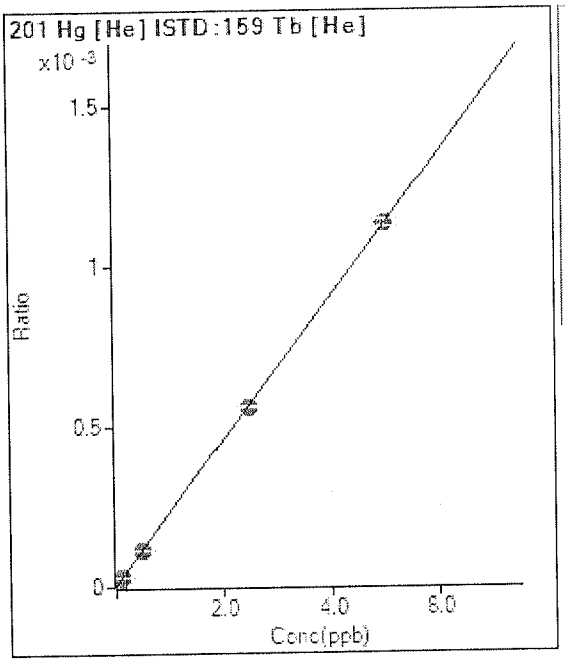
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	24.5
2	☐	0.050	0.053	88.00	0.0000	P	6.9
3	☐	0.100	0.112	131.67	0.0000	P	2.8
4	☐	0.500	0.505	636.52	0.0001	P	3.9
5	☐	2.500	2.475	2686.63	0.0005	P	1.1
6	☐	5.000	5.012	6338.94	0.0011	P	1.8

y = 2.1409E-004 * x + 4.1170E-006
R = 1.0000
DL = 0.01415
BEC = 0.01923

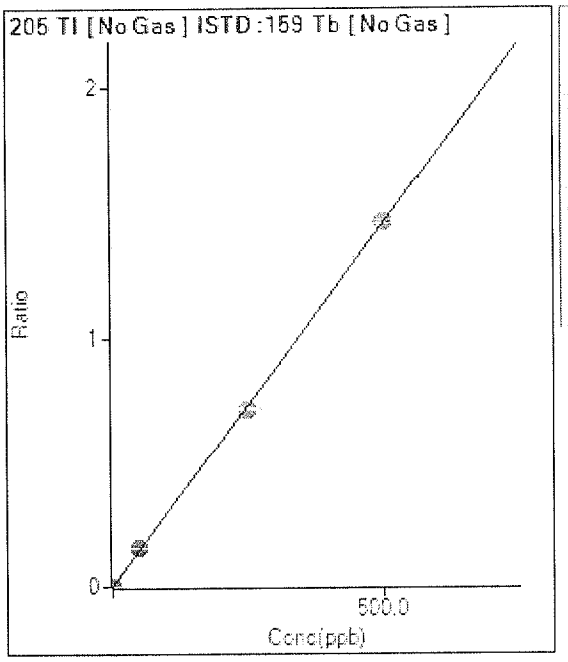
Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15.33	0.0000	P	29.7
2	☐	0.050	0.051	64.17	0.0000	P	4.3
3	☐	0.100	0.113	125.83	0.0000	P	4.8
4	☐	0.500	0.495	495.51	0.0001	P	3.4
5	☐	2.500	2.474	2516.75	0.0006	P	0.9
6	☐	5.000	5.013	5092.20	0.0011	P	2.2

y = 2.2479E-004 * x + 3.5444E-006
R = 1.0000
DL = 0.01406
BEC = 0.01577

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	454.45	0.0001	P	13.5
2	☐	0.500	0.503	8727.50	0.0015	P	1.0
3	☐	1.000	0.996	13931.13	0.0030	P	3.0
4	☐	50.000	52.968	873437.69	0.1539	P	1.1
5	☐	250.000	245.471	3589228.89	0.7130	A	1.1
6	☐	500.000	501.968	8579814.94	1.4579	A	1.1

y = 0.0029 * x + 8.0124E-005

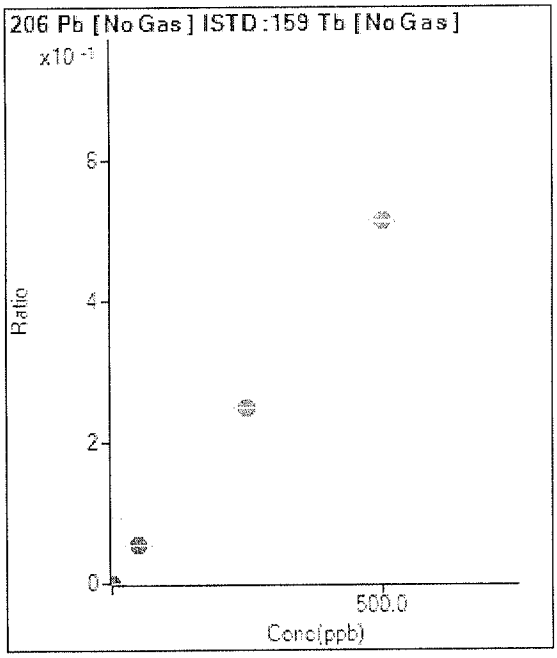
R = 0.9999

DL = 0.01121

BEC = 0.02759

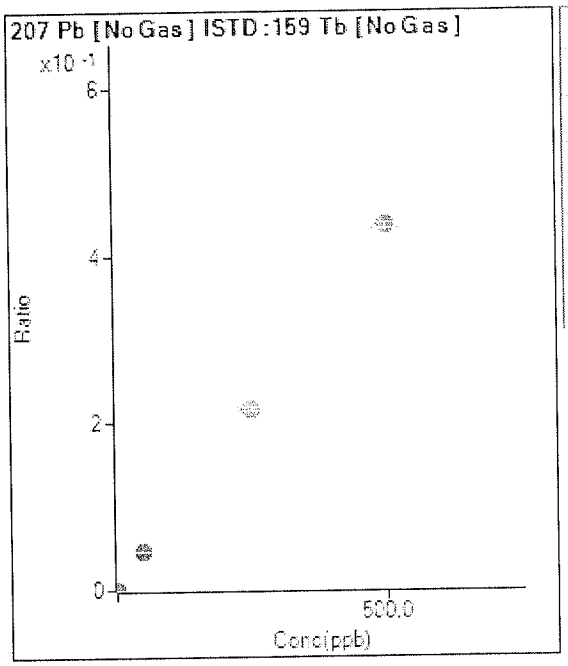
Weight: <None>

Min Conc: 0



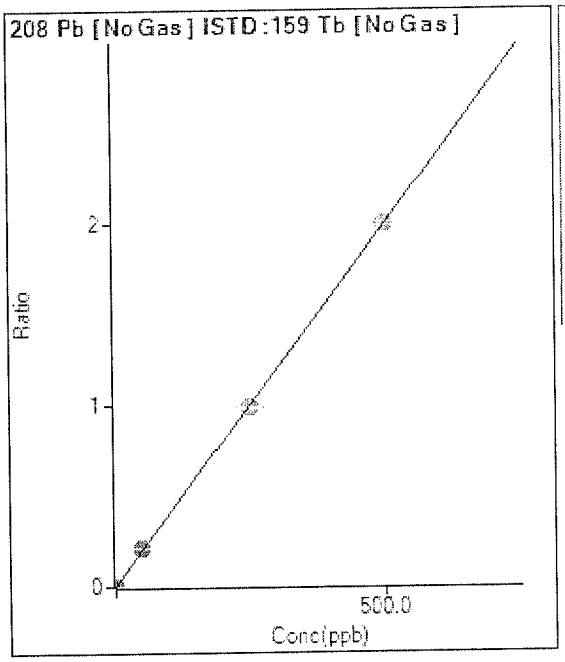
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		230.00	0.0000	P	28.2
2	☐	0.500		3243.77	0.0006	P	2.0
3	☐	1.000		5071.04	0.0011	P	4.6
4	☐	50.000		304413.02	0.0536	P	0.9
5	☐	250.000		1245386.78	0.2474	A	0.4
6	☐	500.000		3022966.72	0.5137	A	0.8

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		193.33	0.0000	P	17.4
2	☐	0.500		2616.95	0.0005	P	0.9
3	☐	1.000		4240.74	0.0009	P	4.[illegible]
4	☐	50.000		260623.18	0.0459	P	0.7
5	☐	250.000		1091877.02	0.2169	M	1.8
6	☐	500.000		2562169.49	0.4354	A	1.6

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	812.23	0.0001	P	7.2
2	☐	0.500	0.515	12426.90	0.0022	P	0.6
3	☐	1.000	1.034	19961.89	0.0043	P	1.6
4	☐	50.000	52.891	1196224.58	0.2108	P	0.8
5	☐	250.000	246.332	4937204.53	0.9812	A	0.8
6	☐	500.000	501.545	11755869.72	1.9976	A	1.1

y = 0.0040 * x + 1.4315E-004

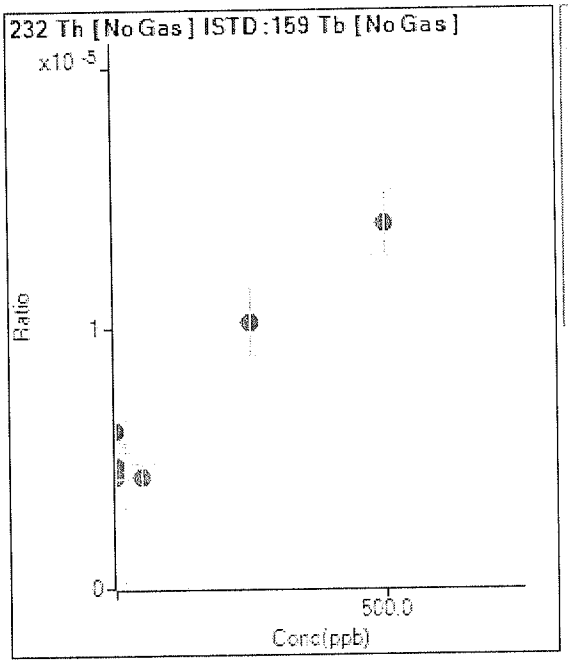
R = 0.9999

DL = 0.007742

BEC = 0.03594

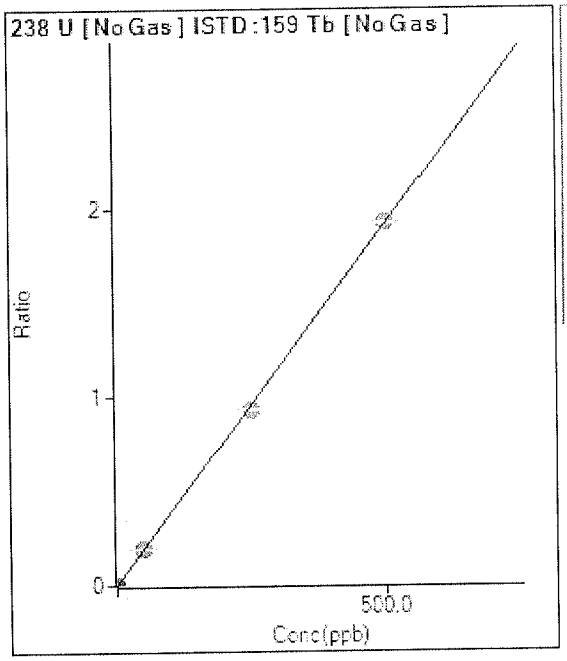
Weight: <None>

Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000		24.45	0.0000	P	55.0
2	☐	0.500		34.44	0.0000	P	14.8
3	☐	1.000		22.22	0.0000	P	22.9
4	☐	50.000		24.44	0.0000	P	21.6
5	☐	250.000		51.11	0.0000	P	25.1
6	☐	500.000		82.22	0.0000	P	18.2

Excluded



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67.78	0.0000	P	13.3
2	☐	0.500	0.511	11116.15	0.0020	P	1.3
3	☐	1.000	0.998	17911.98	0.0038	P	0.8
4	☐	50.000	50.684	1097770.30	0.1934	A	1.4
5	☐	250.000	243.513	4677394.26	0.9293	A	0.6
6	☐	500.000	503.175	11301048.16	1.9203	A	0.7

y = 0.0038 * x + 1.1953E-005

R = 0.9999

DL = 0.001249

BEC = 0.003132

Weight: <None>

Min Conc: 0

US EPA Tune Check Report

Operator Name	THuang
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq. Date-Time	2023-01-31 11:56:38
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

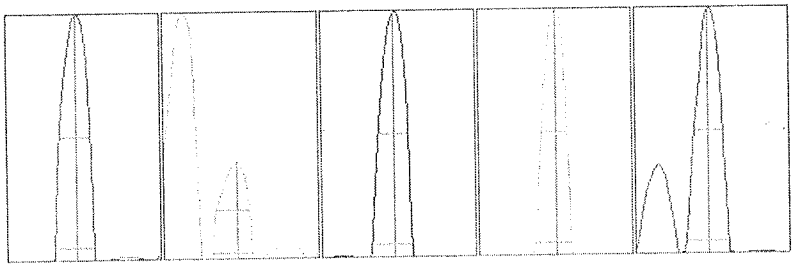
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	14169	141691.38			0.524	5.000
24	10.00	64674	646742.71			0.785	5.000
59	10.00	161839	1618387.55			0.548	5.000
115	10.00	189170	1891695.56			0.905	5.000
208	10.00	97068	970681.30			1.695	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	14062	14204	14122	14229	14229
24	63883	64533	65125	64735	65096
59	160406	161653	162404	162057	162673
115	187579	188052	188747	189539	191930
208	94563	96888	96845	98177	98869

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	25674.86	8.90	8.90 - 9.10	
24	116666.44	23.95	23.90 - 24.10	
59	292404.38	58.95	58.90 - 59.10	
115	381958.34	115.05	114.90 - 115.10	
208	181723.87	207.95	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.59	0.778	0.900	
24	0.62	0.787	0.900	
59	0.58	0.781	0.900	
115	0.51	0.725	0.900	
208	0.56	0.820	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.62 L/min	Dilution Gas	0.37 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.8 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-34 V	Plate Bias	-45 V
Omega Bias	-110 V	Cell Exit	-58 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9996	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	0.3 mm	Torch V	-0.2 mm		

EM

Discriminator	3.2 mV	Analog HV	2797 V	Pulse HV	1512 V

Calibration Blank Report

Sample Name	S0
File Name	H6A23003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:11:52
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	41810.71	0.5
Be	9	6	No Gas	26.67	12.5
B	11	6	No Gas	7218.52	2.3
Na	23	45	H2	970383.79	0.4
Mg	24	45	No Gas	7574.78	13.0
Al	27	45	No Gas	8249.17	8.6
Si	28	45	H2	3177.03	2.5
P	31	45	No Gas	28178.54	0.5
K	39	45	He	92077.08	3.8
Ca	40	45	H2	69007.78	1.4
Ti	47	45	No Gas	132.00	20.8
V	51	45	He	1484.08	1.1
Cr	52	45	He	2022.81	1.9
Mn	55	45	No Gas	7360.65	2.9
Fe	56	45	H2	13970.47	1.7
Co	59	45	No Gas	452.01	3.1
Ni	60	45	He	234.67	8.7
Cu	63	45	He	10768.26	0.3
Zn	66	72	No Gas	1214.72	5.3
As	75	72	He	115.67	5.5
Se	78	72	H2	37.67	13.1
Sr	88	72	No Gas	511.12	7.9
Zr	90	72	No Gas	203.33	22.2
Mo	95	115	No Gas	45.56	25.7
Mo	98	115	No Gas	217.78	15.1
[Cd]	106	115	No Gas	4.00	43.3
Ag	107	115	No Gas	30.00	22.2
[Cd]	108	115	No Gas	6.67	31.2
Cd	111	115	No Gas	27.90	32.0
Sn	118	115	No Gas	906.70	11.5
Sn	118	115	H2	1061.15	3.9
Sb	123	115	No Gas	177.78	19.5
Ba	137	115	No Gas	83.33	38.6
W	182	159	No Gas	56.67	44.4
Hg	201	159	No Gas	23.33	23.7

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	15.33	30.3
Tl	205	159	No Gas	454.45	13.0
Pb	206	159	No Gas	230.00	27.2
Pb	207	159	No Gas	193.33	18.2
Pb	208	159	No Gas	812.23	6.8
Th	232	159	No Gas	24.45	55.1
U	238	159	No Gas	67.78	12.4

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	733417.76	0.3
Sc	45	No Gas	3201327.00	0.9
Sc	45	H2	2650809.25	1.0
Sc	45	He	404532.51	0.7
Ge	72	No Gas	724682.77	0.8
Ge	72	H2	708729.75	1.1
Ge	72	He	231857.12	1.1
In	115	No Gas	4273868.93	1.5
Tb	159	No Gas	5675097.55	1.0
Tb	159	He	4319822.17	0.7

Calibration Standard Report

Sample Name	S1
File Name	H6A23004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:14:42
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	44372.96	0.9
Be	9	6	No Gas	696.68	9.1
B	11	6	No Gas	5014.23	3.2
Na	23	45	H2	1144177.00	0.6
Mg	24	45	No Gas	337570.51	0.3
Al	27	45	No Gas	460769.55	2.0
Si	28	45	H2	127513.82	1.0
P	31	45	No Gas	173200.44	0.9
K	39	45	He	123628.30	3.8
Ca	40	45	H2	552222.10	0.3
Ti	47	45	No Gas	878.69	6.2
V	51	45	He	4060.61	1.8
Cr	52	45	He	5273.02	3.3
Mn	55	45	No Gas	18231.47	2.1
Fe	56	45	H2	734226.21	1.2
Co	59	45	No Gas	9834.88	2.5
Ni	60	45	He	1303.40	5.1
Cu	63	45	He	13939.13	1.4
Zn	66	72	No Gas	4446.06	2.2
As	75	72	He	585.68	5.2
Se	78	72	H2	232.00	3.8
Sr	88	72	No Gas	12412.42	2.0
Zr	90	72	No Gas	58742.13	2.0
Mo	95	115	No Gas	2326.87	4.0
Ag	107	115	No Gas	6699.48	4.8
Cd	111	115	No Gas	1143.07	2.5
Sn	118	115	No Gas	4210.68	1.2
Sb	123	115	No Gas	3786.11	2.5
Ba	137	115	No Gas	1939.04	6.0
W	182	159	No Gas	2046.84	4.9
Hg	201	159	He	64.17	4.4
Tl	205	159	No Gas	8727.50	1.0
Pb	208	159	No Gas	12426.90	0.8
U	238	159	No Gas	11116.15	1.6

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	732178.18	0.3	733417.76	99.83	70	120	
Sc	45	No Gas	3178519.92	0.3	3201327	99.29	70	120	
Sc	45	H2	2639932.83	0.4	2650809.25	99.59	70	120	
Sc	45	He	404967.97	1.0	404532.51	100.11	70	120	
Ge	72	No Gas	750895.00	0.3	724682.77	103.62	70	120	
Ge	72	H2	740551.62	0.4	708729.75	104.49	70	120	
Ge	72	He	239968.52	0.5	231857.12	103.5	70	120	
In	115	No Gas	4337513.43	0.5	4273868.93	101.49	70	120	
Tb	159	No Gas	5660613.80	0.4	5675097.55	99.74	70	120	
Tb	159	He	4304306.00	0.2	4319822.17	99.64	70	120	

Calibration Standard Report

Sample Name	S2
File Name	H6A23005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:17:33
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	38665.16	1.2
Be	9	6	No Gas	1271.17	4.8
B	11	6	No Gas	5317.68	0.3
Na	23	45	H2	1305306.00	0.5
Mg	24	45	No Gas	559769.39	0.2
Al	27	45	No Gas	765958.16	2.2
Si	28	45	H2	252383.58	0.8
P	31	45	No Gas	48264.95	0.3
K	39	45	He	156408.76	2.2
Ca	40	45	H2	975462.77	0.5
Ti	47	45	No Gas	1258.73	7.9
V	51	45	He	6873.72	2.7
Cr	52	45	He	8355.88	2.5
Mn	55	45	No Gas	24694.26	1.0
Fe	56	45	H2	1435987.50	0.9
Co	59	45	No Gas	16166.92	2.4
Ni	60	45	He	2521.57	2.5
Cu	63	45	He	15227.85	1.8
Zn	66	72	No Gas	23363.40	1.3
As	75	72	He	1138.71	5.2
Se	78	72	H2	451.01	6.2
Sr	88	72	No Gas	20376.61	2.0
Zr	90	72	No Gas	87254.05	2.1
Mo	95	115	No Gas	3754.98	1.6
Ag	107	115	No Gas	10334.04	0.7
Cd	111	115	No Gas	1954.46	1.1
Sn	118	115	No Gas	5912.45	3.2
Sb	123	115	No Gas	6532.74	1.1
Ba	137	115	No Gas	3229.29	2.3
W	182	159	No Gas	6244.90	2.2
Hg	201	159	He	125.83	4.7
Tl	205	159	No Gas	13931.13	2.6
Pb	208	159	No Gas	19961.89	0.8
U	238	159	No Gas	17911.98	1.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	616848.88	1.0	733417.76	84.11	70	120	
Sc	45	No Gas	2642110.42	1.2	3201327	82.53	70	120	
Sc	45	H2	2675146.00	0.4	2650809.25	100.92	70	120	
Sc	45	He	409547.90	0.4	404532.51	101.24	70	120	
Ge	72	No Gas	633518.15	1.5	724682.77	87.42	70	120	
Ge	72	H2	744991.98	0.8	708729.75	105.12	70	120	
Ge	72	He	238923.77	0.3	231857.12	103.05	70	120	
In	115	No Gas	3616110.26	1.9	4273868.93	84.61	70	120	
Tb	159	No Gas	4687156.34	0.8	5675097.55	82.59	70	120	
Tb	159	He	4331039.67	0.3	4319822.17	100.26	70	120	

Calibration Standard Report

Sample Name	S3
File Name	H6A23006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:20:24
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	61719.10	0.9
Be	9	6	No Gas	7529.80	1.7
B	11	6	No Gas	14623.15	1.1
Na	23	45	H2	18032048.00	0.5
Mg	24	45	No Gas	33518038.00	0.8
Al	27	45	No Gas	45837097.65	0.9
Si	28	45	H2	651874.67	1.4
P	31	45	No Gas	58672.87	0.9
K	39	45	He	3159033.25	2.3
Ca	40	45	H2	45384568.00	0.8
Ti	47	45	No Gas	67334.96	1.2
V	51	45	He	267637.04	3.3
Cr	52	45	He	305514.03	2.5
Mn	55	45	No Gas	6307905.17	0.8
Fe	56	45	H2	71212720.00	1.0
Co	59	45	No Gas	930705.46	0.9
Ni	60	45	He	108662.25	3.2
Cu	63	45	He	298302.68	1.9
Zn	66	72	No Gas	136828.36	1.0
As	75	72	He	51392.47	1.1
Se	78	72	H2	20819.71	1.0
Sr	88	72	No Gas	1220587.73	1.0
Zr	90	72	No Gas	157792.00	3.4
Mo	95	115	No Gas	234429.66	0.8
Ag	107	115	No Gas	56888.51	0.3
Cd	111	115	No Gas	110313.73	0.4
Sn	118	115	No Gas	332472.71	1.1
Sb	123	115	No Gas	77128.28	1.4
Ba	137	115	No Gas	350498.40	0.5
W	182	159	No Gas	33835.21	1.5
Hg	201	159	He	495.51	2.6
Tl	205	159	No Gas	873437.69	0.2
Pb	208	159	No Gas	1196224.58	0.3
U	238	159	No Gas	1097770.30	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	721770.47	0.5	733417.76	98.41	70	120	
Sc	45	No Gas	3195946.25	1.0	3201327	99.83	70	120	
Sc	45	H2	2671975.92	0.7	2650809.25	100.8	70	120	
Sc	45	He	402691.69	4.0	404532.51	99.54	70	120	
Ge	72	No Gas	767838.98	0.9	724682.77	105.96	70	120	
Ge	72	H2	748924.71	0.2	708729.75	105.67	70	120	
Ge	72	He	240510.76	1.7	231857.12	103.73	70	120	
In	115	No Gas	4248807.76	1.4	4273868.93	99.41	70	120	
Tb	159	No Gas	5675448.80	1.1	5675097.55	100.01	70	120	
Tb	159	He	4319599.33	2.2	4319822.17	99.99	70	120	

Calibration Standard Report

Sample Name	S4
File Name	H6A23007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:23:32
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	124047.75	3.8
Be	9	6	No Gas	33301.58	1.9
B	11	6	No Gas	47257.17	4.9
Na	23	45	H2	86057866.67	0.2
Mg	24	45	No Gas	143404416.00	4.0
Al	27	45	No Gas	197563310.39	5.0
Si	28	45	H2	3221555.67	0.5
P	31	45	No Gas	169381.59	3.1
K	39	45	He	15929469.33	1.8
Ca	40	45	H2	229302997.33	0.6
Ti	47	45	No Gas	291882.83	4.7
V	51	45	He	1350933.54	1.2
Cr	52	45	He	1521302.96	1.4
Mn	55	45	No Gas	26665535.33	4.1
Fe	56	45	H2	356745098.67	0.4
Co	59	45	No Gas	3870141.75	4.3
Ni	60	45	He	543157.42	1.2
Cu	63	45	He	1392176.09	0.7
Zn	66	72	No Gas	587635.27	3.4
As	75	72	He	259612.82	0.5
Se	78	72	H2	104002.74	0.5
Sr	88	72	No Gas	5276795.21	5.9
Zr	90	72	No Gas	337371.05	5.2
Mo	95	115	No Gas	1026633.05	6.7
Ag	107	115	No Gas	242739.36	4.5
Cd	111	115	No Gas	473648.07	4.3
Sn	118	115	No Gas	1386694.32	5.3
Sb	123	115	No Gas	338656.37	3.9
Ba	137	115	No Gas	1502313.87	5.2
W	182	159	No Gas	167706.78	7.9
Hg	201	159	He	2516.75	1.0
Tl	205	159	No Gas	3589228.89	6.8
Pb	208	159	No Gas	4937204.53	5.7
U	238	159	No Gas	4677394.26	6.2

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	633402.24	5.2	733417.76	86.36	70	120	
Sc	45	No Gas	2824354.17	5.0	3201327	88.22	70	120	
Sc	45	H2	2756786.67	0.5	2650809.25	104	70	120	
Sc	45	He	422889.94	0.6	404532.51	104.54	70	120	
Ge	72	No Gas	682945.04	4.9	724682.77	94.24	70	120	
Ge	72	H2	758114.15	0.2	708729.75	106.97	70	120	
Ge	72	He	247708.02	0.4	231857.12	106.84	70	120	
In	115	No Gas	3693393.99	5.0	4273868.93	86.42	70	120	
Tb	159	No Gas	5032591.46	6.0	5675097.55	88.68	70	120	
Tb	159	He	4496951.00	0.2	4319822.17	104.1	70	120	

Calibration Standard Report

Sample Name	S5
File Name	H6A23008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:26:23
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	252202.88	0.1
Be	9	6	No Gas	75892.57	1.0
B	11	6	No Gas	104126.94	1.9
Na	23	45	H2	173960234.67	0.3
Mg	24	45	No Gas	341455050.67	1.3
Al	27	45	No Gas	465750326.39	0.5
Si	28	45	H2	6389457.67	0.4
P	31	45	No Gas	348604.95	1.1
K	39	45	He	32161536.00	0.5
Ca	40	45	H2	466917674.67	1.0
Ti	47	45	No Gas	697418.88	1.4
V	51	45	He	2744681.75	1.3
Cr	52	45	He	3082248.75	0.9
Mn	55	45	No Gas	64393204.00	1.1
Fe	56	45	H2	714627840.00	0.5
Co	59	45	No Gas	9189106.00	0.6
Ni	60	45	He	1072223.50	0.3
Cu	63	45	He	2769750.42	1.1
Zn	66	72	No Gas	1356317.25	1.1
As	75	72	He	528613.96	0.5
Se	78	72	H2	208367.69	0.3
Sr	88	72	No Gas	12475117.84	0.6
Zr	90	72	No Gas	835144.96	0.6
Mo	95	115	No Gas	2380846.92	0.5
Ag	107	115	No Gas	551521.69	1.7
Cd	111	115	No Gas	1101945.37	0.7
Sn	118	115	No Gas	3296445.50	1.1
Sb	123	115	No Gas	776853.79	1.2
Ba	137	115	No Gas	3522482.36	0.6
W	182	159	No Gas	408622.40	1.4
Hg	201	159	He	5092.20	2.1
Tl	205	159	No Gas	8579814.94	1.0
Pb	208	159	No Gas	11755869.72	1.1
U	238	159	No Gas	11301048.16	0.5

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	731215.81	1.3	733417.76	99.7	70	120	
Sc	45	No Gas	3370963.67	0.5	3201327	105.3	70	120	
Sc	45	H2	2761294.75	0.9	2650809.25	104.17	70	120	
Sc	45	He	427683.81	0.7	404532.51	105.72	70	120	
Ge	72	No Gas	790202.25	0.6	724682.77	109.04	70	120	
Ge	72	H2	764027.96	0.3	708729.75	107.8	70	120	
Ge	72	He	247601.83	0.7	231857.12	106.79	70	120	
In	115	No Gas	4243081.84	1.2	4273868.93	99.28	70	120	
Tb	159	No Gas	5885099.49	0.2	5675097.55	103.7	70	120	
Tb	159	He	4504445.00	0.1	4319822.17	104.27	70	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6A23009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:29:09
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	27.913	ppb	1.8	158957.76	30	93.04	90	110	
Be	9	6	No Gas	30.478	ppb	3.0	46568.08	30	101.59	90	110	
B	11	6	No Gas	29.168	ppb	1.8	35402.29	30	97.23	90	110	
Na	23	45	H2	31040.708	ppb	0.6	107779205.33	30000	103.47	90	110	
Mg	24	45	No Gas	30319.382	ppb	1.6	204854138.67	30000	101.06	90	110	
Al	27	45	No Gas	31262.292	ppb	0.5	288646655.70	30000	104.21	90	110	
Si	28	45	H2	3157.303	ppb	0.7	4033912.00	3000	105.24	90	110	
P	31	45	No Gas	285.775	ppb	1.2	215759.61	300	95.26	90	110	
K	39	45	He	31442.049	ppb	1.5	19865970.00	30000	104.81	90	110	
Ca	40	45	H2	30927.665	ppb	0.7	287096608.00	30000	103.09	90	110	
Ti	47	45	No Gas	300.948	ppb	1.1	414964.61	300	100.32	90	110	
V	51	45	He	312.932	ppb	0.7	1683895.13	300	104.31	90	110	
Cr	52	45	He	316.056	ppb	0.4	1911214.54	300	105.35	90	110	
Mn	55	45	No Gas	2014.385	ppb	1.4	42658145.33	2000	100.72	90	110	
Fe	56	45	H2	31096.533	ppb	0.3	443322581.33	30000	103.66	90	110	
Co	59	45	No Gas	308.525	ppb	1.8	5614744.17	300	102.84	90	110	
Ni	60	45	He	315.514	ppb	1.6	667159.08	300	105.17	90	110	
Cu	63	45	He	327.392	ppb	1.6	1788126.08	300	109.13	90	110	
Zn	66	72	No Gas	312.841	ppb	1.5	841271.08	300	104.28	90	110	
As	75	72	He	306.912	ppb	0.7	319543.66	300	102.3	90	110	
Se	78	72	H2	304.404	ppb	0.1	125618.33	300	101.47	90	110	
Sr	88	72	No Gas	305.828	ppb	0.8	7522854.15	300	101.94	90	110	
Zr	90	72	No Gas	31.072	ppb	0.7	504186.51	30	103.57	90	110	
Mo	95	115	No Gas	296.889	ppb	1.6	1434477.27	300	98.96	90	110	
Ag	107	115	No Gas	30.792	ppb	1.6	346102.33	30	102.64	90	110	
Cd	111	115	No Gas	299.749	ppb	0.9	669901.62	300	99.92	90	110	
Sn	118	115	No Gas	305.780	ppb	0.6	2036221.03	300	101.93	90	110	
Sb	123	115	No Gas	56.704	ppb	0.6	448046.46	60	94.51	90	110	
Ba	137	115	No Gas	301.611	ppb	0.6	1075771.90	300	100.54	90	110	
W	182	159	No Gas	30.711	ppb	1.4	249655.68	30	102.37	90	110	
Hg	201	159	No Gas	2.856	ppb	1.6	3637.86	3	95.2	90	110	
Hg	201	159	He	2.909	ppb	1.2	2960.01	3	96.97	90	110	
Tl	205	159	No Gas	303.989	ppb	0.6	5218375.77	300	101.33	90	110	
Pb	208	159	No Gas	304.572	ppb	0.8	7168389.12	300	101.52	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	304.909	ppb	0.8	6876660.84	300	101.64	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	733661.91	2.0	733417.76	100.03	70	120	
Sc	45	No Gas	3331779.92	1.7	3201327	104.07	70	120	
Sc	45	H2	2753568.08	0.7	2650809.25	103.88	70	120	
Sc	45	He	419416.20	1.1	404532.51	103.68	70	120	
Ge	72	No Gas	782278.75	1.5	724682.77	107.95	70	120	
Ge	72	H2	755493.13	0.3	708729.75	106.6	70	120	
Ge	72	He	244705.14	0.7	231857.12	105.54	70	120	
In	115	No Gas	4313024.32	1.9	4273868.93	100.92	70	120	
Tb	159	No Gas	5909746.43	2.8	5675097.55	104.13	70	120	
Tb	159	He	4502030.17	0.7	4319822.17	104.22	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6A23010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:45:40
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.129	ppb	26.7	41906.62	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	25.56	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	6992.85	4	
Na	23	45	H2	<0.000	ppb	N/A	943033.92	40	
Mg	24	45	No Gas	0.222	ppb	113.2	9032.33	10	
Al	27	45	No Gas	0.075	ppb	122.0	8939.58	15	
Si	28	45	H2	0.297	ppb	16.9	3567.79	8	
P	31	45	No Gas	<0.000	ppb	N/A	28075.01	10	
K	39	45	He	1.391	ppb	586.4	94259.27	20	
Ca	40	45	H2	0.110	ppb	20.4	70501.36	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	123.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1492.75	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1962.81	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	7337.97	0.2	
Fe	56	45	H2	0.084	ppb	10.1	15242.49	10	
Co	59	45	No Gas	<0.000	ppb	N/A	440.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	194.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	6867.07	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	1192.05	2	
As	75	72	He	0.016	ppb	79.8	132.00	0.2	
Se	78	72	H2	0.000	ppb	1222.4	38.00	0.2	
Sr	88	72	No Gas	0.002	ppb	210.2	566.68	0.2	
Zr	90	72	No Gas	0.004	ppb	55.8	270.00	2	
Mo	95	115	No Gas	0.002	ppb	221.0	56.67	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	27.78	0.08	
Cd	111	115	No Gas	0.006	ppb	69.0	41.53	0.2	
Sn	118	115	No Gas	0.028	ppb	31.9	1102.27	0.2	
Sb	123	115	No Gas	0.004	ppb	55.4	212.23	0.4	
Ba	137	115	No Gas	0.006	ppb	34.3	105.56	0.2	
W	182	159	No Gas	0.002	ppb	236.7	70.00	0.3	
Hg	201	159	No Gas	0.006	ppb	35.4	31.00	0.1	
Hg	201	159	He	0.005	ppb	97.8	20.17	0.1	
Tl	205	159	No Gas	0.010	ppb	30.6	631.13	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	766.68	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.002	ppb	33.5	113.33	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	725696.31	1.7	733417.76	98.95	70	120	
Sc	45	No Gas	3211603.67	1.8	3201327	100.32	70	120	
Sc	45	H2	2670321.75	0.8	2650809.25	100.74	70	120	
Sc	45	He	410310.54	0.8	404532.51	101.43	70	120	
Ge	72	No Gas	730850.90	2.0	724682.77	100.85	70	120	
Ge	72	H2	712219.39	1.0	708729.75	100.49	70	120	
Ge	72	He	232769.99	0.5	231857.12	100.39	70	120	
In	115	No Gas	4327238.44	1.1	4273868.93	101.25	70	120	
Tb	159	No Gas	5719144.21	1.7	5675097.55	100.78	70	120	
Tb	159	He	4407266.50	0.5	4319822.17	102.02	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3101
File Name	H6A23011.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:53:02
Sample Type	LLCCV
Total Dilution	1.0000
Comment	1/100/10 ppb
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	1.166	ppb	3.1	46487.58	1	116.6	80	120	
Be	9	6	No Gas	0.936	ppb	2.0	1447.85	1	93.6	80	120	
B	11	6	No Gas	9.084	ppb	6.5	15924.60	10	90.84	80	120	
Na	23	45	H2	85.254	ppb	1.9	1281312.46	100	85.25	80	120	
Mg	24	45	No Gas	101.523	ppb	1.9	674779.64	100	101.52	80	120	
Al	27	45	No Gas	102.168	ppb	2.7	925925.61	100	102.17	80	120	
Si	28	45	H2	103.143	ppb	0.3	132904.25	100	103.14	80	120	
P	31	45	No Gas	46.346	ppb	2.0	57924.48	50	92.69	80	120	
K	39	45	He	104.980	ppb	5.2	159174.53	100	104.98	80	120	
Ca	40	45	H2	111.080	ppb	0.7	1085654.04	100	111.08	80	120	
Ti	47	45	No Gas	0.991	ppb	6.9	1462.08	1	99.1	80	120	
V	51	45	He	1.022	ppb	1.2	6931.75	1	102.2	80	120	
Cr	52	45	He	1.094	ppb	2.4	8580.69	1	109.4	80	120	
Mn	55	45	No Gas	1.161	ppb	0.3	31360.56	1	116.1	80	120	
Fe	56	45	H2	104.737	ppb	0.8	1484493.54	100	104.74	80	120	
Co	59	45	No Gas	1.066	ppb	0.4	19315.68	1	106.6	80	120	
Ni	60	45	He	1.102	ppb	0.9	2536.24	1	110.2	80	120	
Cu	63	45	He	0.213	ppb	5.2	12143.42	1	21.3	80	120	> +/- 20%
Zn	66	72	No Gas	11.783	ppb	1.6	32419.34	10	117.83	80	120	
As	75	72	He	1.044	ppb	2.7	1193.05	1	104.4	80	120	
Se	78	72	H2	0.985	ppb	1.4	443.34	1	98.5	80	120	
Sr	88	72	No Gas	2.114	ppb	2.5	51705.26	2	105.7	80	120	
Zr	90	72	No Gas	4.243	ppb	0.8	67935.83	5	84.86	80	120	
Mo	95	115	No Gas	0.943	ppb	2.9	4700.84	1	94.3	80	120	
Ag	107	115	No Gas	1.112	ppb	1.1	12800.64	1	111.2	80	120	
Cd	111	115	No Gas	1.017	ppb	3.0	2350.41	1	101.7	80	120	
Sn	118	115	No Gas	0.948	ppb	1.9	7379.85	1	94.8	80	120	
Sb	123	115	No Gas	0.929	ppb	3.3	7683.37	1	92.9	80	120	
Ba	137	115	No Gas	1.034	ppb	4.6	3852.80	1	103.4	80	120	
W	182	159	No Gas	2.004	ppb	1.7	16090.27	2	100.2	80	120	
Hg	201	159	No Gas	0.109	ppb	10.6	159.33	0.1	109	80	120	
Hg	201	159	He	0.109	ppb	6.0	123.67	0.1	109	80	120	
Tl	205	159	No Gas	1.016	ppb	2.2	17627.99	1	101.6	80	120	
Pb	208	159	No Gas	1.014	ppb	3.6	24333.84	1	101.4	80	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
U	238	159	No Gas	1.010	ppb	1.6	22499.55	1	101	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	730058.76	1.3	733417.76	99.54	70	120	
Sc	45	No Gas	3240575.00	1.1	3201327	101.23	70	120	
Sc	45	H2	2711304.50	0.4	2650809.25	102.28	70	120	
Sc	45	He	413296.98	1.4	404532.51	102.17	70	120	
Ge	72	No Gas	769766.21	0.6	724682.77	106.22	70	120	
Ge	72	H2	750313.69	0.8	708729.75	105.87	70	120	
Ge	72	He	241576.34	1.0	231857.12	104.19	70	120	
In	115	No Gas	4404996.89	1.7	4273868.93	103.07	70	120	
Tb	159	No Gas	5817426.02	1.1	5675097.55	102.51	70	120	
Tb	159	He	4402655.83	0.5	4319822.17	101.92	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Sample Name	MRLA3102
File Name	H6A23012.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 14:55:37
Sample Type	LLCCV2
Total Dilution	1.0000
Comment	0.4/40/4 ppb
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Rec	%Low	%High	QC Flag
Li	7	6	No Gas	0.443	ppb	25.9	40053.71	0.4	110.75	80	120	
Be	9	6	No Gas	0.454	ppb	3.2	661.13	0.4	113.5	80	120	
B	11	6	No Gas	<0.000	ppb	N/A	6425.92	0.4	-53.75	80	120	> +/- 20%
Na	23	45	H2	38.973	ppb	9.7	1099973.71	40	97.43	80	120	
Mg	24	45	No Gas	44.584	ppb	1.7	274348.95	40	111.46	80	120	
Al	27	45	No Gas	44.159	ppb	2.9	369713.11	40	110.4	80	120	
K	39	45	He	80.795	ppb	10.1	118391.44	40	201.99	80	120	> +/- 20%
Ca	40	45	H2	78.066	ppb	0.6	766869.63	40	195.17	80	120	> +/- 20%
Ti	47	45	No Gas	0.567	ppb	10.7	815.36	0.4	141.75	80	120	> +/- 20%
V	51	45	He	0.495	ppb	2.4	3397.76	0.4	123.75	80	120	> +/- 20%
Cr	52	45	He	0.762	ppb	3.7	5419.74	0.4	190.5	80	120	> +/- 20%
Mn	55	45	No Gas	0.624	ppb	7.2	18501.19	0.4	156	80	120	> +/- 20%
Fe	56	45	H2	47.826	ppb	0.1	670661.33	40	119.57	80	120	
Co	59	45	No Gas	0.436	ppb	2.3	7473.40	0.4	109	80	120	
Ni	60	45	He	0.523	ppb	2.9	1091.38	0.4	130.75	80	120	> +/- 20%
Cu	63	45	He	0.217	ppb	38.0	9978.99	0.4	54.25	80	120	> +/- 20%
Zn	66	72	No Gas	13.153	ppb	1.6	31625.68	4	328.82	80	120	> +/- 20%
As	75	72	He	0.503	ppb	3.2	517.34	0.4	125.75	80	120	> +/- 20%
Se	78	72	H2	0.428	ppb	7.5	206.33	0.4	107	80	120	
Sr	88	72	No Gas	0.486	ppb	0.5	10794.39	0.4	121.5	80	120	> +/- 20%
Mo	95	115	No Gas	0.391	ppb	3.2	1791.23	0.4	97.75	80	120	
Ag	107	115	No Gas	0.424	ppb	1.7	4450.76	0.4	106	80	120	
Cd	111	115	No Gas	0.408	ppb	6.5	870.26	0.4	102	80	120	
Sn	118	115	No Gas	0.465	ppb	2.2	3717.20	0.4	116.25	80	120	
Sb	123	115	No Gas	0.409	ppb	2.5	3158.16	0.4	102.25	80	120	
Ba	137	115	No Gas	0.529	ppb	6.3	1822.35	0.4	132.25	80	120	> +/- 20%
Tl	205	159	No Gas	0.414	ppb	4.6	6856.36	0.4	103.5	80	120	
Pb	208	159	No Gas	0.427	ppb	2.2	9819.31	0.4	106.75	80	120	
U	238	159	No Gas	0.404	ppb	1.2	8276.15	0.4	101	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	673023.89	7.0	733417.76	91.77	70	120	
Sc	45	No Gas	2958669.25	7.3	3201327	92.42	70	120	

Low Level Continuing Calibration Verification (LLCCV) Report

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Sc	45	H2	2652124.00	0.6	2650809.25	100.05	70	120	
Sc	45	He	339415.50	3.0	404532.51	83.9	70	120	
Ge	72	No Gas	675774.79	7.9	724682.77	93.25	70	120	
Ge	72	H2	718633.65	1.2	708729.75	101.4	70	120	
Ge	72	He	195887.22	2.2	231857.12	84.49	70	120	
In	115	No Gas	3996174.95	6.9	4273868.93	93.5	70	120	
Tb	159	No Gas	5329844.23	7.0	5675097.55	93.92	70	120	
Tb	159	He	3645504.17	2.5	4319822.17	84.39	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA
File Name	H6A23013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:03:21
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.629	ppb	22.2	42891.87	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	16.67	0.4	-50	50	
B	11	6	No Gas	0.882	ppb	35.2	7783.27	10	-50	50	
Na	23	45	H2	112040.068	ppb	0.6	394894336.00	100000	80	120	
Mg	24	45	No Gas	108943.162	ppb	1.3	741190976.00	100000	80	120	
Al	27	45	No Gas	110578.904	ppb	1.0	1028223211.35	100000	80	120	
Si	28	45	H2	7.023	ppb	3.0	12535.03	50	-50	50	
P	31	45	No Gas	104945.900	ppb	0.6	68988204.00	100000	80	120	
K	39	45	He	112950.540	ppb	0.7	71915096.00	100000	80	120	
Ca	40	45	H2	112871.202	ppb	0.5	1070595306.67	100000	80	120	
Ti	47	45	No Gas	2267.778	ppb	0.6	3148542.08	2000	80	120	
V	51	45	He	0.000	ppb	11897.3	1556.76	1	-50	50	
Cr	52	45	He	2.410	ppb	0.4	16843.01	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.659	ppb	2.9	21752.61	1	-50	50	> +/- 20%
Fe	56	45	H2	112782.129	ppb	0.8	1643089152.00	100000	80	120	
Co	59	45	No Gas	0.174	ppb	2.3	3661.16	0.75	-50	50	
Ni	60	45	He	0.478	ppb	4.8	1268.06	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	4158.64	2	-50	50	> +/- 20%
Zn	66	72	No Gas	4.499	ppb	1.2	13634.18	20	-50	50	
As	75	72	He	0.078	ppb	24.7	205.33	1	-50	50	
Se	78	72	H2	0.070	ppb	32.7	70.00	1	-50	50	
Sr	88	72	No Gas	0.965	ppb	1.4	24736.16	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.172	ppb	7.5	3063.70	10	-50	50	
Mo	95	115	No Gas	2249.951	ppb	0.5	10737240.13	2000	80	120	
Ag	107	115	No Gas	0.091	ppb	0.3	1038.93	0.4	-50	50	
Cd	111	115	No Gas	0.045	ppb	87.7	126.17	1	-50	50	
Sn	118	115	No Gas	0.108	ppb	9.0	1614.54	1	-50	50	
Sb	123	115	No Gas	0.070	ppb	6.6	727.80	1	-50	50	
Ba	137	115	No Gas	0.731	ppb	1.6	2660.27	1	-50	50	> +/- 20%
W	182	159	No Gas	0.190	ppb	2.9	1626.78	1	-50	50	
Hg	201	159	No Gas	0.004	ppb	83.3	30.33	0.5	-50	50	
Hg	201	159	He	0.001	ppb	194.4	17.00	0.5	-50	50	
Tl	205	159	No Gas	0.006	ppb	70.4	582.24	0.5	-50	50	
Pb	208	159	No Gas	0.066	ppb	10.5	2435.66	0.5	-50	50	

TH 2/1/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.021	ppb	3.5	553.35	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	707652.34	1.7	733417.76	96.49	70	120	
Sc	45	No Gas	3356593.67	4.1	3201327	104.85	70	120	
Sc	45	H2	2814016.58	0.5	2650809.25	106.16	70	120	
Sc	45	He	424089.89	0.3	404532.51	104.83	70	120	
Ge	72	No Gas	796482.40	2.3	724682.77	109.91	70	120	
Ge	72	H2	766059.75	0.6	708729.75	108.09	70	120	
Ge	72	He	247220.62	0.2	231857.12	106.63	70	120	
In	115	No Gas	4260703.03	3.1	4273868.93	99.69	70	120	
Tb	159	No Gas	5984045.46	2.0	5675097.55	105.44	70	120	
Tb	159	He	4493997.17	0.6	4319822.17	104.03	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB
File Name	H6A23014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:05:59
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.404	ppb	0.6	121633.10	20	80	120	
Be	9	6	No Gas	20.466	ppb	1.1	29855.00	20	80	120	
B	11	6	No Gas	18.770	ppb	3.0	24208.61	20	80	120	
Na	23	45	H2	99891.438	ppb	1.2	350773386.67	100000	80	120	
Mg	24	45	No Gas	96428.415	ppb	1.9	660251669.33	100000	80	120	
Al	27	45	No Gas	97958.583	ppb	1.3	916701666.34	100000	80	120	
Si	28	45	H2	212.691	ppb	0.9	279744.79	200	80	120	
P	31	45	No Gas	91789.642	ppb	1.9	60708996.00	100000	80	120	
K	39	45	He	100161.457	ppb	1.2	63412277.33	100000	80	120	
Ca	40	45	H2	100626.705	ppb	0.7	950669760.00	100000	80	120	
Ti	47	45	No Gas	2019.259	ppb	0.8	2820387.92	2000	80	120	
V	51	45	He	20.584	ppb	2.0	112784.09	20	80	120	
Cr	52	45	He	23.039	ppb	0.8	142007.12	20	80	120	
Mn	55	45	No Gas	20.784	ppb	0.5	453646.38	20	80	120	
Fe	56	45	H2	100163.292	ppb	0.5	1453493290.67	100000	80	120	
Co	59	45	No Gas	20.446	ppb	1.9	377485.12	20	80	120	
Ni	60	45	He	20.926	ppb	1.1	44713.14	20	80	120	
Cu	63	45	He	19.577	ppb	0.7	118047.85	20	80	120	
Zn	66	72	No Gas	23.584	ppb	1.4	65457.30	20	80	120	
As	75	72	He	20.111	ppb	1.0	21124.82	20	80	120	
Se	78	72	H2	20.266	ppb	1.0	8467.66	20	80	120	
Sr	88	72	No Gas	20.996	ppb	0.5	523586.40	20	80	120	
Zr	90	72	No Gas	9.735	ppb	1.7	160170.23	20	80	120	> +/- 20%
Mo	95	115	No Gas	2009.767	ppb	0.8	9656356.00	2000	80	120	
Ag	107	115	No Gas	20.059	ppb	0.5	224281.63	20	80	120	
Cd	111	115	No Gas	20.165	ppb	0.7	44845.25	20	80	120	
Sn	118	115	No Gas	20.068	ppb	1.2	133734.93	20	80	120	
Sb	123	115	No Gas	19.937	ppb	0.8	156785.77	20	80	120	
Ba	137	115	No Gas	21.288	ppb	0.1	75587.92	20	80	120	
W	182	159	No Gas	19.084	ppb	0.7	159340.57	20	80	120	
Hg	201	159	No Gas	1.903	ppb	2.0	2497.75	2	80	120	
Hg	201	159	He	1.961	ppb	1.5	2017.00	2	80	120	
Tl	205	159	No Gas	20.156	ppb	1.3	355699.47	20	80	120	
Pb	208	159	No Gas	20.404	ppb	1.3	493880.23	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	20.967	ppb	0.4	485598.49	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	700329.53	2.3	733417.76	95.49	70	120	
Sc	45	No Gas	3376636.25	2.3	3201327	105.48	70	120	
Sc	45	H2	2802854.17	0.3	2650809.25	105.74	70	120	
Sc	45	He	421620.24	0.6	404532.51	104.22	70	120	
Ge	72	No Gas	792282.50	1.4	724682.77	109.33	70	120	
Ge	72	H2	761558.69	1.0	708729.75	107.45	70	120	
Ge	72	He	245531.90	0.2	231857.12	105.9	70	120	
In	115	No Gas	4289593.54	1.7	4273868.93	100.37	70	120	
Tb	159	No Gas	6068212.40	2.3	5675097.55	106.93	70	120	
Tb	159	He	4538820.83	0.5	4319822.17	105.07	70	120	

Sample Report

Sample Name	MRLA3103
File Name	H6A23015.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:08:36
Sample Type	Sample
Total Dilution	1.0000
Comment	500 ppb CAT
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	0.113	0.113	ppb	165.4	39456.40	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	17.78	50	
B	11	6	No Gas	<0.000	<0.000	ppb	N/A	4249.54	100	
Na	23	45	H2	605.694	605.694	ppb	0.5	2556851.50	50000	
Mg	24	45	No Gas	524.415	524.415	ppb	2.5	3354999.25	50000	
Al	27	45	No Gas	518.642	518.642	ppb	2.5	4536388.99	50000	
Si	28	45	H2	1.609	1.609	ppb	5.1	4428.70	5000	
P	31	45	No Gas	4.925	4.925	ppb	18.8	30760.08	500	
K	39	45	He	574.900	574.900	ppb	2.4	368834.72	50000	
Ca	40	45	H2	531.582	531.582	ppb	0.1	4139573.75	50000	
Ti	47	45	No Gas	0.241	0.241	ppb	11.2	444.01	500	
V	51	45	He	0.032	0.032	ppb	12.8	1379.40	500	
Cr	52	45	He	0.106	0.106	ppb	5.8	2210.18	500	
Mn	55	45	No Gas	0.155	0.155	ppb	8.7	10333.25	3000	
Fe	56	45	H2	551.966	551.966	ppb	0.8	6520088.17	50000	
Co	59	45	No Gas	0.016	0.016	ppb	20.6	721.35	500	
Ni	60	45	He	0.022	0.022	ppb	69.8	234.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3234.39	500	
Zn	66	72	No Gas	1.047	1.047	ppb	3.0	3867.89	500	
As	75	72	He	0.032	0.032	ppb	21.3	128.00	500	
Se	78	72	H2	0.062	0.062	ppb	68.7	55.00	500	
Sr	88	72	No Gas	0.034	0.034	ppb	9.5	1295.62	500	
Zr	90	72	No Gas	0.002	0.002	ppb	215.0	233.33	50	
Mo	95	115	No Gas	0.332	0.332	ppb	9.5	1664.55	500	
Ag	107	115	No Gas	0.074	0.074	ppb	5.5	874.48	50	
Cd	111	115	No Gas	0.013	0.013	ppb	53.6	58.08	500	
Sn	118	115	No Gas	0.015	0.015	ppb	10.9	1020.04	500	
Sb	123	115	No Gas	0.009	0.009	ppb	15.0	250.00	100	
Ba	137	115	No Gas	0.079	0.079	ppb	11.7	368.90	1000	
W	182	159	No Gas	0.002	0.002	ppb	14.3	76.67	50	
Hg	201	159	No Gas	0.011	0.011	ppb	49.7	37.83	5	
Hg	201	159	He	0.008	0.008	ppb	44.3	19.83	5	
Tl	205	159	No Gas	0.026	0.026	ppb	2.5	912.26	500	
Pb	208	159	No Gas	0.017	0.017	ppb	19.1	1235.58	500	
U	238	159	No Gas	0.011	0.011	ppb	8.8	312.23	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	684756.93	5.1	733417.76	93.37	70	120	
Sc	45	No Gas	3150177.17	5.8	3201327	98.4	70	120	
Sc	45	H2	2277360.75	0.3	2650809.25	85.91	70	120	
Sc	45	He	338414.43	3.3	404532.51	83.66	70	120	
Ge	72	No Gas	734140.88	5.9	724682.77	101.31	70	120	
Ge	72	H2	633013.92	1.2	708729.75	89.32	70	120	
Ge	72	He	201612.26	1.6	231857.12	86.96	70	120	
In	115	No Gas	4345642.81	4.7	4273868.93	101.68	70	120	
Tb	159	No Gas	5810026.16	4.5	5675097.55	102.38	70	120	
Tb	159	He	3780299.92	1.8	4319822.17	87.51	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6A23016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 15:11:12
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.779	ppb	2.0	131687.40	25	99.12	90	110	
Be	9	6	No Gas	25.427	ppb	1.8	35095.95	25	101.71	90	110	
B	11	6	No Gas	46.827	ppb	1.8	47404.27	50	93.65	90	110	
Na	23	45	H2	24636.183	ppb	0.6	84055074.67	25000	98.54	90	110	
Mg	24	45	No Gas	24971.470	ppb	0.9	160786202.67	25000	99.89	90	110	
Al	27	45	No Gas	24921.044	ppb	0.7	219297136.73	25000	99.68	90	110	
Si	28	45	H2	2422.075	ppb	0.4	3034171.58	2500	96.88	90	110	
P	31	45	No Gas	235.328	ppb	1.4	174222.66	250	94.13	90	110	
K	39	45	He	24863.918	ppb	0.9	15064712.00	25000	99.46	90	110	
Ca	40	45	H2	24647.753	ppb	0.3	224291050.67	25000	98.59	90	110	
Ti	47	45	No Gas	250.590	ppb	0.6	329304.00	250	100.24	90	110	
V	51	45	He	257.736	ppb	0.6	1328370.71	250	103.09	90	110	
Cr	52	45	He	261.485	ppb	1.3	1514617.92	250	104.59	90	110	
Mn	55	45	No Gas	1541.764	ppb	1.1	31117686.00	1500	102.78	90	110	
Fe	56	45	H2	25601.655	ppb	0.5	357768746.67	25000	102.41	90	110	
Co	59	45	No Gas	254.861	ppb	1.1	4420166.50	250	101.94	90	110	
Ni	60	45	He	267.892	ppb	1.5	542550.27	250	107.16	90	110	
Cu	63	45	He	262.835	ppb	0.6	1376976.88	250	105.13	90	110	
Zn	66	72	No Gas	249.825	ppb	0.9	659175.14	250	99.93	90	110	
As	75	72	He	250.482	ppb	0.1	253331.32	250	100.19	90	110	
Se	78	72	H2	253.058	ppb	0.2	103976.25	250	101.22	90	110	
Sr	88	72	No Gas	252.814	ppb	2.2	6101300.03	250	101.13	90	110	
Zr	90	72	No Gas	25.456	ppb	1.0	405275.97	25	101.82	90	110	
Mo	95	115	No Gas	244.387	ppb	0.6	1160374.64	250	97.75	90	110	
Ag	107	115	No Gas	25.281	ppb	1.0	279308.39	25	101.12	90	110	
Cd	111	115	No Gas	249.156	ppb	0.6	547284.28	250	99.66	90	110	
Sn	118	115	No Gas	248.822	ppb	0.1	1628601.33	250	99.53	90	110	
Sb	123	115	No Gas	50.184	ppb	0.3	389707.67	50	100.37	90	110	
Ba	137	115	No Gas	503.777	ppb	0.4	1765842.15	500	100.76	90	110	
W	182	159	No Gas	25.514	ppb	2.8	209311.62	25	102.06	90	110	
Hg	201	159	No Gas	2.478	ppb	1.8	3189.07	2.5	99.12	90	110	
Hg	201	159	He	2.660	ppb	1.2	2699.29	2.5	106.4	90	110	
Tl	205	159	No Gas	254.305	ppb	1.6	4405720.24	250	101.72	90	110	
Pb	208	159	No Gas	254.501	ppb	1.4	6045440.60	250	101.8	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	256.918	ppb	1.4	5847303.24	250	102.77	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	662732.47	1.8	733417.76	90.36	70	120	
Sc	45	No Gas	3175288.08	2.0	3201327	99.19	70	120	
Sc	45	H2	2699061.08	0.4	2650809.25	101.82	70	120	
Sc	45	He	401650.36	0.4	404532.51	99.29	70	120	
Ge	72	No Gas	767376.94	1.7	724682.77	105.89	70	120	
Ge	72	H2	752171.79	0.8	708729.75	106.13	70	120	
Ge	72	He	237677.77	1.0	231857.12	102.51	70	120	
In	115	No Gas	4239050.96	1.5	4273868.93	99.19	70	120	
Tb	159	No Gas	5963848.09	1.6	5675097.55	105.09	70	120	
Tb	159	He	4488518.17	0.2	4319822.17	103.91	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6A23017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 15:25:20
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.105	ppb	86.3	37761.57	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	21.11	0.08	
B	11	6	No Gas	<0.000	ppb	N/A	6239.16	4	
Na	23	45	H2	2.690	ppb	60.3	957718.67	40	
Mg	24	45	No Gas	0.176	ppb	47.0	8463.28	10	
Al	27	45	No Gas	<0.000	ppb	N/A	7091.87	15	
Si	28	45	H2	<0.000	ppb	N/A	2680.93	8	
P	31	45	No Gas	<0.000	ppb	N/A	24246.46	10	
K	39	45	He	0.845	ppb	1123.9	88412.93	20	
Ca	40	45	H2	<0.000	ppb	N/A	58575.15	25	
Ti	47	45	No Gas	<0.000	ppb	N/A	109.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1180.72	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1923.47	0.2	
Mn	55	45	No Gas	<0.000	ppb	N/A	6490.21	0.2	
Fe	56	45	H2	<0.000	ppb	N/A	13018.86	10	
Co	59	45	No Gas	<0.000	ppb	N/A	276.00	0.15	
Ni	60	45	He	<0.000	ppb	N/A	160.00	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2804.29	0.4	
Zn	66	72	No Gas	<0.000	ppb	N/A	827.36	2	
As	75	72	He	<0.000	ppb	N/A	86.33	0.2	
Se	78	72	H2	0.013	ppb	27.3	42.33	0.2	
Sr	88	72	No Gas	<0.000	ppb	N/A	381.12	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	70.00	2	
Mo	95	115	No Gas	0.007	ppb	32.3	77.78	0.2	
Ag	107	115	No Gas	0.001	ppb	65.8	43.33	0.08	
Cd	111	115	No Gas	0.008	ppb	40.4	47.02	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	504.46	0.2	
Sb	123	115	No Gas	0.002	ppb	74.9	194.45	0.4	
Ba	137	115	No Gas	<0.000	ppb	N/A	62.22	0.2	
W	182	159	No Gas	<0.000	ppb	N/A	33.33	0.3	
Hg	201	159	No Gas	<0.000	ppb	N/A	20.67	0.1	
Hg	201	159	He	0.002	ppb	129.9	17.33	0.1	
Tl	205	159	No Gas	0.007	ppb	21.3	573.35	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	628.89	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	<0.000	ppb	N/A	62.22	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	655481.66	0.9	733417.76	89.37	70	120	
Sc	45	No Gas	3105214.58	1.4	3201327	97	70	120	
Sc	45	H2	2592336.33	0.4	2650809.25	97.79	70	120	
Sc	45	He	386280.81	0.7	404532.51	95.49	70	120	
Ge	72	No Gas	708337.77	1.4	724682.77	97.74	70	120	
Ge	72	H2	702434.04	0.7	708729.75	99.11	70	120	
Ge	72	He	226182.13	0.2	231857.12	97.55	70	120	
In	115	No Gas	4298316.76	1.3	4273868.93	100.57	70	120	
Tb	159	No Gas	5684014.50	1.7	5675097.55	100.16	70	120	
Tb	159	He	4315282.67	1.4	4319822.17	99.89	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV7
File Name	H6A23080.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\H6A23.b
Acq Time	2023-01-31 18:57:35
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.476	ppb	2.2	117669.17	25	97.9	90	110	
Be	9	6	No Gas	25.272	ppb	0.6	31432.87	25	101.09	90	110	
B	11	6	No Gas	50.990	ppb	2.4	45997.42	50	101.98	90	110	
Na	23	45	H2	24569.265	ppb	1.4	85329210.67	25000	98.28	90	110	
Mg	24	45	No Gas	24335.936	ppb	1.6	136202850.67	25000	97.34	90	110	
Al	27	45	No Gas	24228.682	ppb	1.9	185334817.24	25000	96.91	90	110	
Si	28	45	H2	2339.077	ppb	0.8	2982149.17	2500	93.56	90	110	
P	31	45	No Gas	251.825	ppb	1.0	160378.47	250	100.73	90	110	
K	39	45	He	24369.031	ppb	0.7	15278894.33	25000	97.48	90	110	
Ca	40	45	H2	24339.103	ppb	0.1	225446970.67	25000	97.36	90	110	
Ti	47	45	No Gas	236.241	ppb	1.4	269859.72	250	94.5	90	110	
V	51	45	He	248.078	ppb	0.3	1323043.79	250	99.23	90	110	
Cr	52	45	He	248.485	ppb	0.4	1489386.58	250	99.39	90	110	
Mn	55	45	No Gas	1464.977	ppb	1.2	25699434.67	1500	97.67	90	110	
Fe	56	45	H2	24739.130	ppb	1.9	351759818.67	25000	98.96	90	110	
Co	59	45	No Gas	241.509	ppb	1.8	3640784.08	250	96.6	90	110	
Ni	60	45	He	252.647	ppb	1.9	529452.90	250	101.06	90	110	
Cu	63	45	He	249.130	ppb	0.8	1351051.04	250	99.65	90	110	
Zn	66	72	No Gas	247.536	ppb	0.9	569620.44	250	99.01	90	110	
As	75	72	He	239.882	ppb	0.4	251551.05	250	95.95	90	110	
Se	78	72	H2	250.225	ppb	1.2	103151.93	250	100.09	90	110	
Sr	88	72	No Gas	242.997	ppb	2.0	5113779.38	250	97.2	90	110	
Zr	90	72	No Gas	24.745	ppb	1.6	343520.00	25	98.98	90	110	
Mo	95	115	No Gas	232.700	ppb	0.8	968563.09	250	93.08	90	110	
Ag	107	115	No Gas	24.139	ppb	3.0	233688.01	25	96.56	90	110	
Cd	111	115	No Gas	244.488	ppb	1.9	470679.34	250	97.8	90	110	
Sn	118	115	No Gas	237.592	ppb	2.0	1363032.62	250	95.04	90	110	
Sb	123	115	No Gas	47.279	ppb	1.7	321844.42	50	94.56	90	110	
Ba	137	115	No Gas	491.543	ppb	0.9	1510360.88	500	98.31	90	110	
W	182	159	No Gas	24.807	ppb	2.1	175091.32	25	99.23	90	110	
Hg	201	159	No Gas	2.541	ppb	2.0	2811.31	2.5	101.64	90	110	
Hg	201	159	He	2.616	ppb	1.5	2709.29	2.5	104.64	90	110	
Tl	205	159	No Gas	247.165	ppb	1.0	3682401.24	250	98.87	90	110	
Pb	208	159	No Gas	247.438	ppb	1.2	5055814.66	250	98.98	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	244.711	ppb	1.3	4790100.64	250	97.88	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	597277.78	1.7	733417.76	81.44	70	120	
Sc	45	No Gas	2759943.58	1.4	3201327	86.21	70	120	
Sc	45	H2	2747288.00	3.0	2650809.25	103.64	70	120	
Sc	45	He	415589.65	0.2	404532.51	102.73	70	120	
Ge	72	No Gas	669233.48	2.4	724682.77	92.35	70	120	
Ge	72	H2	754739.62	1.7	708729.75	106.49	70	120	
Ge	72	He	246433.13	0.5	231857.12	106.29	70	120	
In	115	No Gas	3716668.55	3.3	4273868.93	86.96	70	120	
Tb	159	No Gas	5129182.43	1.6	5675097.55	90.38	70	120	
Tb	159	He	4579033.00	0.6	4319822.17	106	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB7
File Name	H6A23081.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 19:00:11
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.275	ppb	97.2	36895.19	0.4	
Be	9	6	No Gas	0.001	ppb	341.6	24.44	0.08	
B	11	6	No Gas	0.086	ppb	406.7	6263.63	4	
Na	23	45	H2	<0.000	ppb	N/A	918923.64	40	
Mg	24	45	No Gas	1.366	ppb	54.6	14174.28	10	
Al	27	45	No Gas	0.626	ppb	103.5	11865.77	15	
Si	28	45	H2	1.489	ppb	11.3	4910.87	8	
P	31	45	No Gas	6.612	ppb	20.8	28066.32	10	
K	39	45	He	7.989	ppb	77.7	96905.90	20	
Ca	40	45	H2	5.866	ppb	1.5	119172.99	25	
Tl	47	45	No Gas	0.017	ppb	65.6	133.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1231.39	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1838.79	0.2	
Mn	55	45	No Gas	0.197	ppb	28.9	9853.56	0.2	
Fe	56	45	H2	0.762	ppb	1.5	23972.36	10	
Co	59	45	No Gas	0.001	ppb	1421.6	398.00	0.15	
Ni	60	45	He	<0.000	ppb	N/A	126.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2212.18	0.4	
Zn	66	72	No Gas	0.119	ppb	11.6	1366.07	2	
As	75	72	He	<0.000	ppb	N/A	113.33	0.2	
Se	78	72	H2	0.033	ppb	104.5	50.00	0.2	
Sr	88	72	No Gas	0.015	ppb	58.5	764.47	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.025	ppb	30.2	152.22	0.2	
Ag	107	115	No Gas	0.002	ppb	61.8	46.67	0.08	
Cd	111	115	No Gas	0.033	ppb	39.5	92.46	0.2	
Sn	118	115	No Gas	<0.000	ppb	N/A	803.36	0.2	
Sb	123	115	No Gas	0.070	ppb	4.6	675.58	0.4	
Ba	137	115	No Gas	0.018	ppb	52.6	137.78	0.2	
W	182	159	No Gas	0.002	ppb	391.1	66.67	0.3	
Hg	201	159	No Gas	0.018	ppb	38.8	42.17	0.1	
Hg	201	159	He	0.012	ppb	32.0	28.00	0.1	
Tl	205	159	No Gas	0.036	ppb	27.4	971.15	0.1	
Pb	208	159	No Gas	0.006	ppb	143.0	878.90	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.017	ppb	13.6	398.90	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	629378.91	4.8	733417.76	85.81	70	120	
Sc	45	No Gas	2782217.25	5.3	3201327	86.91	70	120	
Sc	45	H2	2602362.42	5.3	2650809.25	98.17	70	120	
Sc	45	He	404346.20	0.5	404532.51	99.95	70	120	
Ge	72	No Gas	654780.50	6.2	724682.77	90.35	70	120	
Ge	72	H2	710231.96	4.3	708729.75	100.21	70	120	
Ge	72	He	237512.34	0.4	231857.12	102.44	70	120	
In	115	No Gas	3972176.71	8.2	4273868.93	92.94	70	120	
Tb	159	No Gas	5307897.84	8.1	5675097.55	93.53	70	120	
Tb	159	He	4531997.67	0.8	4319822.17	104.91	70	120	

Sample Report

Sample Name	L237-13N
File Name	H6A23082.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 19:02:48
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	216.619	216.619	ppb	0.6	775099.87	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	16.67	50	
B	11	6	No Gas	890.611	890.611	ppb	2.5	707460.35	100	>LDR
Na	23	45	H2	687453.683	687453.683	ppb	1.3	2127774293.33	50000	>LDR
Mg	24	45	No Gas	1165.192	1165.192	ppb	1.5	6580666.00	50000	
Al	27	45	No Gas	16.382	16.382	ppb	1.5	133415.44	50000	
Si	28	45	H2	11358.532	11358.532	ppb	1.1	13044863.67	5000	>LDR
P	31	45	No Gas	32.306	32.306	ppb	1.3	42077.05	500	
K	39	45	He	9771.362	9771.362	ppb	0.4	5541207.50	50000	
Ca	40	45	H2	19351.391	19351.391	ppb	0.6	161526730.67	50000	
Ti	47	45	No Gas	0.600	0.600	ppb	12.7	803.36	500	
V	51	45	He	14.526	14.526	ppb	1.3	70711.73	500	
Cr	52	45	He	5.992	5.992	ppb	1.2	34003.43	500	
Mn	55	45	No Gas	1.748	1.748	ppb	0.7	37282.17	3000	
Fe	56	45	H2	8.113	8.113	ppb	1.0	117019.90	50000	
Co	59	45	No Gas	0.019	0.019	ppb	0.8	685.35	500	
Ni	60	45	He	0.032	0.032	ppb	38.7	276.00	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	3253.72	500	
Zn	66	72	No Gas	1.467	1.467	ppb	0.9	4527.43	500	
As	75	72	He	20.356	20.356	ppb	0.5	19469.01	500	
Se	78	72	H2	0.932	0.932	ppb	1.9	379.68	500	
Sr	88	72	No Gas	433.723	433.723	ppb	1.1	9197215.19	500	
Zr	90	72	No Gas	0.049	0.049	ppb	17.9	883.37	50	
Mo	95	115	No Gas	36.996	36.996	ppb	1.6	152274.91	500	
Ag	107	115	No Gas	0.014	0.014	ppb	5.0	161.11	50	
Cd	111	115	No Gas	0.022	0.022	ppb	56.8	65.06	500	
Sn	118	115	No Gas	0.058	0.058	ppb	7.2	1106.72	500	
Sb	123	115	No Gas	0.149	0.149	ppb	7.0	1152.27	100	
Ba	137	115	No Gas	80.864	80.864	ppb	0.5	245606.13	1000	
W	182	159	No Gas	9.036	9.036	ppb	1.9	61697.34	50	
Hg	201	159	No Gas	0.005	0.005	ppb	98.1	26.00	5	
Hg	201	159	He	0.006	0.006	ppb	122.1	18.50	5	
Tl	205	159	No Gas	0.062	0.062	ppb	15.1	1284.51	500	
Pb	208	159	No Gas	0.023	0.023	ppb	20.8	1161.13	500	
U	238	159	No Gas	5.871	5.871	ppb	1.9	111208.34	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	598347.08	7.3	733417.76	81.58	70	120	
Sc	45	No Gas	2781428.83	4.9	3201327	86.88	70	120	
Sc	45	H2	2475951.75	4.0	2650809.25	93.4	70	120	
Sc	45	He	372444.93	0.7	404532.51	92.07	70	120	
Ge	72	No Gas	674637.50	4.7	724682.77	93.09	70	120	
Ge	72	H2	675039.15	4.1	708729.75	95.25	70	120	
Ge	72	He	223576.93	1.1	231857.12	96.43	70	120	
In	115	No Gas	3672466.17	3.9	4273868.93	85.93	70	120	
Tb	159	No Gas	4961752.72	4.2	5675097.55	87.43	70	120	
Tb	159	He	3778887.08	0.9	4319822.17	87.48	70	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV8
File Name	H6A23090.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 19:23:42
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.596	ppb	2.5	123236.10	25	98.38	90	110	
Be	9	6	No Gas	24.651	ppb	2.5	31966.47	25	98.6	90	110	
B	11	6	No Gas	48.626	ppb	3.2	46006.81	50	97.25	90	110	
Na	23	45	H2	24825.491	ppb	1.7	70174402.67	25000	99.3	90	110	
Mg	24	45	No Gas	24878.107	ppb	2.0	142101386.67	25000	99.51	90	110	
Al	27	45	No Gas	24754.334	ppb	0.7	193424817.12	25000	99.02	90	110	
Si	28	45	H2	2371.618	ppb	0.4	2461666.17	2500	94.86	90	110	
P	31	45	No Gas	240.642	ppb	4.4	157193.84	250	96.26	90	110	
K	39	45	He	24727.087	ppb	0.4	12434383.00	25000	98.91	90	110	
Ca	40	45	H2	24201.154	ppb	1.2	182474341.33	25000	96.8	90	110	
Ti	47	45	No Gas	240.176	ppb	0.5	280104.61	250	96.07	90	110	
V	51	45	He	251.962	ppb	0.7	1077934.92	250	100.78	90	110	
Cr	52	45	He	252.121	ppb	0.9	1212052.45	250	100.85	90	110	
Mn	55	45	No Gas	1480.388	ppb	1.1	26517446.00	1500	98.69	90	110	
Fe	56	45	H2	25161.508	ppb	0.2	291336117.33	25000	100.65	90	110	
Co	59	45	No Gas	242.276	ppb	1.1	3726847.58	250	96.91	90	110	
Ni	60	45	He	262.772	ppb	1.0	441682.32	250	105.11	90	110	
Cu	63	45	He	256.090	ppb	1.2	1113685.63	250	102.44	90	110	
Zn	66	72	No Gas	245.456	ppb	0.7	576140.29	250	98.18	90	110	
As	75	72	He	256.846	ppb	0.3	224373.24	250	102.74	90	110	
Se	78	72	H2	262.001	ppb	0.9	90332.60	250	104.8	90	110	
Sr	88	72	No Gas	250.465	ppb	2.0	5380355.62	250	100.19	90	110	
Zr	90	72	No Gas	24.485	ppb	1.4	346865.17	25	97.94	90	110	
Mo	95	115	No Gas	231.659	ppb	0.9	995838.88	250	92.66	90	110	
Ag	107	115	No Gas	24.065	ppb	1.0	240589.54	25	96.26	90	110	
Cd	111	115	No Gas	245.233	ppb	0.4	487730.76	250	98.09	90	110	
Sn	118	115	No Gas	239.630	ppb	2.0	1421404.70	250	95.85	90	110	
Sb	123	115	No Gas	46.766	ppb	1.8	328453.02	50	93.53	90	110	
Ba	137	115	No Gas	490.940	ppb	0.5	1557625.94	500	98.19	90	110	
W	182	159	No Gas	24.892	ppb	2.2	184486.57	25	99.57	90	110	
Hg	201	159	No Gas	2.495	ppb	0.2	2896.01	2.5	99.8	90	110	
Hg	201	159	He	2.623	ppb	2.5	2226.36	2.5	104.92	90	110	
Tl	205	159	No Gas	247.870	ppb	0.6	3873261.03	250	99.15	90	110	
Pb	208	159	No Gas	246.269	ppb	0.7	5277183.74	250	98.51	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	250.292	ppb	1.6	5139586.46	250	100.12	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	623875.64	11.1	733417.76	85.06	70	120	
Sc	45	No Gas	2818341.92	10.7	3201327	88.04	70	120	
Sc	45	H2	2236328.42	0.3	2650809.25	84.36	70	120	
Sc	45	He	333359.81	1.4	404532.51	82.41	70	120	
Ge	72	No Gas	682332.34	9.3	724682.77	94.16	70	120	
Ge	72	H2	631215.23	1.2	708729.75	89.06	70	120	
Ge	72	He	205298.70	1.1	231857.12	88.55	70	120	
In	115	No Gas	3838059.87	9.5	4273868.93	89.8	70	120	
Tb	159	No Gas	5379273.95	9.2	5675097.55	94.79	70	120	
Tb	159	He	3752564.75	1.2	4319822.17	86.87	70	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB8
File Name	H6A23091.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 19:26:19
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	0.438	ppb	12.4	41362.94	0.4	>LOD
Be	9	6	No Gas	<0.000	ppb	N/A	13.34	0.08	
B	11	6	No Gas	0.542	ppb	34.9	7333.03	4	
Na	23	45	H2	<0.000	ppb	N/A	950719.92	40	
Mg	24	45	No Gas	2.477	ppb	29.6	22648.36	10	
Al	27	45	No Gas	1.674	ppb	33.4	22118.41	15	
Si	28	45	H2	1.537	ppb	11.3	4966.89	8	
P	31	45	No Gas	2.240	ppb	48.7	28445.77	10	
K	39	45	He	14.831	ppb	56.9	97251.97	20	
Ca	40	45	H2	9.881	ppb	1.9	154204.50	25	
Tl	47	45	No Gas	0.019	ppb	148.3	150.00	0.5	
V	51	45	He	<0.000	ppb	N/A	1156.72	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1840.12	0.2	
Mn	55	45	No Gas	0.202	ppb	20.7	11013.10	0.2	>LOD
Fe	56	45	H2	2.358	ppb	2.5	45431.54	10	
Co	59	45	No Gas	0.007	ppb	111.5	552.01	0.15	
Ni	60	45	He	<0.000	ppb	N/A	133.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	2058.16	0.4	
Zn	66	72	No Gas	0.134	ppb	18.9	1534.75	2	
As	75	72	He	<0.000	ppb	N/A	98.67	0.2	
Se	78	72	H2	0.050	ppb	15.3	56.67	0.2	
Sr	88	72	No Gas	0.026	ppb	37.9	1100.05	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.043	ppb	21.7	253.34	0.2	
Ag	107	115	No Gas	0.002	ppb	40.4	56.67	0.08	
Cd	111	115	No Gas	0.041	ppb	34.7	119.17	0.2	
Sn	118	115	No Gas	0.002	ppb	345.3	934.48	0.2	
Sb	123	115	No Gas	0.080	ppb	13.1	816.69	0.4	
Ba	137	115	No Gas	0.039	ppb	22.3	223.34	0.2	
W	182	159	No Gas	0.005	ppb	58.5	100.00	0.3	
Hg	201	159	No Gas	0.008	ppb	48.5	34.17	0.1	
Hg	201	159	He	0.011	ppb	20.8	25.83	0.1	
Tl	205	159	No Gas	0.065	ppb	23.5	1560.10	0.1	
Pb	208	159	No Gas	0.016	ppb	43.2	1201.14	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.027	ppb	12.2	667.80	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	695004.04	2.6	733417.76	94.76	70	120	
Sc	45	No Gas	3080246.42	4.3	3201327	96.22	70	120	
Sc	45	H2	2598838.75	1.2	2650809.25	98.04	70	120	
Sc	45	He	389135.86	0.3	404532.51	96.19	70	120	
Ge	72	No Gas	718667.85	2.9	724682.77	99.17	70	120	
Ge	72	H2	704520.02	0.6	708729.75	99.41	70	120	
Ge	72	He	227798.00	0.9	231857.12	98.25	70	120	
In	115	No Gas	4352690.01	4.3	4273868.93	101.84	70	120	
Tb	159	No Gas	5826772.41	3.9	5675097.55	102.67	70	120	
Tb	159	He	4357531.67	0.6	4319822.17	100.87	70	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6A23145.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:47:33
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	1.208	ppb	2.9	44225.86	2	-50	50	> +/- 20%
Be	9	6	No Gas	<0.000	ppb	N/A	16.67	0.4	-50	50	
B	11	6	No Gas	9.353	ppb	19.4	15308.36	10	-50	50	> +/- 20%
Na	23	45	H2	115544.266	ppb	1.1	405666709.33	100000	80	120	
Mg	24	45	No Gas	108817.249	ppb	0.5	745609194.67	100000	80	120	
Al	27	45	No Gas	110110.495	ppb	1.6	1031486251.30	100000	80	120	
Si	28	45	H2	7.161	ppb	1.8	12667.09	50	-50	50	
P	31	45	No Gas	98832.670	ppb	0.9	65428132.00	100000	80	120	
K	39	45	He	114203.563	ppb	0.3	72453306.67	100000	80	120	
Ca	40	45	H2	114487.072	ppb	0.8	1081834325.33	100000	80	120	
Ti	47	45	No Gas	2235.732	ppb	0.5	3125994.92	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1377.41	1	-50	50	
Cr	52	45	He	2.346	ppb	1.7	16387.13	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.700	ppb	2.8	22785.63	1	-50	50	> +/- 20%
Fe	56	45	H2	114030.493	ppb	1.1	1655008554.67	100000	80	120	
Co	59	45	No Gas	0.163	ppb	1.3	3482.45	0.75	-50	50	
Ni	60	45	He	0.461	ppb	7.5	1227.39	1	-50	50	
Cu	63	45	He	<0.000	ppb	N/A	2892.98	2	-50	50	> +/- 20%
Zn	66	72	No Gas	8.729	ppb	1.5	24793.33	20	-50	50	
As	75	72	He	0.078	ppb	29.0	201.00	1	-50	50	
Se	78	72	H2	0.065	ppb	21.0	66.33	1	-50	50	
Sr	88	72	No Gas	1.028	ppb	1.0	25867.25	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.151	ppb	2.7	2666.94	10	-50	50	
Mo	95	115	No Gas	2235.155	ppb	1.9	10656933.74	2000	80	120	
Ag	107	115	No Gas	0.094	ppb	6.5	1075.60	0.4	-50	50	
Cd	111	115	No Gas	0.047	ppb	27.4	131.00	1	-50	50	
Sn	118	115	No Gas	0.067	ppb	18.5	1344.52	1	-50	50	
Sb	123	115	No Gas	0.105	ppb	6.5	993.37	1	-50	50	
Ba	137	115	No Gas	0.780	ppb	2.1	2828.09	1	-50	50	> +/- 20%
W	182	159	No Gas	0.164	ppb	13.3	1413.42	1	-50	50	
Hg	201	159	No Gas	<0.000	ppb	N/A	22.33	0.5	-50	50	
Hg	201	159	He	<0.000	ppb	N/A	15.83	0.5	-50	50	
Tl	205	159	No Gas	0.001	ppb	62.8	495.57	0.5	-50	50	
Pb	208	159	No Gas	0.052	ppb	14.0	2106.74	0.5	-50	50	

TH 2/1/23

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.021	ppb	4.0	551.12	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	691965.87	2.3	733417.76	94.35	70	120	
Sc	45	No Gas	3379479.75	4.2	3201327	105.56	70	120	
Sc	45	H2	2803559.42	1.2	2650809.25	105.76	70	120	
Sc	45	He	422589.91	1.1	404532.51	104.46	70	120	
Ge	72	No Gas	783582.71	3.4	724682.77	108.13	70	120	
Ge	72	H2	749771.25	0.5	708729.75	105.79	70	120	
Ge	72	He	242362.79	0.6	231857.12	104.53	70	120	
In	115	No Gas	4255469.01	2.9	4273868.93	99.57	70	120	
Tb	159	No Gas	6015016.29	3.1	5675097.55	105.99	70	120	
Tb	159	He	4512913.67	0.8	4319822.17	104.47	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6A23146.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2023\A\IH6A23.b
Acq Time	2023-01-31 21:50:10
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6A23003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	THuang

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.909	ppb	2.4	124105.13	20	80	120	
Be	9	6	No Gas	20.117	ppb	2.3	29450.84	20	80	120	
B	11	6	No Gas	21.745	ppb	3.1	27033.74	20	80	120	
Na	23	45	H2	102858.452	ppb	1.4	369817152.00	100000	80	120	
Mg	24	45	No Gas	96206.367	ppb	1.5	683154176.00	100000	80	120	
Al	27	45	No Gas	97517.522	ppb	1.4	946067452.57	100000	80	120	
Si	28	45	H2	213.175	ppb	0.3	287092.07	200	80	120	
P	31	45	No Gas	88767.504	ppb	0.7	60893340.00	100000	80	120	
K	39	45	He	101842.896	ppb	0.6	66196805.33	100000	80	120	
Ca	40	45	H2	101515.893	ppb	1.0	982041792.00	100000	80	120	
Ti	47	45	No Gas	2004.528	ppb	0.8	2903653.50	2000	80	120	
V	51	45	He	20.507	ppb	0.9	115369.97	20	80	120	
Cr	52	45	He	22.905	ppb	1.1	144964.39	20	80	120	
Mn	55	45	No Gas	20.846	ppb	0.3	471812.68	20	80	120	
Fe	56	45	H2	99799.890	ppb	0.5	1482920704.00	100000	80	120	
Co	59	45	No Gas	19.975	ppb	1.4	382307.96	20	80	120	
Ni	60	45	He	20.427	ppb	1.9	44816.15	20	80	120	
Cu	63	45	He	18.519	ppb	0.7	115274.26	20	80	120	
Zn	66	72	No Gas	23.334	ppb	1.0	66544.70	20	80	120	
As	75	72	He	19.857	ppb	1.0	21095.11	20	80	120	
Se	78	72	H2	20.891	ppb	1.5	8741.83	20	80	120	
Sr	88	72	No Gas	21.490	ppb	0.4	550518.12	20	80	120	
Zr	90	72	No Gas	9.511	ppb	0.5	160734.01	20	80	120	> +/- 20%
Mo	95	115	No Gas	2021.519	ppb	1.4	9952467.38	2000	80	120	
Ag	107	115	No Gas	20.082	ppb	0.6	230158.64	20	80	120	
Cd	111	115	No Gas	20.450	ppb	1.0	46612.85	20	80	120	
Sn	118	115	No Gas	20.463	ppb	0.9	139749.59	20	80	120	
Sb	123	115	No Gas	20.327	ppb	0.8	163816.42	20	80	120	
Ba	137	115	No Gas	21.691	ppb	1.7	78919.94	20	80	120	
W	182	159	No Gas	19.529	ppb	0.5	167383.54	20	80	120	
Hg	201	159	No Gas	1.941	ppb	0.8	2614.11	2	80	120	
Hg	201	159	He	1.970	ppb	2.6	2050.17	2	80	120	
Tl	205	159	No Gas	20.653	ppb	1.8	374116.69	20	80	120	
Pb	208	159	No Gas	20.775	ppb	1.9	516301.99	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	21.478	ppb	0.9	510604.30	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	702693.78	2.1	733417.76	95.81	70	120	
Sc	45	No Gas	3501518.33	3.5	3201327	109.38	70	120	
Sc	45	H2	2869975.08	0.2	2650809.25	108.27	70	120	
Sc	45	He	432890.13	1.0	404532.51	107.01	70	120	
Ge	72	No Gas	813887.44	1.7	724682.77	112.31	70	120	
Ge	72	H2	762767.21	0.5	708729.75	107.62	70	120	
Ge	72	He	248303.23	0.3	231857.12	107.09	70	120	
In	115	No Gas	4396640.64	2.9	4273868.93	102.87	70	120	
Tb	159	No Gas	6228775.45	2.4	5675097.55	109.76	70	120	
Tb	159	He	4592678.50	0.8	4319822.17	106.32	70	120	

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SM5A-05-01-06

ALL SAMPLES PH<2

Book #: EIM-094
Batch: IML026W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	7
☑ EMAX-6020	14
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.0 °C		93.3 °C

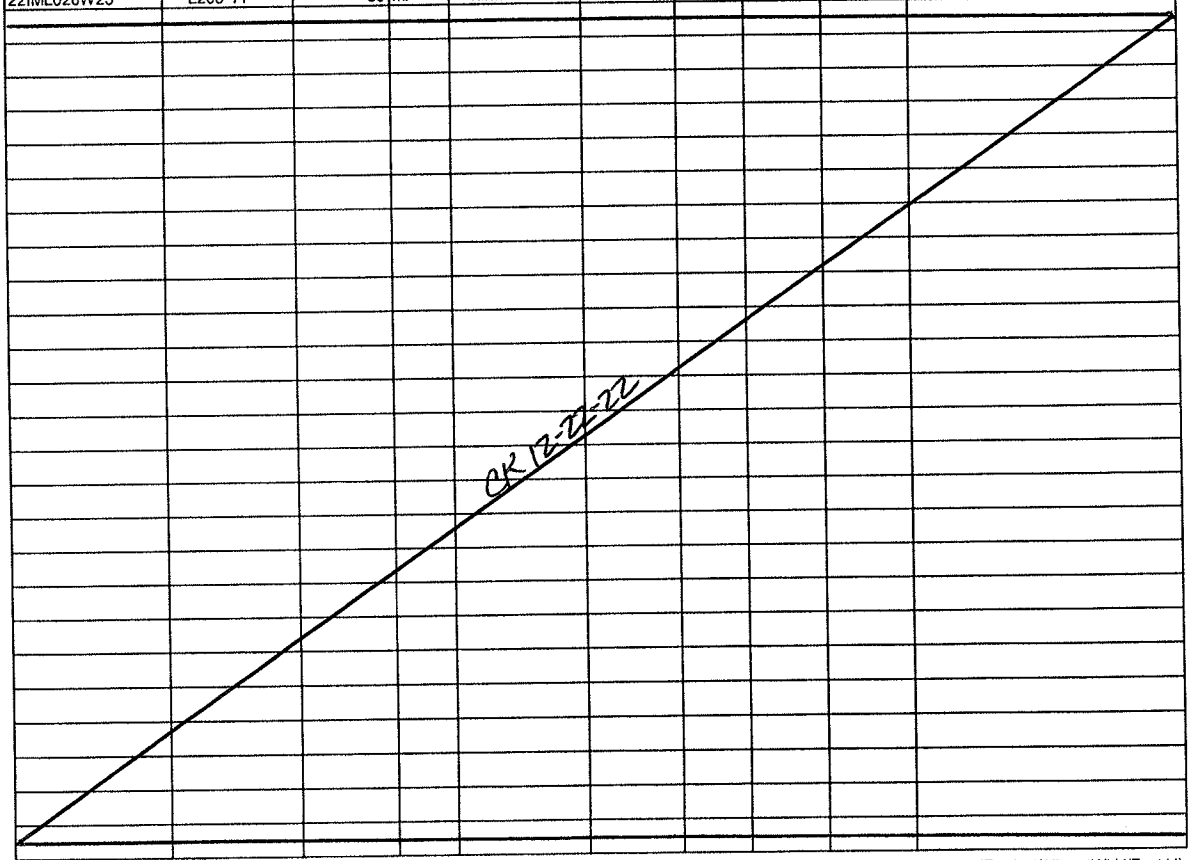
Standards	ID	Amount Added (mL/g)
LCS-1	SM6A-23-02-03	CK12-27-22 .15
LCS-2	↓ -02-04	.15
MS	SAMESPIKEDANDLCS/LCS	1,2
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SWA-011-17-09	.5+1.0
HCl	↓ -17-10	.25+.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM6A-23-02-06	.1
pH Strip (0-14)	HC160347	N/A
Digestate Location	METALS	
Extract Location	N/A	
☑ Reagent Water ID:	SWA-011-19-03	
☑ Thermometer ID:	21902478/E09	
☑ Pipette ID:	7427663331	
☐ Pipette ID:		
☐ Pipette ID:		
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask		
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask		

Prepared By: CK
Standard Added By: CK Witnessed By: DF
Extract Rcvd By: DF Checked By: CK

EMAX LABORATORIES

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
22IML026W01	IML026WB	50	ml	12/22/22 12:25	50	50	50	1	
22IML026W02	IML026WL	50	ml	12/22/22 12:25	50	50	50	1	
22IML026W03	IML026WC	50	ml	12/22/22 12:25	50	50	50	1	
22IML026W04	L237-01	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W05	L237-02	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W06	L237-03	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W07	L237-04	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W08	L237-05	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W09	L237-07	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W10	L237-09	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W11	L237-11	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W12	L237-13	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W13	L237-14	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W14	L237-15	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W15	L237-16	50	ml	12/22/22 12:25	50	50	50	1	DISSOLVED
22IML026W16	L268-02	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W17	L268-03	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W18	L268-03M	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W19	L268-03S	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W20	L268-04	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W21	L268-05	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W22	L268-06	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W23	L268-07	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W24	L268-10	50	ml	12/22/22 12:25	50	50	50	1	TOTAL
22IML026W25	L268-11	50	ml	12/22/22 12:25	50	50	50	1	TOTAL



Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 12/22/22 13:01

☑ Digestion Ended @ 12/22/22 15:31

Prepared By: CKaing

Checked By: CK

Comments:

Date 12-22-22

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

WET CHEMICAL ANALYSES

SDG#: 22L237

HEXAVALENT CHROMIUM

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L237

METHOD E218.6
HEXAVALENT CHROMIUM

A total of sixteen(16) water samples were received on 12/16/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two(2) method blanks were analyzed. HCL011WB and HCL013WB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of LCS/LCD were analyzed. HCL011WL/HCL011WC and HCL013WL/HCL013WC were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two(2) sets of MS/MSD were analyzed.
- Hexavalent Chromium was within MS QC limits in L237-02M/L237-02S.
- Hexavalent Chromium was within MS QC limits in L237-15M/L237-15S.

Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

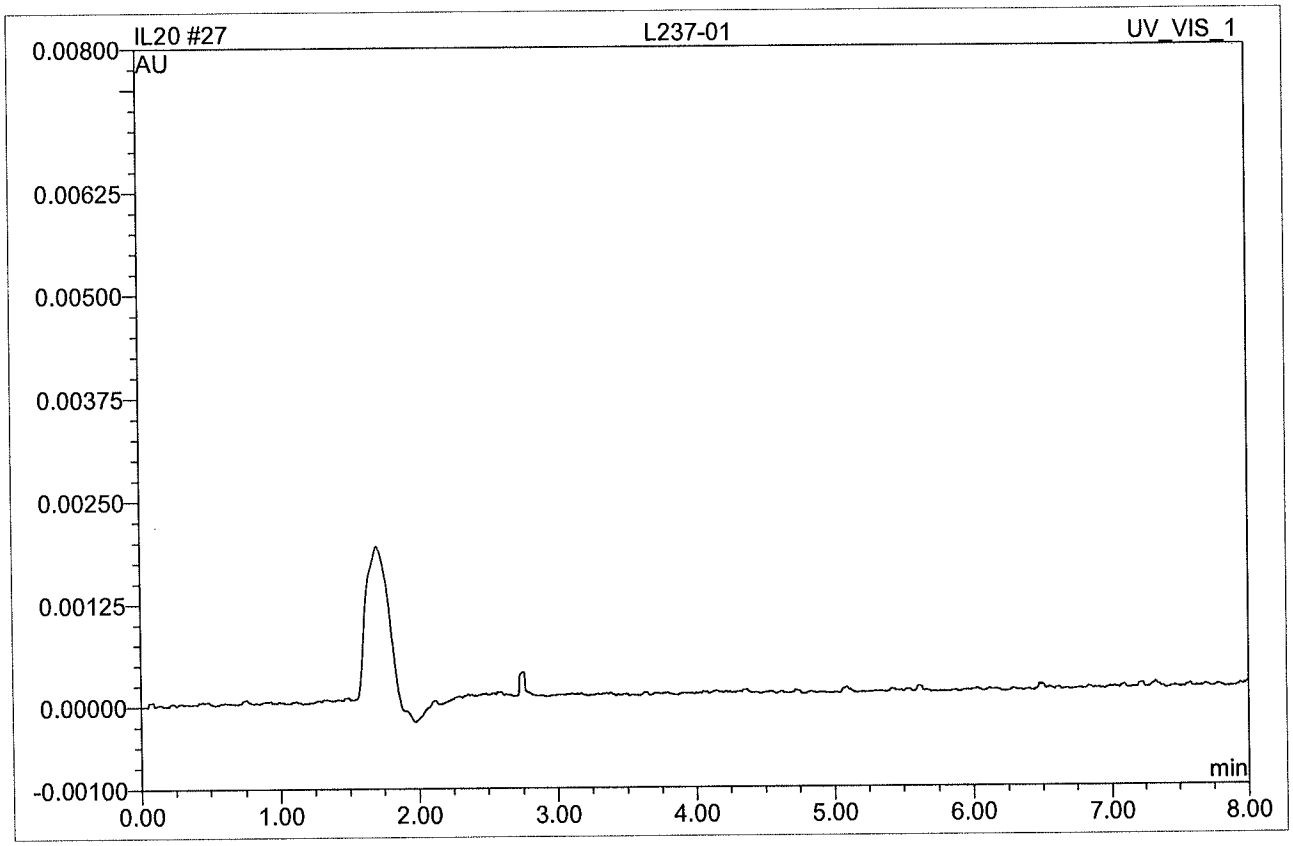
Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L237

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCL011WB	ND	1	NA	0.2	0.05	12/19/2223:35	NA	IL19033	IL19025	HCL011W	NA	NA
LCS1W	HCL011WL	2.00	1	NA	0.2	0.05	12/19/2223:46	NA	IL19034	IL19025	HCL011W	NA	NA
LCD1W	HCL011WC	2.00	1	NA	0.2	0.05	12/19/2223:56	NA	IL19035	IL19025	HCL011W	NA	NA
EB-756-Q422	L237-06	ND	1	NA	0.2	0.05	12/20/2206:00	NA	IL19070	IL19061	HCL011W	12/15/2210:30	12/16/22
MW-54-085-EB-Q422	L237-08	ND	1	NA	0.2	0.05	12/20/2206:11	NA	IL19071	IL19061	HCL011W	12/15/2210:03	12/16/22
MW-54-140-EB-Q422	L237-10	ND	1	NA	0.2	0.05	12/20/2206:21	NA	IL19072	IL19061	HCL011W	12/15/2209:39	12/16/22
MW-54-195-EB-Q422	L237-12	ND	1	NA	0.2	0.05	12/20/2206:52	NA	IL19075	IL19073	HCL011W	12/15/2210:10	12/16/22
MBLK2W	HCL013WB	ND	1	NA	0.2	0.05	12/20/2212:03	NA	IL20003	IL20001	HCL013W	NA	NA
LCS2W	HCL013WL	2.04	1	NA	0.2	0.05	12/20/2212:24	NA	IL20005	IL20001	HCL013W	NA	NA
LCD2W	HCL013WC	2.00	1	NA	0.2	0.05	12/20/2212:45	NA	IL20007	IL20001	HCL013W	NA	NA
MW-92-072-Q422	L237-01	ND	1	NA	0.2	0.05	12/20/2214:08	NA	IL20015	IL20013	HCL013W	12/15/2209:28	12/16/22
MW-91-045-Q422	L237-02	ND	1	NA	0.2	0.05	12/20/2214:18	NA	IL20016	IL20013	HCL013W	12/15/2207:56	12/16/22
MW-91-045-Q422MS	L237-02M	1.03	1	NA	0.2	0.05	12/20/2214:29	NA	IL20017	IL20013	HCL013W	12/15/2207:56	12/16/22
MW-91-045-Q422MSD	L237-02S	1.03	1	NA	0.2	0.05	12/20/2214:39	NA	IL20018	IL20013	HCL013W	12/15/2207:56	12/16/22
MW-91-320-Q422	L237-05	ND	1	NA	0.2	0.05	12/20/2215:10	NA	IL20021	IL20013	HCL013W	12/15/2209:10	12/16/22
MW-54-085-Q422	L237-07	ND	1	NA	0.2	0.05	12/20/2215:31	NA	IL20023	IL20013	HCL013W	12/15/2210:20	12/16/22
MW-54-140-Q422	L237-09	ND	1	NA	0.2	0.05	12/20/2215:42	NA	IL20024	IL20013	HCL013W	12/15/2209:57	12/16/22
MW-54-195-Q422	L237-11	ND	1	NA	0.2	0.05	12/20/2216:13	NA	IL20027	IL20025	HCL013W	12/15/2210:38	12/16/22
MW-92-102-Q422	L237-13	5.16	1	NA	0.2	0.05	12/20/2216:23	NA	IL20028	IL20025	HCL013W	12/15/2208:58	12/16/22
MW-92-122-Q422	L237-14	ND	1	NA	0.2	0.05	12/20/2216:34	NA	IL20029	IL20025	HCL013W	12/15/2208:24	12/16/22
MW-92-037-Q422	L237-15	ND	1	NA	0.2	0.05	12/20/2216:44	NA	IL20030	IL20025	HCL013W	12/15/2209:56	12/16/22
MW-92-037-Q422MS	L237-15M	0.983	1	NA	0.2	0.05	12/20/2216:55	NA	IL20031	IL20025	HCL013W	12/15/2209:56	12/16/22
MW-92-037-Q422MSD	L237-15S	0.982	1	NA	0.2	0.05	12/20/2217:05	NA	IL20032	IL20025	HCL013W	12/15/2209:56	12/16/22
MW-930-Q422	L237-16	ND	1	NA	0.2	0.05	12/20/2217:15	NA	IL20033	IL20025	HCL013W	12/15/2210:06	12/16/22
MW-91-120-Q422	L237-03I	16.7	5	NA	1	0.25	12/20/2217:57	NA	IL20036	IL20034	HCL013W	12/15/2208:16	12/16/22
MW-91-170-Q422	L237-04I	2.30	5	NA	1	0.25	12/20/2218:18	NA	IL20038	IL20034	HCL013W	12/15/2208:49	12/16/22

IL20 015 L237-01

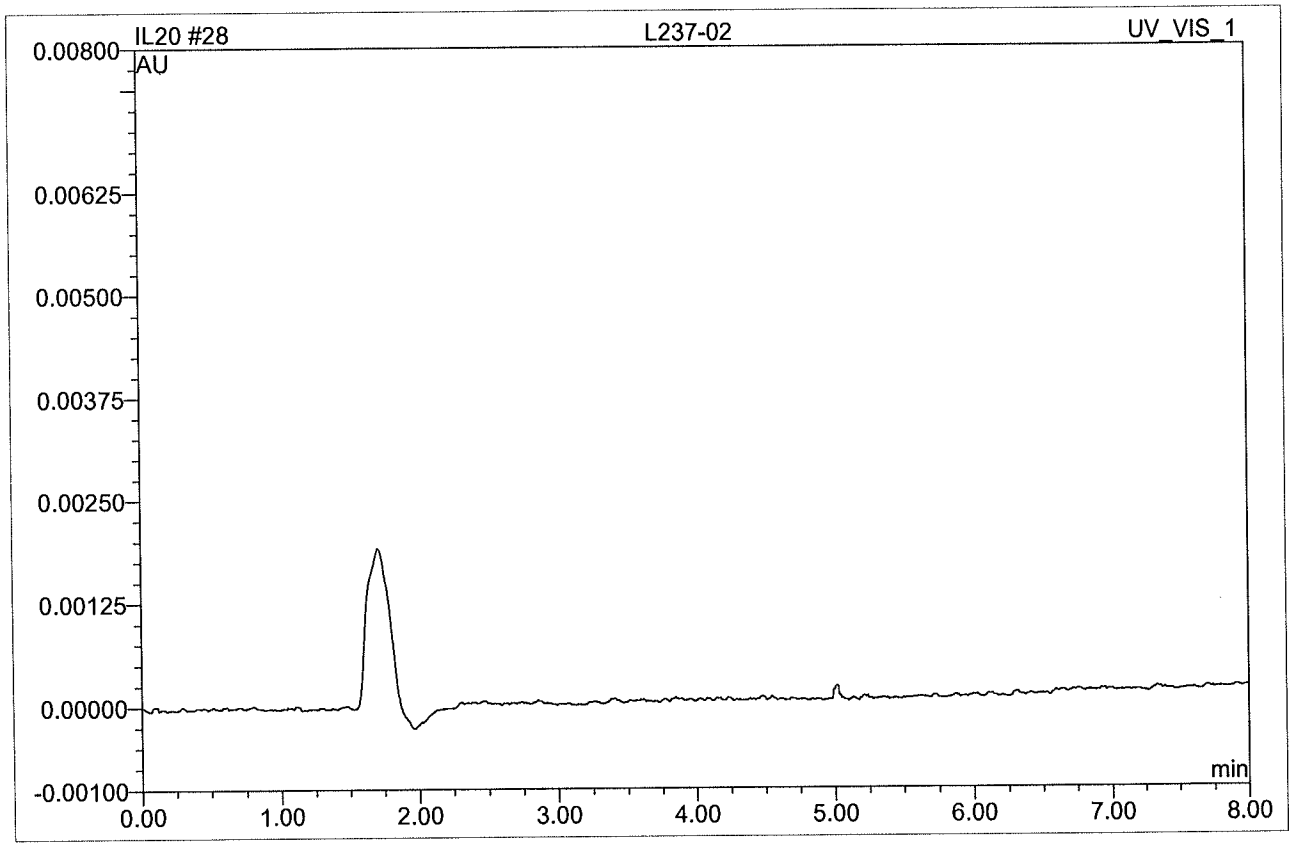
Sample Name:	**L237-01**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 14:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 016 L237-02

Sample Name:	**L237-02**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 14:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

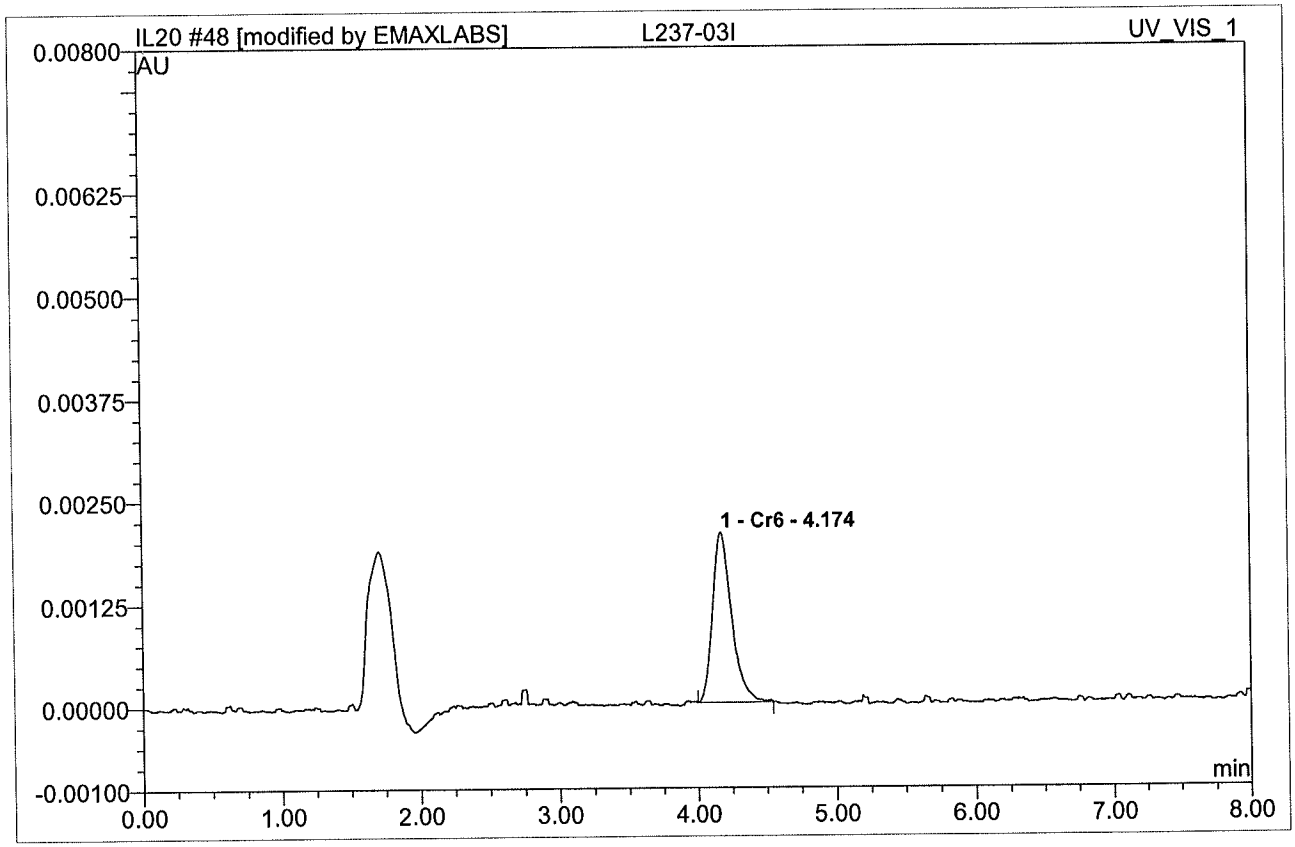


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 036 L237-03I

1mLto5mL

Sample Name:	**L237-03I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 17:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

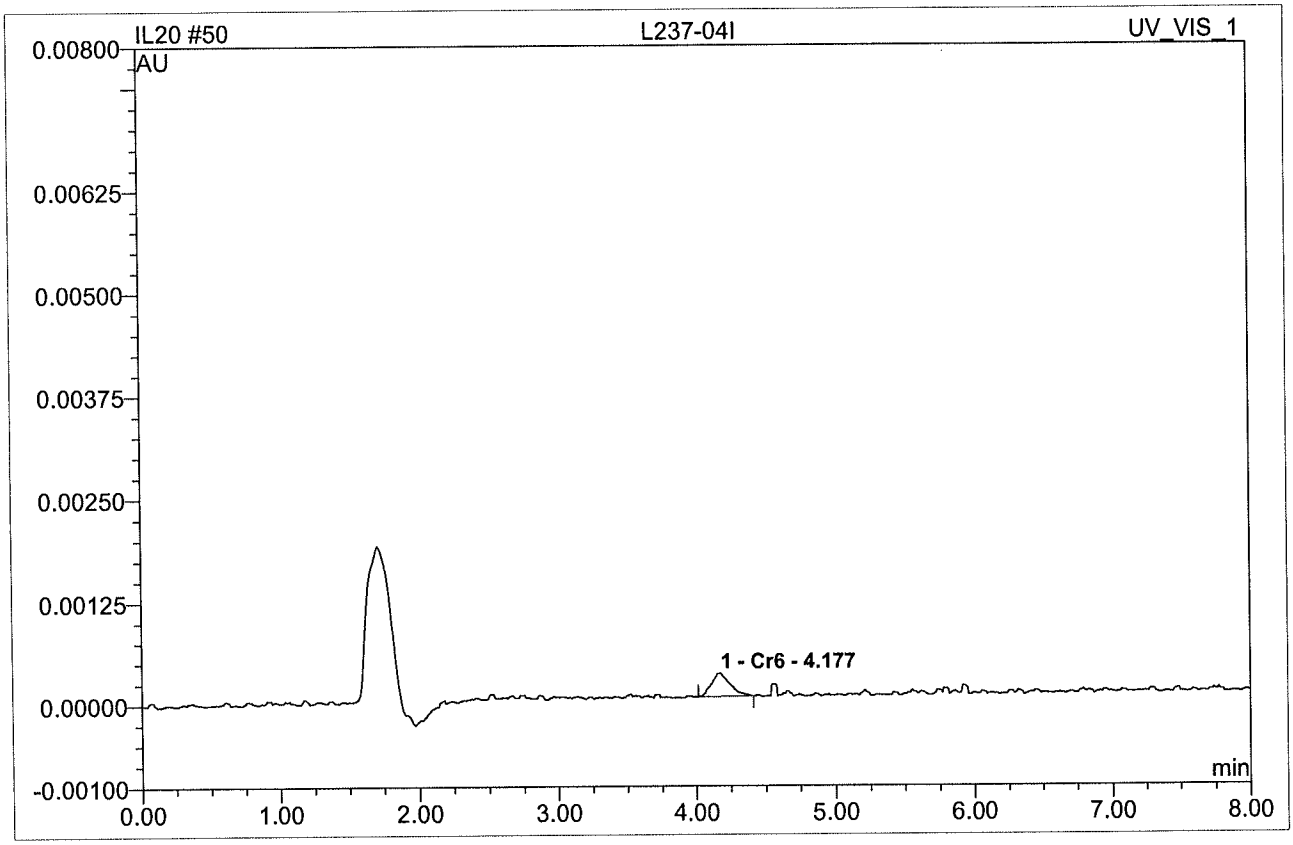


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0020650	0.0003295	100.00	16.703	BMB*
Total:			0.002	0.000	100.00	16.703	

IL20 038 L237-04I

1mLto5mL

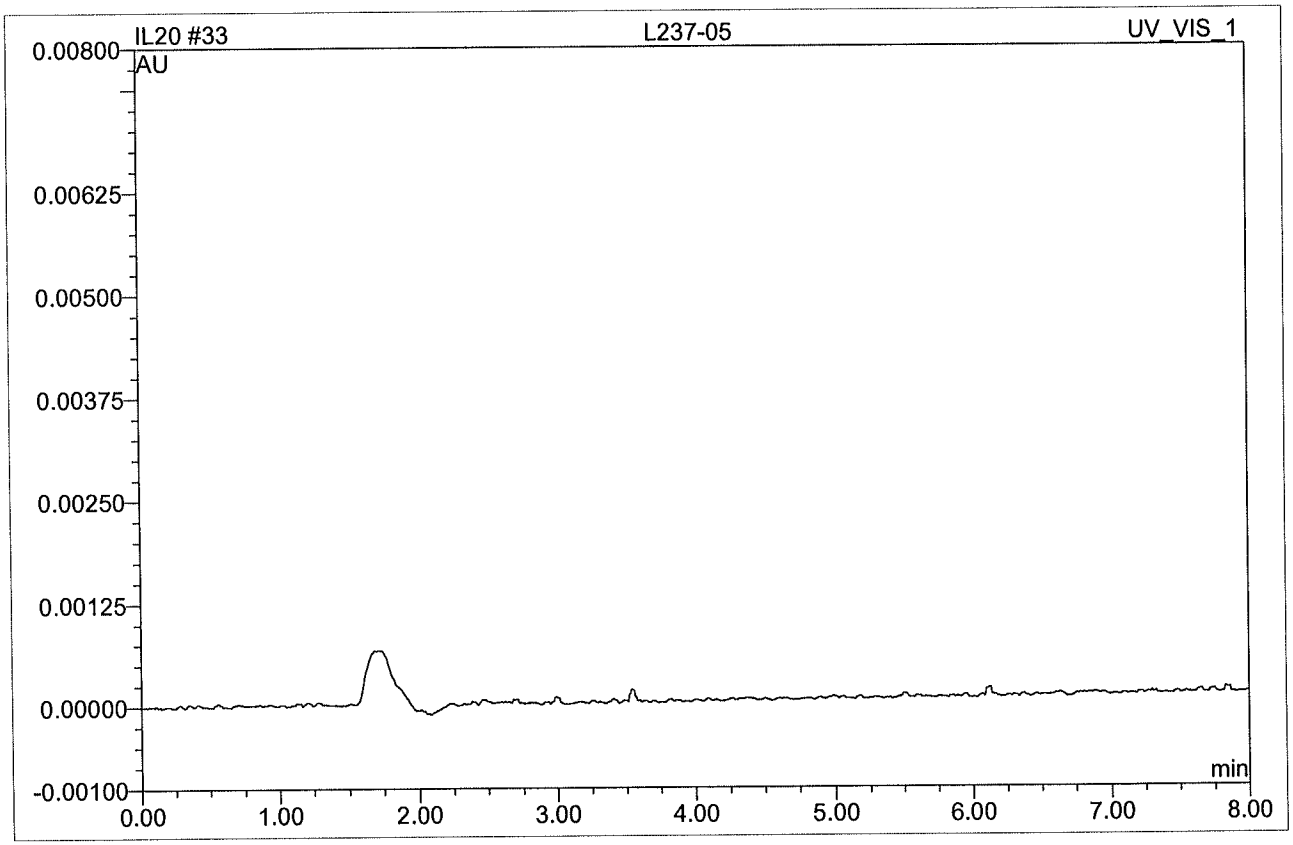
Sample Name:	**L237-04I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**5**
Recording Time:	**12/20/2022 18:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0002820	0.0000444	100.00	2.300	BMB
Total:			0.000	0.000	100.00	2.300	

IL20 021 L237-05

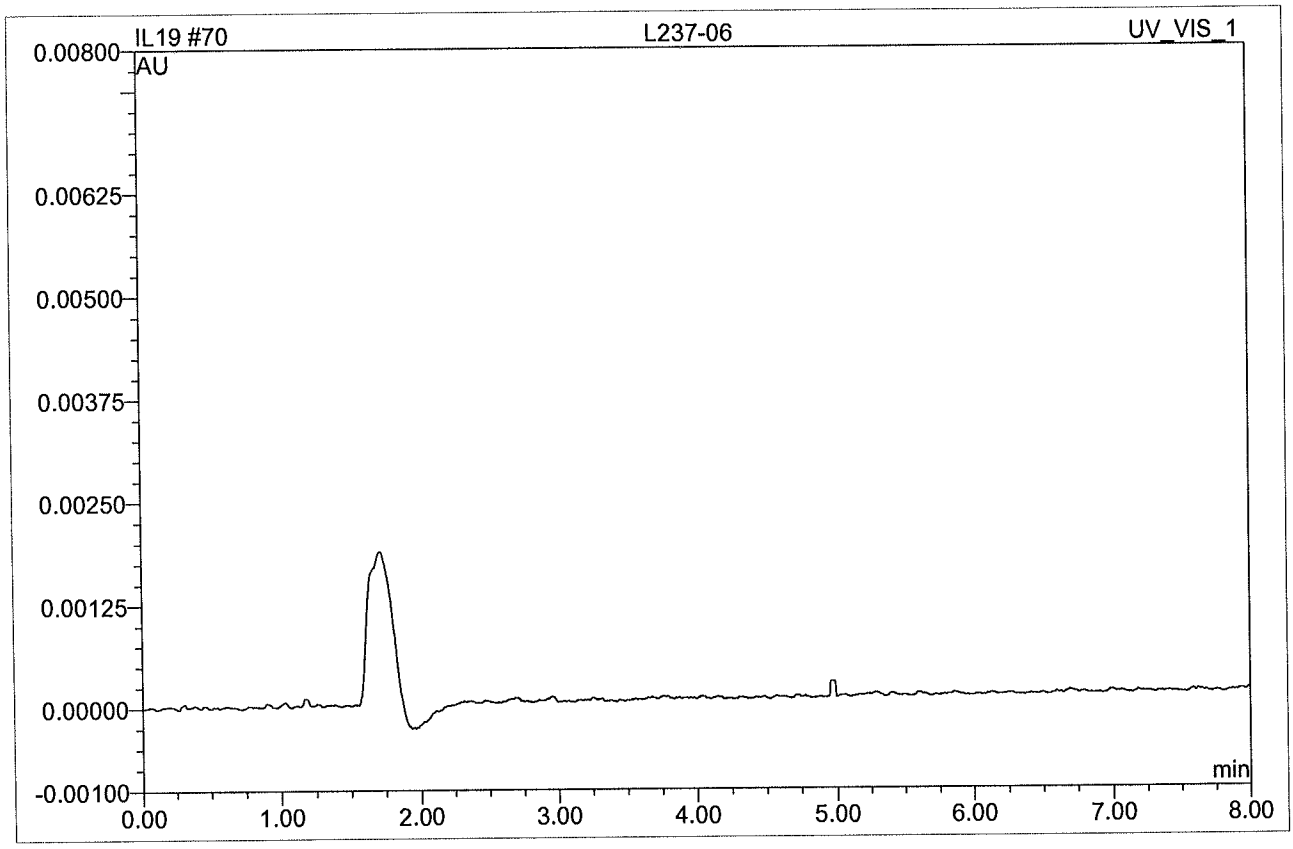
Sample Name:	**L237-05**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 15:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 070 L237-06

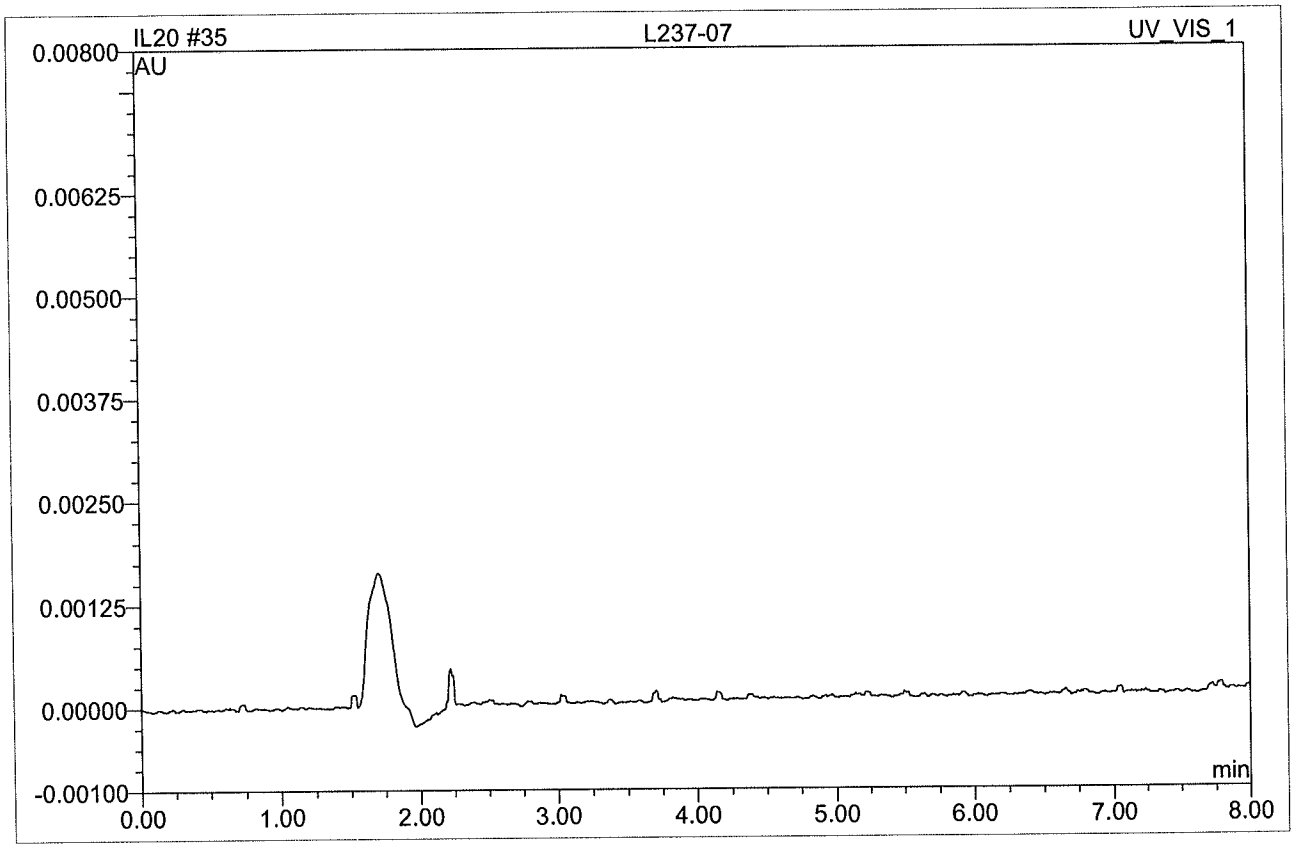
Sample Name:	**L237-06**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 023 L237-07

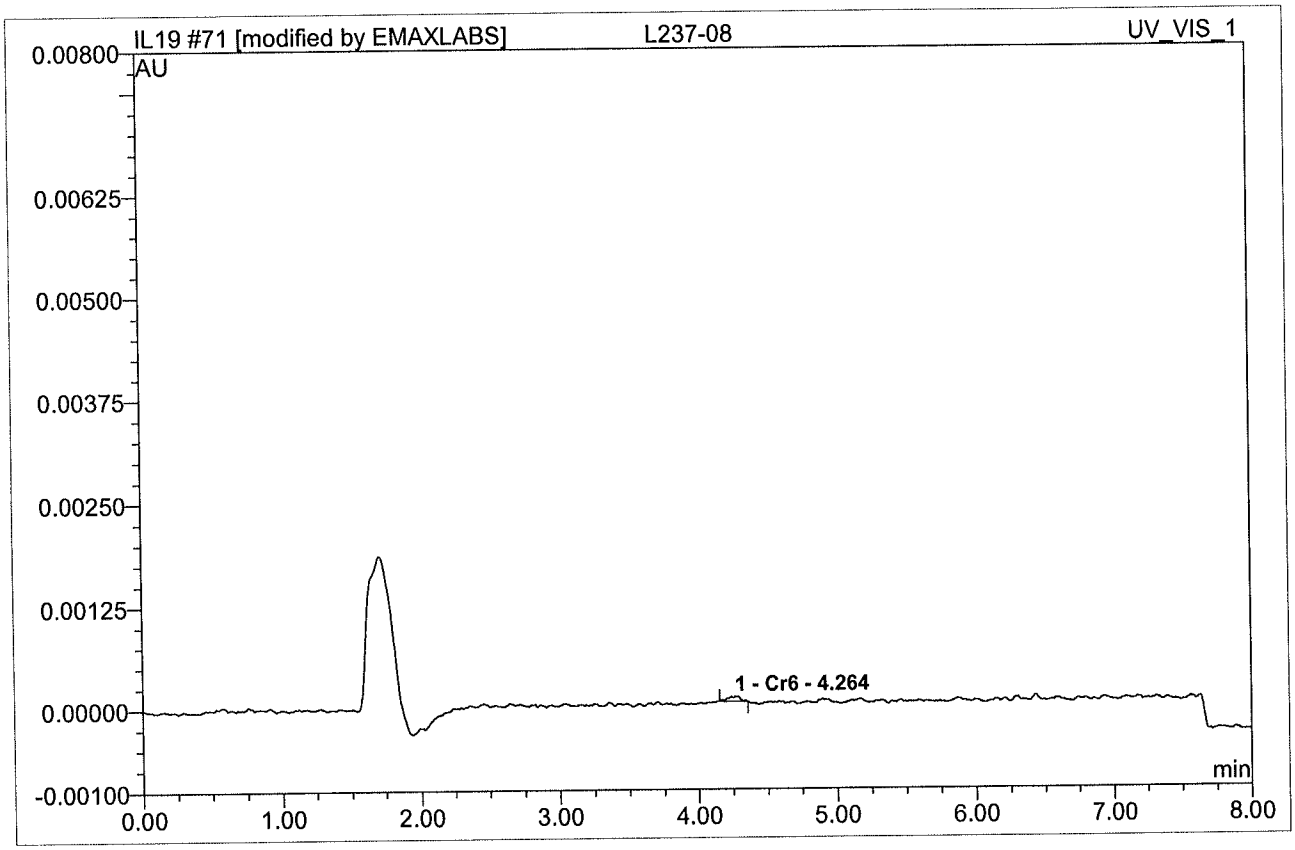
Sample Name:	**L237-07**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 15:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 071 L237-08

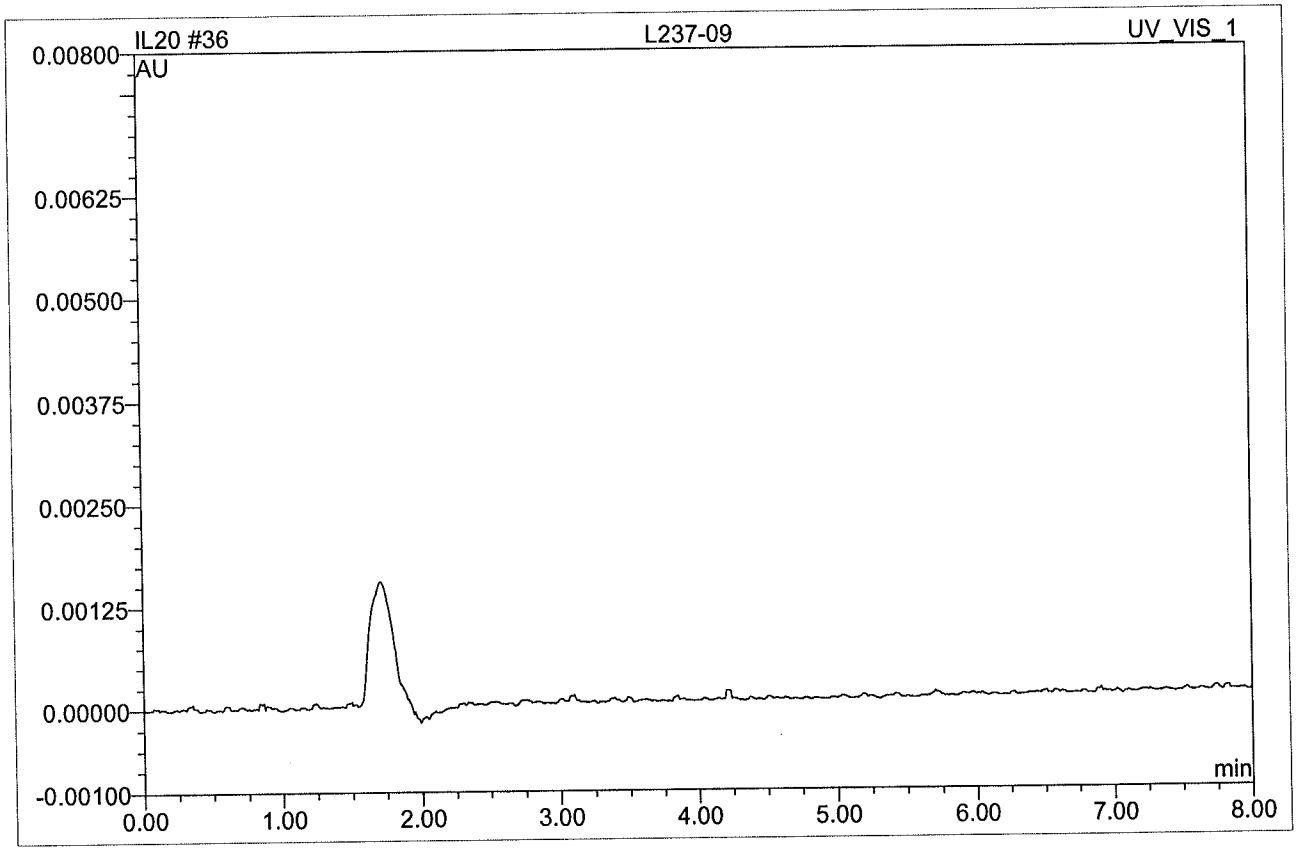
Sample Name:	**L237-08**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.26	Cr6	0.0000640	0.0000066	100.00	0.078	BMB*
Total:			0.000	0.000	100.00	0.078	

IL20 024 L237-09

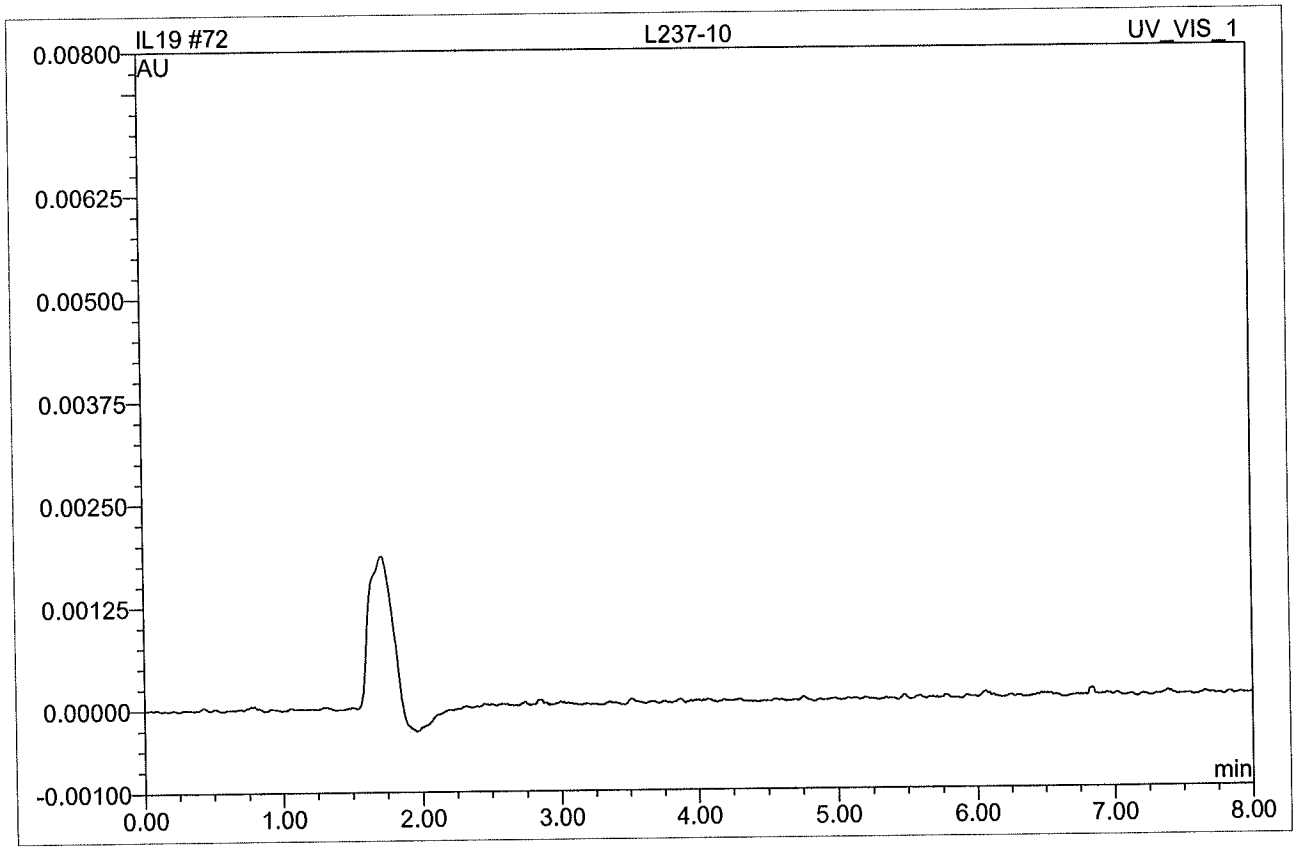
Sample Name:	**L237-09**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 15:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 072 L237-10

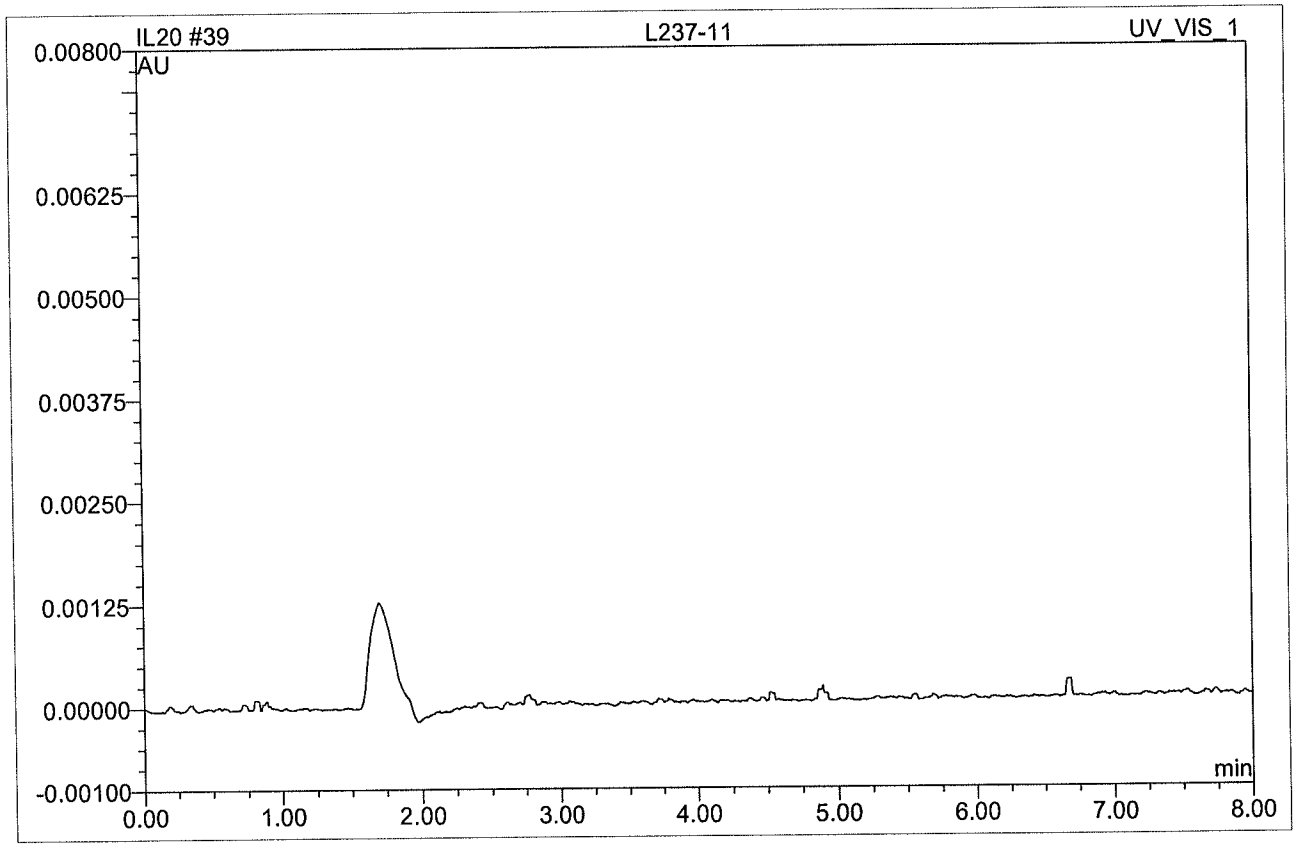
Sample Name:	**L237-10**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 027 L237-11

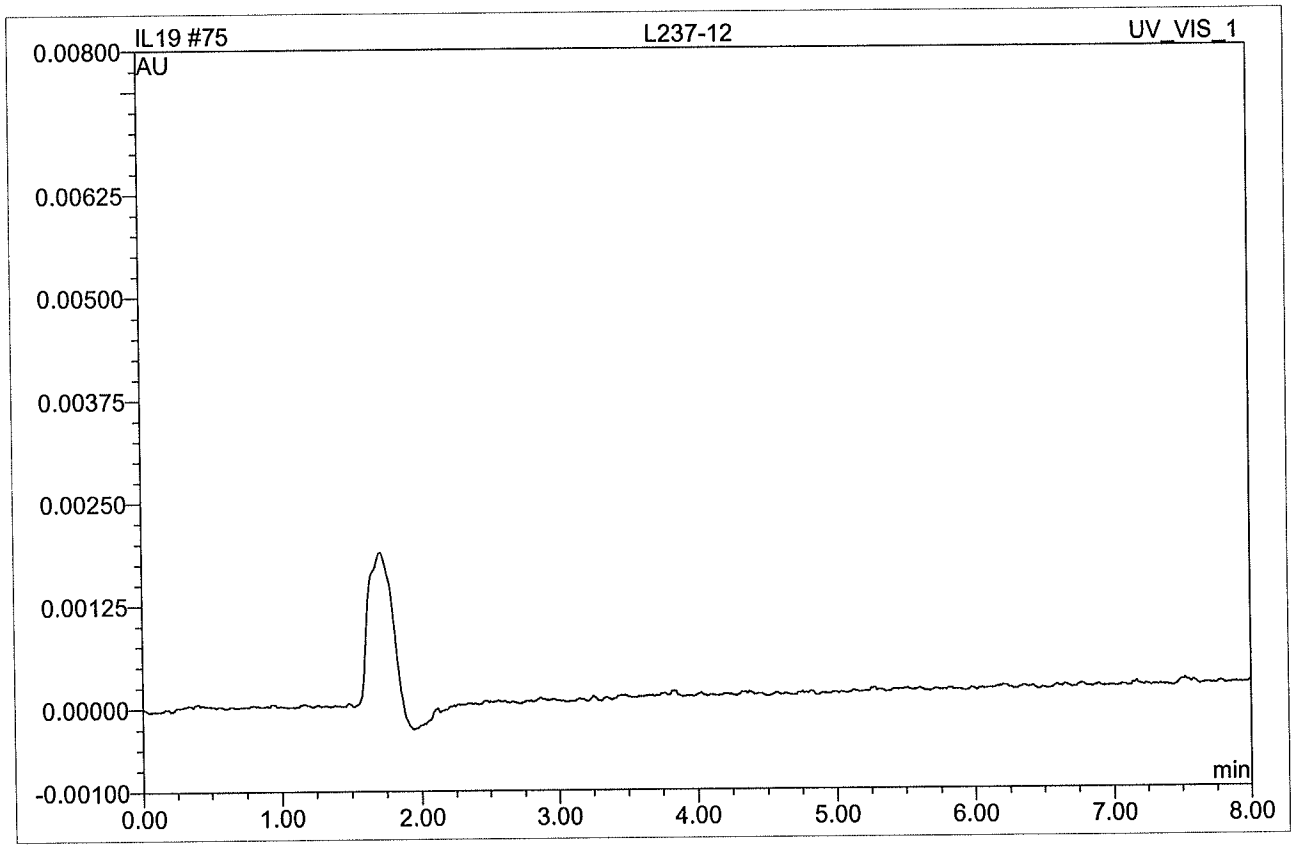
Sample Name:	**L237-11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 16:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 075 L237-12

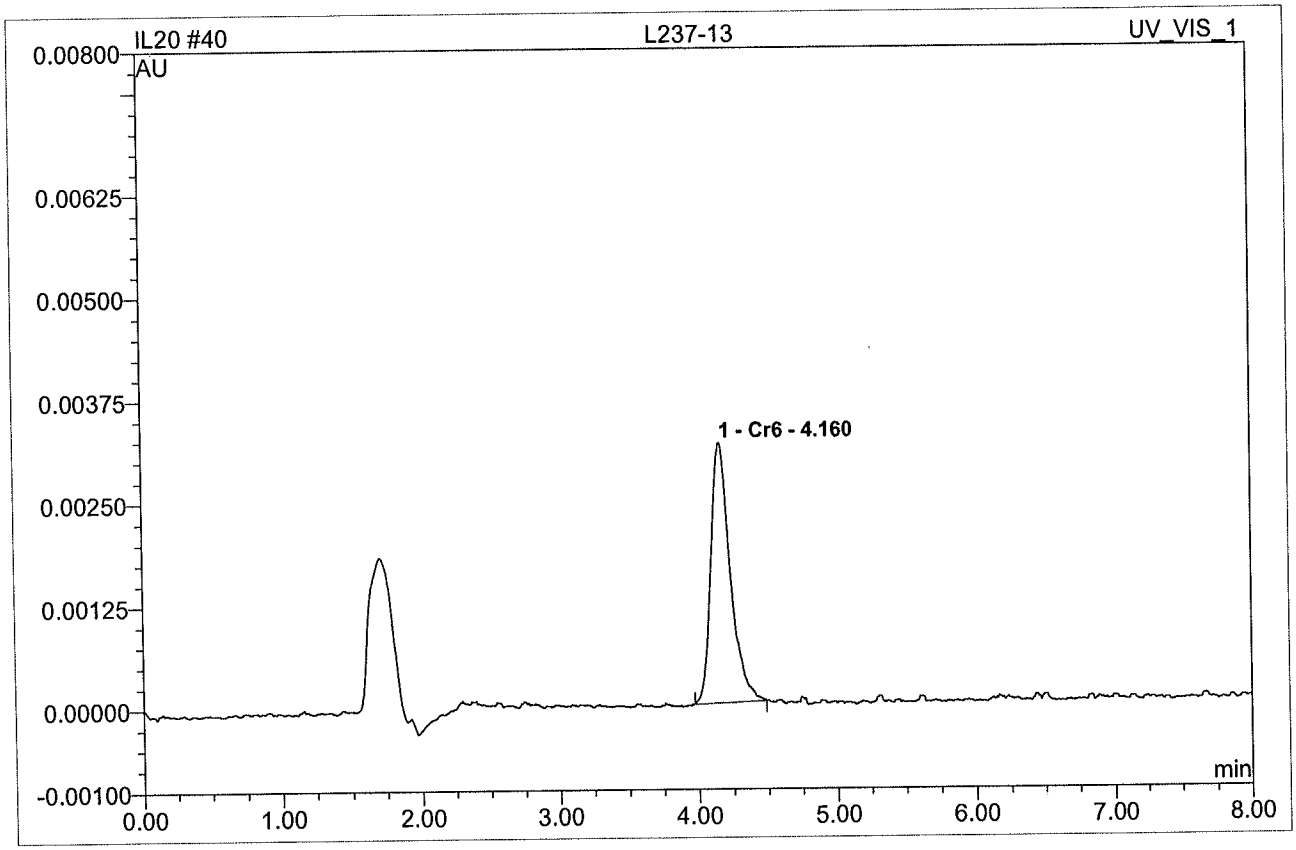
Sample Name:	**L237-12**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 028 L237-13

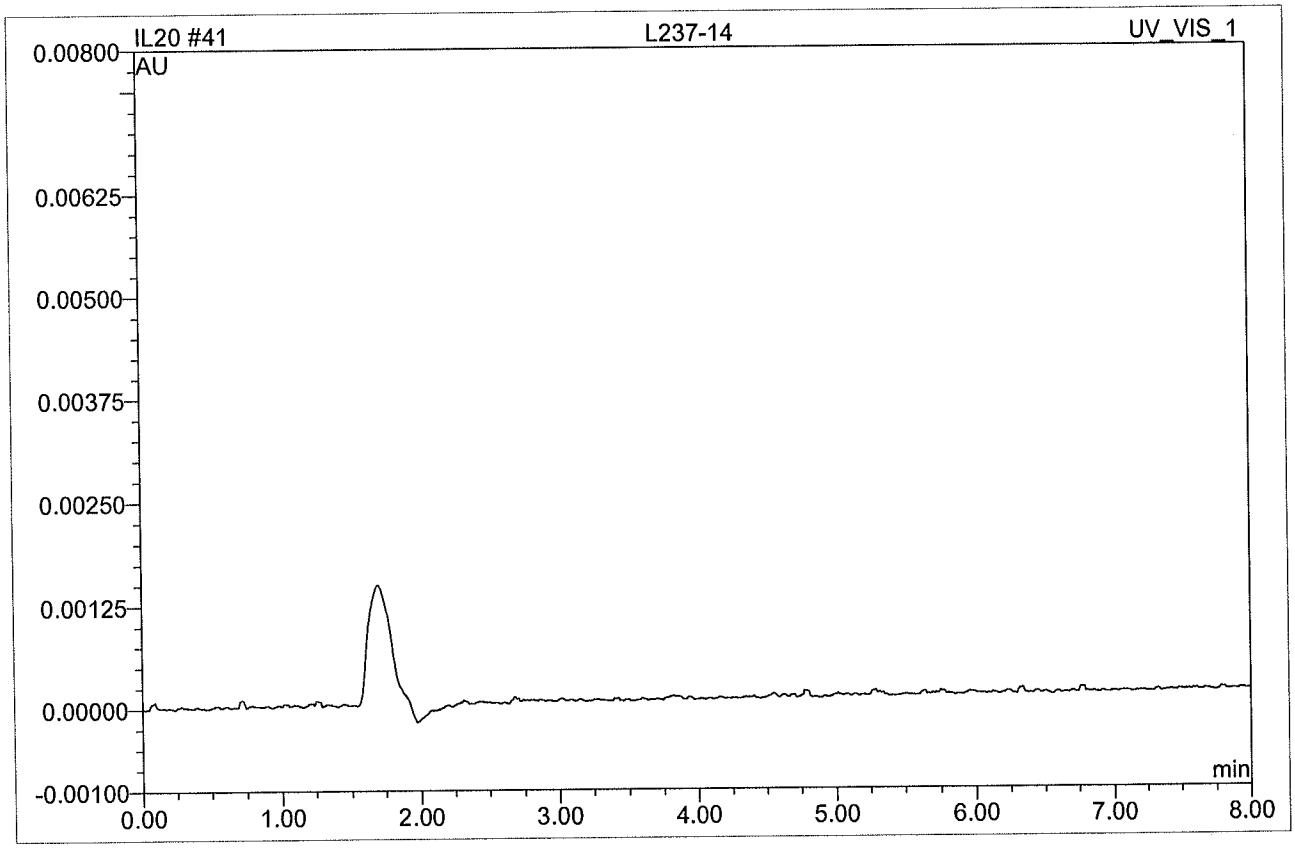
Sample Name:	**L237-13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 16:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.16	Cr6	0.0031680	0.0005095	100.00	5.160	BMB
Total:			0.003	0.001	100.00	5.160	

IL20 029 L237-14

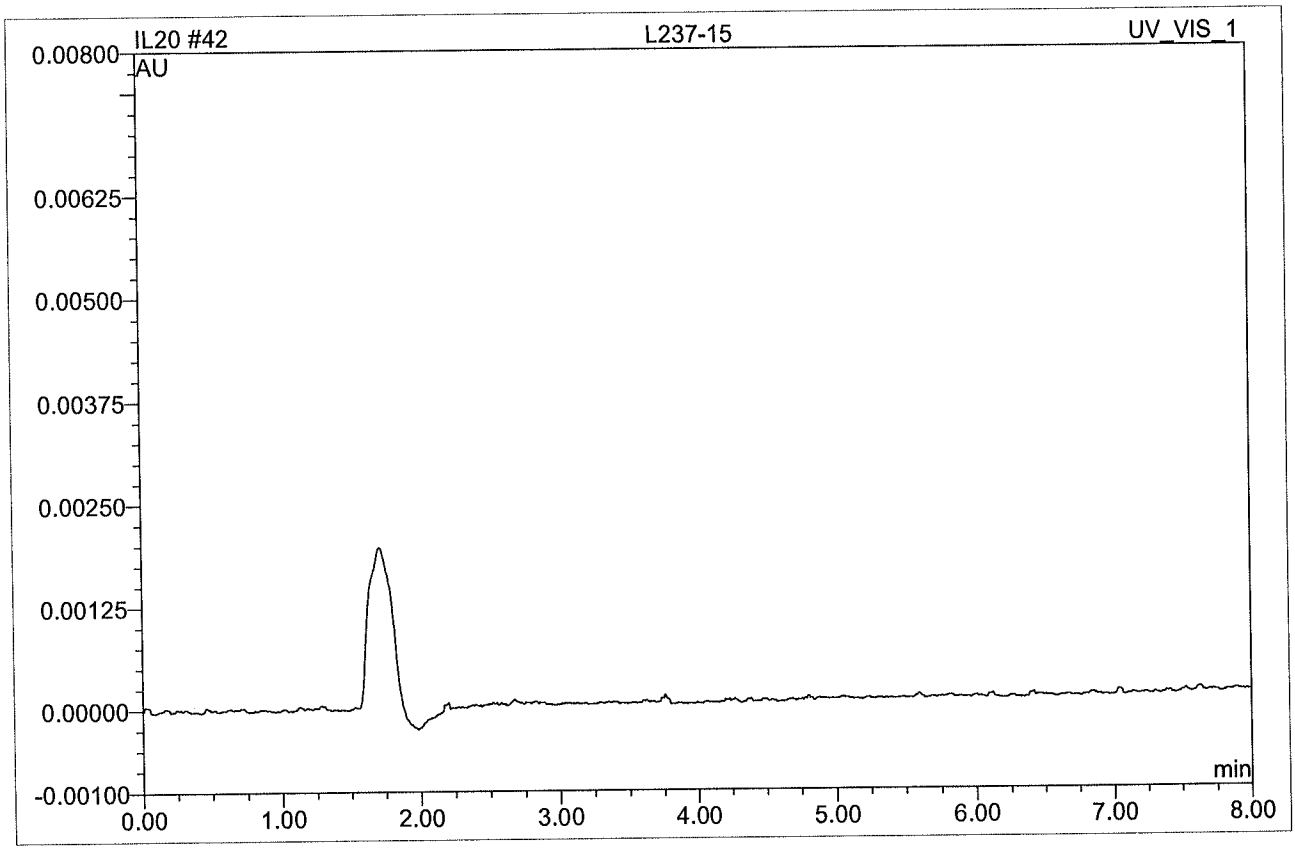
Sample Name:	**L237-14**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 16:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 030 L237-15

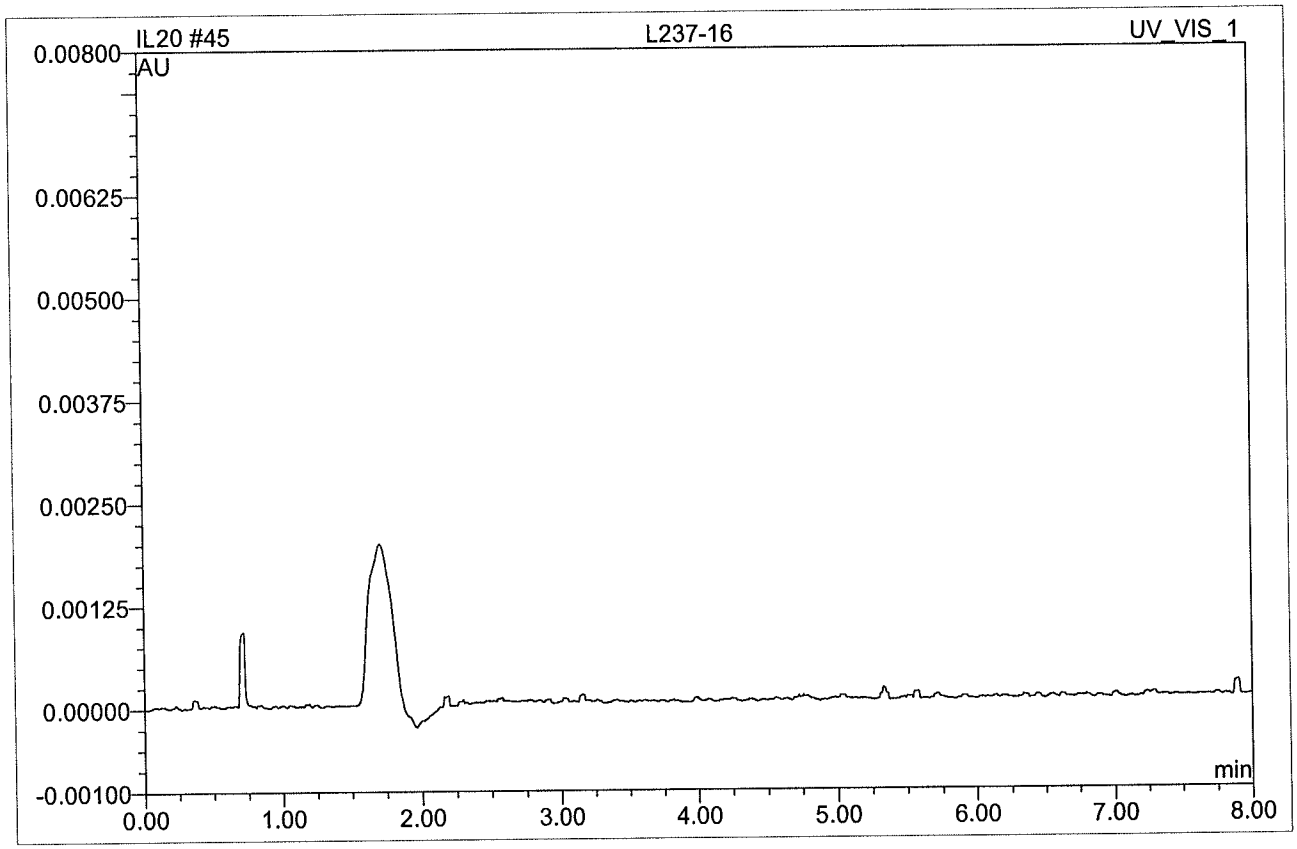
Sample Name:	**L237-15**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 16:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 033 L237-16

Sample Name:	**L237-16**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 17:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L237
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCL011WB	HCL011WL	HCL011WC
LAB FILE ID	: IL19033	IL19034	IL19035
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/19/2223:35	12/19/2223:46	12/19/2223:56
PREP BATCH	: HCL011W	HCL011W	HCL011W
CALIBRATION REF:	IL19025	IL19025	IL19025

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	2.00	100	2.00	2.00	100	0	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L237
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK2W	LCS2W	LCD2W
LAB SAMPLE ID	: HCL013WB	HCL013WL	HCL013WC
LAB FILE ID	: IL20003	IL20005	IL20007
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/20/2212:03	12/20/2212:24	12/20/2212:45
PREP BATCH	: HCL013W	HCL013W	HCL013W
CALIBRATION REF	: IL20001	IL20001	IL20001

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	2.04	102	2.00	2.00	100	2	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L237
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MW-91-045-Q422	MW-91-045-Q422MS	MW-91-045-Q422MSD
LAB SAMPLE ID	: L237-02	L237-02M	L237-02S
LAB FILE ID	: IL20016	IL20017	IL20018
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/20/2214:18	12/20/2214:29	12/20/2214:39
PREP BATCH	: HCL013W	HCL013W	HCL013W
CALIBRATION REF:	IL20013	IL20013	IL20013

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	1.03	103	1.00	1.03	103	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L237
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-92-037-Q422	MW-92-037-Q422MS	MW-92-037-Q422MSD
LAB SAMPLE ID	: L237-15	L237-15M	L237-15S
LAB FILE ID	: IL20030	IL20031	IL20032
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/20/2216:44	12/20/2216:55	12/20/2217:05
PREP BATCH	: HCL013W	HCL013W	HCL013W
CALIBRATION REF	: IL20025	IL20025	IL20025

ACCESSION:

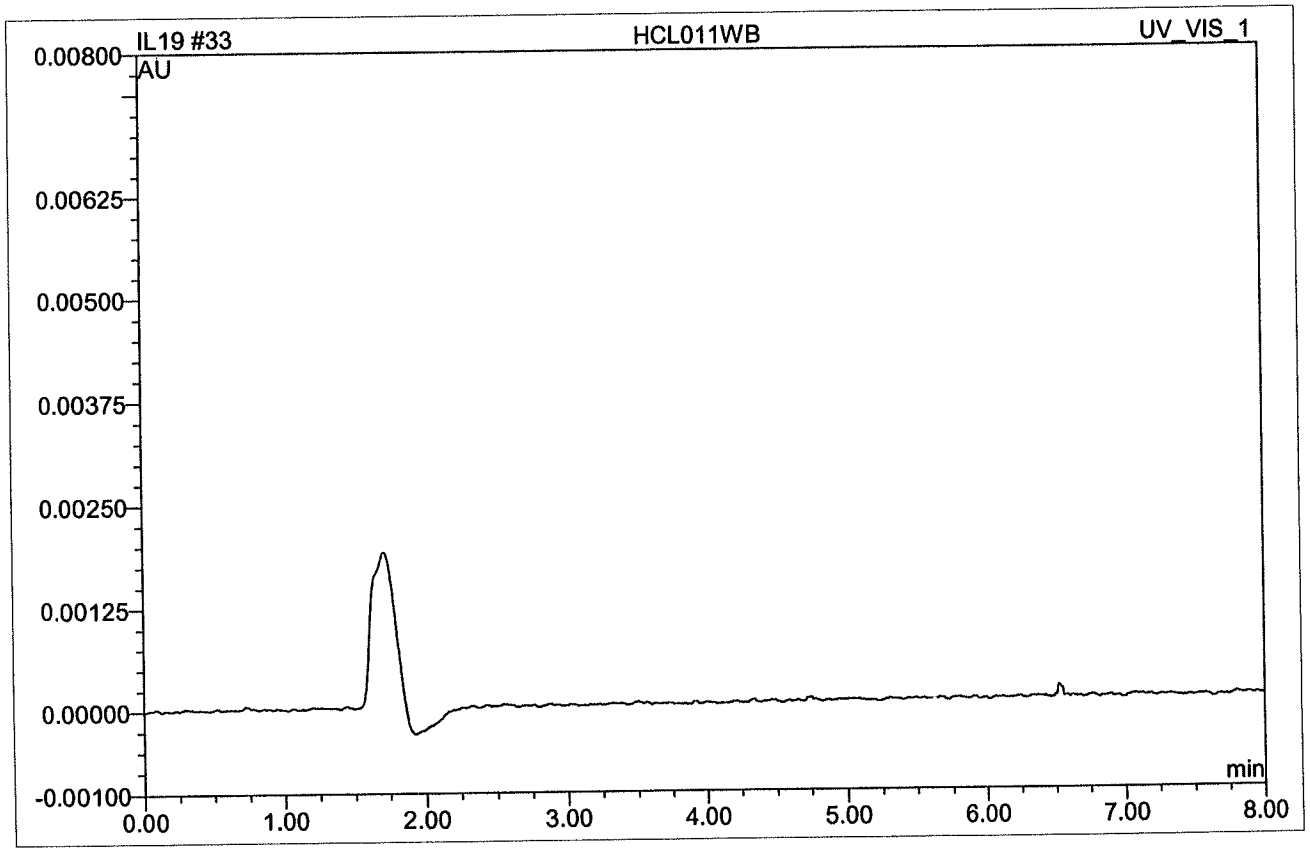
PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	0.983	98.3	1.00	0.982	98.2	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

QC DATA

IL19 033 HCL011WB

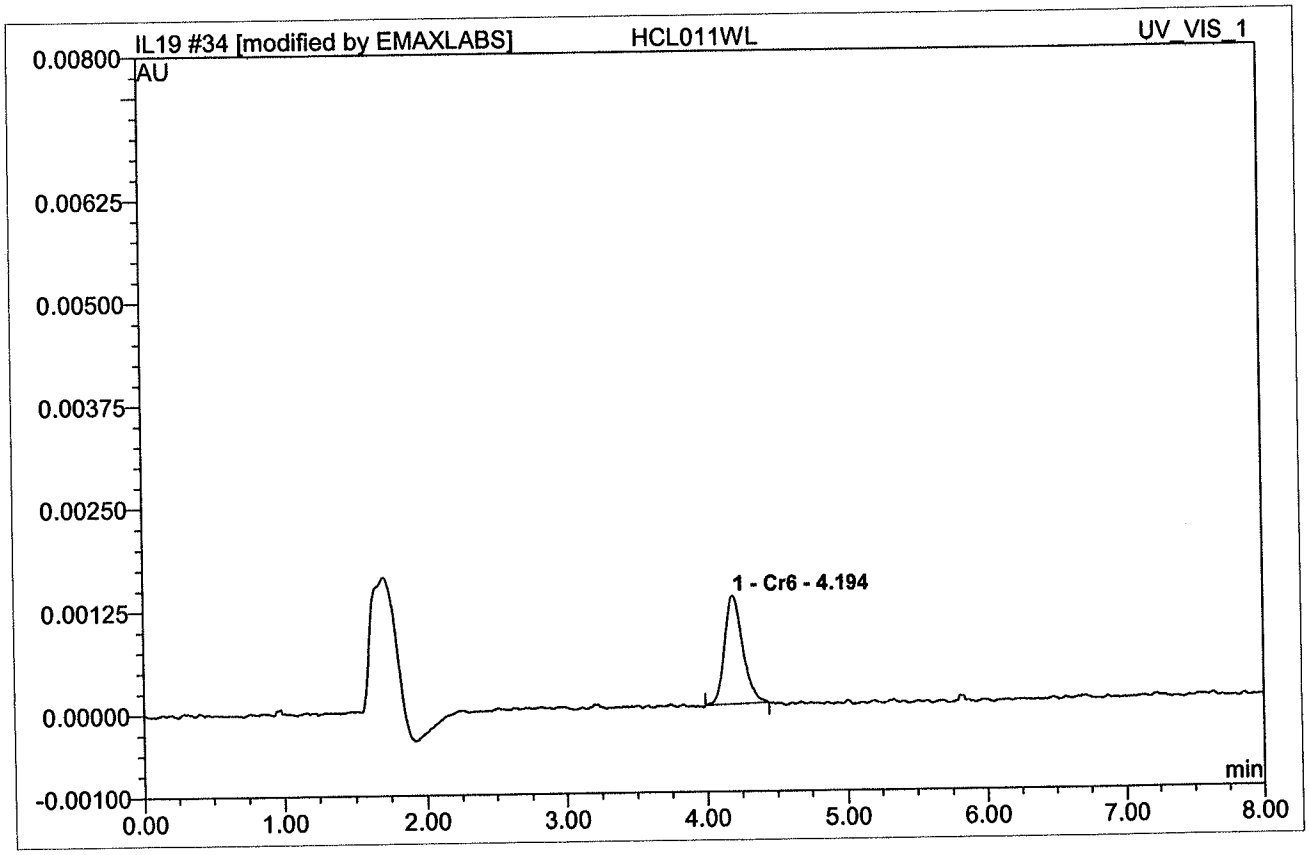
Sample Name:	**HCL011WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 23:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 034 HCL011WL

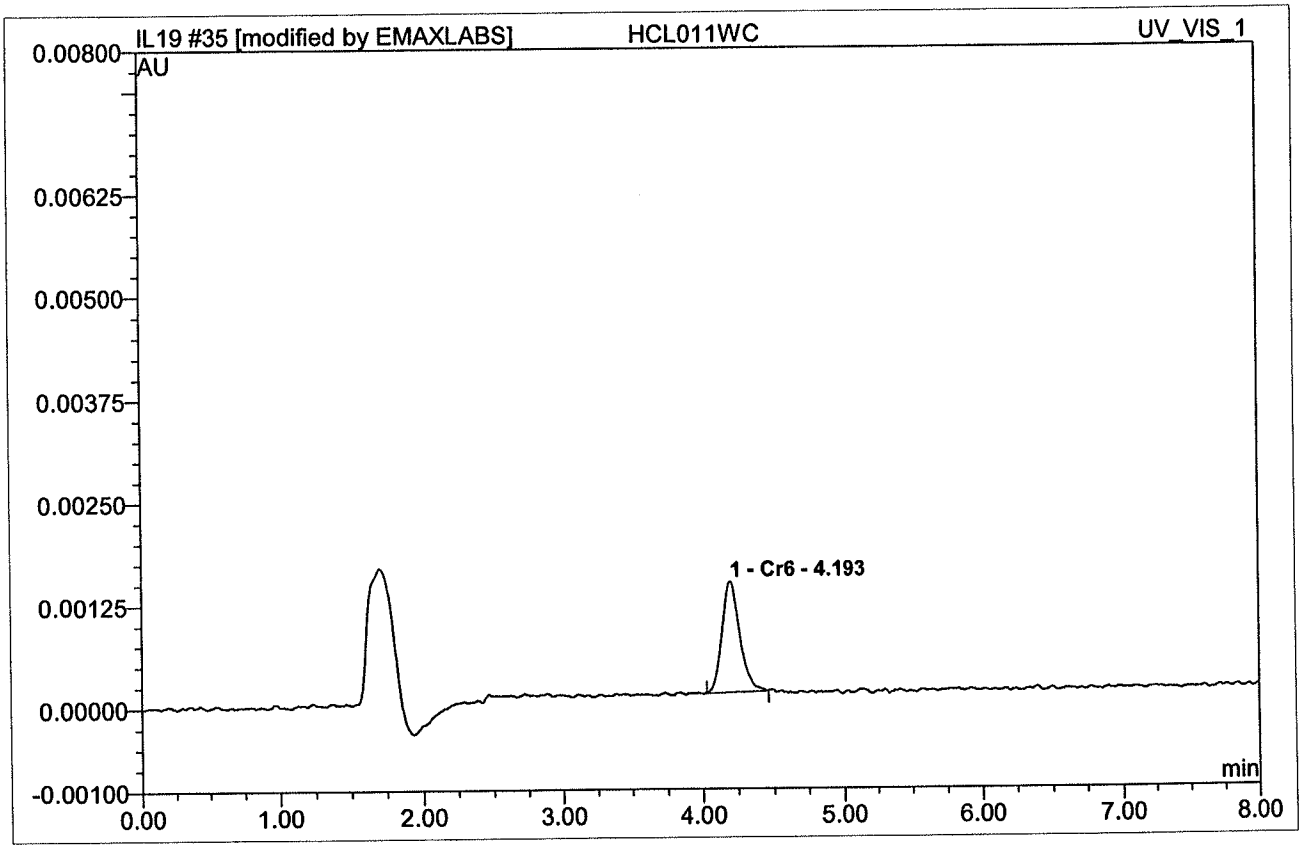
Sample Name:	**HCL011WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 23:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013170	0.0001969	100.00	2.000	BMB*
Total:			0.001	0.000	100.00	2.000	

IL19 035 HCL011WC

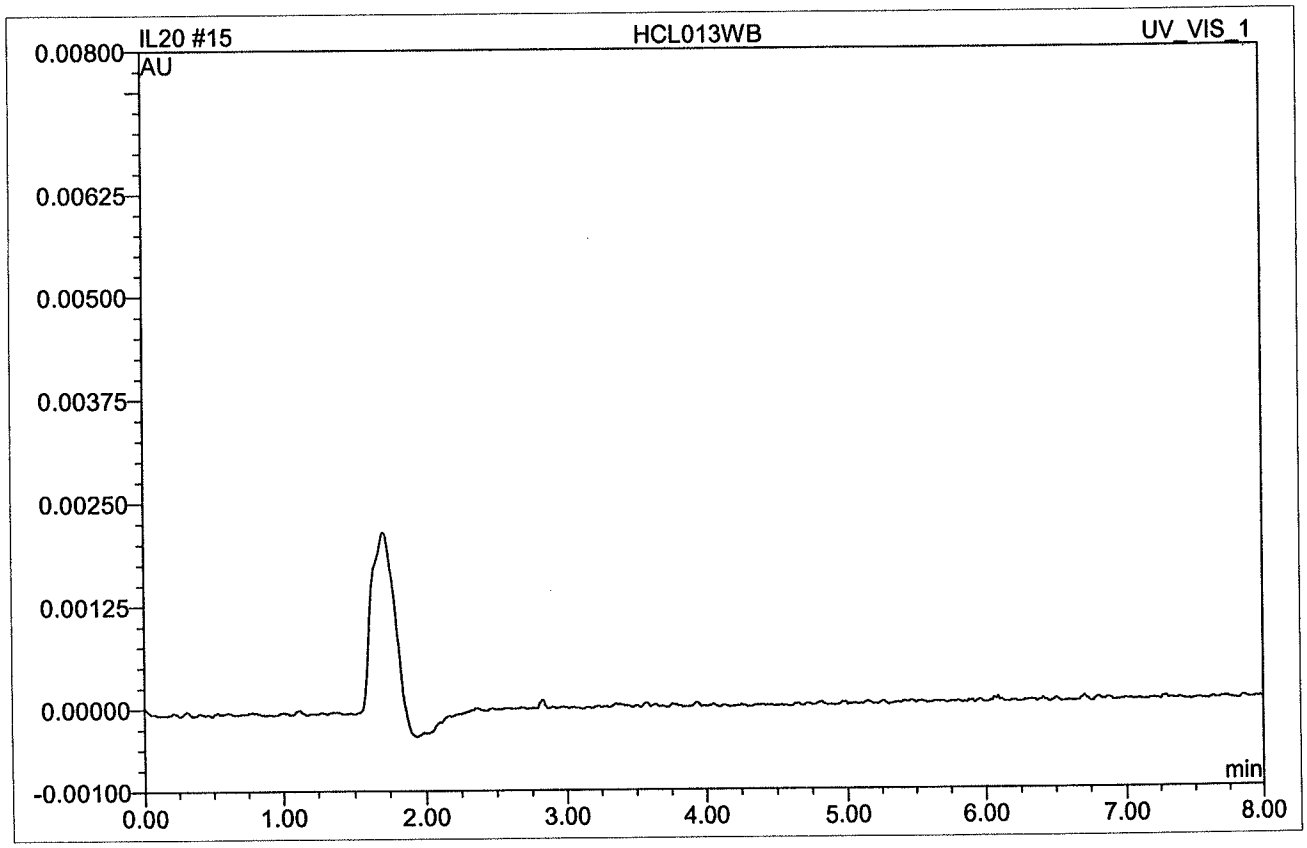
Sample Name:	**HCL011WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 23:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013530	0.0001969	100.00	2.001	BMB*
Total:			0.001	0.000	100.00	2.001	

IL20 003 HCL013WB

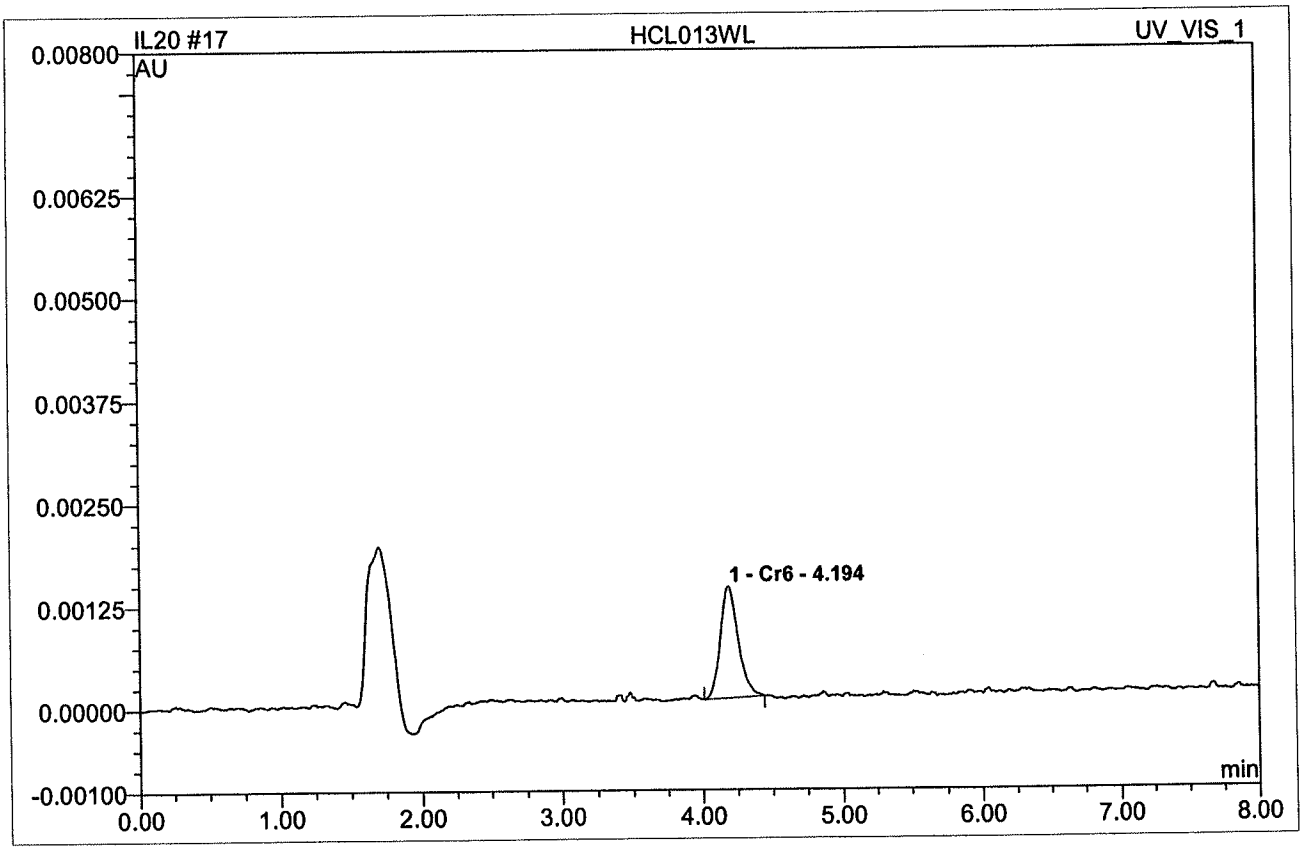
Sample Name:	**HCL013WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 12:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 005 HCL013WL

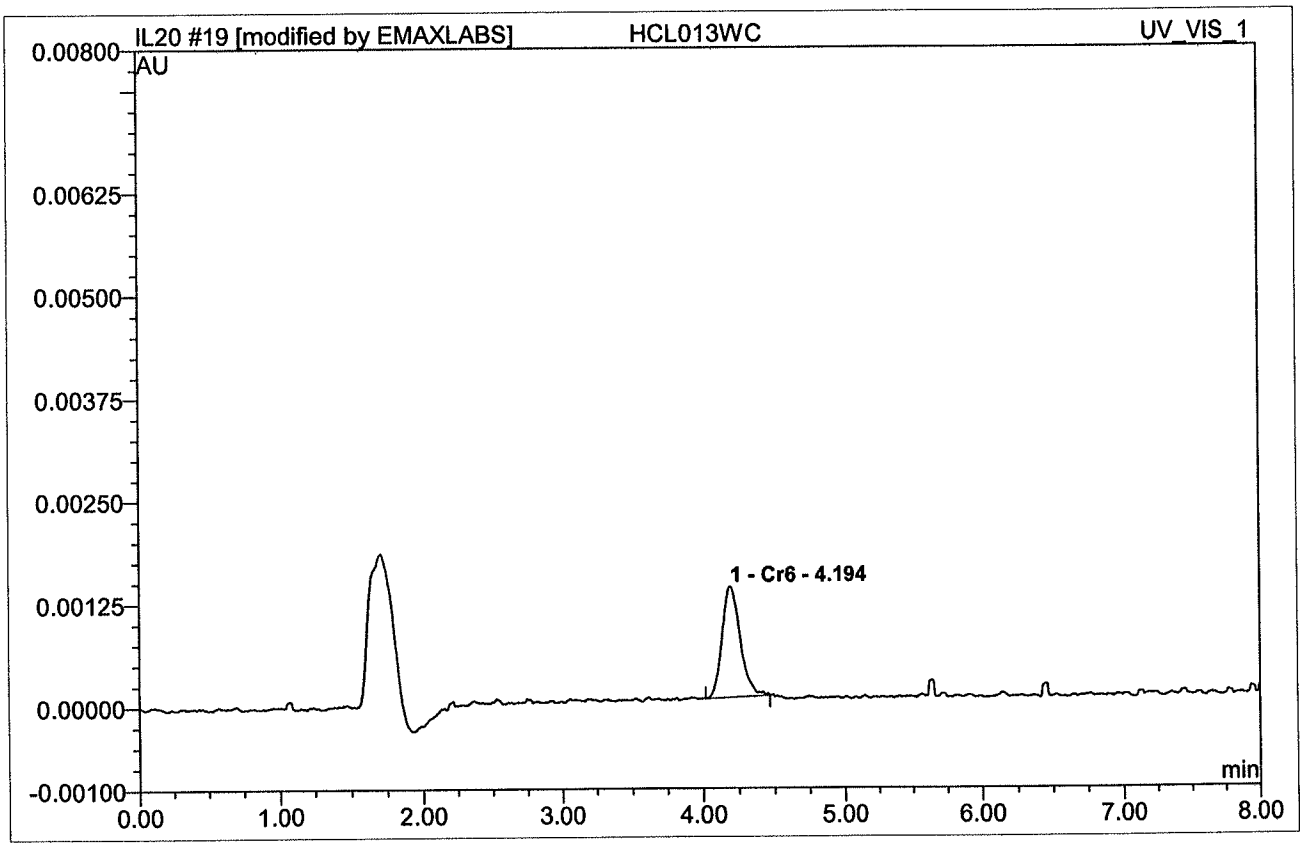
Sample Name:	**HCL013WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 12:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013570	0.0002004	100.00	2.036	BMB
Total:			0.001	0.000	100.00	2.036	

IL20 007 HCL013WC

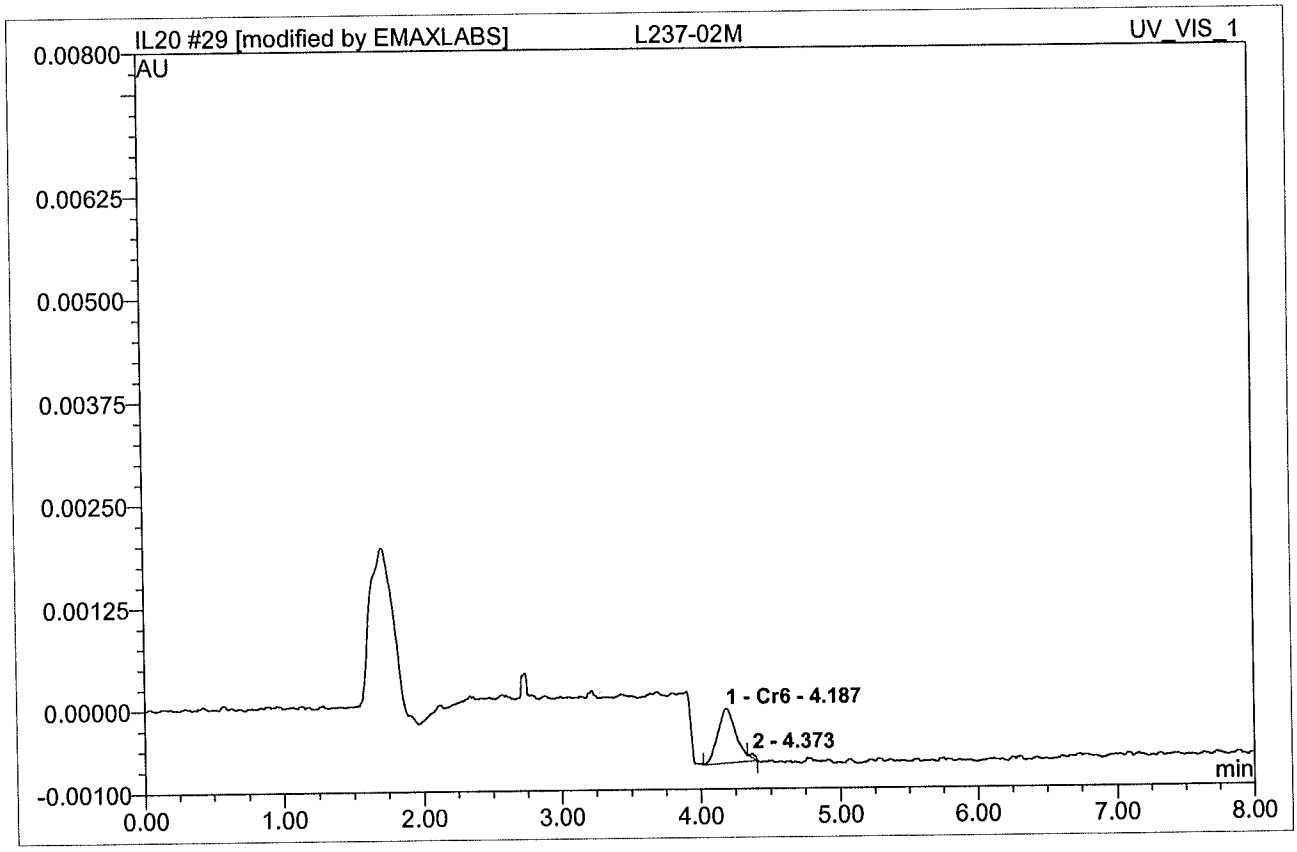
Sample Name:	**HCL013WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 12:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013430	0.0001972	100.00	2.004	BMB*
Total:			0.001	0.000	100.00	2.004	

IL20 017 L237-02M

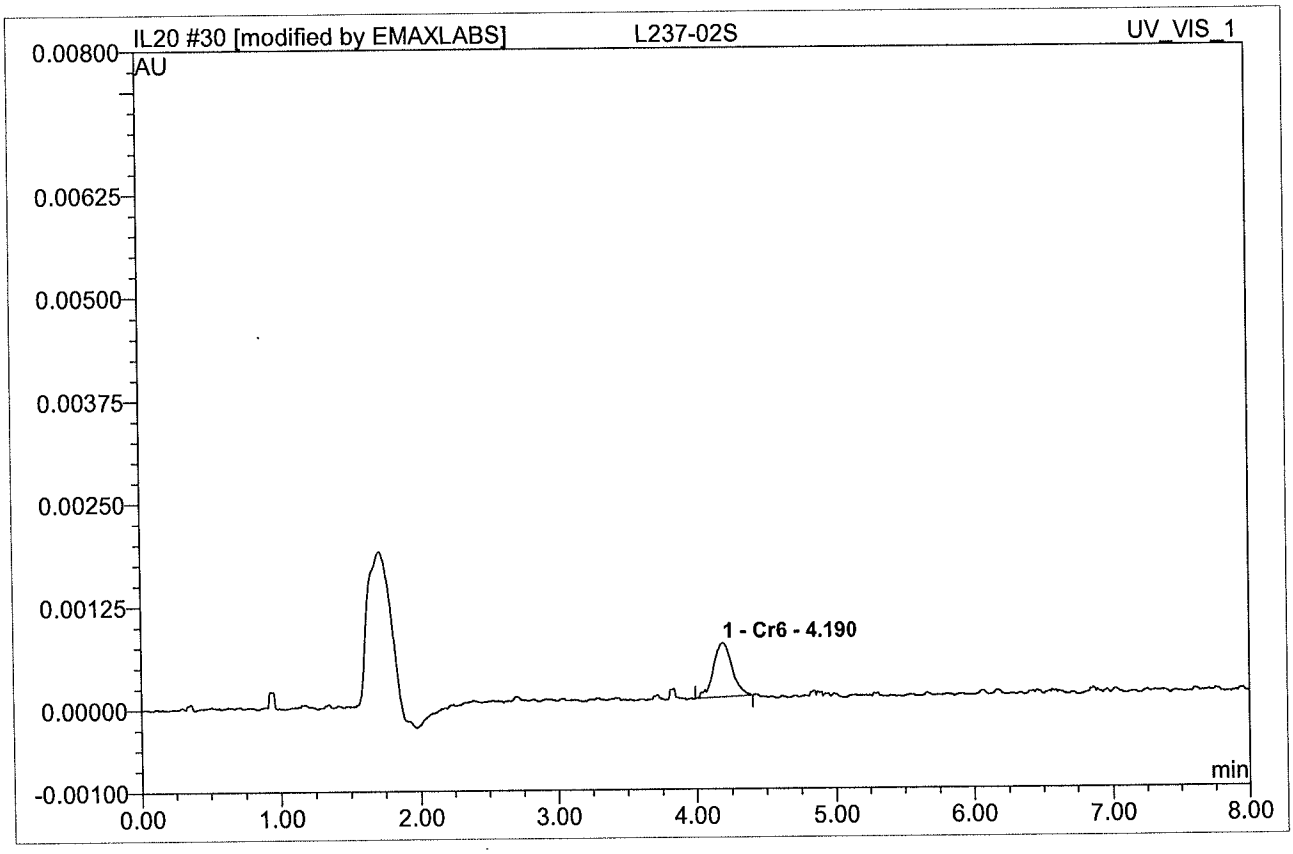
Sample Name:	**L237-02M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 14:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0006600	0.0001009	97.87	1.031	BMB*
2	4.37	n.a.	0.0000580	0.0000022	2.13	n.a.	Rd*
Total:			0.001	0.000	100.00	1.031	

IL20 018 L237-02S

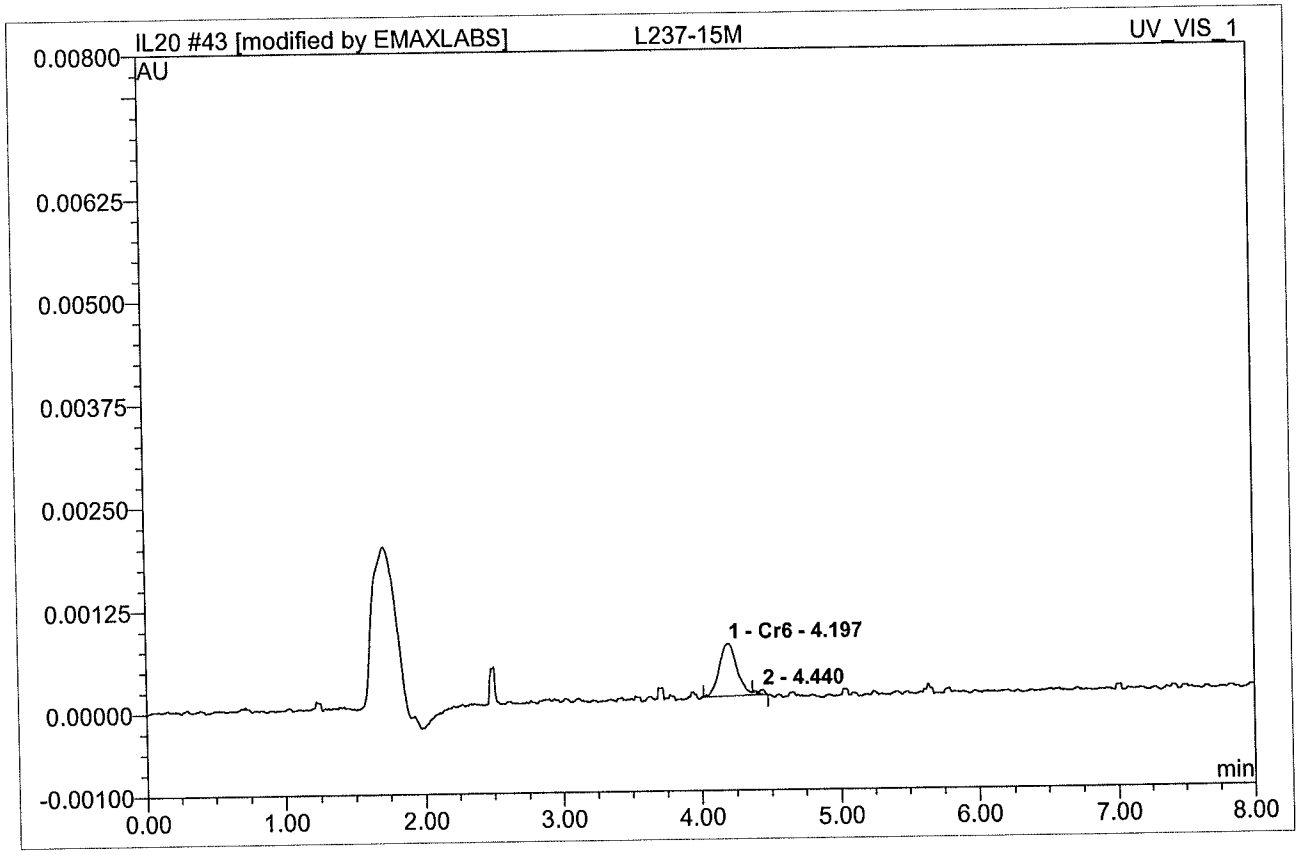
Sample Name:	**L237-02S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 14:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0006590	0.0001011	100.00	1.032	BMB*
Total:			0.001	0.000	100.00	1.032	

IL20 031 L237-15M

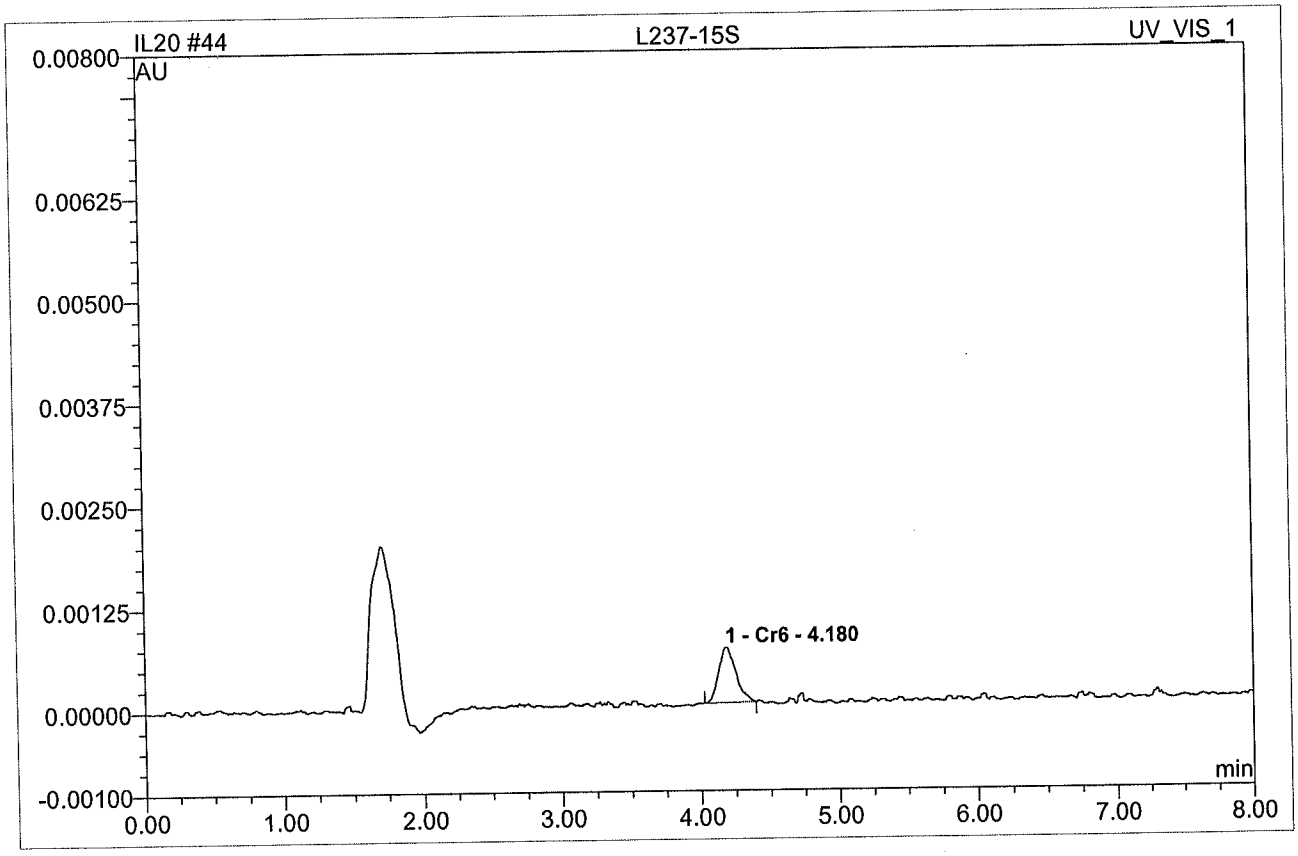
Sample Name:	**L237-15M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 16:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0006450	0.0000961	97.28	0.983	BMB*
2	4.44	n.a.	0.0000530	0.0000027	2.72	n.a.	Rd*
Total:			0.001	0.000	100.00	0.983	

IL20 032 L237-15S

Sample Name:	**L237-15S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 17:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0006710	0.0000960	100.00	0.982	BMB
Total:			0.001	0.000	100.00	0.982	

INITIAL CALIBRATION

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

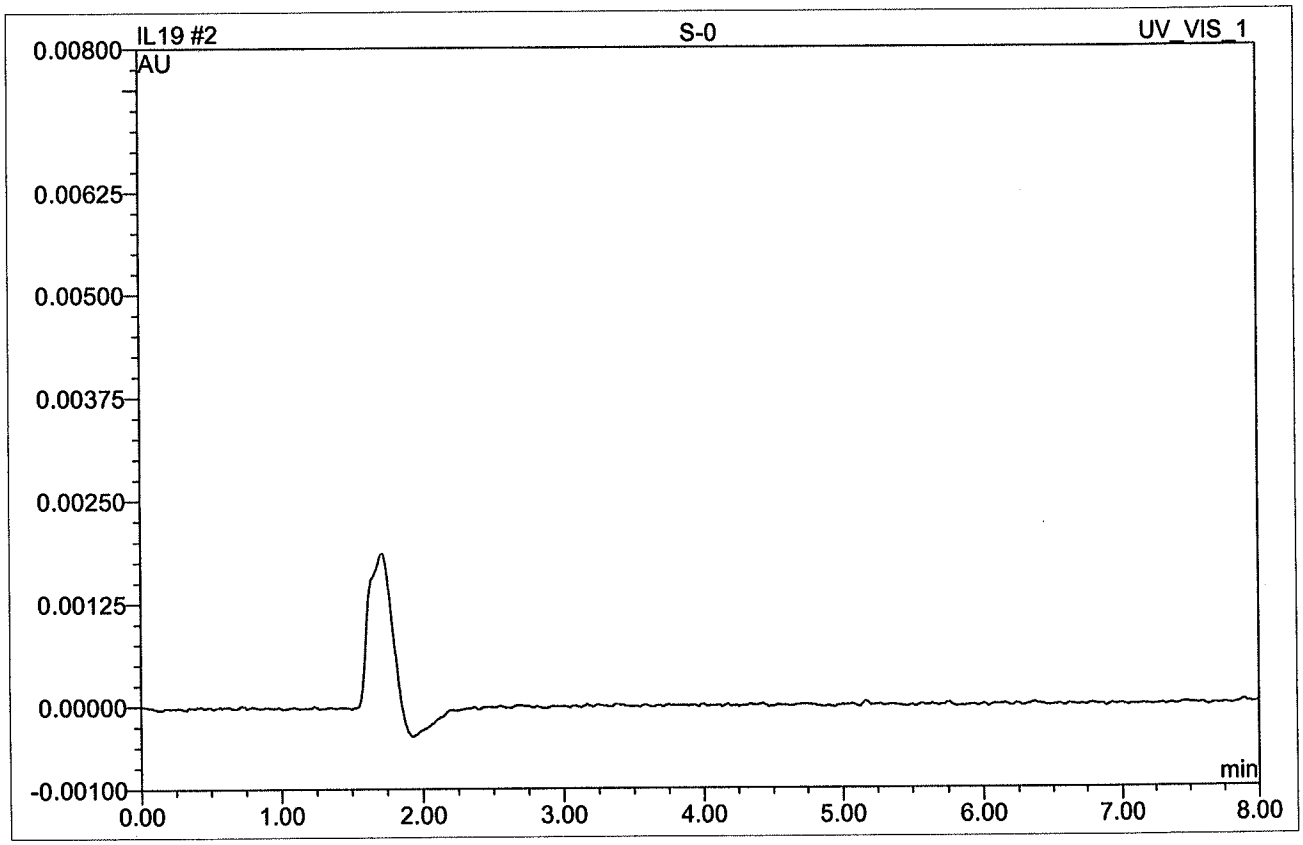
LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1

METHOD: IC59L19
SOLVENT: BUFFER (SP2-05-21-03)

12/27/22

IL19 002 S-0

Sample Name:	**S-0**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 17:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



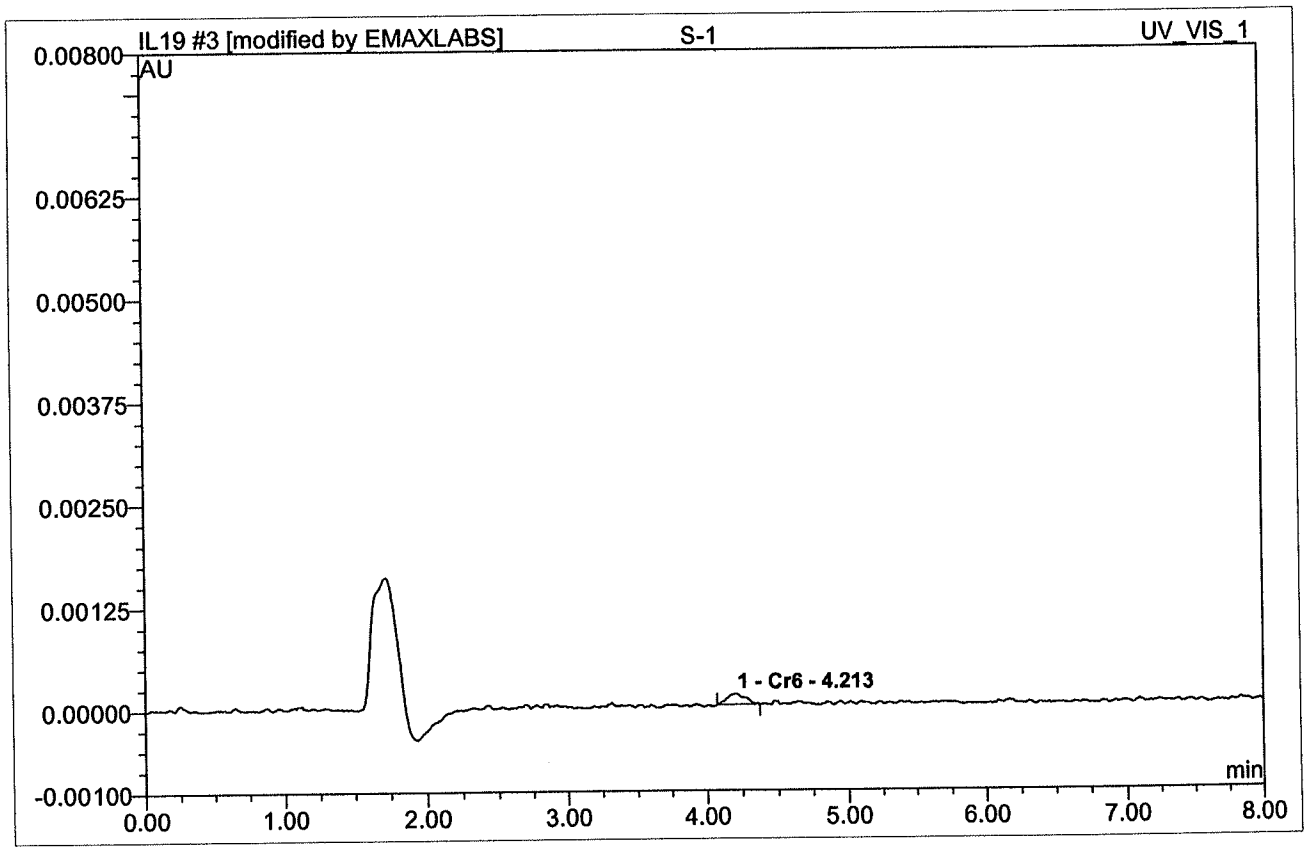
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

LLC 12/27/22

IL19 003 S-1

0.2 PPB

Sample Name:	**S-1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 17:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



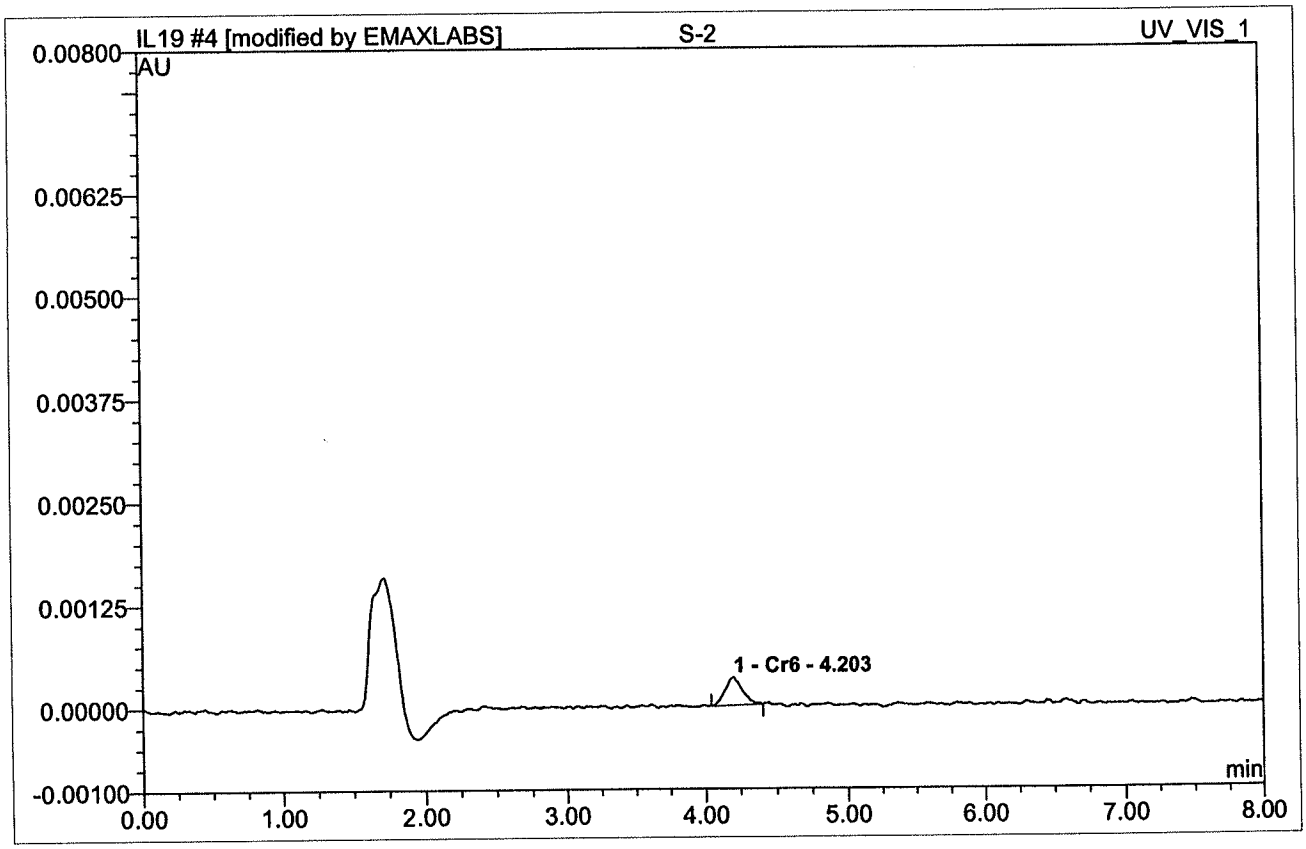
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0001310	0.0000190	100.00	0.204	BMB*
Total:			0.000	0.000	100.00	0.204	

12/27/22

IL19 004 S-2

0.5 PPB

Sample Name:	**S-2**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



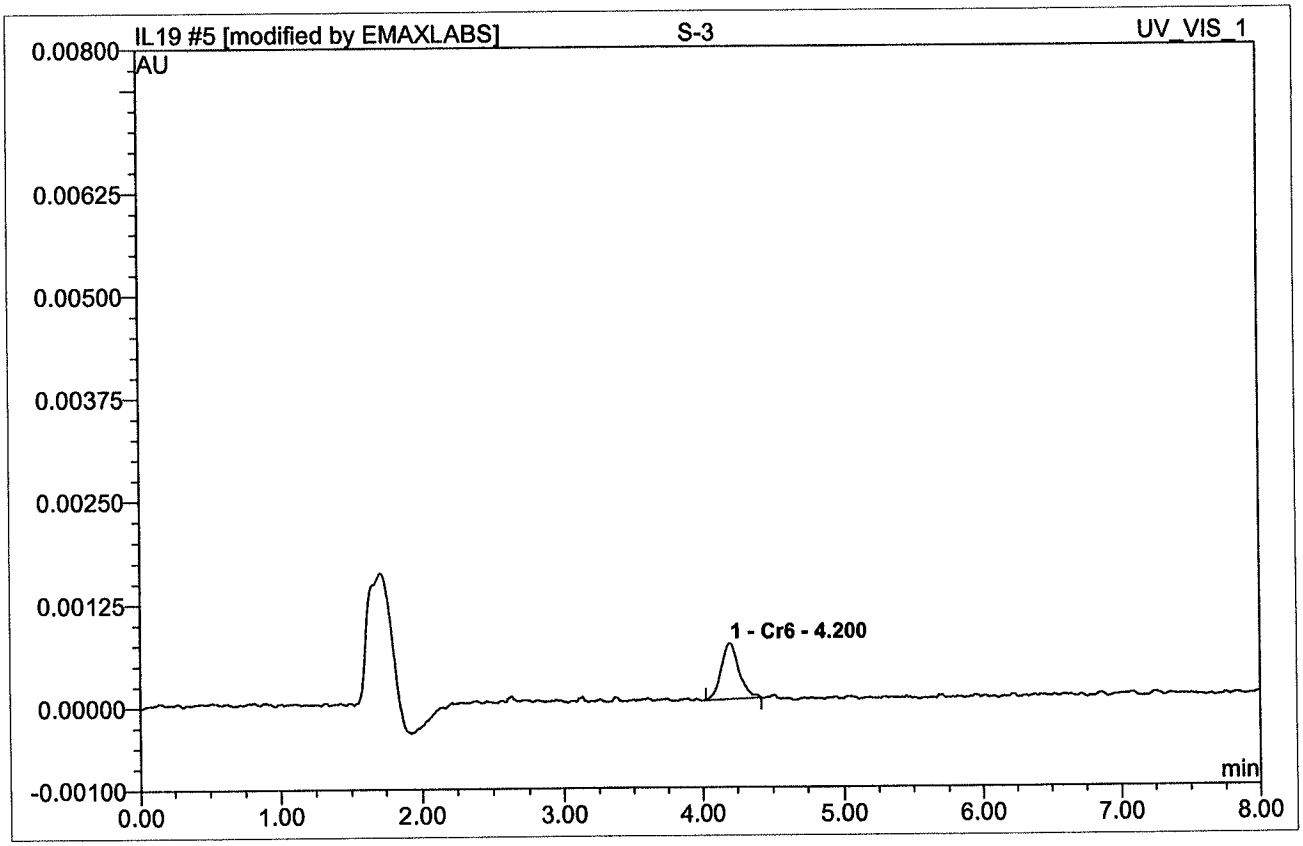
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0003400	0.0000480	100.00	0.496	BMB*
Total:			0.000	0.000	100.00	0.496	

12/21/22

IL19 005 S-3

1.0 PPB

Sample Name:	**S-3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



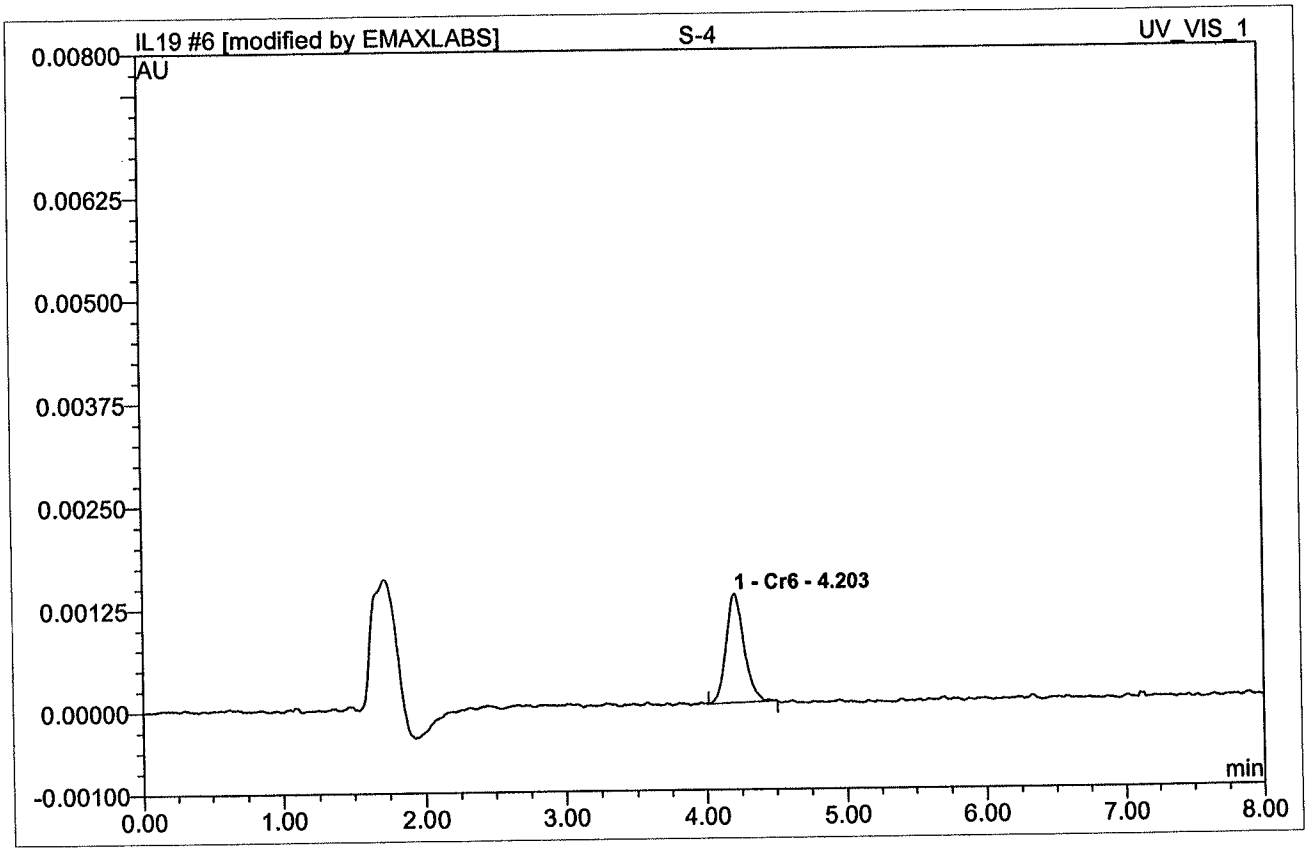
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0006780	0.0000991	100.00	1.013	BMB*
Total:			0.001	0.000	100.00	1.013	

LLP 12/27/22

IL19 006 S-4

2.0 PPB

Sample Name:	**S-4**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



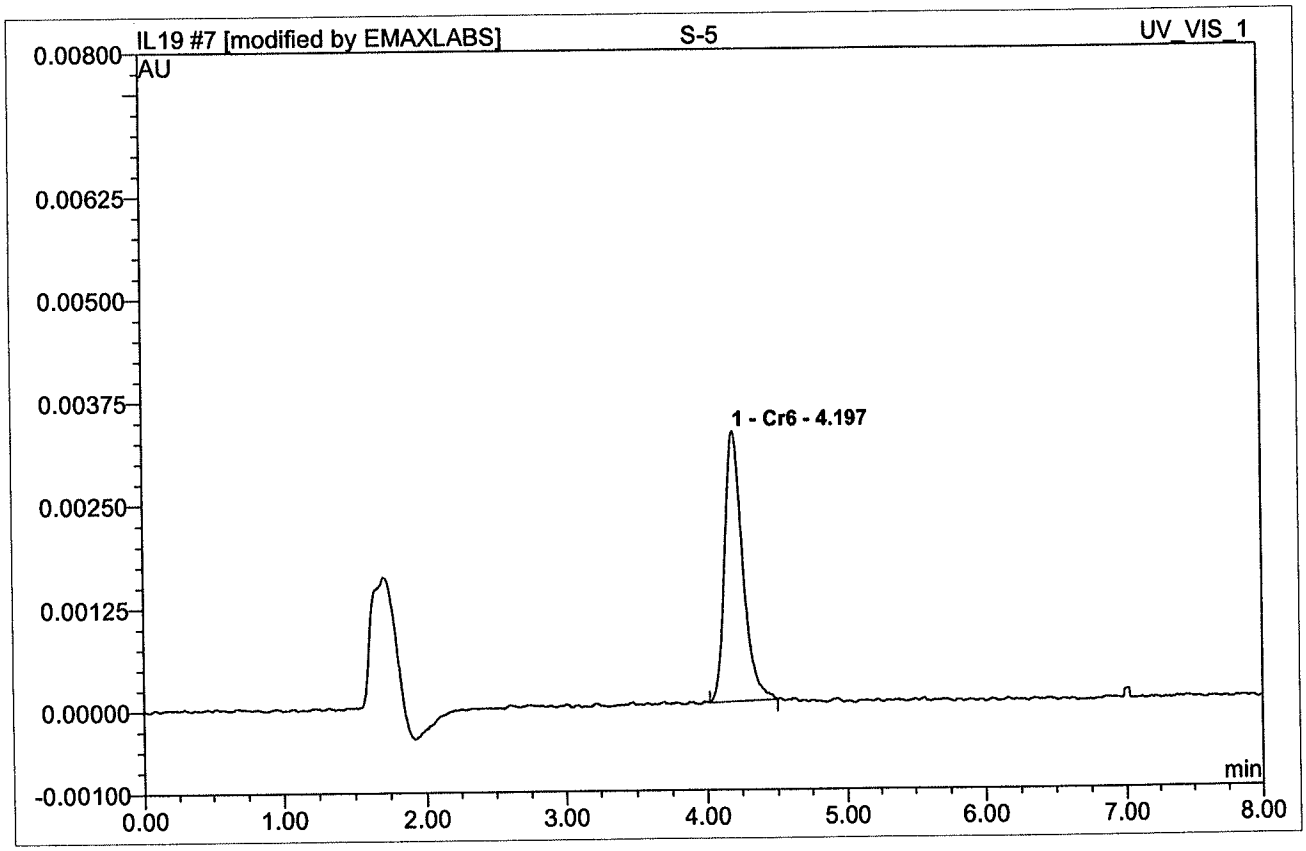
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013280	0.0001965	100.00	1.997	BMB*
Total:			0.001	0.000	100.00	1.997	

12/27/22

IL19 007 S-5

5.0 PPB

Sample Name:	**S-5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



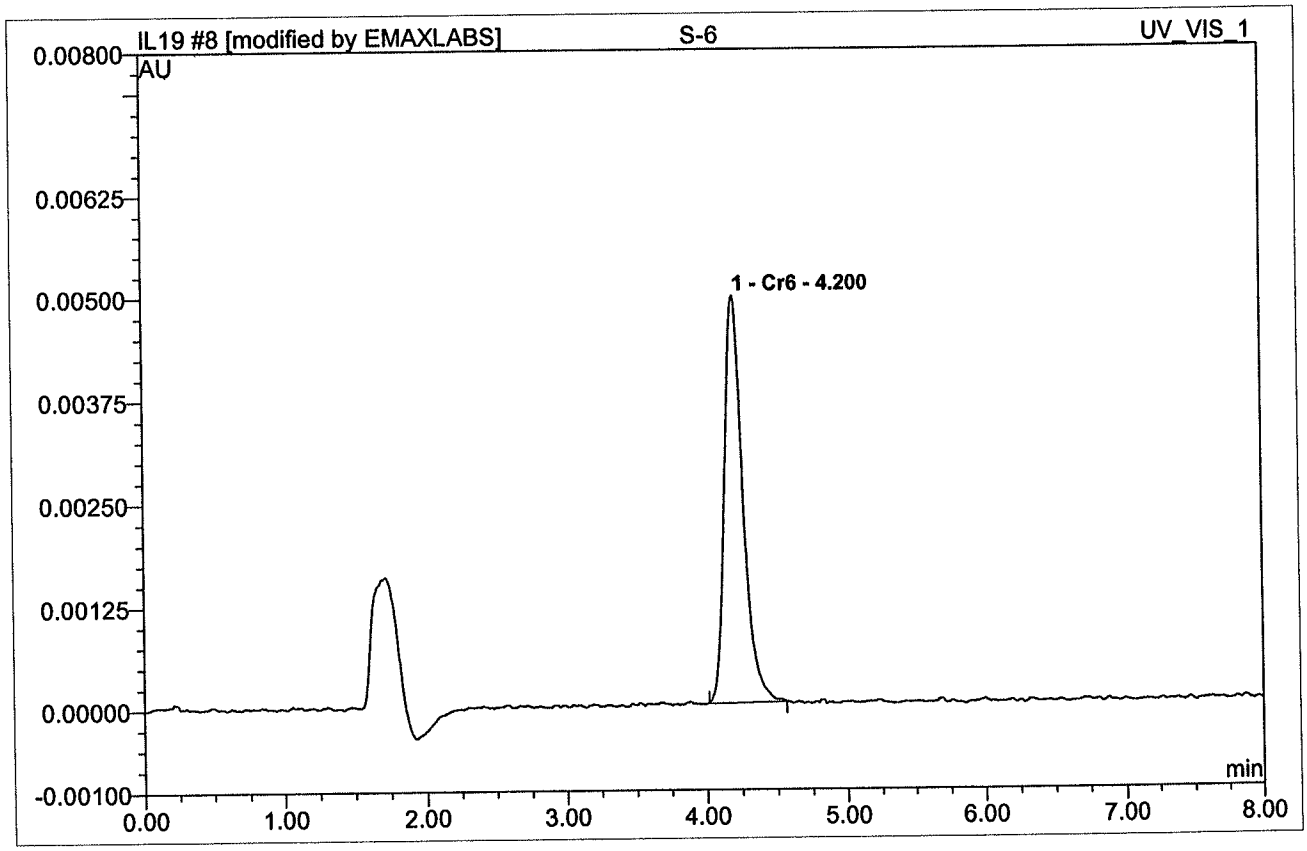
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0032810	0.0004904	100.00	4.967	BMB*
Total:			0.003	0.000	100.00	4.967	

12/27/22

IL19 008 S-6

7.5 PPB

Sample Name:	**S-6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 18:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



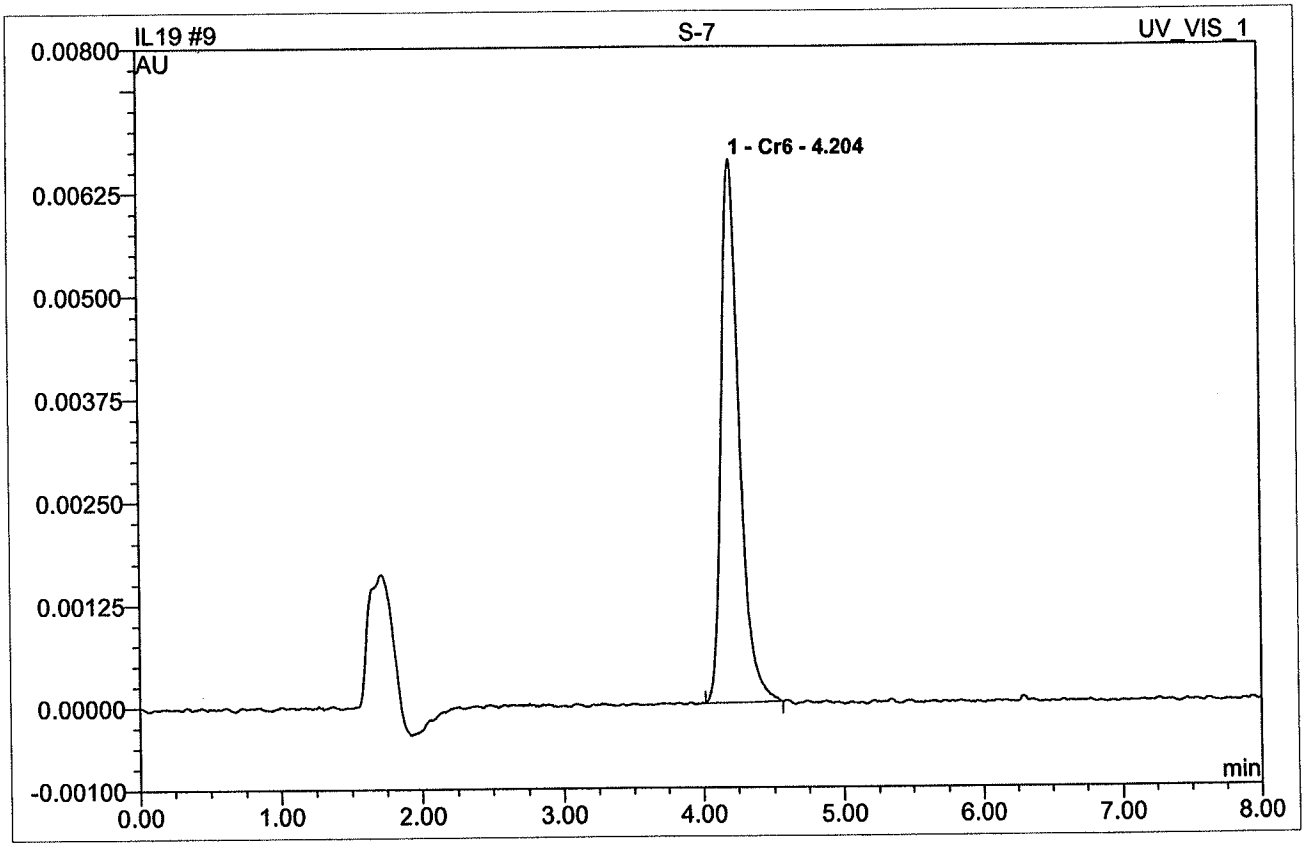
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0049460	0.0007398	100.00	7.487	BMB*
Total:			0.005	0.001	100.00	7.487	

LEE 12/27/22

IL19 009 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



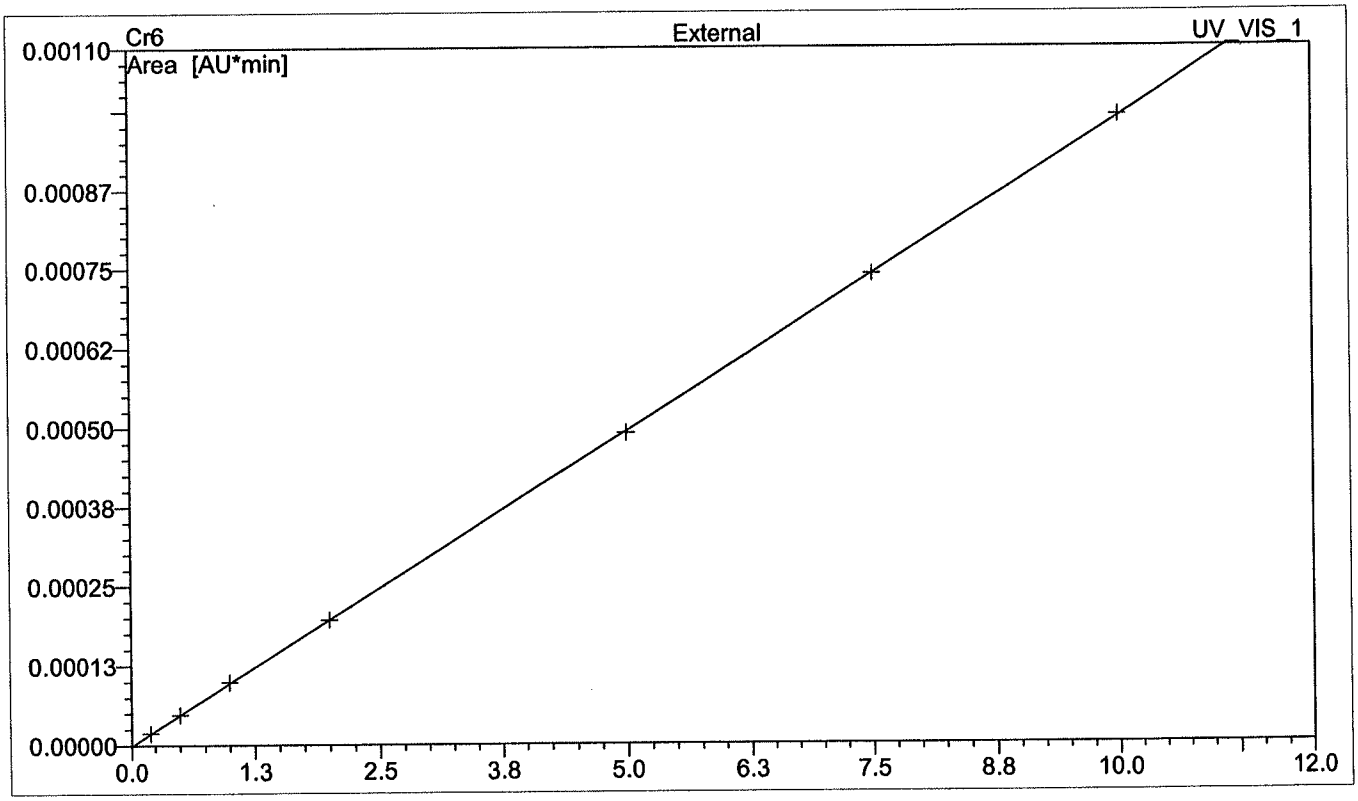
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0066050	0.0009910	100.00	10.026	BMB
Total:			0.007	0.001	100.00	10.026	

LLL 12/22/22

9 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/19/2022 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	R-Square	Offset	Slope	Curve
1	4.20	Cr6	0LOff	7	1.0000	-0.0000011	0.0000990	0.0000
Average:					1.0000	0.0000	0.0001	0.0000

12/27/22

SECOND SOURCE VERIFICATION

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1

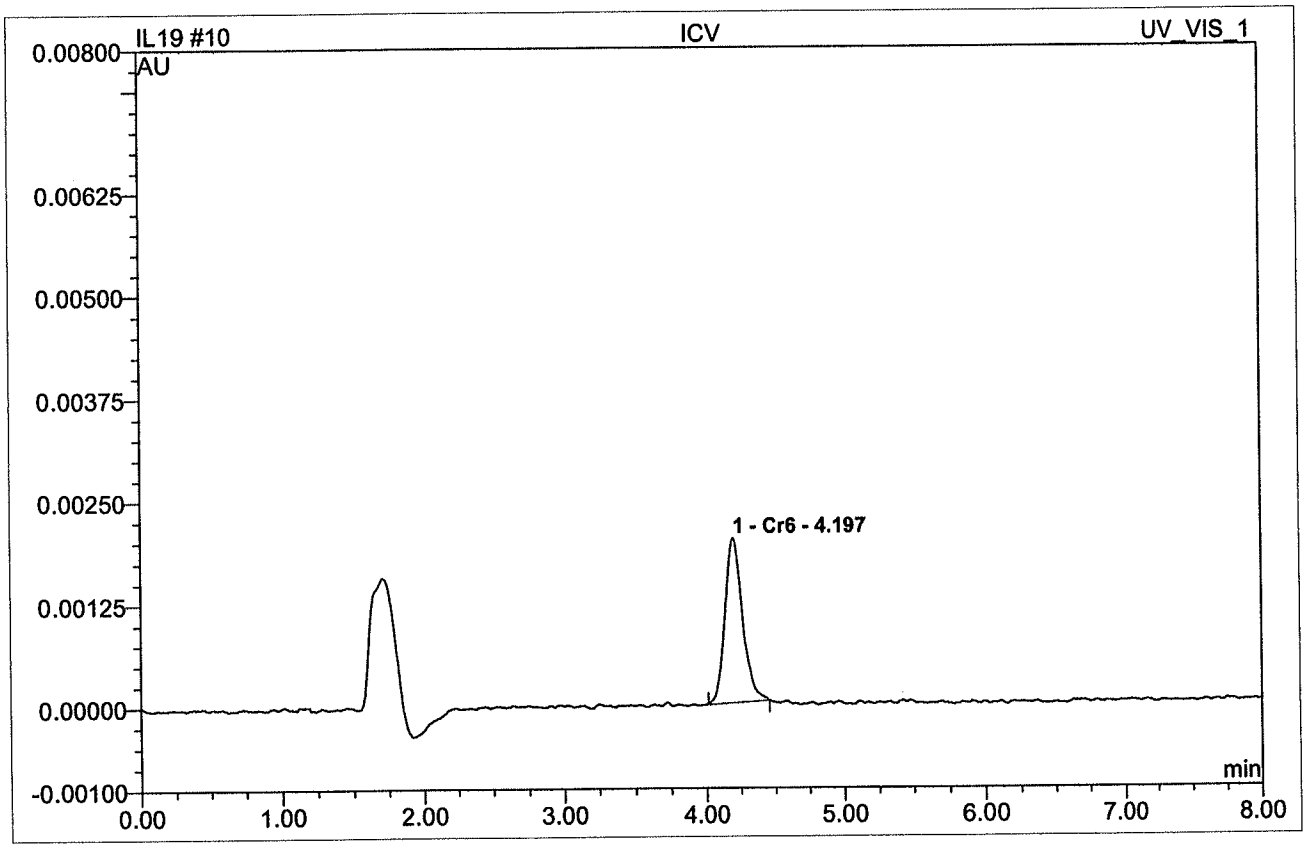
METHOD: IC59L19
SOLVENT: BUFFER (SP2-05-21-03)

12/27/22

IL19 010 ICV

3.0 PPB

Sample Name:	**ICV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0020020	0.0002970	100.00	3.012	BMB
Total:			0.002	0.000	100.00	3.012	

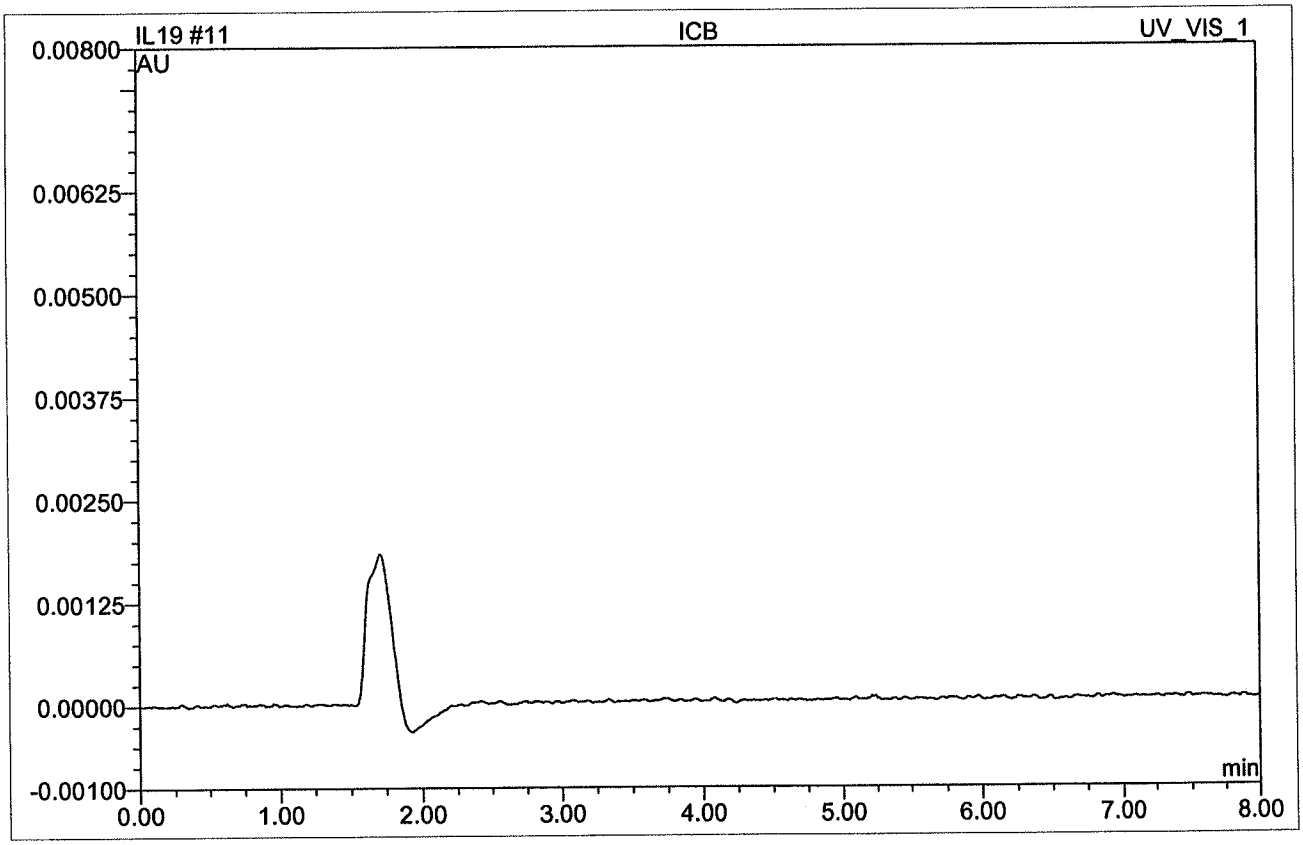
$$\text{Conc.} = \frac{\text{Area} - \text{offset}}{\text{Slope}}$$

$\Rightarrow$ 3.012 ppb

12/27/22

IL19 011 ICB

Sample Name:	**ICB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



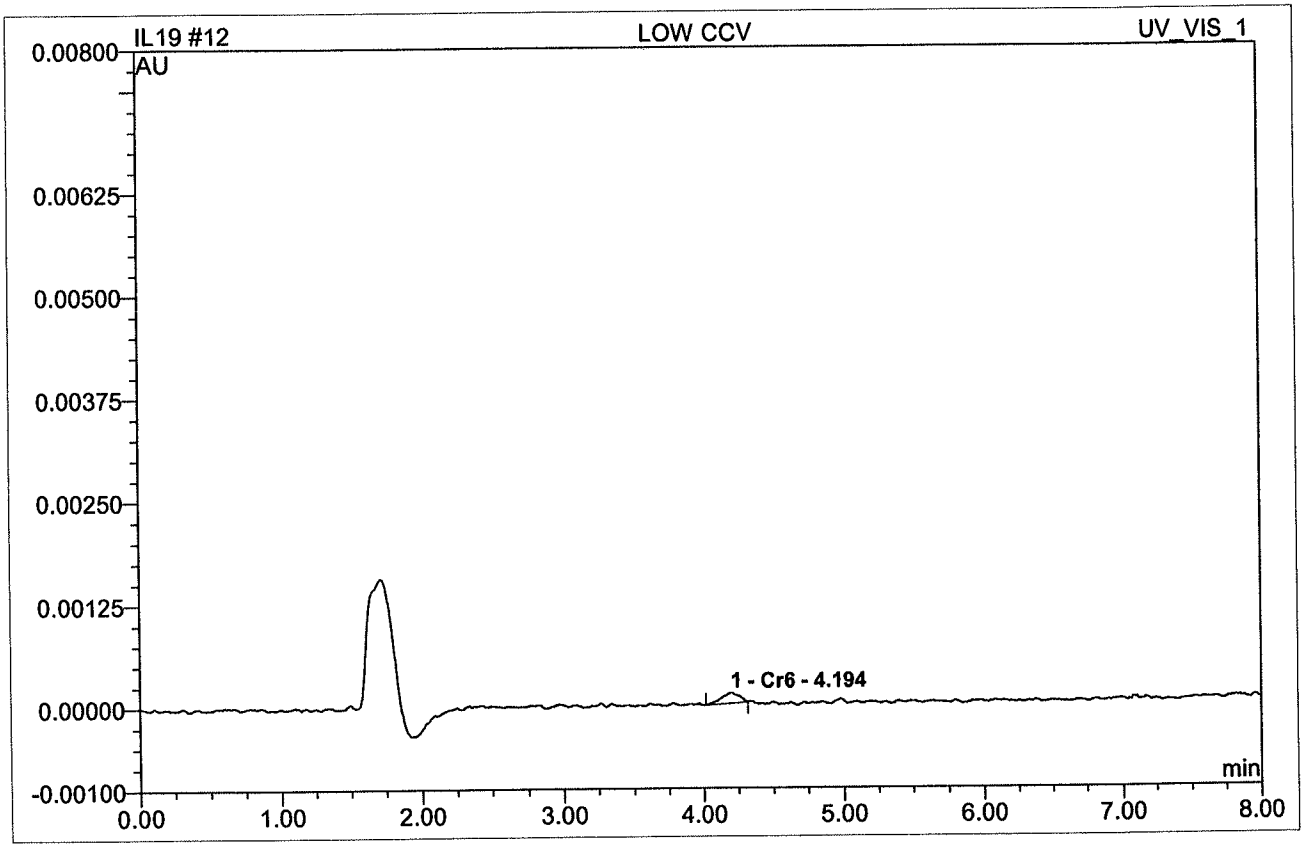
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

12/27/22

IL19 012 LOW CCV

0.2 PPB

Sample Name:	**LOW CCV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 19:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0001260	0.0000186	100.00	0.199	BMB
Total:			0.000	0.000	100.00	0.199	

LEE 12/27/22

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L237
Method : E218.6
QuantMethod : IC59L19
InstrumentID: 59
Parameter : HEXAVALENT CHROMIUM

LFID	LSID	DF	Expected	Result	Unit	%Rec	AnalysisDateTime
IL19025	CCV3	1	2	2.003	ug/L	100	12/19/2222:12
IL19037	CCV5	1	2	2.003	ug/L	100	12/20/2200:17
IL19061	CCV9	1	2	1.992	ug/L	100	12/20/2204:27
IL19073	CCV11	1	2	1.992	ug/L	100	12/20/2206:31
IL19076	CCV13	1	2	1.992	ug/L	100	12/20/2207:03
IL20001	CCV17	1	2	2.003	ug/L	100	12/20/2211:42
IL20013	CCV19	1	2	2.037	ug/L	102	12/20/2213:47
IL20025	CCV21	1	2	2.046	ug/L	102	12/20/2215:52
IL20034	CCV23	1	2	2.041	ug/L	102	12/20/2217:26
IL20040	CCV25	1	2	2.045	ug/L	102	12/20/2218:39

CCV Acceptance Criteria: 90-110%

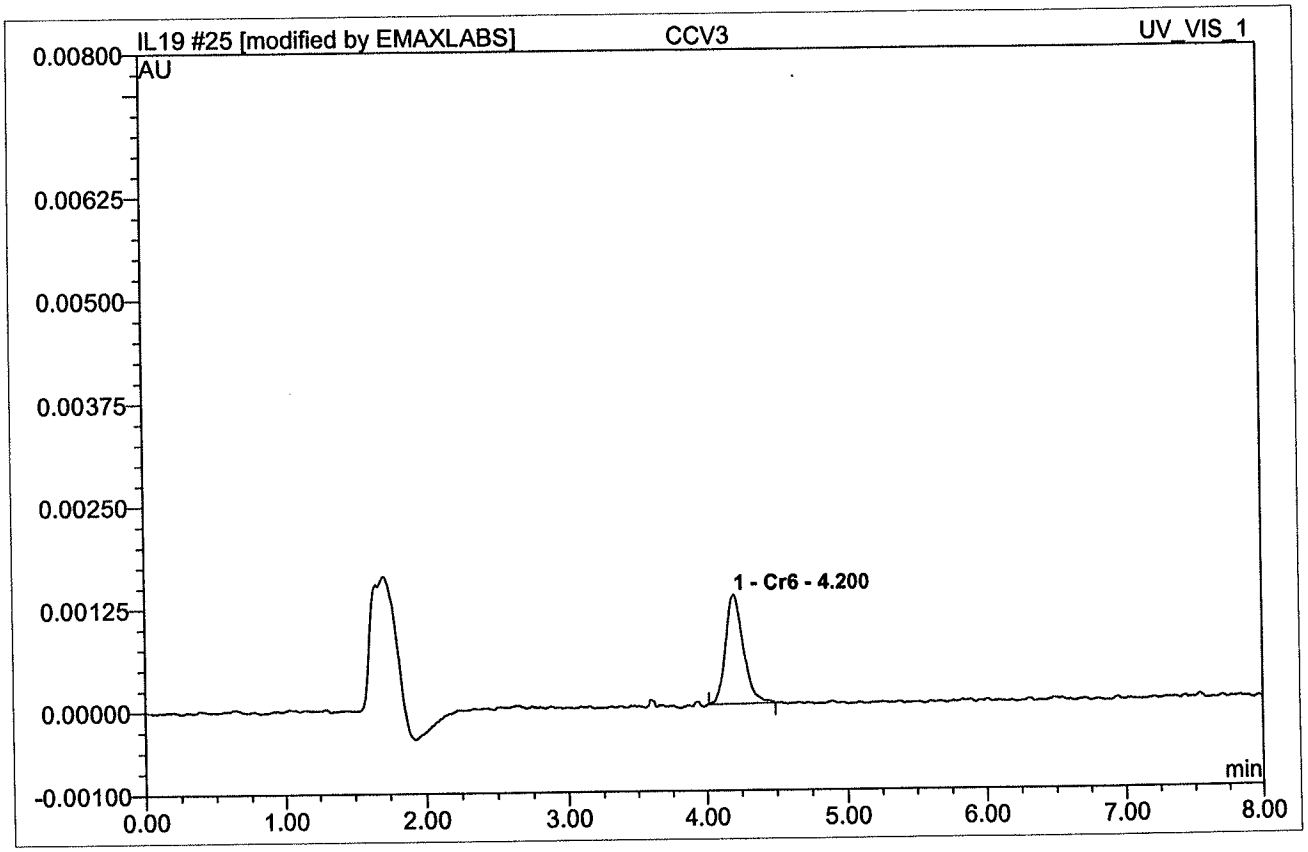
IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL19001	IB	C	ND	12/19/2217:18	1
IL19002	S-0	C	ND	12/19/2217:28	1
IL19003	S-1	C	0.204	12/19/2217:59	1
IL19004	S-2	C	0.496	12/19/2218:09	1
IL19005	S-3	C	1.013	12/19/2218:19	1
IL19006	S-4	C	1.997	12/19/2218:30	1
IL19007	S-5	C	4.967	12/19/2218:40	1
IL19008	S-6	C	7.487	12/19/2218:51	1
IL19009	S-7	C	10.026	12/19/2219:01	1
IL19010	ICV	C	100%	12/19/2219:21	1
IL19011	ICB	C	ND	12/19/2219:31	1
IL19012	LOW CCV	C	0.199	12/19/2219:42	1
IL19013	CCV1	C	102%	12/19/2220:05	1
IL19014	CCB1	C	ND	12/19/2220:15	1
IL19015	HCL009WB	C	ND	12/19/2220:25	1
IL19016	HCL009WL	C	2.001	12/19/2220:36	1
IL19017	HCL009WC	C	2.002	12/19/2220:46	1
IL19018	L207-04	C	ND	12/19/2220:57	1
IL19019	L207-04M	C	0.987	12/19/2221:10	1
IL19020	L207-04S	C	0.994	12/19/2221:20	1
IL19021	L206-01	C	ND	12/19/2221:30	1
IL19022	L206-02	C	ND	12/19/2221:41	1
IL19023	L206-03	C	8.504	12/19/2221:51	1
IL19024	L207-01	C	6.447	12/19/2222:02	1
IL19025	CCV3	C	100%	12/19/2222:12	1
IL19026	CCB3	C	ND	12/19/2222:22	1
IL19027	L207-02	*	11.118E	12/19/2222:33	1
IL19028	L207-03	C	6.458	12/19/2222:43	1
IL19029	L207-05	C	ND	12/19/2222:54	1
IL19030	L207-06	C	ND	12/19/2223:04	1
IL19031	L207-02I	C	11.123	12/19/2223:14	2
IL19032	L867-01	C	ND	12/19/2223:25	1
IL19033	HCL011WB	C	ND	12/19/2223:35	1
IL19034	HCL011WL	C	2.000	12/19/2223:46	1
IL19035	HCL011WC	C	2.001	12/19/2223:56	1
IL19036	L226-01	C	ND	12/20/2200:06	1
IL19037	CCV5	C	100%	12/20/2200:17	1
IL19038	CCB5	C	ND	12/20/2200:27	1
IL19039	L226-02	C	ND	12/20/2200:38	1
IL19040	L226-03	C	ND	12/20/2200:48	1
IL19041	L226-04	C	ND	12/20/2200:58	1
IL19042	L226-05	C	ND	12/20/2201:09	1
IL19043	L226-06	C	ND	12/20/2201:19	1
IL19044	L226-06M	C	1.016	12/20/2201:30	1
IL19045	L226-06S	C	1.013	12/20/2201:40	1
IL19046	L226-07	C	ND	12/20/2201:50	1
IL19047	L226-07M	C	ND	12/20/2202:01	1
IL19048	L226-07S	C	ND	12/20/2202:11	1
IL19049	CCV7	C	101%	12/20/2202:22	1
IL19050	CCB7	C	ND	12/20/2202:32	1
IL19051	L226-08	*	31.628E	12/20/2202:42	1
IL19052	L226-08I	C	31.382	12/20/2202:53	5
IL19053	L226-09	*	31.498E	12/20/2203:03	1
IL19054	L226-09I	C	31.523	12/20/2203:14	5
IL19055	L226-10	*	31.591E	12/20/2203:24	1
IL19056	L226-10I	C	31.632	12/20/2203:34	5
IL19057	L226-11	*	13.769E	12/20/2203:45	1
IL19058	L226-11I	C	13.700	12/20/2203:55	5
IL19059	L226-12	*	13.995E	12/20/2204:06	1
IL19060	L226-12I	C	13.893	12/20/2204:16	5
IL19061	CCV9	C	100%	12/20/2204:27	1
IL19062	CCB9	C	ND	12/20/2204:37	1
IL19063	L226-13	*	19.337E	12/20/2204:47	1

IL19064	L226-13I	C	19.345	12/20/2204:58	5
IL19065	L226-14	C	7.287	12/20/2205:08	1
IL19066	L226-14I	C	7.291	12/20/2205:19	5
IL19067	L226-15	*	13.998E	12/20/2205:29	1
IL19068	L226-15I	C	13.988	12/20/2205:39	5
IL19069	L226-16	C	ND	12/20/2205:50	1
IL19070	L237-06	C	ND	12/20/2206:00	1
IL19071	L237-08	C	0.078	12/20/2206:11	1
IL19072	L237-10	C	ND	12/20/2206:21	1
IL19073	CCV11	C	100%	12/20/2206:31	1
IL19074	CCB11	C	ND	12/20/2206:42	1
IL19075	L237-12	C	ND	12/20/2206:52	1
IL19076	CCV13	C	100%	12/20/2207:03	1
IL19077	CCB13	C	ND	12/20/2207:13	1
IL19078	L226-07I	C	ND	12/20/2210:47	5
IL19079	L226-07M	C	4.997	12/20/2210:58	5
IL19080	L226-07S	C	4.995	12/20/2211:08	5
IL19081	CCV15	C	100%	12/20/2211:19	1
IL19082	CCB15	C	ND	12/20/2211:29	1

IL19 025 CCV3

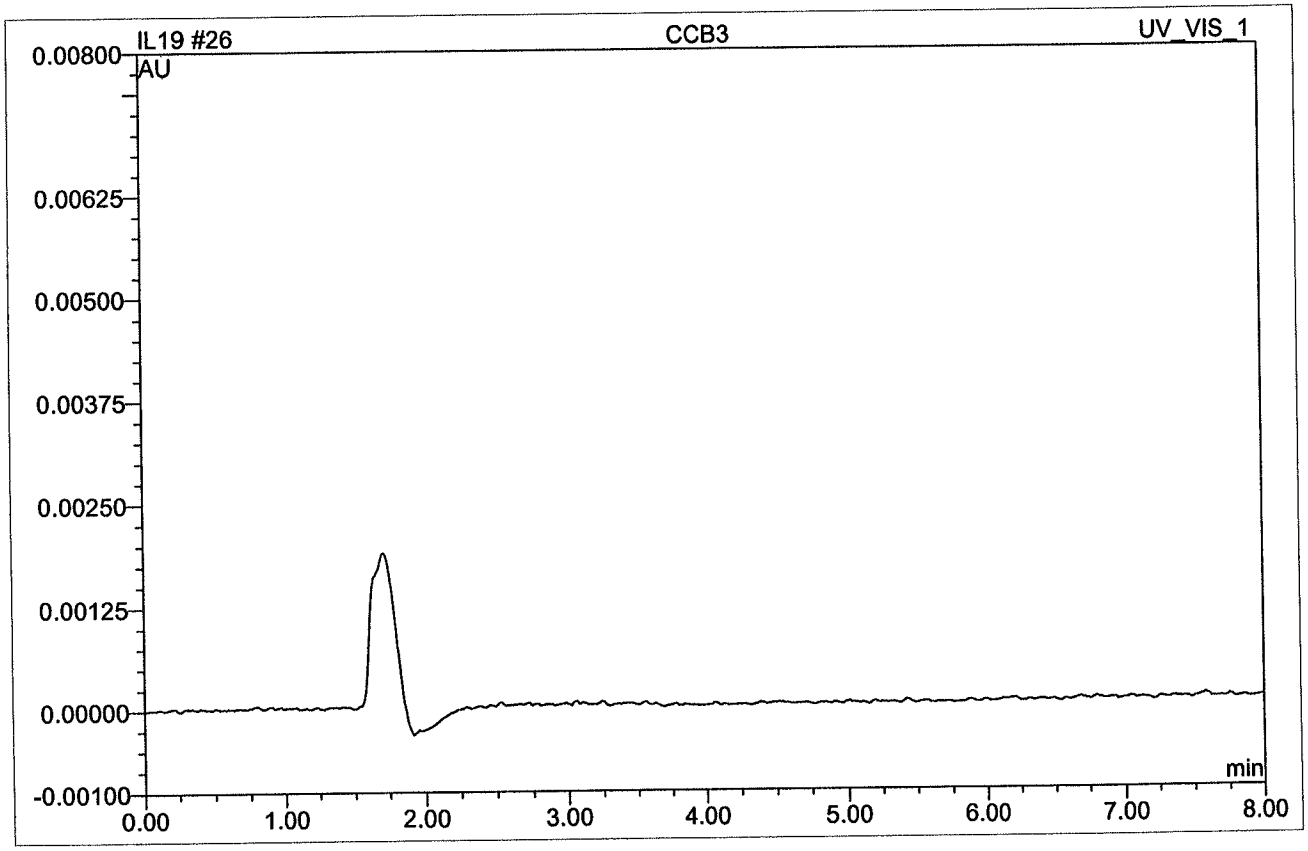
Sample Name:	**CCV3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 22:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013300	0.0001971	100.00	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL19 026 CCB3

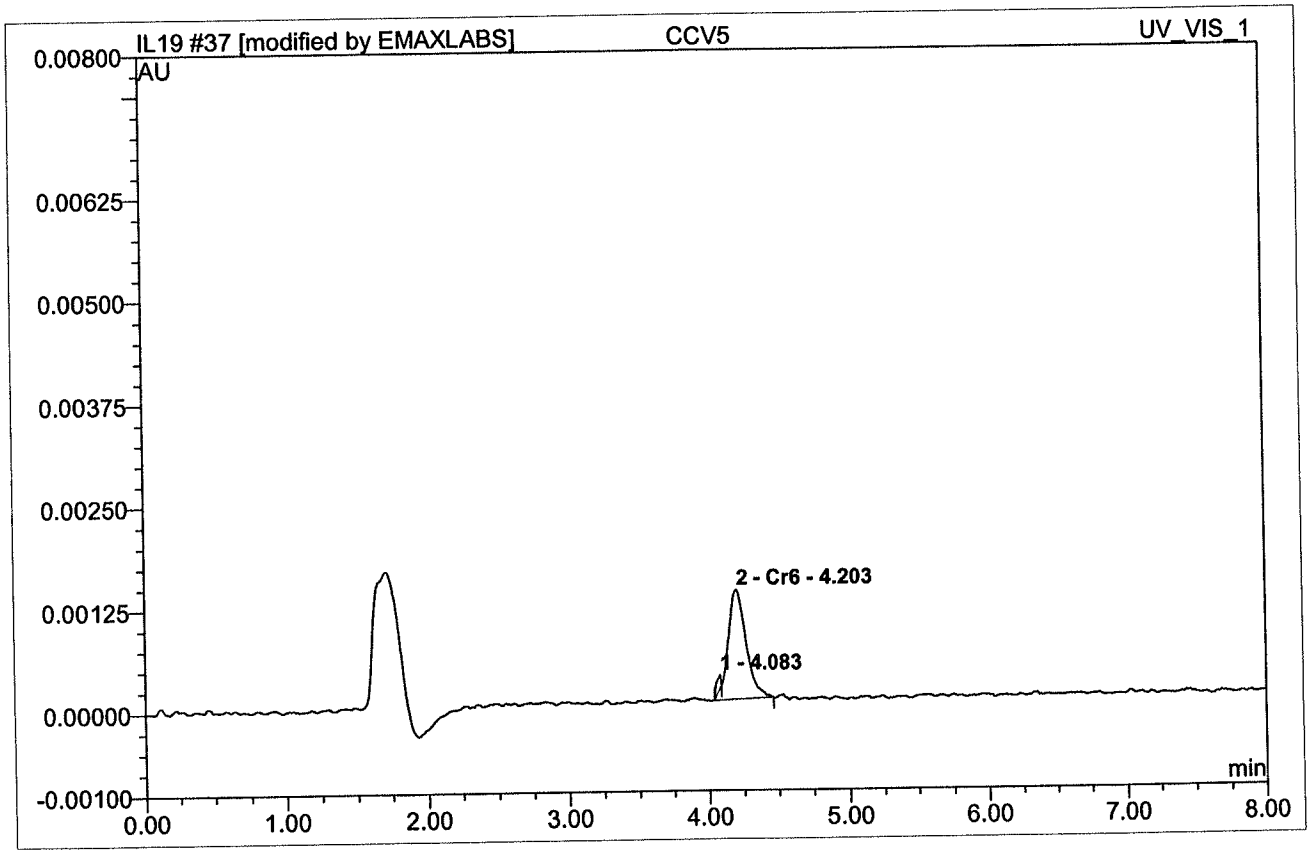
Sample Name:	**CCB3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/19/2022 22:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 037 CCV5

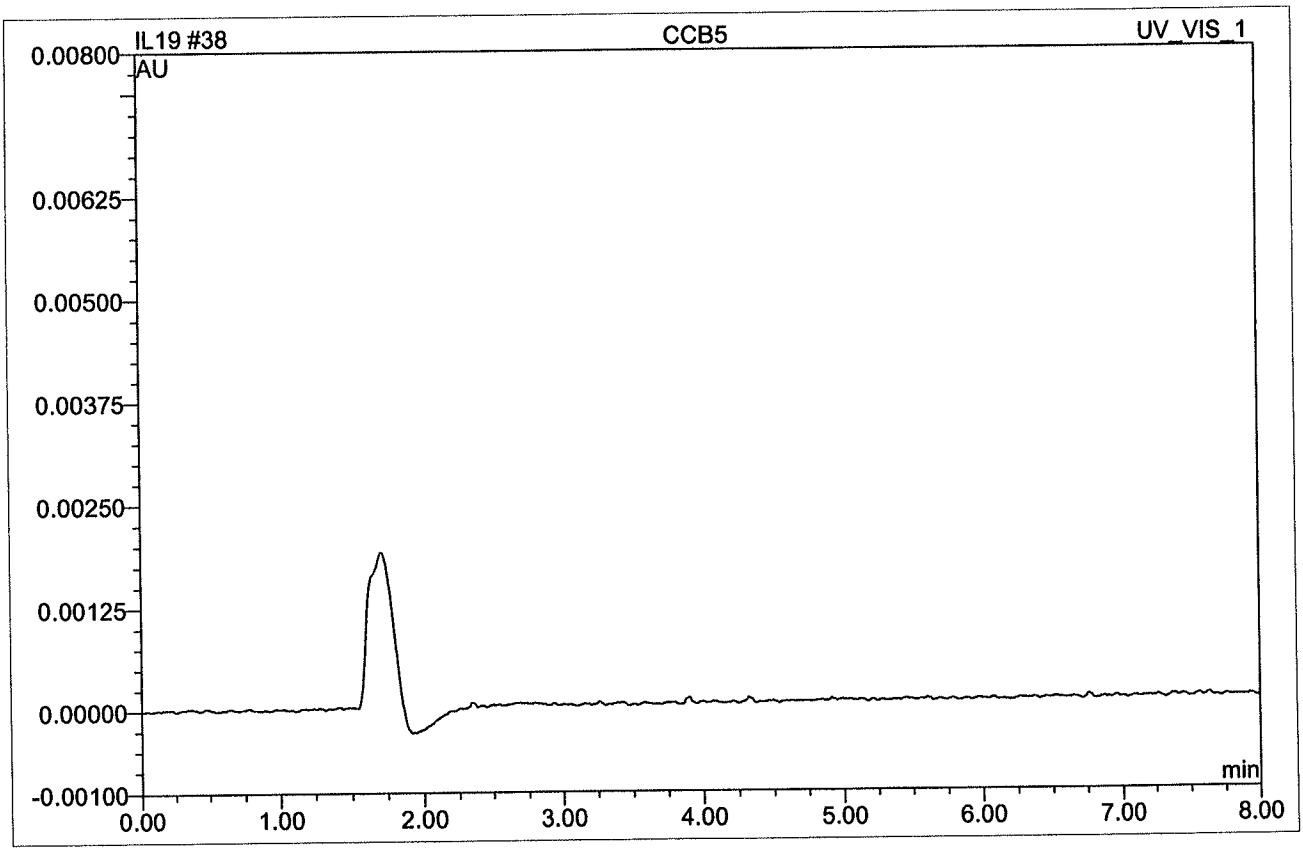
Sample Name:	**CCV5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.08	n.a.	0.0001580	0.0000067	3.27	n.a.	Ru*
2	4.20	Cr6	0.0013290	0.0001971	96.73	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL19 038 CCB5

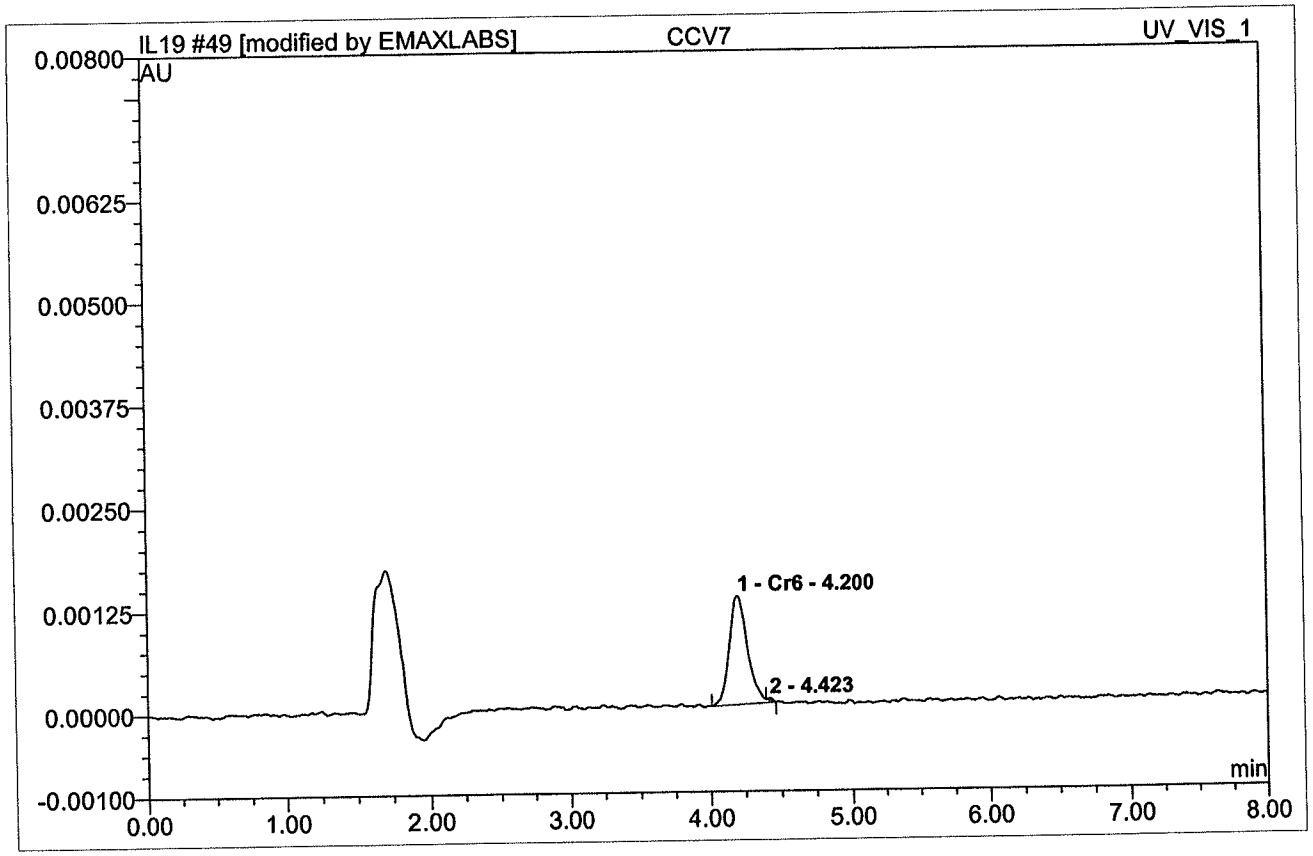
Sample Name:	**CCB5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 0:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 049 CCV7

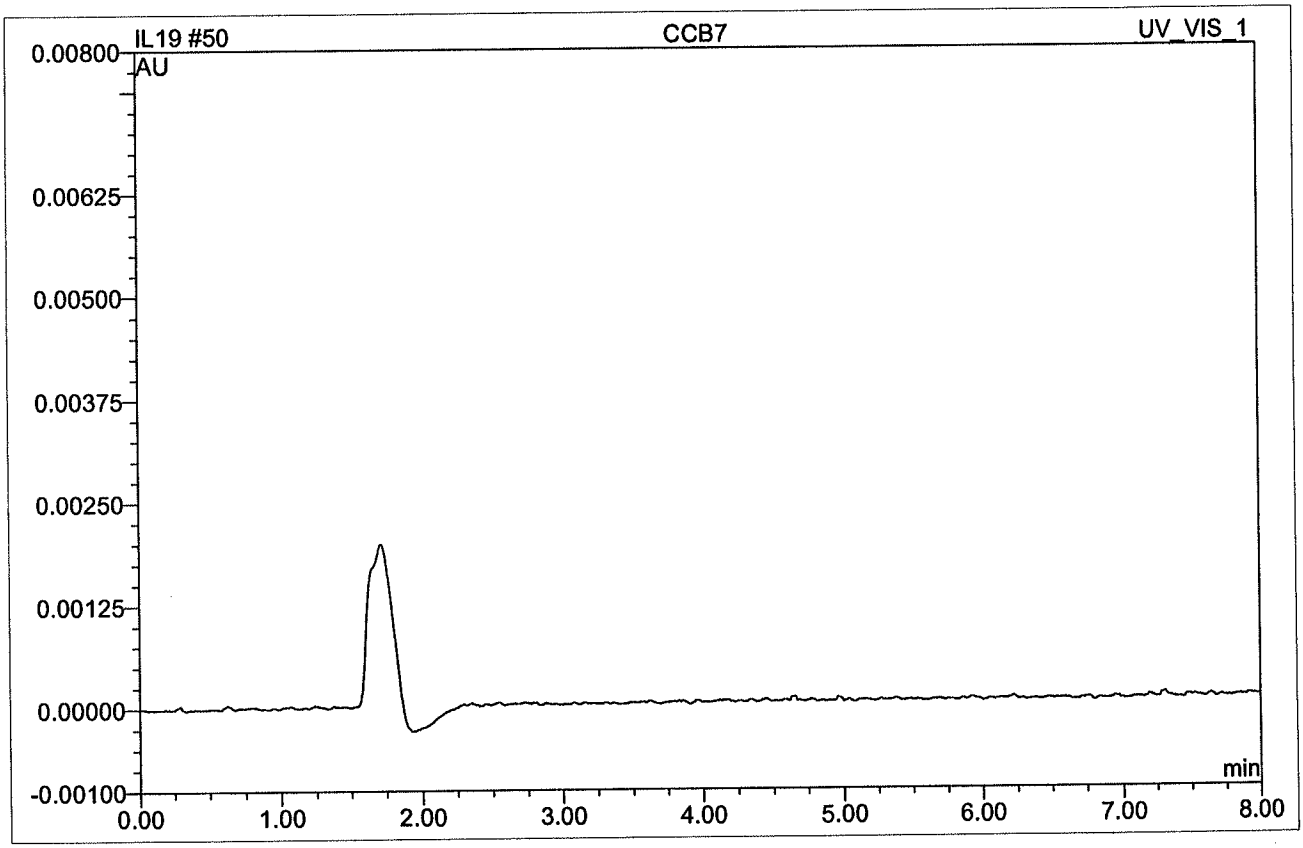
Sample Name:	**CCV7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 2:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013230	0.0001989	99.42	2.021	BMB*
2	4.42	n.a.	0.0000310	0.0000012	0.58	n.a.	Rd*
Total:			0.001	0.000	100.00	2.021	

IL19 050 CCB7

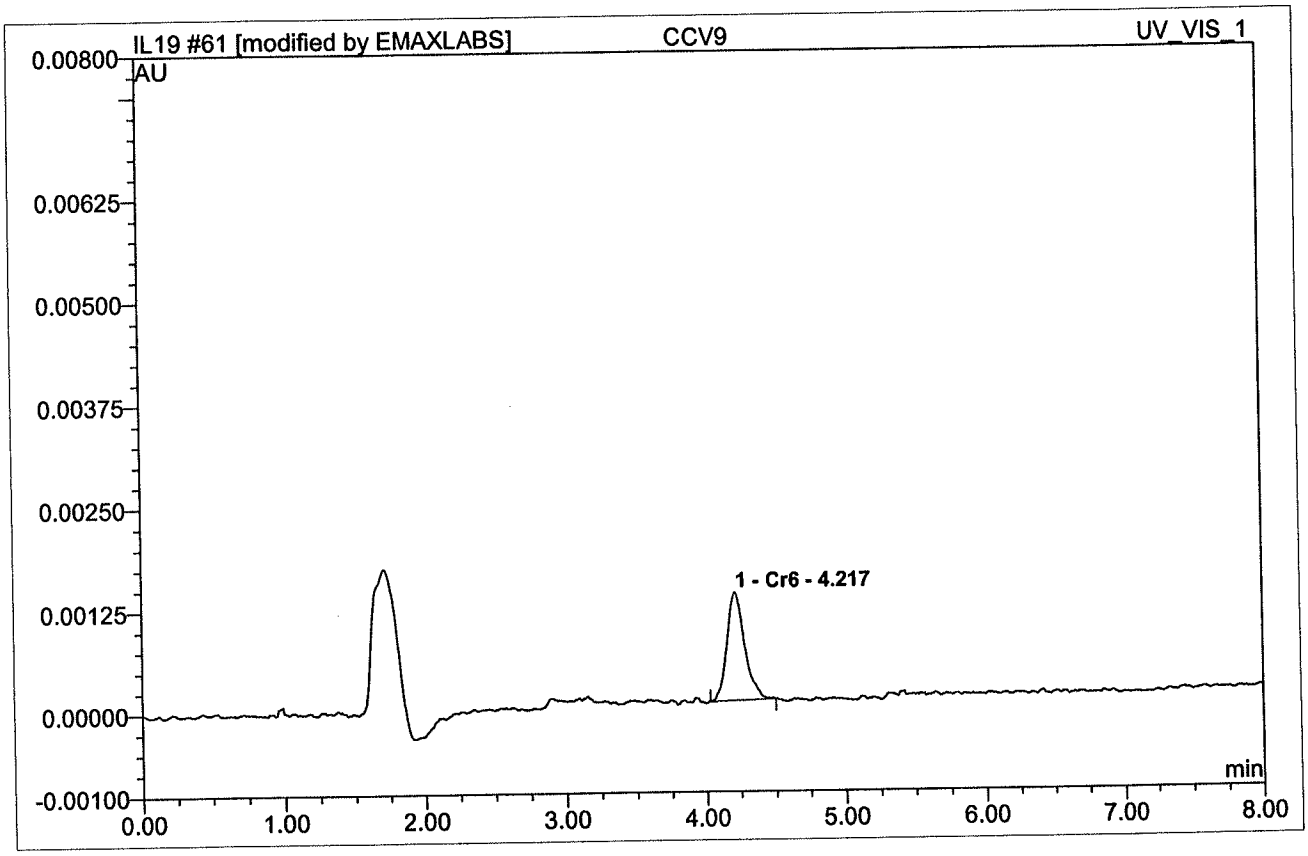
Sample Name:	**CCB7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 2:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 061 CCV9

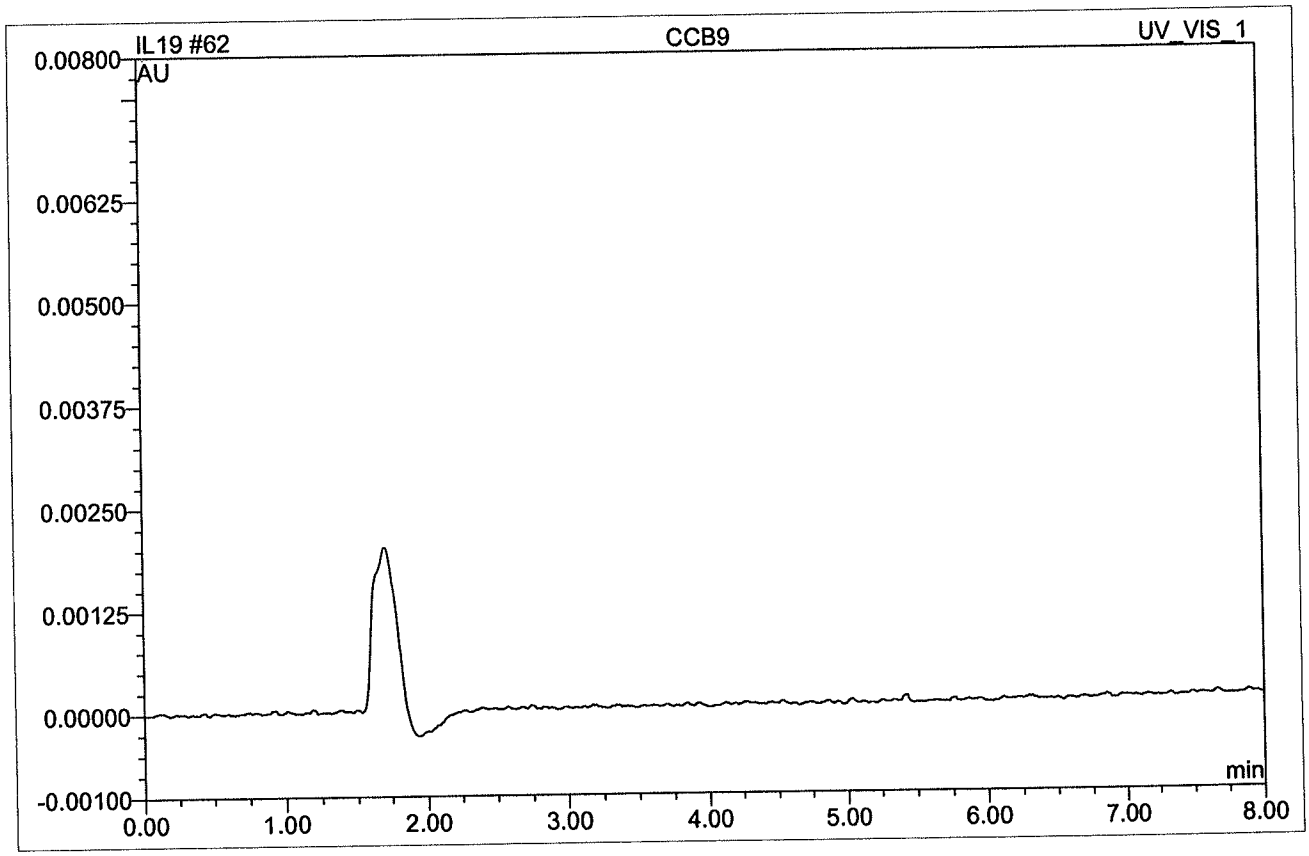
Sample Name:	**CCV9**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 4:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	Cr6	0.0013190	0.0001960	100.00	1.992	BMB*
Total:			0.001	0.000	100.00	1.992	

IL19 062 CCB9

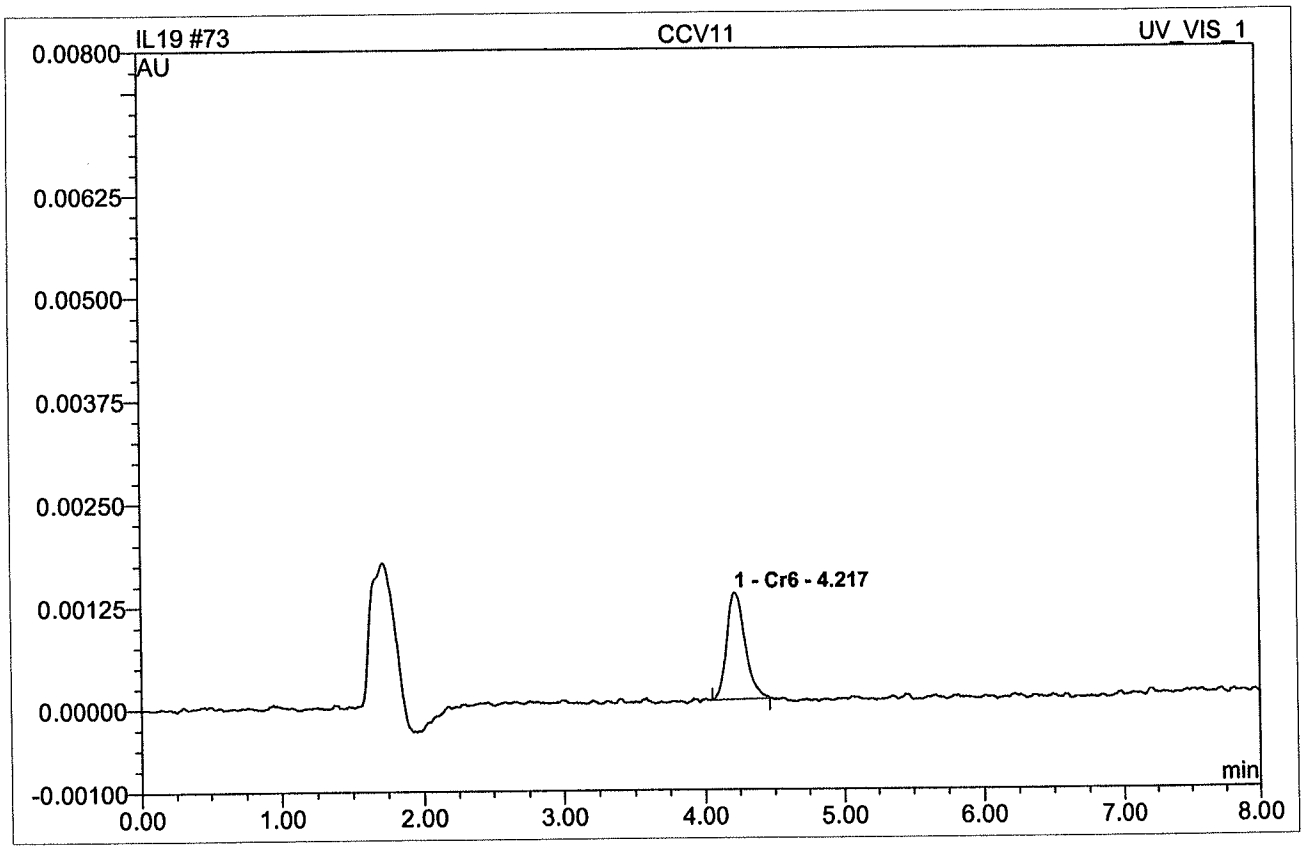
Sample Name:	**CCB9**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 4:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 073 CCV11

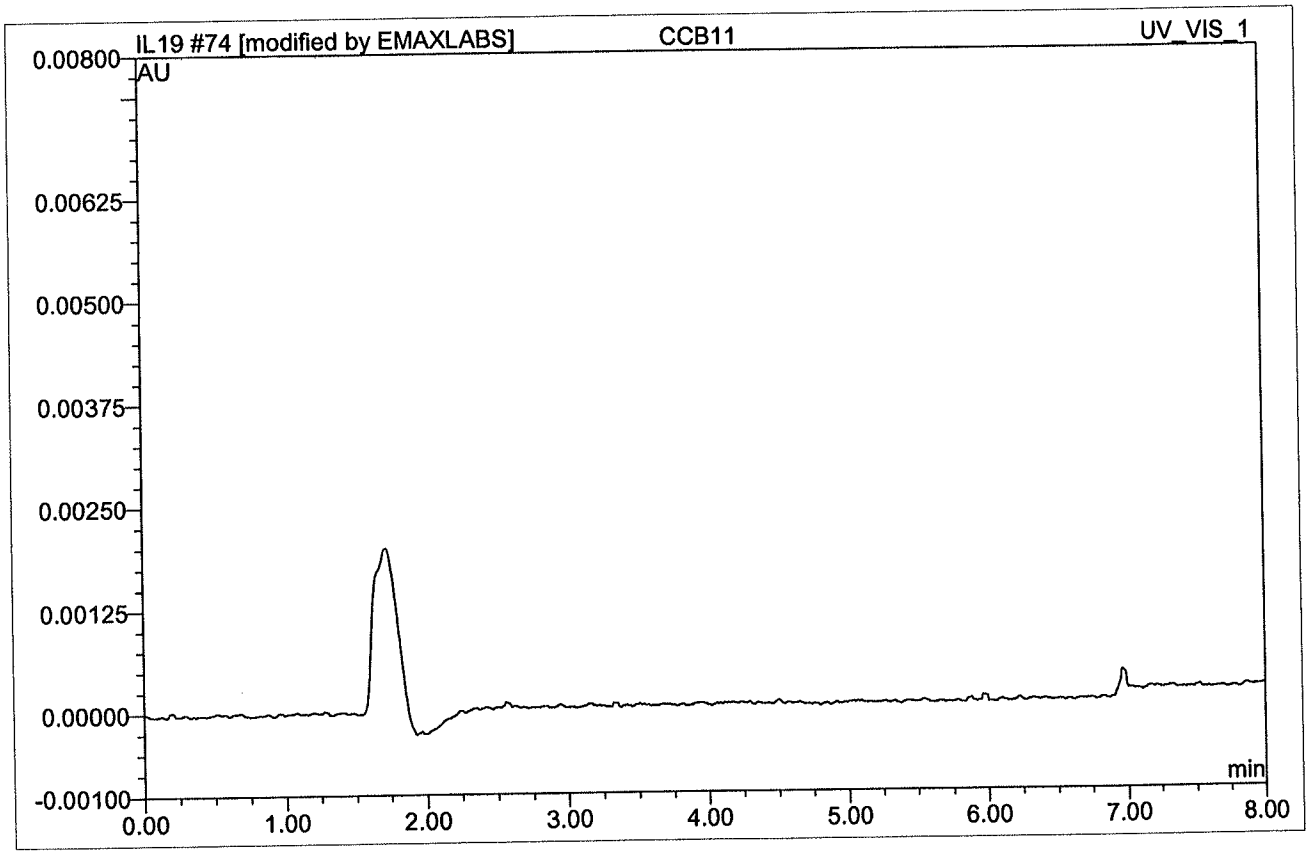
Sample Name:	**CCV11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	Cr6	0.0013040	0.0001960	100.00	1.992	BMB
Total:			0.001	0.000	100.00	1.992	

IL19 074 CCB11

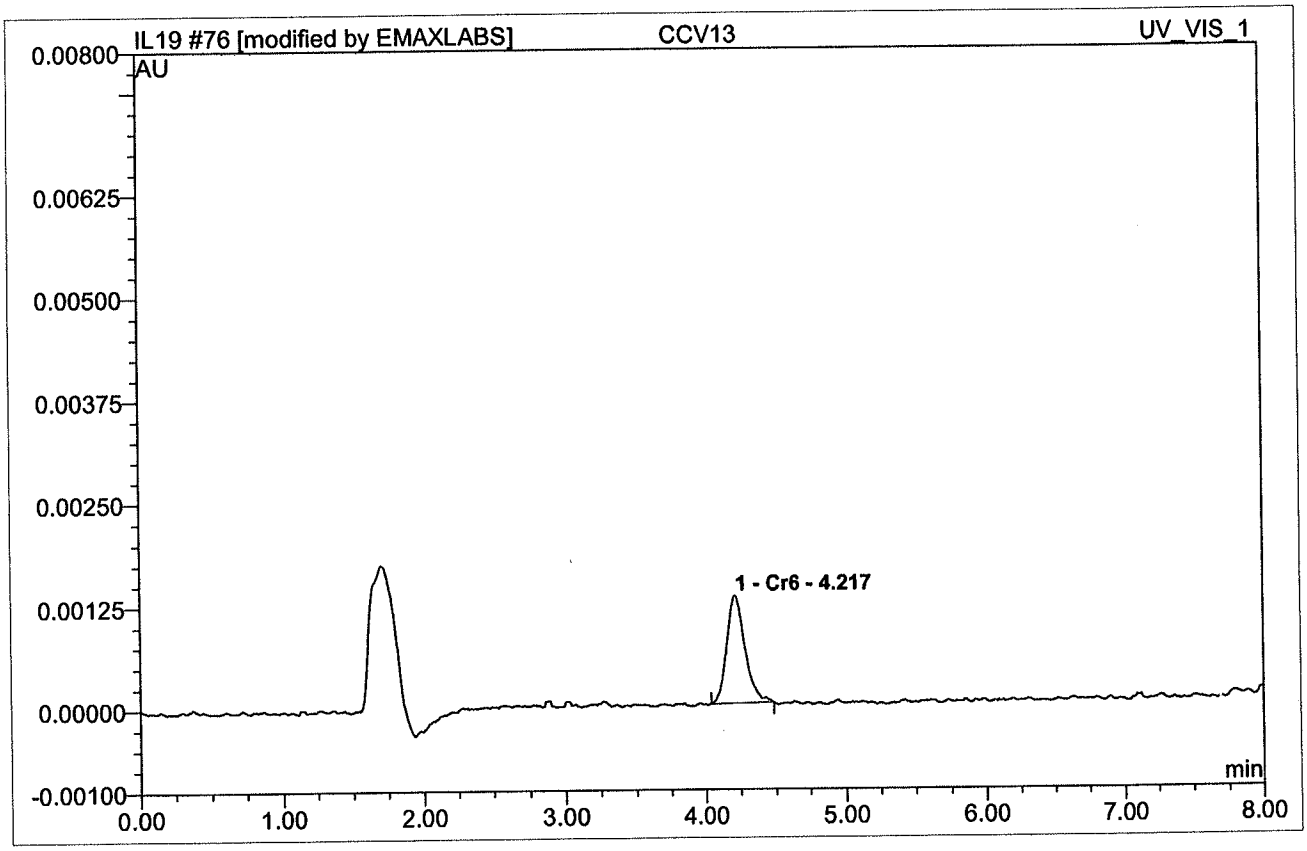
Sample Name:	**CCB11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 6:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 076 CCV13

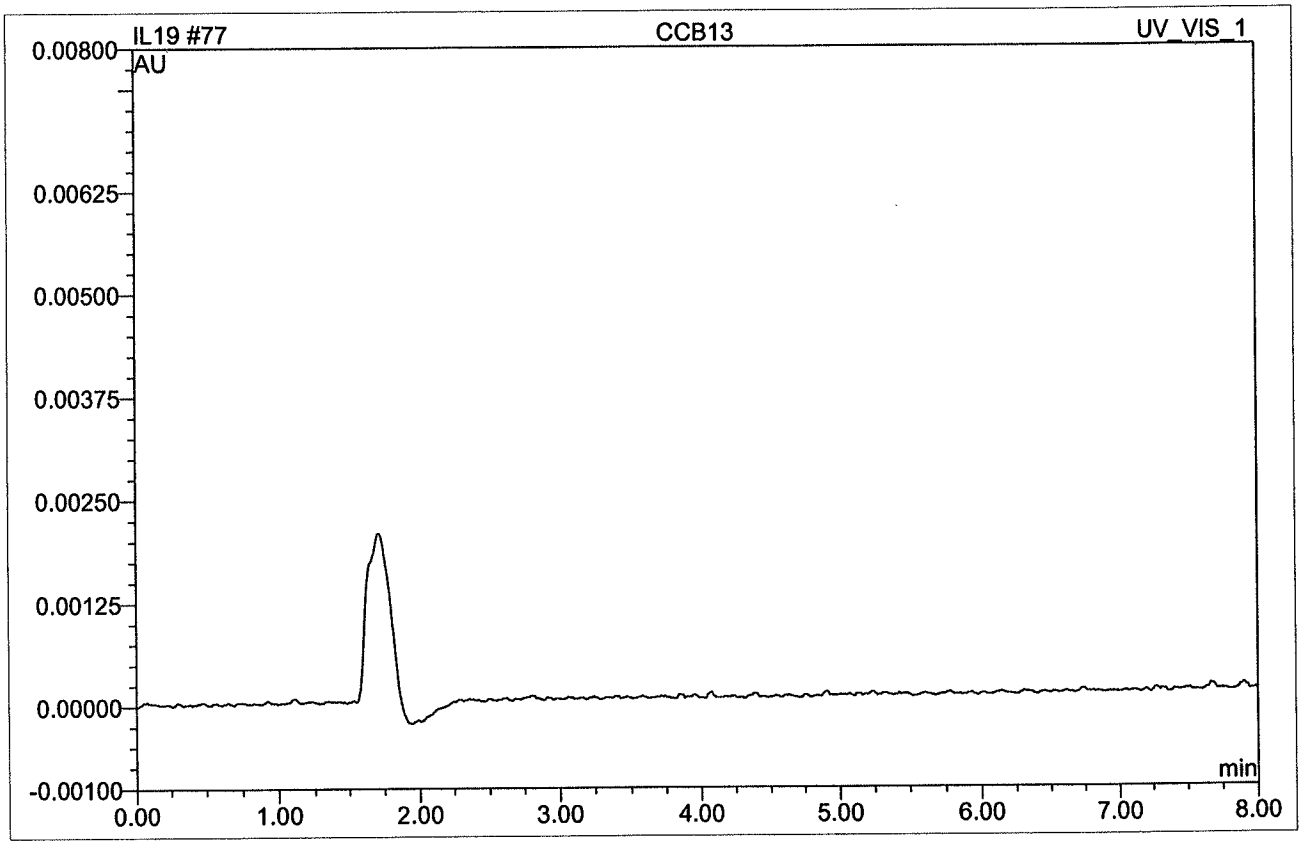
Sample Name:	**CCV13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 7:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.22	Cr6	0.0013110	0.0001960	100.00	1.992	BMB*
Total:			0.001	0.000	100.00	1.992	

IL19 077 CCB13

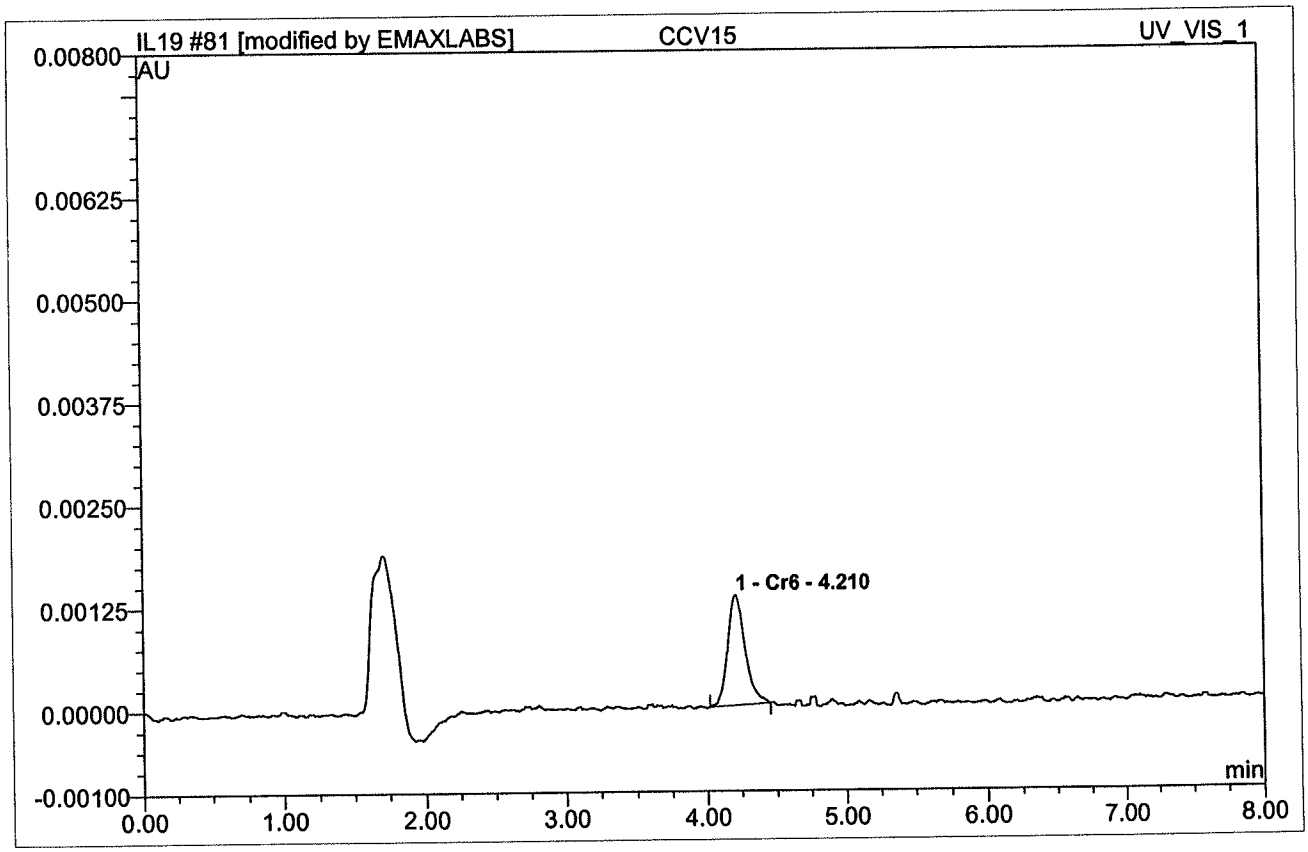
Sample Name:	**CCB13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 7:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL19 081 CCV15

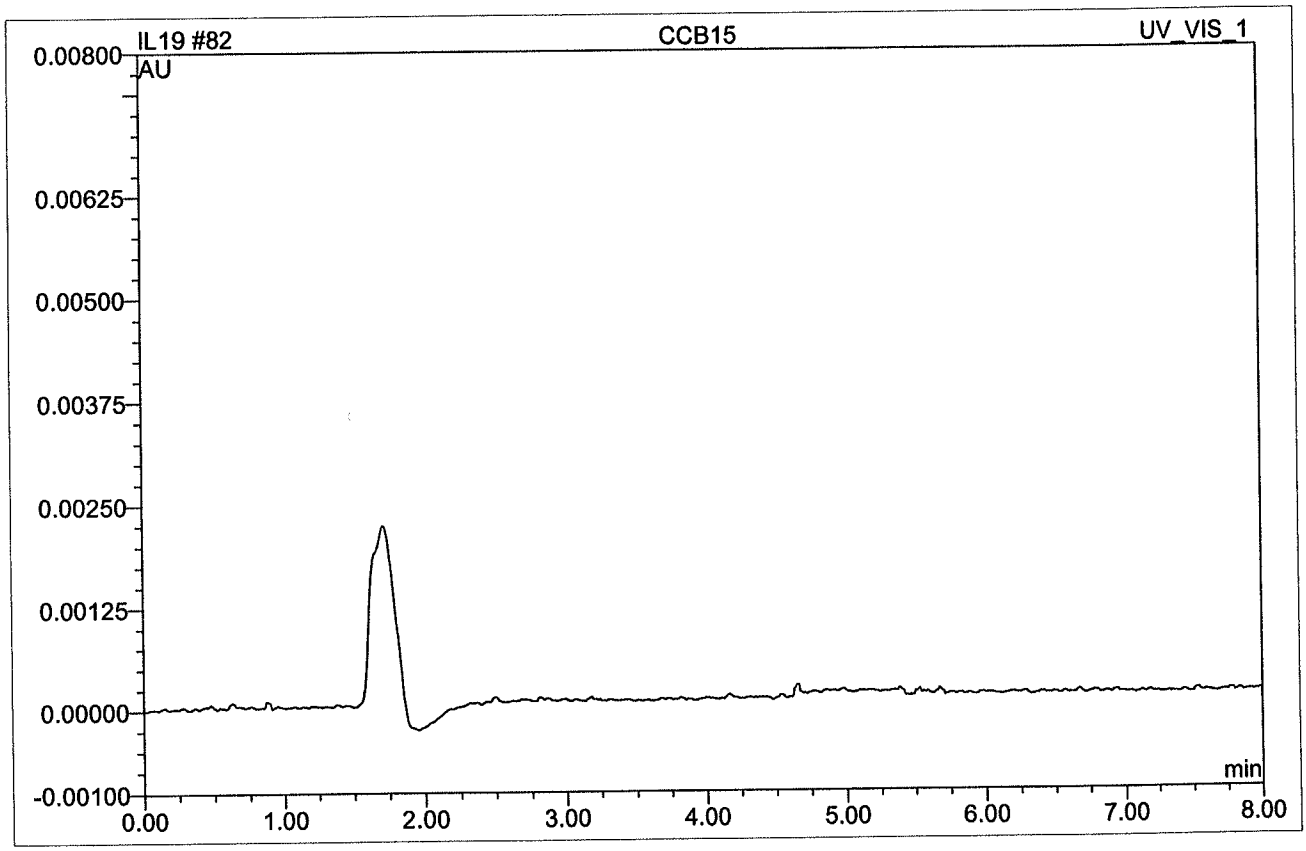
Sample Name:	**CCV15**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 11:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.21	Cr6	0.0013340	0.0001963	100.00	1.995	BMB*
Total:			0.001	0.000	100.00	1.995	

IL19 082 CCB15

Sample Name:	**CCB15**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 11:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



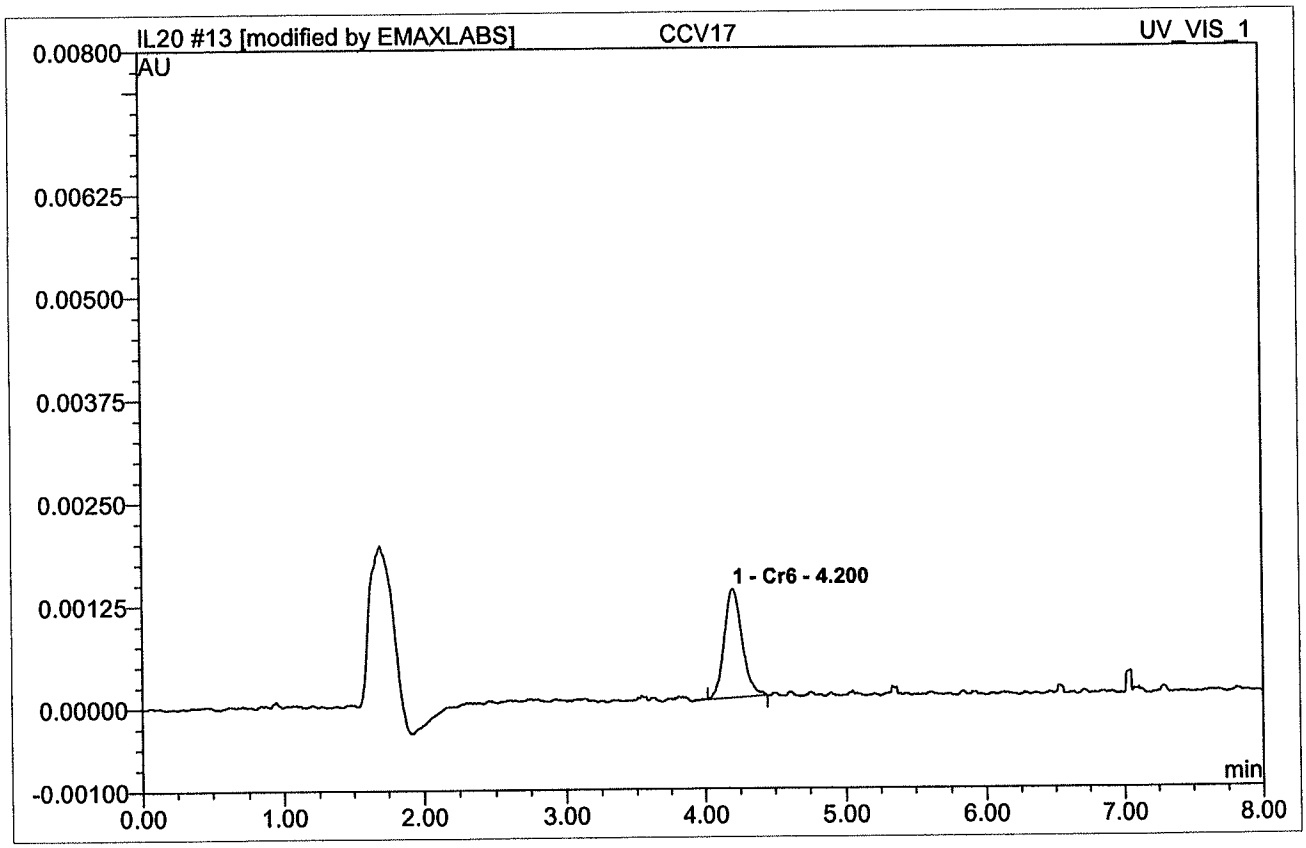
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IC RESULT FORM CalVersion : CR6.L19/IL19(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IL20001	CCV17	C	100%	12/20/2211:42	1
IL20002	CCB17	C	ND	12/20/2211:53	1
IL20003	HCL013WB	C	ND	12/20/2212:03	1
IL20004	HCL013WQ	C	ND	12/20/2212:14	1
IL20005	HCL013WL	C	2.036	12/20/2212:24	1
IL20006	HCL013WX	C	2.033	12/20/2212:34	1
IL20007	HCL013WC	C	2.004	12/20/2212:45	1
IL20008	HCL013WY	C	2.010	12/20/2212:55	1
IL20009	L232-01	C	0.167	12/20/2213:06	1
IL20010	L232-01N	C	0.167	12/20/2213:16	1
IL20011	L232-02	C	0.159	12/20/2213:26	1
IL20012	L232-02N	C	0.156	12/20/2213:37	1
IL20013	CCV19	C	102%	12/20/2213:47	1
IL20014	CCB19	C	ND	12/20/2213:58	1
IL20015	L237-01	C	ND	12/20/2214:08	1
IL20016	L237-02	C	ND	12/20/2214:18	1
IL20017	L237-02M	C	1.031	12/20/2214:29	1
IL20018	L237-02S	C	1.032	12/20/2214:39	1
IL20019	L237-03	*	16.602	12/20/2214:50	1
IL20020	L237-04	*	2.205	12/20/2215:00	1
IL20021	L237-05	C	ND	12/20/2215:10	1
IL20022	TEST	*	ND	12/20/2215:21	1
IL20023	L237-07	C	ND	12/20/2215:31	1
IL20024	L237-09	C	ND	12/20/2215:42	1
IL20025	CCV21	C	102%	12/20/2215:52	1
IL20026	CCB21	C	ND	12/20/2216:03	1
IL20027	L237-11	C	ND	12/20/2216:13	1
IL20028	L237-13	C	5.160	12/20/2216:23	1
IL20029	L237-14	C	ND	12/20/2216:34	1
IL20030	L237-15	C	ND	12/20/2216:44	1
IL20031	L237-15M	C	0.983	12/20/2216:55	1
IL20032	L237-15S	C	0.982	12/20/2217:05	1
IL20033	L237-16	C	ND	12/20/2217:15	1
IL20034	CCV23	C	102%	12/20/2217:26	1
IL20035	CCB23	C	ND	12/20/2217:36	1
IL20036	L237-03I	C	16.703	12/20/2217:57	5
IL20037	L237-03A	C	21.699	12/20/2218:08	5
IL20038	L237-04I	C	2.300	12/20/2218:18	5
IL20039	L237-04A	C	7.336	12/20/2218:28	5
IL20040	CCV25	C	102%	12/20/2218:39	1
IL20041	CCB25	C	ND	12/20/2218:49	1

IL20 001 CCV17

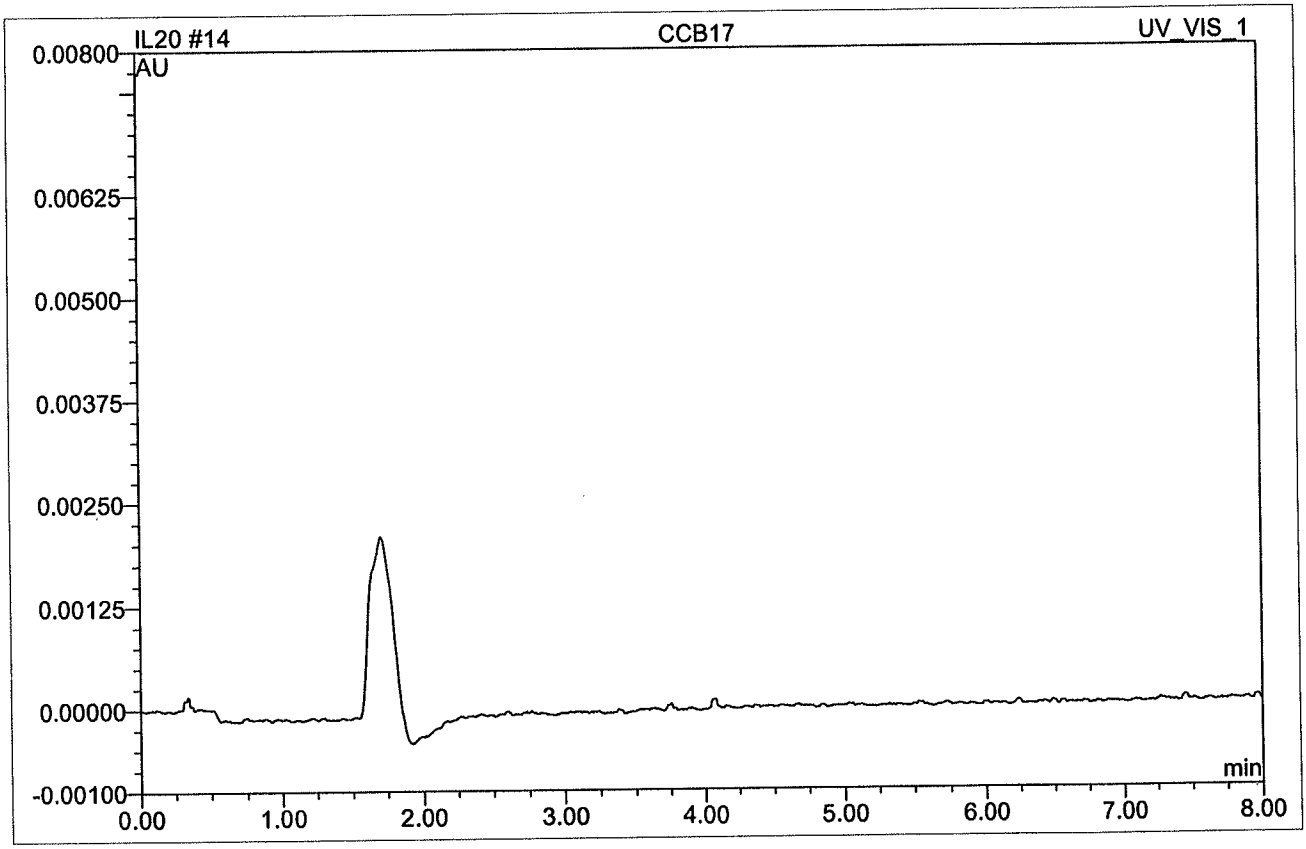
Sample Name:	**CCV17**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 11:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0013290	0.0001971	100.00	2.003	BMB*
Total:			0.001	0.000	100.00	2.003	

IL20 002 CCB17

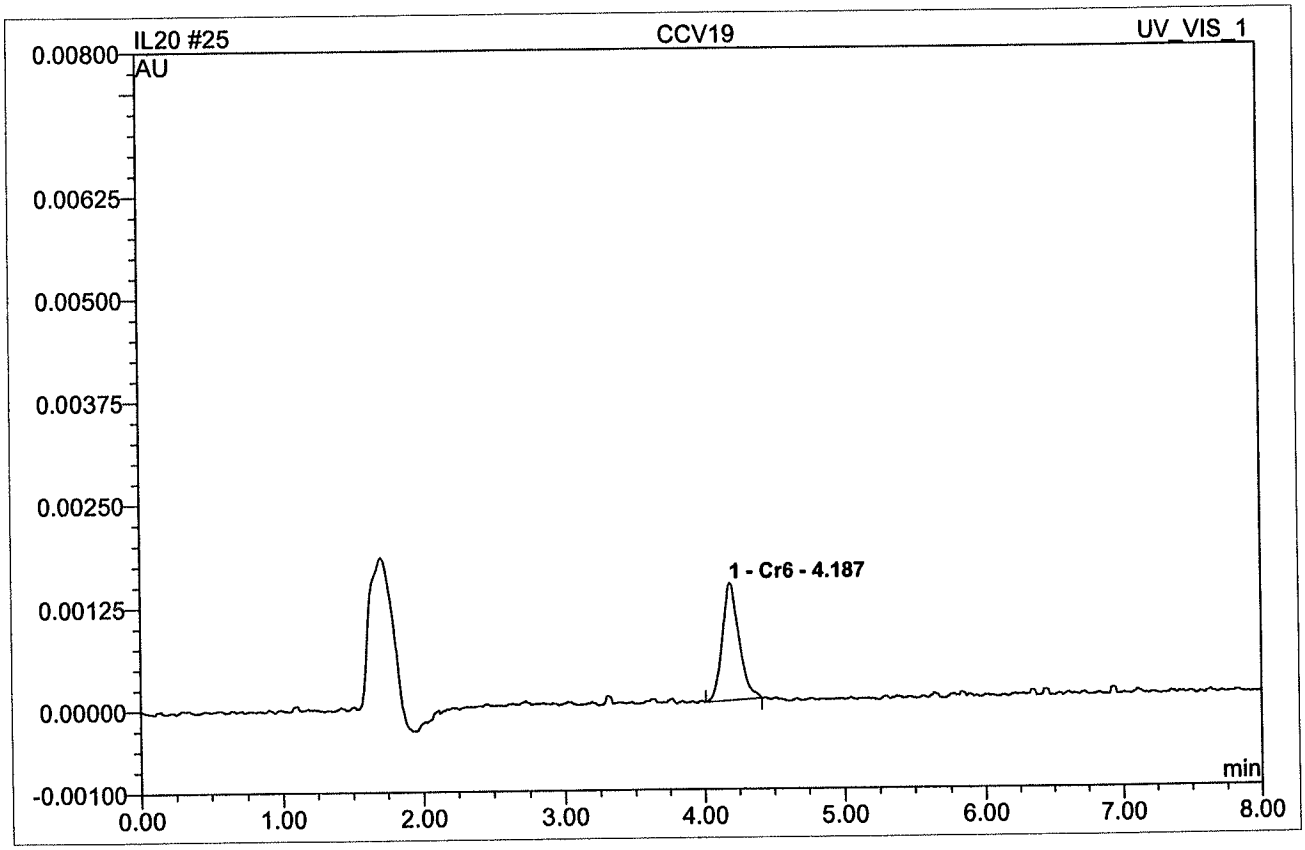
Sample Name:	**CCB17**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 11:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 013 CCV19

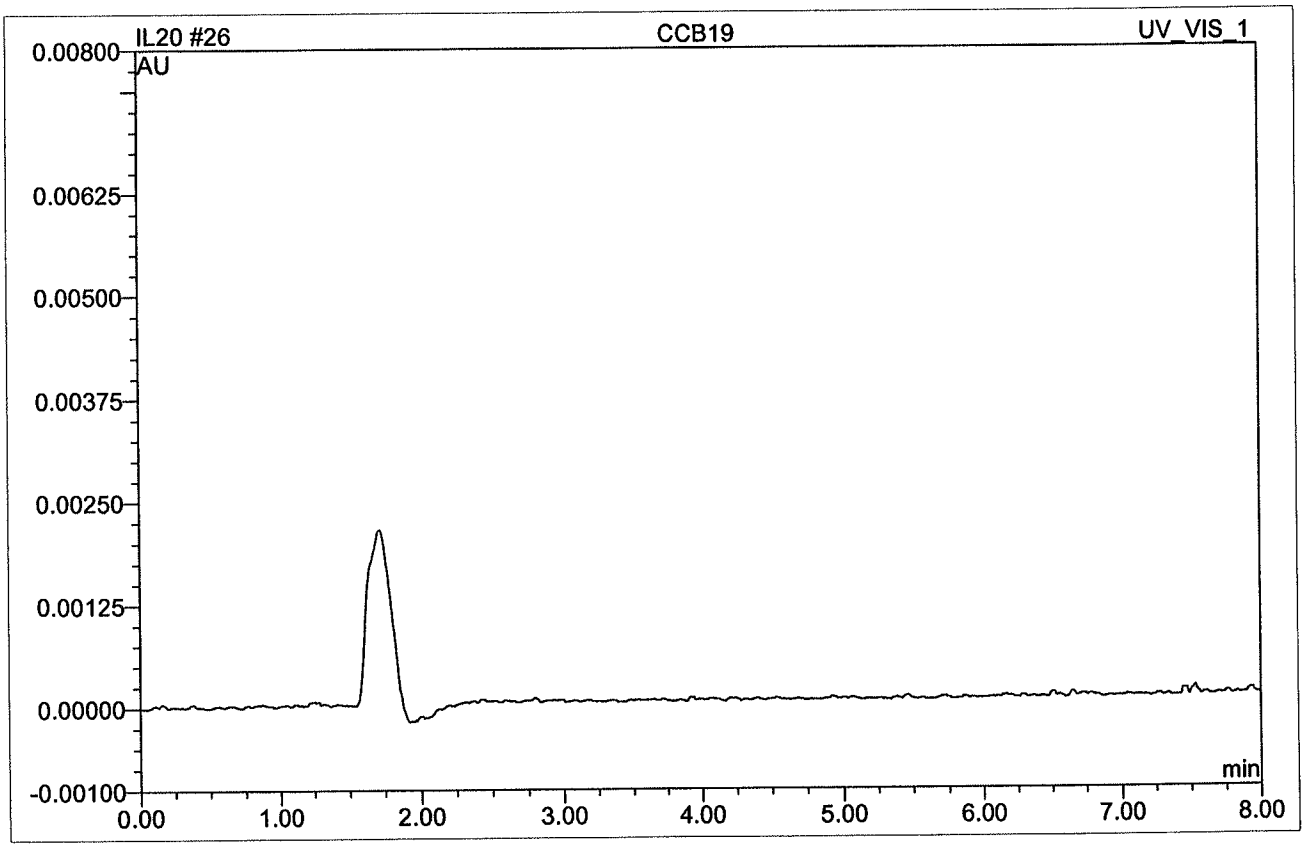
Sample Name:	**CCV19**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 13:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0014260	0.0002004	100.00	2.037	BMB
Total:			0.001	0.000	100.00	2.037	

IL20 014 CCB19

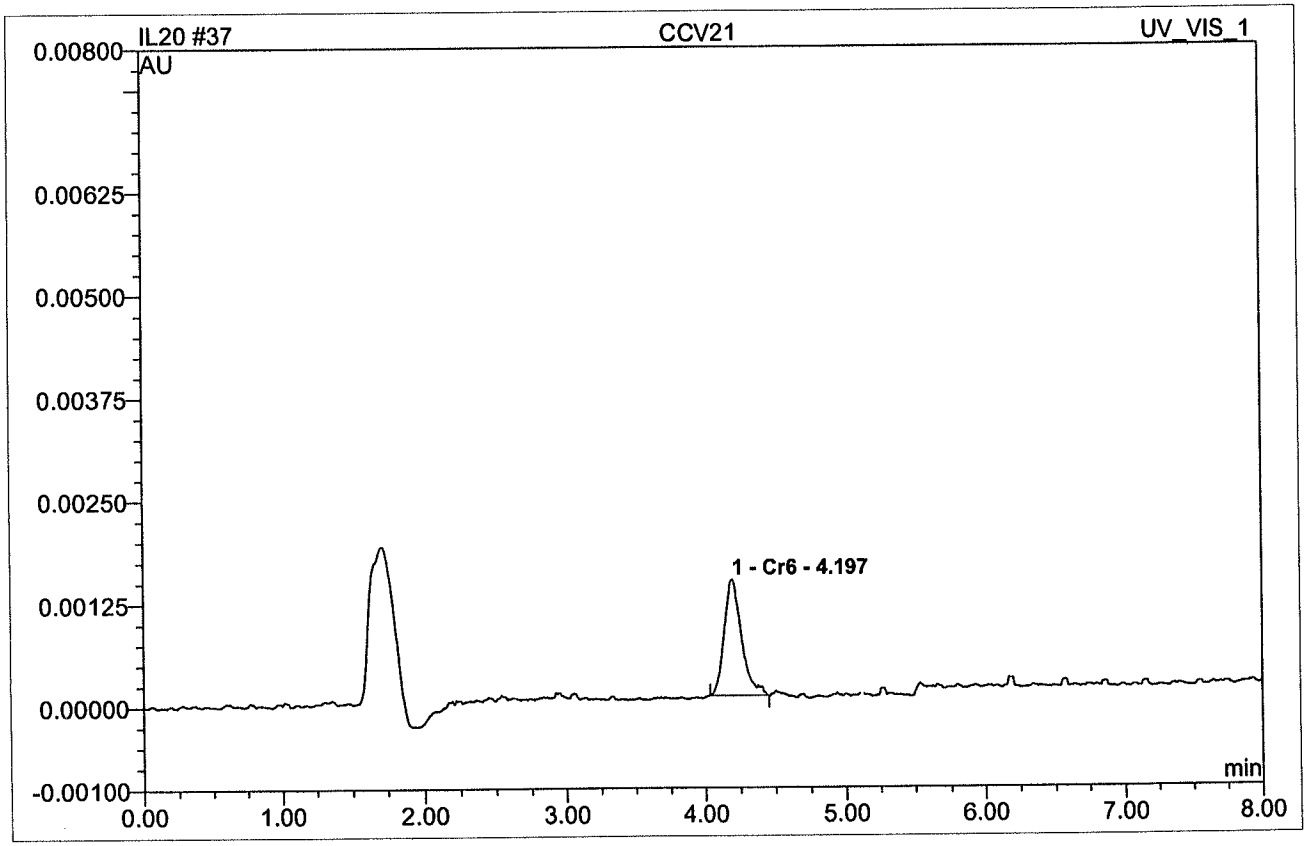
Sample Name:	**CCB19**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 13:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 025 CCV21

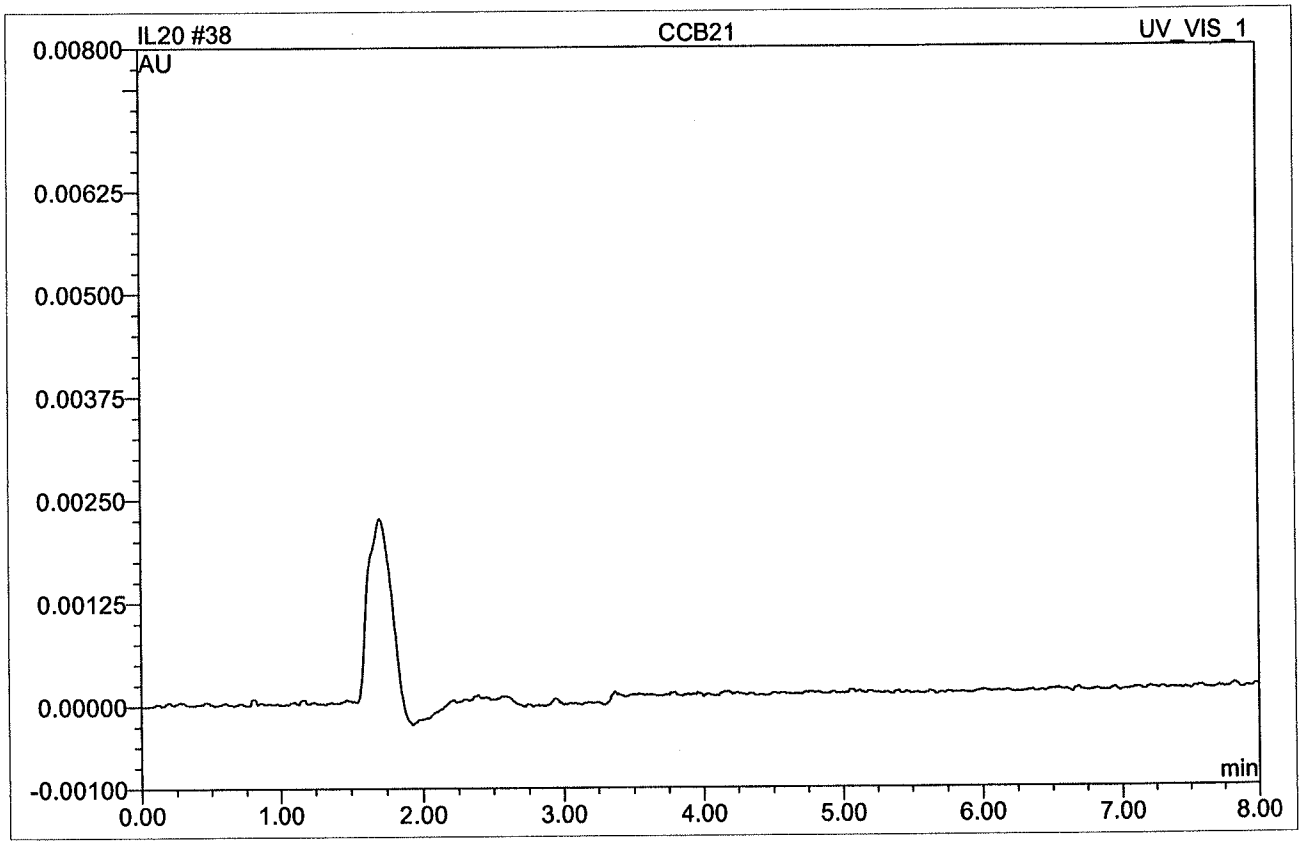
Sample Name:	**CCV21**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 15:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.20	Cr6	0.0014140	0.0002014	100.00	2.046	BMB
Total:			0.001	0.000	100.00	2.046	

IL20 026 CCB21

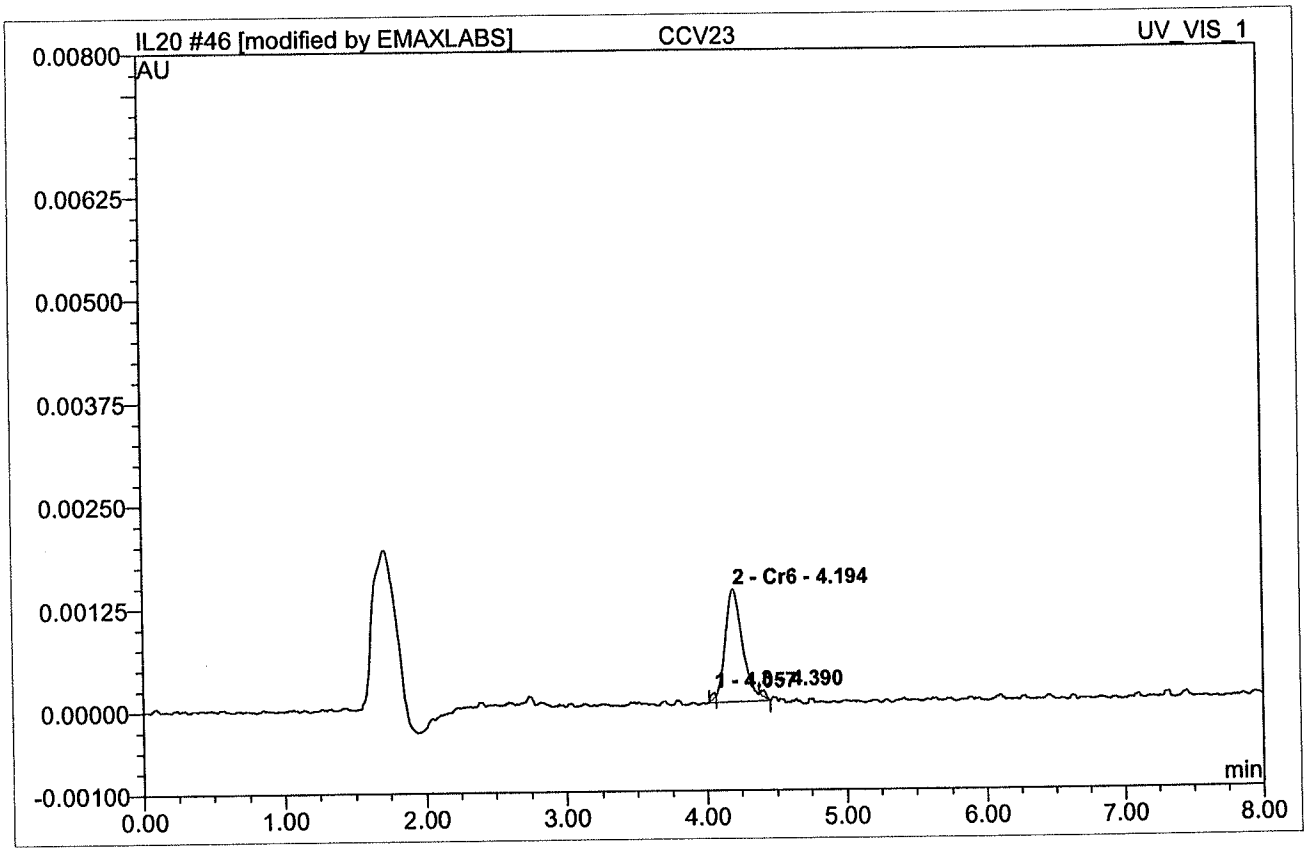
Sample Name:	**CCB21**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 16:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 034 CCV23

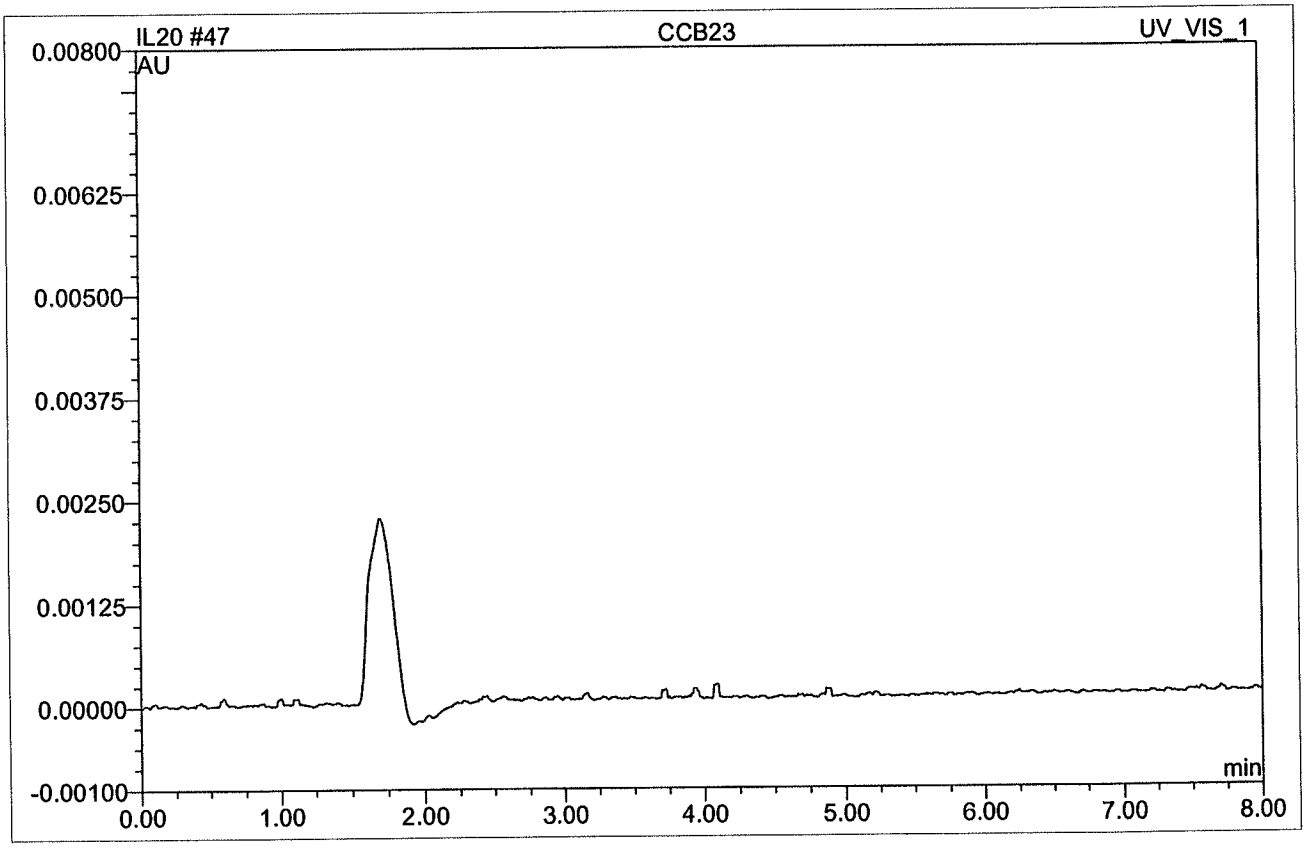
Sample Name:	**CCV23**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 17:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.06	n.a.	0.0000640	0.0000028	1.35	n.a.	Ru*
2	4.19	Cr6	0.0013680	0.0002009	97.18	2.041	BMB*
3	4.39	n.a.	0.0000570	0.0000030	1.47	n.a.	Rd*
Total:			0.001	0.000	100.00	2.041	

IL20 035 CCB23

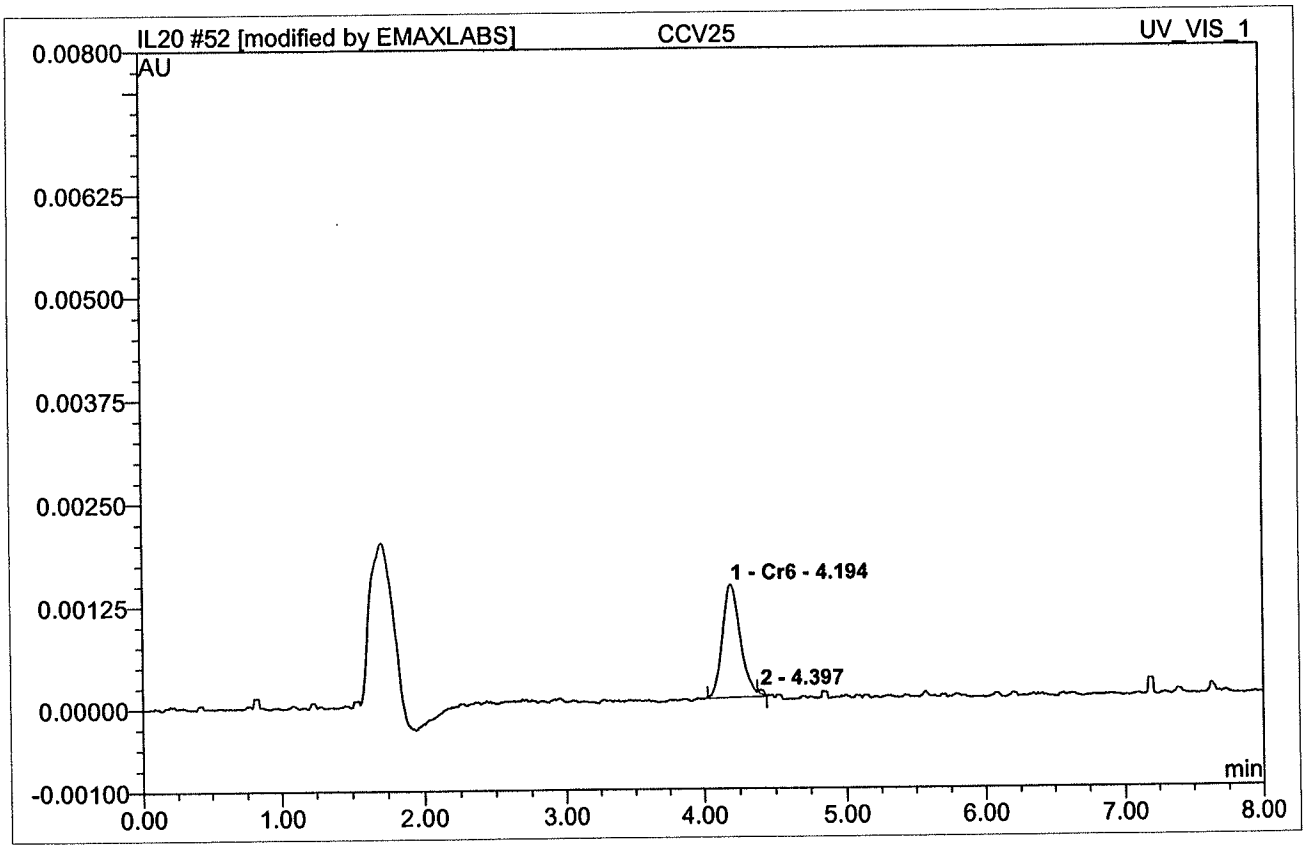
Sample Name:	**CCB23**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 17:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IL20 040 CCV25

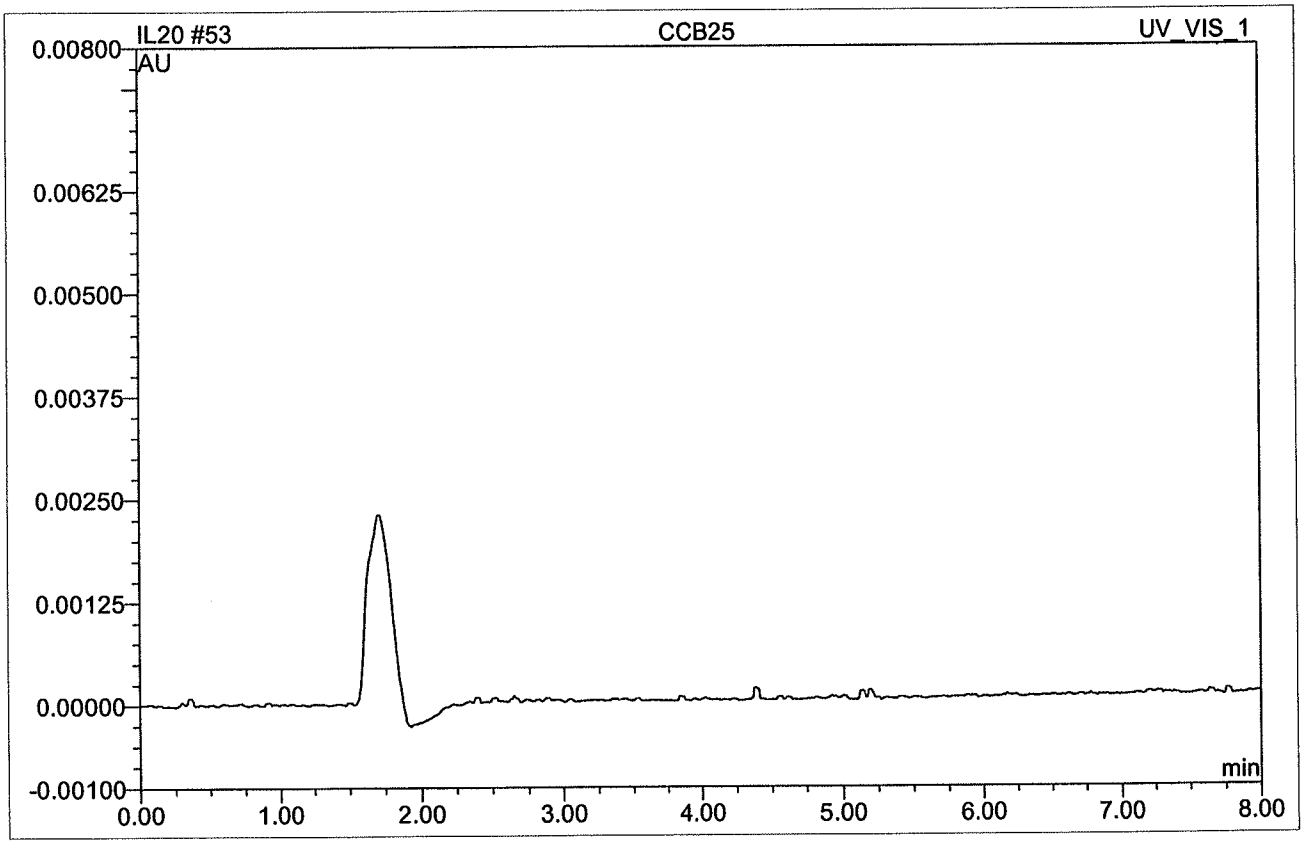
Sample Name:	**CCV25**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 18:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0013810	0.0002012	99.01	2.045	BMB*
2	4.40	n.a.	0.0000450	0.0000020	0.99	n.a.	Rd*
Total:			0.001	0.000	100.00	2.045	

IL20 041 CCB25

Sample Name:	**CCB25**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59L19**	*Dilution Factor:*	**1**
Recording Time:	**12/20/2022 18:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

ANALYTICAL LOG(S)

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution: **Final Volume:** 1,000 mL

1,5 Diphenylcarbohydrazide : 0.5 g SW6A-01-01-08

MeOH : 100 mL SW1A-011-18-08

H_2SO_4 : 28 mL ↓ -07-04

Eluent: **Final Volume:** 2,000 mL

$(NH_4)_2SO_4$: 66 g SW6A-02-01-06

NH_4OH : 13 mL ↓ -09

☐ **pH Adjusted Water ID #:**
(range 9.3-9.5)

☑ **Buffer*** (10 mL → 100 mL) SP2-05-21-03

Reagent Water ID #: RW1-22-003

ICAL Linear Range (ppb): S_0 - 0.00
S_1 - 0.20
S_2 - 0.50
S_3 - 1.00
S_4 - 2.00
S_5 - 5.00
S_6 - 7.50
S_7 - 10.0
ICV - 3.00

Low CCV: 0.20mL of SW6B-005-01-08 (100ppb) to final volume 100 mL using buffer* (SP2-05-21-03, 10mL→100mL) → 0.20 ppb

HCL009W: L206, L207, L867

HCL011W: L226, L237

Column: Dionex Ionpac AS7 (4x250mm) serial: 19010332 48

Guard Column: Dionex Ionpac NG1 (4x35mm) serial: 19061 1218

Wavelength: 530 nm

Flow Rate: 1.00mL/min

Injection Loop: 0.250 mL

Book #:	A59-057
Instrument No.:	59
Pipette ID:	SW9A-04-017
	A42762405
	SW9A-04-052
Balance ID:	10203192
Analytical Sequence:	IL19
Method File:	ICS9L19
Analytical Batch:	HCL009W/011W

SOP #	Rev. #
☑ EMAX-218.6	8
☑ EMAX-7199	8
☐ EMAX-	

STANDARDS ID	
ICAL	SW6B-005-01-11
ICV	↓ -12
CCV	↓ -13

LCS/MS STANDARDS				
	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-005-01-04	100ppb	0.100mL	5mL
MS	↓	↓	0.050mL	↓

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-02-01 Snap-Seal Container

0.45 µm filter lot #: 211029103 4 oz: 3112011

0.2 µm filter lot #: 1.5 oz: 05122002

Analyzed By: AS

Date: 12/19/22

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:01 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IL19	001	IB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:18:35 PM	1.0000	BUFFER
2	IL19	002	S-0	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:28:59 PM	1.0000	
3	IL19	003	S-1	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:59:10 PM	1.0000	0.2 PPB
4	IL19	004	S-2	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:09:34 PM	1.0000	0.5 PPB
5	IL19	005	S-3	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:19:58 PM	1.0000	1.0 PPB
6	IL19	006	S-4	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:30:22 PM	1.0000	2.0 PPB
7	IL19	007	S-5	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:40:46 PM	1.0000	5.0 PPB
8	IL19	008	S-6	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:51:10 PM	1.0000	7.5 PPB
9	IL19	009	S-7	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:01:34 PM	1.0000	10 PPB
10	IL19	010	ICV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:21:16 PM	1.0000	3.0 PPB
11	IL19	011	ICB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:31:40 PM	1.0000	
12	IL19	012	LOW CCV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:42:05 PM	1.0000	0.2 PPB
13	IL19	013	CCV1	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:05:02 PM	1.0000	
14	IL19	014	CCB1	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:15:26 PM	1.0000	
15	IL19	015	HCL009WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:25:51 PM	1.0000	
16	IL19	016	HCL009WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:36:15 PM	1.0000	
17	IL19	017	HCL009WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:46:39 PM	1.0000	
18	IL19	018	L207-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 8:57:03 PM	1.0000	
19	IL19	019	L207-04M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:10:05 PM	1.0000	
20	IL19	020	L207-04S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:20:29 PM	1.0000	
21	IL19	021	L206-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:30:53 PM	1.0000	
22	IL19	022	L206-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:41:17 PM	1.0000	
23	IL19	023	L206-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 9:51:41 PM	1.0000	
24	IL19	024	L207-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:02:06 PM	1.0000	
25	IL19	025	CCV3	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:12:30 PM	1.0000	
26	IL19	026	CCB3	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:22:54 PM	1.0000	
27	IL19	027	L207-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:33:18 PM	1.0000	OVER RANGE

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IL19	028	L207-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:43:42 PM	1.0000	
29	IL19	029	L207-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 10:54:06 PM	1.0000	
30	IL19	030	L207-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:04:31 PM	1.0000	
31	IL19	031	L207-02I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:14:55 PM	2.0000	2.5mLto5mL
32	IL19	032	L867-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:25:19 PM	1.0000	
33	IL19	033	HCL011WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:35:43 PM	1.0000	
34	IL19	034	HCL011WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:46:07 PM	1.0000	
35	IL19	035	HCL011WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 11:56:31 PM	1.0000	
36	IL19	036	L226-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:06:55 AM	1.0000	
37	IL19	037	CCV5	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:17:20 AM	1.0000	
38	IL19	038	CCB5	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:27:44 AM	1.0000	
39	IL19	039	L226-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:38:08 AM	1.0000	
40	IL19	040	L226-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:48:32 AM	1.0000	
41	IL19	041	L226-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:58:56 AM	1.0000	
42	IL19	042	L226-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:09:21 AM	1.0000	
43	IL19	043	L226-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:19:45 AM	1.0000	
44	IL19	044	L226-06M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:30:09 AM	1.0000	
45	IL19	045	L226-06S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:40:33 AM	1.0000	
46	IL19	046	L226-07	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:50:57 AM	1.0000	
47	IL19	047	L226-07M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:01:21 AM	1.0000	RT SHIFT
48	IL19	048	L226-07S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:11:45 AM	1.0000	RT SHIFT
49	IL19	049	CCV7	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:22:09 AM	1.0000	
50	IL19	050	CCB7	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:32:34 AM	1.0000	
51	IL19	051	L226-08	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:42:58 AM	1.0000	OVER RANGE
52	IL19	052	L226-08I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:53:22 AM	5.0000	1mLto5mL
53	IL19	053	L226-09	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:03:46 AM	1.0000	OVER RANGE
54	IL19	054	L226-09I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:14:10 AM	5.0000	1mLto5mL

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
55	IL19	055	L226-10	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:24:34 AM	1.0000	OVER RANGE
56	IL19	056	L226-10I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:34:58 AM	5.0000	1mLto5mL
57	IL19	057	L226-11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:45:22 AM	1.0000	OVER RANGE
58	IL19	058	L226-11I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:55:46 AM	5.0000	1mLto5mL
59	IL19	059	L226-12	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:06:11 AM	1.0000	OVER RANGE
60	IL19	060	L226-12I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:16:35 AM	5.0000	1mLto5mL
61	IL19	061	CCV9	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:27:00 AM	1.0000	
62	IL19	062	CCB9	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:37:24 AM	1.0000	
63	IL19	063	L226-13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:47:48 AM	1.0000	OVER RANGE
64	IL19	064	L226-13I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:58:12 AM	5.0000	1mLto5mL
65	IL19	065	L226-14	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:08:36 AM	1.0000	
66	IL19	066	L226-14I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:19:01 AM	5.0000	1mLto5mL;CONF
67	IL19	067	L226-15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:29:25 AM	1.0000	OVER RANGE
68	IL19	068	L226-15I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:39:49 AM	5.0000	1mLto5mL
69	IL19	069	L226-16	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:50:13 AM	1.0000	
70	IL19	070	L237-06	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:00:37 AM	1.0000	
71	IL19	071	L237-08	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:11:01 AM	1.0000	
72	IL19	072	L237-10	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:21:25 AM	1.0000	
73	IL19	073	CCV11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:31:49 AM	1.0000	
74	IL19	074	CCB11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:42:14 AM	1.0000	
75	IL19	075	L237-12	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:52:38 AM	1.0000	
76	IL19	076	CCV13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 7:03:02 AM	1.0000	
77	IL19	077	CCB13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 7:13:26 AM	1.0000	
78	IL19	078	L226-07I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 10:47:58 AM	5.0000	1mLto5mL
79	IL19	079	L226-07M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 10:58:22 AM	5.0000	1mLto5mL
80	IL19	080	L226-07S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:08:46 AM	5.0000	1mLto5mL
81	IL19	081	CCV15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:19:11 AM	1.0000	

Sequence: IL19
Operator: EMAXLABS

Printed: 12/20/2022 8:50:02 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 82

FINAL

Created: 12/19/2022 5:11:37 PM by EMAXLABS
Last Update: 12/20/2022 7:13:16 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
82	IL19	082	CCB15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:29:35 AM	1.0000	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution: **Final Volume:** 1,000 mL

1,5 Diphenylcarbohydrazide : 0.5 g SW6A-01-01-08

MeOH : 100 mL SW1A-011-18-08

H_2SO_4 : 28 mL ↓ ~~-07-04~~ -19-06 AS 12/20/22

Eluent: **Final Volume:** 2,000 mL

$(NH_4)_2SO_4$: 66 g SW6A-02-01-06

NH_4OH : 13 mL ↓ -09

☐ **pH Adjusted Water ID #:**
(range 9.3-9.5)

☑ **Buffer** (10 mL → 100 mL) SP2-05-21-03

Reagent Water ID #: RW1-22-003

HCL013W: L237, L232

Book #: A59-057

Instrument No.: 59

Pipette ID: SW9A-04-017

A42762405

SW9A-04-052

Balance ID: 10203192

Analytical Sequence: IL20

Method File: IC59L19

Analytical Batch: HCL013W

SOP #	Rev. #
☑ EMAX-218.6	8
☑ EMAX-7199	8
☐ EMAX-	

STANDARDS ID				
ICAL				
ICV				
CCV	SW6B-005-01-14			
LCS/MS STANDARDS				
	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-005-01-04	100 ppb	0.100 mL	5 mL
MS	↓	↓	0.050 mL	↓

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-02-01 Snap-Seal Container

0.45 µm filter lot #: 211029103 4 oz: 31121011

0.2 µm filter lot #: 1.5 oz: 05122002

Analyzed By: AS

Date: 12/20/22

Sequence: IL20
Operator: EMAXLABS

Printed: 12/23/2022 3:20:30 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 53

FINAL

Created: 12/20/2022 11:40:55 AM by EMAXLABS
Last Update: 12/20/2022 8:53:42 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IL20		IB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:18:35 PM	1.0000	BUFFER
2	IL20		S-0	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:28:59 PM	1.0000	
3	IL20		S-1	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 5:59:10 PM	1.0000	0.2 PPB
4	IL20		S-2	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:09:34 PM	1.0000	0.5 PPB
5	IL20		S-3	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:19:58 PM	1.0000	1.0 PPB
6	IL20		S-4	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:30:22 PM	1.0000	2.0 PPB
7	IL20		S-5	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:40:46 PM	1.0000	5.0 PPB
8	IL20		S-6	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 6:51:10 PM	1.0000	7.5 PPB
9	IL20		S-7	Standard	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:01:34 PM	1.0000	10 PPB
10	IL20		ICV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:21:16 PM	1.0000	3.0 PPB
11	IL20		ICB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:31:40 PM	1.0000	
12	IL20		LOW CCV	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/19/2022 7:42:05 PM	1.0000	0.2 PPB
13	IL20	001	CCV17	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:42:56 AM	1.0000	
14	IL20	002	CCB17	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 11:53:20 AM	1.0000	
15	IL20	003	HCL013WB	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:03:44 PM	1.0000	
16	IL20	004	HCL013WQ	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:14:08 PM	1.0000	
17	IL20	005	HCL013WL	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:24:32 PM	1.0000	
18	IL20	006	HCL013WX	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:34:56 PM	1.0000	
19	IL20	007	HCL013WC	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:45:20 PM	1.0000	
20	IL20	008	HCL013WY	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 12:55:44 PM	1.0000	
21	IL20	009	L232-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:06:09 PM	1.0000	
22	IL20	010	L232-01N	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:16:33 PM	1.0000	
23	IL20	011	L232-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:26:57 PM	1.0000	
24	IL20	012	L232-02N	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:37:21 PM	1.0000	
25	IL20	013	CCV19	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:47:45 PM	1.0000	
26	IL20	014	CCB19	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 1:58:09 PM	1.0000	
27	IL20	015	L237-01	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:08:34 PM	1.0000	

Sequence: IL20
Operator: EMAXLABS

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 53

FINAL

Created: 12/20/2022 11:40:55 AM by EMAXLABS
Last Update: 12/20/2022 8:53:42 PM by EMAXLABS

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IL20	016	L237-02	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:18:58 PM	1.0000	
29	IL20	017	L237-02M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:29:22 PM	1.0000	
30	IL20	018	L237-02S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:39:47 PM	1.0000	
31	IL20	019	L237-03	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 2:50:11 PM	1.0000	OVER RANGE;RT SHIFT
32	IL20	020	L237-04	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:00:35 PM	1.0000	RT SHIFT
33	IL20	021	L237-05	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:10:59 PM	1.0000	
34	IL20	022	TEST	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:21:24 PM	1.0000	
35	IL20	023	L237-07	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:31:48 PM	1.0000	
36	IL20	024	L237-09	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:42:12 PM	1.0000	
37	IL20	025	CCV21	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 3:52:36 PM	1.0000	
38	IL20	026	CCB21	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:03:00 PM	1.0000	
39	IL20	027	L237-11	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:13:24 PM	1.0000	
40	IL20	028	L237-13	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:23:49 PM	1.0000	
41	IL20	029	L237-14	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:34:13 PM	1.0000	
42	IL20	030	L237-15	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:44:37 PM	1.0000	
43	IL20	031	L237-15M	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 4:55:01 PM	1.0000	
44	IL20	032	L237-15S	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:05:26 PM	1.0000	
45	IL20	033	L237-16	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:15:50 PM	1.0000	
46	IL20	034	CCV23	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:26:14 PM	1.0000	
47	IL20	035	CCB23	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:36:38 PM	1.0000	
48	IL20	036	L237-03I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 5:57:40 PM	5.0000	1mLto5mL
49	IL20	037	L237-03A	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:08:04 PM	5.0000	1mLto5mL;PS@1PPB
50	IL20	038	L237-04I	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:18:28 PM	5.0000	1mLto5mL
51	IL20	039	L237-04A	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:28:52 PM	5.0000	1mLto5mL;PS@1PPB
52	IL20	040	CCV25	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:39:16 PM	1.0000	
53	IL20	041	CCB25	Unknown	250.0	Cr6 Program	IC59L19	Finished	12/20/2022 6:49:40 PM	1.0000	

SAMPLE PREPARATION LOG(S)

EMAX LABORATORIES, INC.

pH ADJUSTMENT/SAMPLE PRESERVATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-218.6 Rev. 8 ☐ EMAX-7199 Rev. 8 Book #: PHC-029

Matrix: W Start Date: 12/16/22 Time: 18:00 End Date: 12/16/22 Time: 18:35

Sample Prep ID	Lab Sample ID	Initial pH	Final pH	Notes
01	L237-01	9.47	9.47	no adjustment needed, Cr
02	-02	9.45	9.45	
03	-03	9.50	9.50	
04	-04	9.47	9.47	
05	-05	9.50	9.50	
06	-06	9.50	9.50	
07	-07	9.45	9.45	
08	-08	9.49	9.49	
09	-09	9.44	9.44	
10	-10	9.47	9.47	
11	-11	9.49	9.49	
12	-12	9.48	9.48	
13	-13	9.50	9.50	
14	-14	9.47	9.47	
15	-15	9.49	9.49	
16	-16	9.50	9.50	
17	L867-01	9.47	9.47	
18				
19				
20				
21				
22				
23				
24				
25				

AS 12/16/22

Standards	ID	pH
Buffer 7	SW1A-03-11-05	7.00
Buffer 10	↓ -03-08	10.01
Check pH Buffer (8)		
Check pH Buffer 7.98	SW1A-03-06-03	7.96
pH meter	F7	

Reagent	Standard ID #
NaOH	
$(NH_4)_2SO_4/NH_4OH$	
HNO_3	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = Turbid	Vg = Vegetation
Yw = Yellow			

☑ Samples were received with preservation

Comments:

Prepared By: AS

Standard Added By: –

Checked By: AS

RETENTION TIME WINDOW

RETENTION TIME WINDOW

METHOD 218.6/7199

Lab Name:	EMAX	**METHOD:**	EMAX-218.6/7199
Instrument ID:	DX500IC59	**IC COLUMN:**	AS7/AG7 / AS7/NG1
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
CHROMIUM VI	**4.20**	4.11	4.29	**0.087**

IC59L19

NITRATE AS N

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22L237

METHOD E300.0
NITRATE AS N

A total of twelve(12) water samples were received on 12/16/22 to be analyzed for Nitrate As N in accordance with Method E300.0 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried out on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. Nitrate was not detected in ICL023WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. ICL023WL/ICL023WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Closing continuing calibration (CCV219) for samples L237-15 and L237-16 failed biased high. Results were reported per client's request.

Samples L237-05, L237-11, and L237-14 reported at dilution factor >1 were due to high conductivity. Refer to sample result form for details.

SAMPLE RESULTS

METHOD E300.0
NITRATE AS N

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22L237

Matrix : WATER
InstrumentID : DO

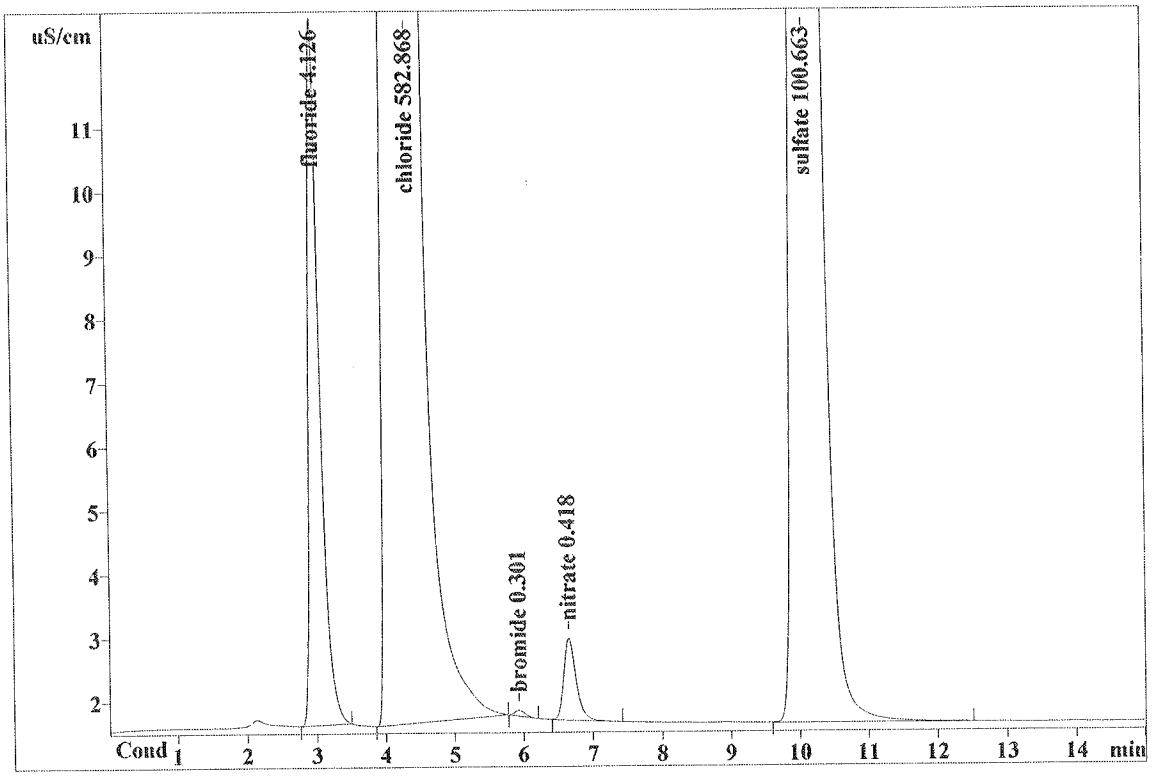
CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DFxPREP FACTOR	MOIST (%)	RL (mg/L)	MDL (mg/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	ICL023WB	ND	1	NA	0.1	0.05	12/16/2209:08	NA	AL23-03	AL23-01	ICL023W	NA	NA
LCS1W	ICL023WL	1.10	1	NA	0.1	0.05	12/16/2211:25	NA	AL23-11	AL23-01	ICL023W	NA	NA
LCD1W	ICL023WC	1.08	1	NA	0.1	0.05	12/16/2211:42	NA	AL23-12	AL23-01	ICL023W	NA	NA
MW-92-072-Q422	L237-01	0.418	1	NA	0.1	0.05	12/16/2217:53	NA	AL23-33	AL23-31	ICL023W	12/15/2209:28	12/16/22
MW-91-045-Q422	L237-02	0.632	1	NA	0.1	0.05	12/16/2218:10	NA	AL23-34	AL23-31	ICL023W	12/15/2207:56	12/16/22
MW-91-120-Q422	L237-03I	1.77	2	NA	0.2	0.1	12/16/2218:28	NA	AL23-35	AL23-31	ICL023W	12/15/2208:16	12/16/22
MW-91-170-Q422	L237-04I	1.33	2	NA	0.2	0.1	12/16/2218:45	NA	AL23-36	AL23-31	ICL023W	12/15/2208:49	12/16/22
MW-91-320-Q422	L237-05I	ND	10	NA	1	0.5	12/16/2219:02	NA	AL23-37	AL23-31	ICL023W	12/15/2209:10	12/16/22
MW-54-085-Q422	L237-07I	0.291	2	NA	0.2	0.1	12/16/2219:19	NA	AL23-38	AL23-31	ICL023W	12/15/2210:20	12/16/22
MW-54-140-Q422	L237-09I	0.631	2	NA	0.2	0.1	12/16/2219:36	NA	AL23-39	AL23-31	ICL023W	12/15/2209:57	12/16/22
MW-54-195-Q422	L237-11I	ND	5	NA	0.5	0.25	12/16/2219:53	NA	AL23-40	AL23-31	ICL023W	12/15/2210:38	12/16/22
MW-92-102-Q422	L237-13	1.00	1	NA	0.1	0.05	12/16/2220:10	NA	AL23-41	AL23-31	ICL023W	12/15/2208:58	12/16/22
MW-92-122-Q422	L237-14I	ND	2	NA	0.2	0.1	12/16/2220:27	NA	AL23-42	AL23-31	ICL023W	12/15/2208:24	12/16/22
MW-92-037-Q422	L237-15	ND	1	NA	0.1	0.05	12/16/2221:19	NA	AL23-45	AL23-43	ICL023W	12/15/2209:56	12/16/22
MW-930-Q422	L237-16	ND	1	NA	0.1	0.05	12/16/2221:36	NA	AL23-46	AL23-43	ICL023W	12/15/2210:06	12/16/22

Report date: 12/20/2022 8:19:46 AM
Printed by: VDuran

Ident: AL23-33 L237-01
Analysis from: 12/16/2022 5:53:53 PM
File: _2022-12-16_17-53.chw Last save: 12/16/2022 6:08:50 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185945

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 33
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.00	11.09	121.614	4.126	fluoride
2	4.36	592.53	10227.846	582.868	chloride
3	5.93	0.09	0.925	0.301	bromide
4	6.65	1.29	15.704	0.418	nitrate
5	10.11	69.57	1308.861	100.663	sulfate
5	15.00	674.58	11674.950	688.377	

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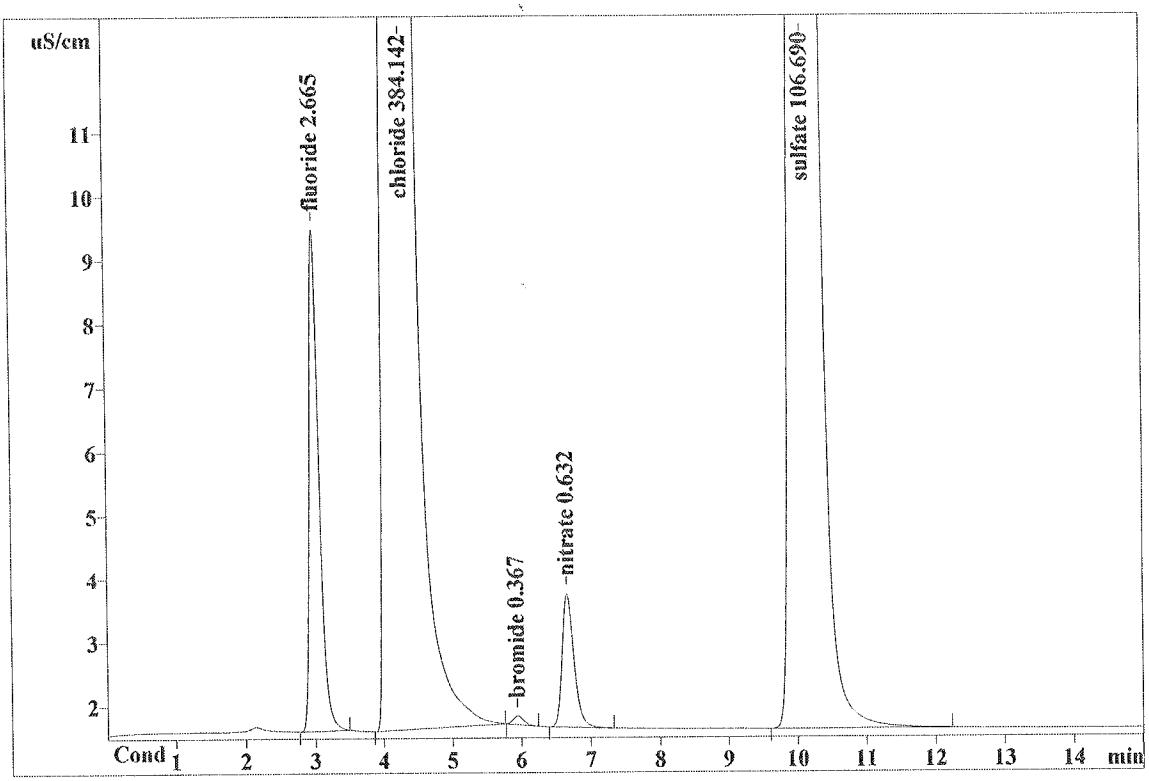
Report date: 12/20/2022 8:19:52 AM
Printed by: VDuran

Ident: AL23-34 L237-02
Analysis from: 12/16/2022 6:10:58 PM
File: _2022-12-16_18-10.chw Last save: 12/16/2022 6:25:56 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185946

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 34
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.00	7.88	78.074	2.665	fluoride
2	4.30	473.52	6740.254	384.142	chloride
3	5.94	0.14	1.429	0.367	bromide
4	6.66	2.09	24.739	0.632	nitrate ✓
5	10.10	75.58	1387.301	106.690	sulfate
5	15.00	559.21	8231.796	494.495	

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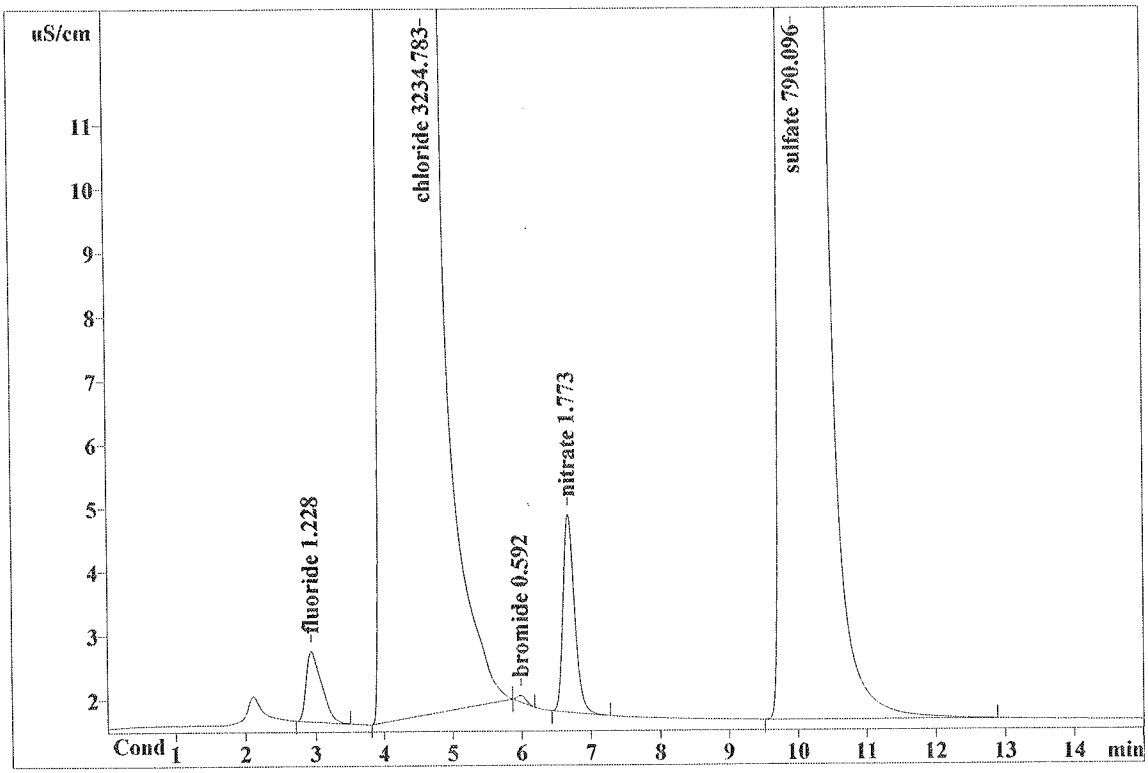
Report date: 12/20/2022 8:20:55 AM
Printed by: VDuran

Ident: AL23-35 L237-03I DF=2
Analysis from: 12/16/2022 6:28:05 PM
File: _2022-12-16_18-28.chw Last save: 12/16/2022 6:43:02 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185947

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml
Vial number: 35
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

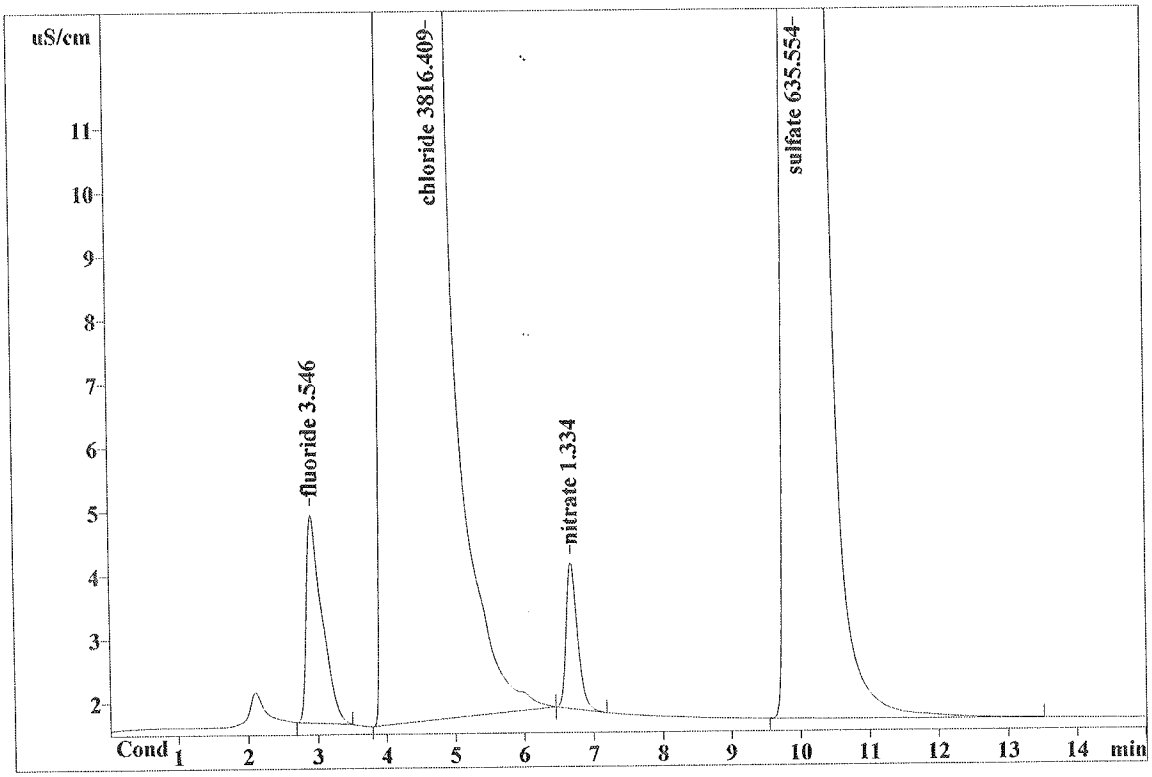
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.94	1.10	16.957	1.228	fluoride
2	4.63	934.70	28383.538	3234.783	chloride
3	5.99	0.10	0.885	0.592	bromide
4	6.67	3.09	35.488	1.773	nitrate
5	9.98	243.16	5140.603	790.096	sulfate
5	15.00	1182.15	33577.472	4028.472	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:21:12 AM
Printed by: VDuran

Ident: AL23-36 L237-04I DF=2
Analysis from: 12/16/2022 6:45:11 PM
File: _2022-12-16_18-45.chw Last save: 12/16/2022 7:00:08 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185948

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml HIGH CONDUCTIVITY
Vial number: 36
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.92	3.26	51.492	3.546	fluoride
2	4.69	993.43	33487.239	3816.409	chloride
3	6.68	2.30	26.227	1.334	nitrate ✓
4	10.01	197.85	4134.835	635.554	sulfate
4	15.00	1196.84	37699.794	4456.843	

This report has been created by IC Net
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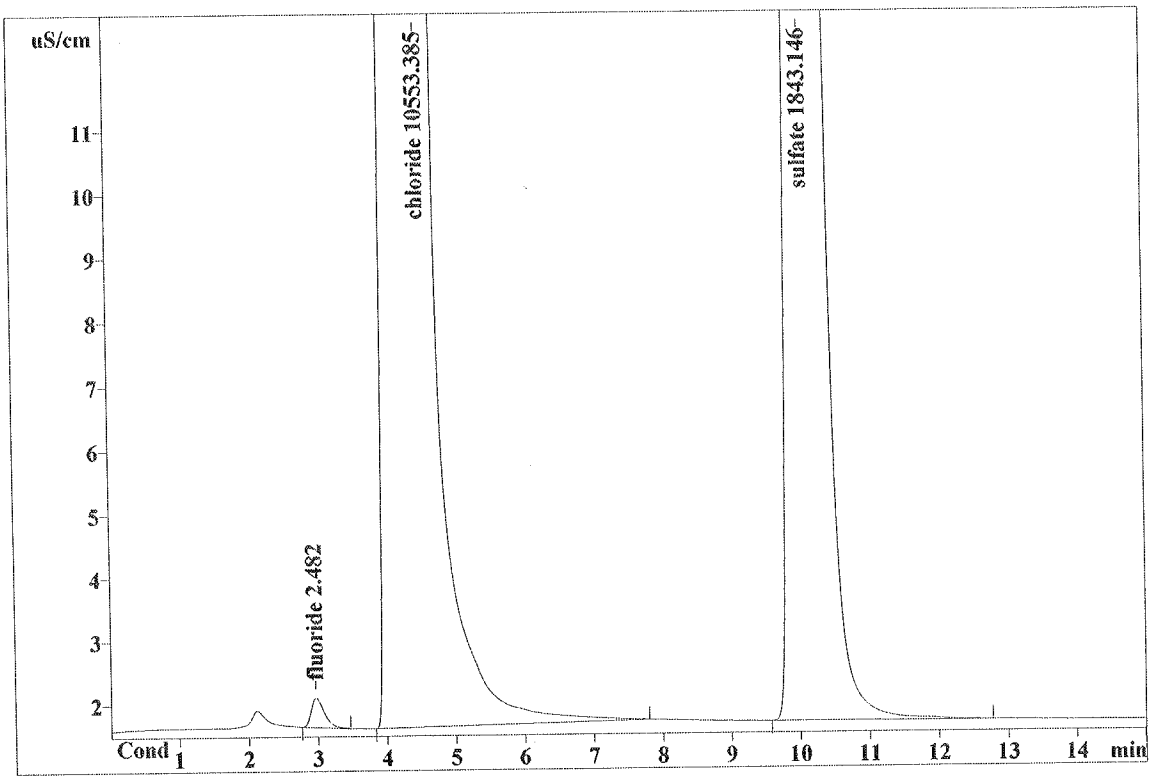
Report date: 12/20/2022 8:21:37 AM
Printed by: VDuran

Ident: AL23-37 L237-05I DF=10
Analysis from: 12/16/2022 7:02:17 PM
File: _2022-12-16_19-02.chw Last save: 12/16/2022 7:17:14 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185949

SAMPLE: METHOD 300/9056/4110B
: 2ml/20ml, HIGH CONDUCTIVITY
Vial number: 37
Volume: 1.0 µL
Dilution: 10.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.97	0.46	6.064	2.482	fluoride
2	4.50	782.55	18519.616	10553.385	chloride
3	10.06	121.50	2397.673	1843.146	sulfate
					nitrate
3	15.00	904.51	20923.353	12399.013	

This report has been created by IC Net
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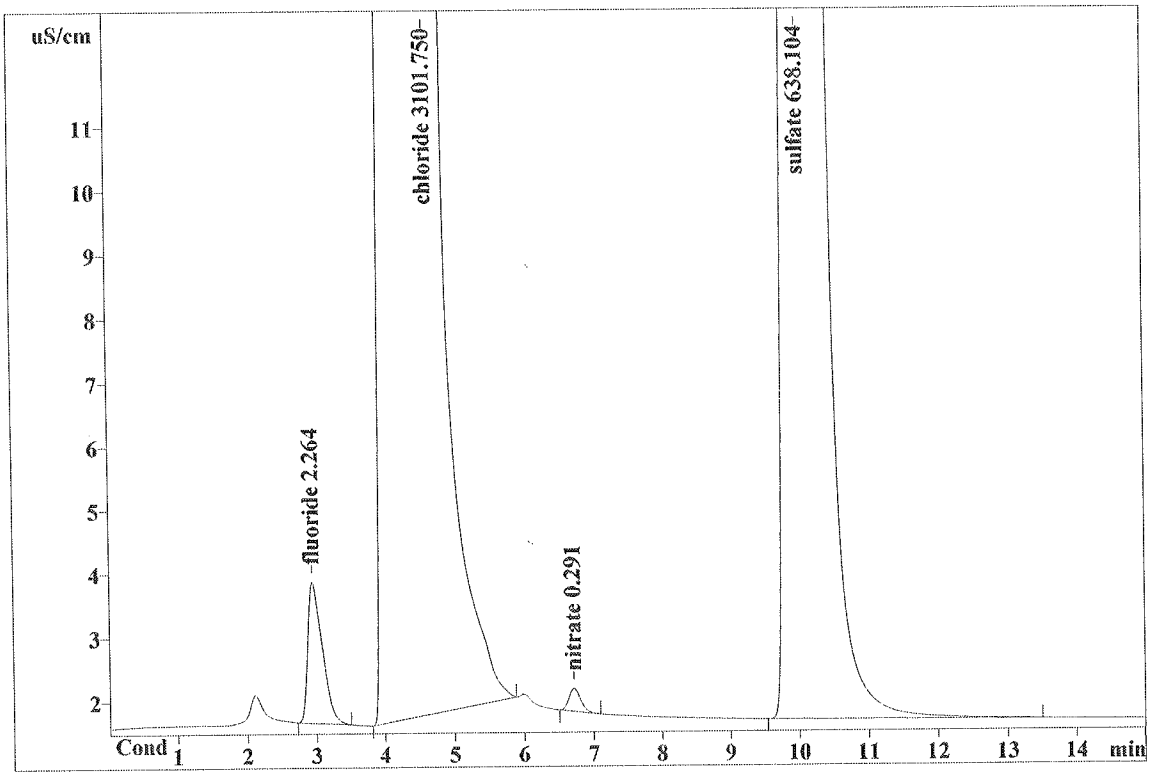
Report date: 12/20/2022 8:21:54 AM
Printed by: VDuran

Ident: AL23-38 L237-07I DF=2
Analysis from: 12/16/2022 7:19:23 PM
File: _2022-12-16_19-19.chw Last save: 12/16/2022 7:34:20 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185950

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml, HIGH CONDUCTIVITY
Vial number: 38
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

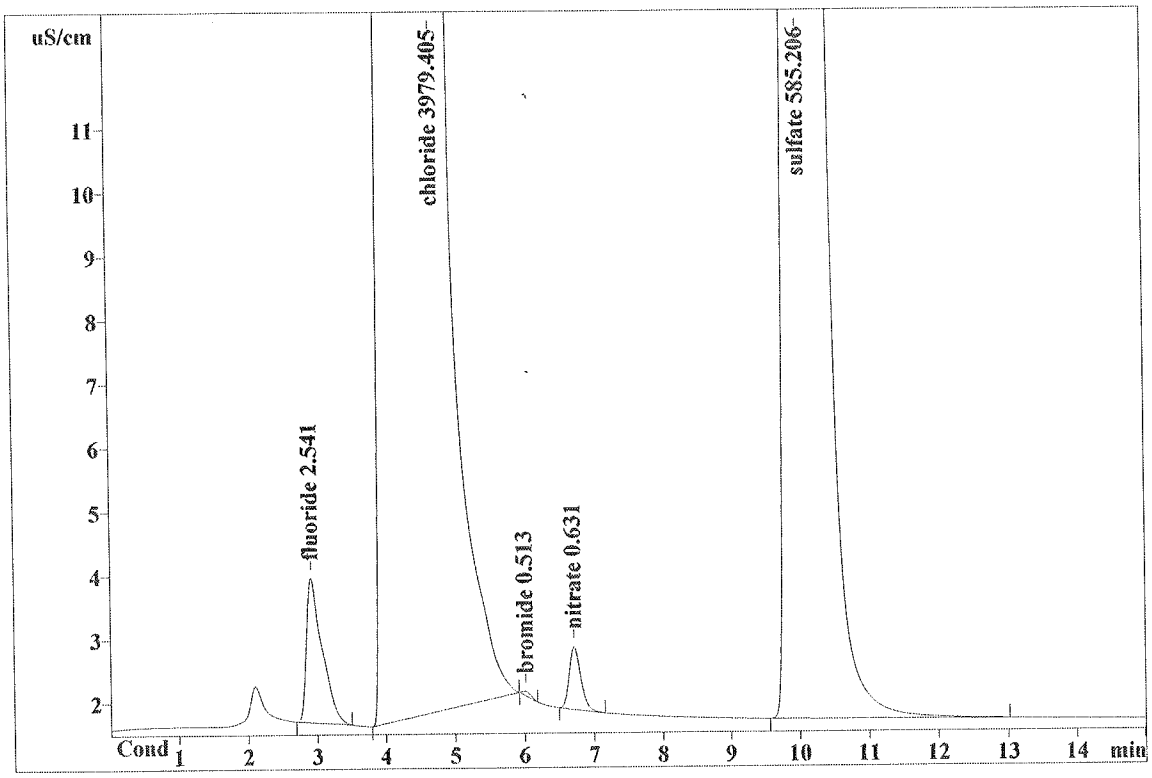
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.95	2.20	32.402	2.264	fluoride
2	4.62	917.48	27216.180	3101.750	chloride
3	6.72	0.36	4.196	0.291	nitrate ✓
4	10.01	201.02	4151.430	638.104	sulfate
4	15.00	1121.05	31404.208	3742.409	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:22:11 AM
Printed by: VDuran

Ident: AL23-39 L237-09I DF=2
Analysis from: 12/16/2022 7:36:29 PM
File: _2022-12-16_19-36.chw Last save: 12/16/2022 7:51:26 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185951

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml, HIGH CONDUCTIVITY
Vial number: 39
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

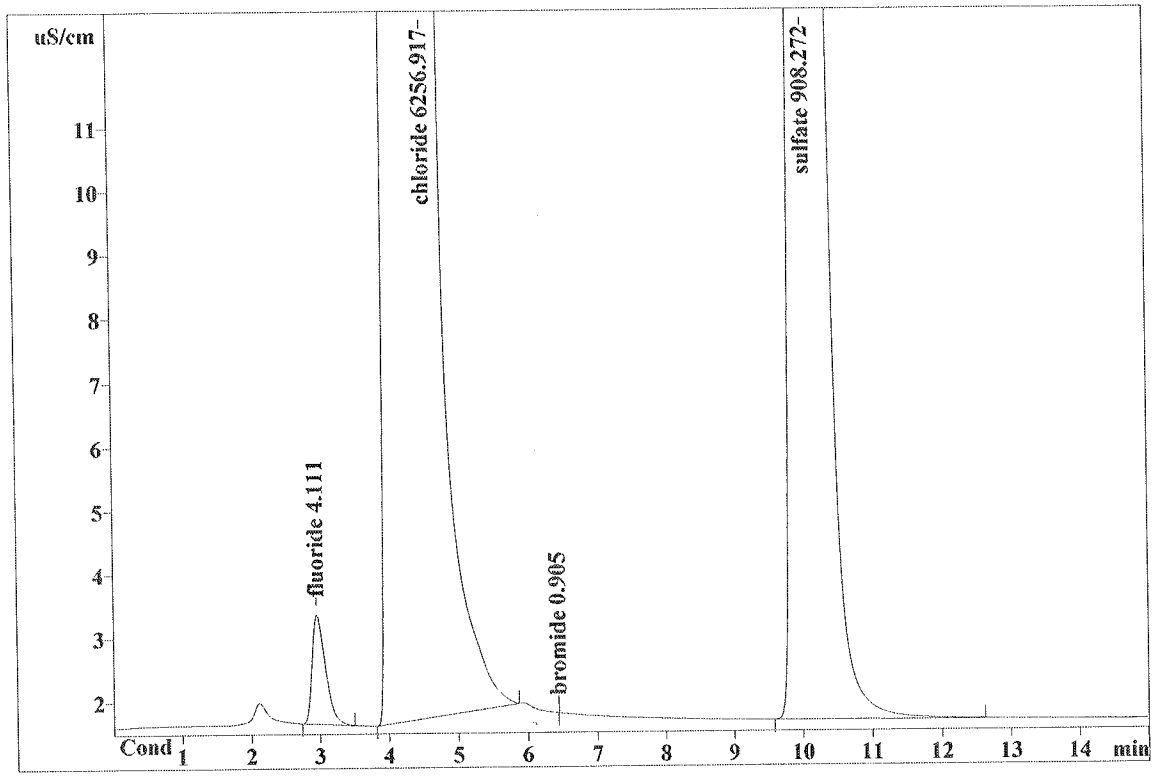
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.91	2.28	36.527	2.541	fluoride
2	4.71	1007.62	34917.518	3979.405	chloride
3	6.02	0.07	0.582	0.513	bromide
4	6.71	0.99	11.386	0.631	nitrate ✓
5	10.03	183.00	3807.167	585.206	sulfate
5	15.00	1193.95	38773.181	4568.297	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:22:29 AM
Printed by: VDuran

Ident: AL23-40 L237-11I DF=5
Analysis from: 12/16/2022 7:53:35 PM
File: _2022-12-16_19-53.chw Last save: 12/16/2022 8:08:32 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185952

SAMPLE: METHOD 300/9056/4110B
: 4ml/20ml, HIGH CONDUCTIVITY
Vial number: 40
Volume: 1.0 µL
Dilution: 5.00
Amount: 1.0000



Quantitation method: Custom

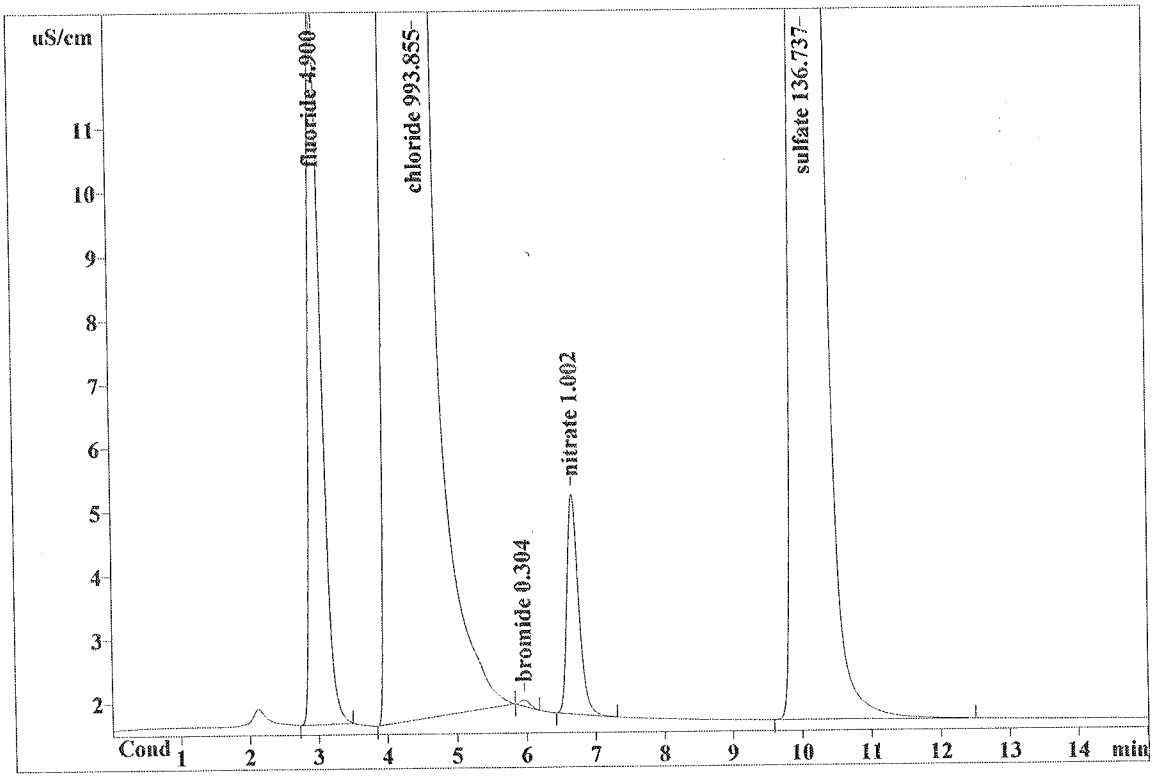
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.96	1.71	23.167	4.111	fluoride
2	4.54	840.86	21960.163	6256.917	chloride
3	6.44	-0.00	-0.000	0.905	bromide
4	10.06	119.76	2363.049	908.272	sulfate
					nitrate
4	15.00	962.33	24346.379	7170.205	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:22:50 AM
Printed by: VDuran

Ident: AL23-41 L237-13
Analysis from: 12/16/2022 8:10:41 PM
File: _2022-12-16_20-10.chw Last save: 12/16/2022 8:25:38 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185953

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 41
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.98	11.59	144.656	4.900	fluoride
2	4.48	762.31	17440.599	993.855	chloride
3	5.97	0.10	0.946	0.304	bromide
4	6.67	3.45	40.358	1.002	nitrate ✓
5	10.09	93.13	1778.402	136.737	sulfate
5	15.00	870.57	19404.960	1136.798	

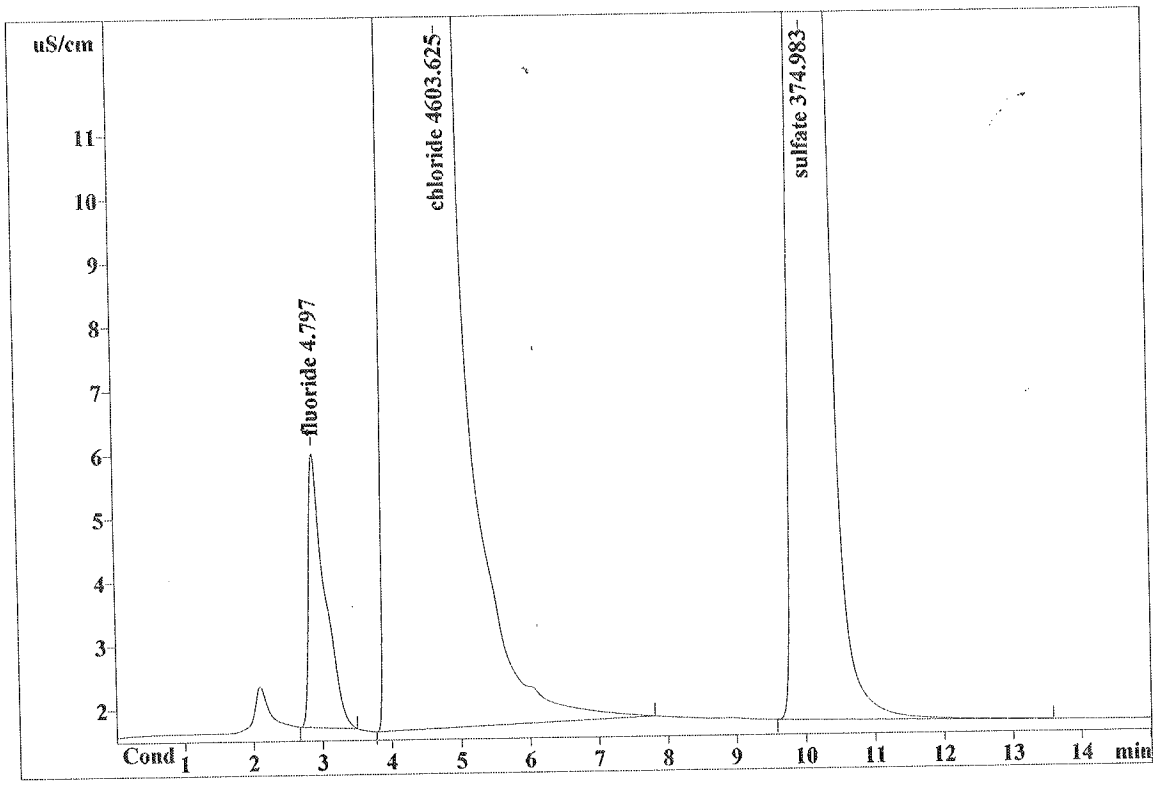
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:23:00 AM
Printed by: VDuran

Ident: AL23-42 L237-14I DF=2
Analysis from: 12/16/2022 8:27:47 PM
File: _2022-12-16_20-27.chw Last save: 12/19/2022 9:20:41 AM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185954

SAMPLE: METHOD 300/9056/4110B
: 10ml/20ml, HIGH CONDUCTIVITY
Vial number: 42
Volume: 1.0 µL
Dilution: 2.00
Amount: 1.0000



Quantitation method: Custom

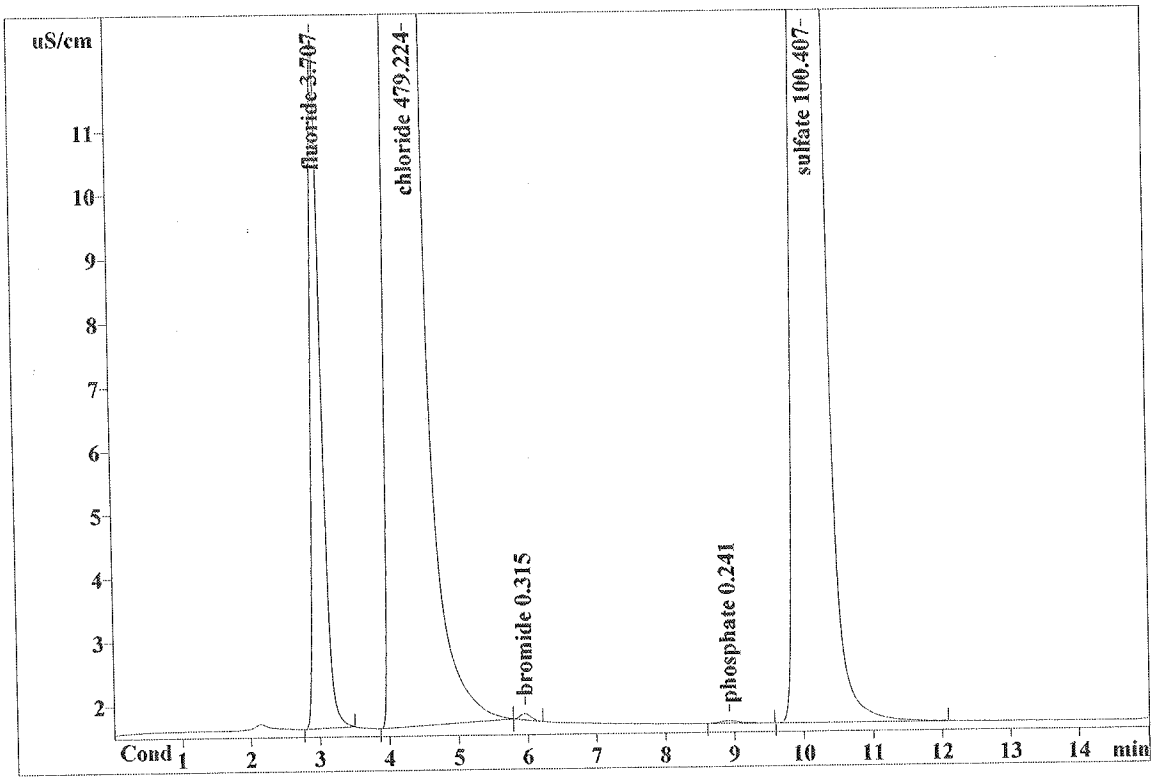
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.90	4.29	70.126	4.797	fluoride
2	4.77	1061.48	40394.978	4603.625	chloride
3	10.06	122.48	2439.026	374.983	sulfate
					nitrate
3	15.00	1188.26	42904.130	4983.404	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:23:15 AM
Printed by: VDuran

Ident: AL23-45 L237-15
Analysis from: 12/16/2022 9:19:05 PM
File: _2022-12-16_21-19.chw Last save: 12/16/2022 9:34:02 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185957

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 45
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

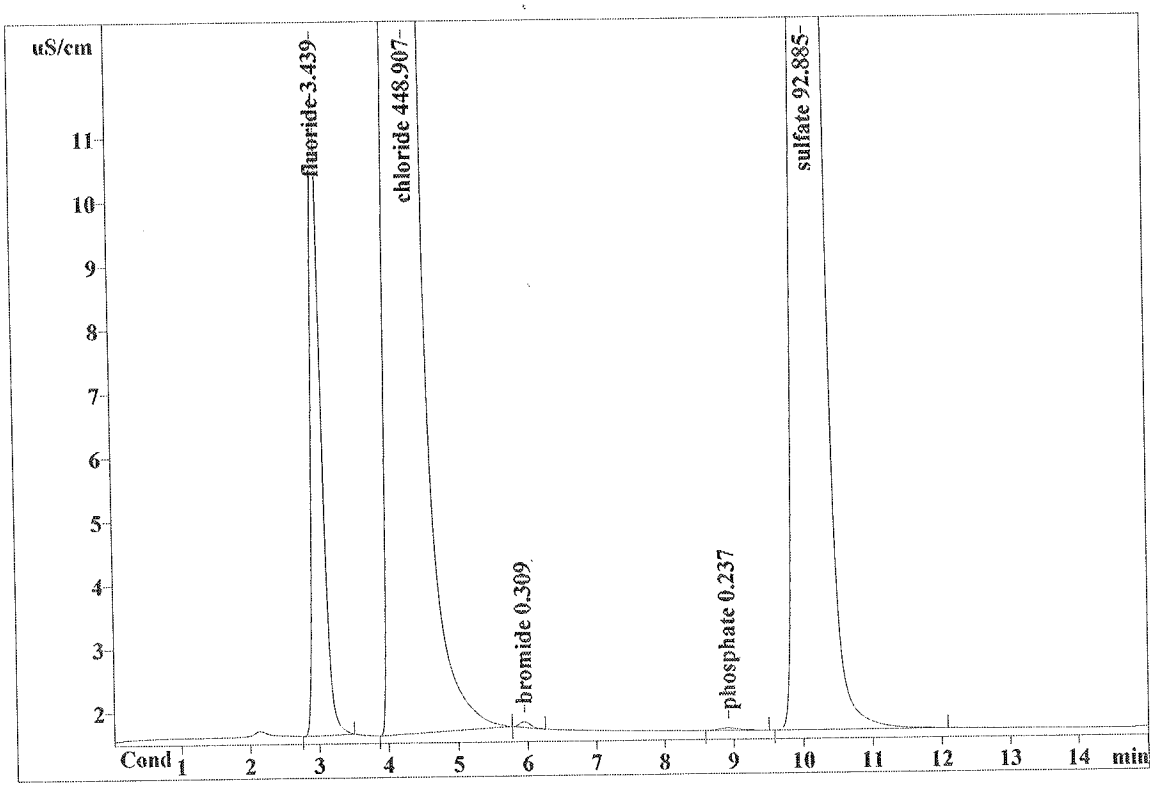
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.01	10.80	109.112	3.707	fluoride
2	4.34	532.23	8408.928	479.224	chloride
3	5.95	0.10	1.032	0.315	bromide
4	8.92	0.04	0.865	0.241	phosphate
5	10.11	67.66	1305.528	100.407	sulfate
					nitrate
5	15.00	610.82	9825.465	583.894	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 8:23:30 AM
Printed by: VDuran

Ident: AL23-46 L237-16
Analysis from: 12/16/2022 9:36:11 PM
File: _2022-12-16_21-36.chw Last save: 12/16/2022 9:51:08 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185958

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 46
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.00	10.07	101.118	3.439	fluoride
2	4.32	513.70	7876.873	448.907	chloride
3	5.95	0.09	0.986	0.309	bromide
4	8.92	0.04	0.808	0.237	phosphate
5	10.11	62.62	1207.612	92.885	sulfate
					nitrate
5	15.00	586.52	9187.397	545.777	

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QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22L237
METHOD : E300.0

% MOISTURE: NA

MATRIX	: WATER		
DILUTION FACTOR:	1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: ICL023WB	ICL023WL	ICL023WC
LAB FILE ID	: AL23-03	AL23-11	AL23-12
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 12/16/2209:08	12/16/2211:25	12/16/2211:42
PREP BATCH	: ICL023W	ICL023W	ICL023W
CALIBRATION REF:	AL23-01	AL23-01	AL23-01

ACCESSION:

PARAMETER	MB RESULT (mg/L)	SPIKE AMT (mg/L)	BS RESULT (mg/L)	BS REC (%)	SPIKE AMT (mg/L)	BSD RESULT (mg/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE	ND	1	1.10	110	1	1.08	108	2	90-110	20

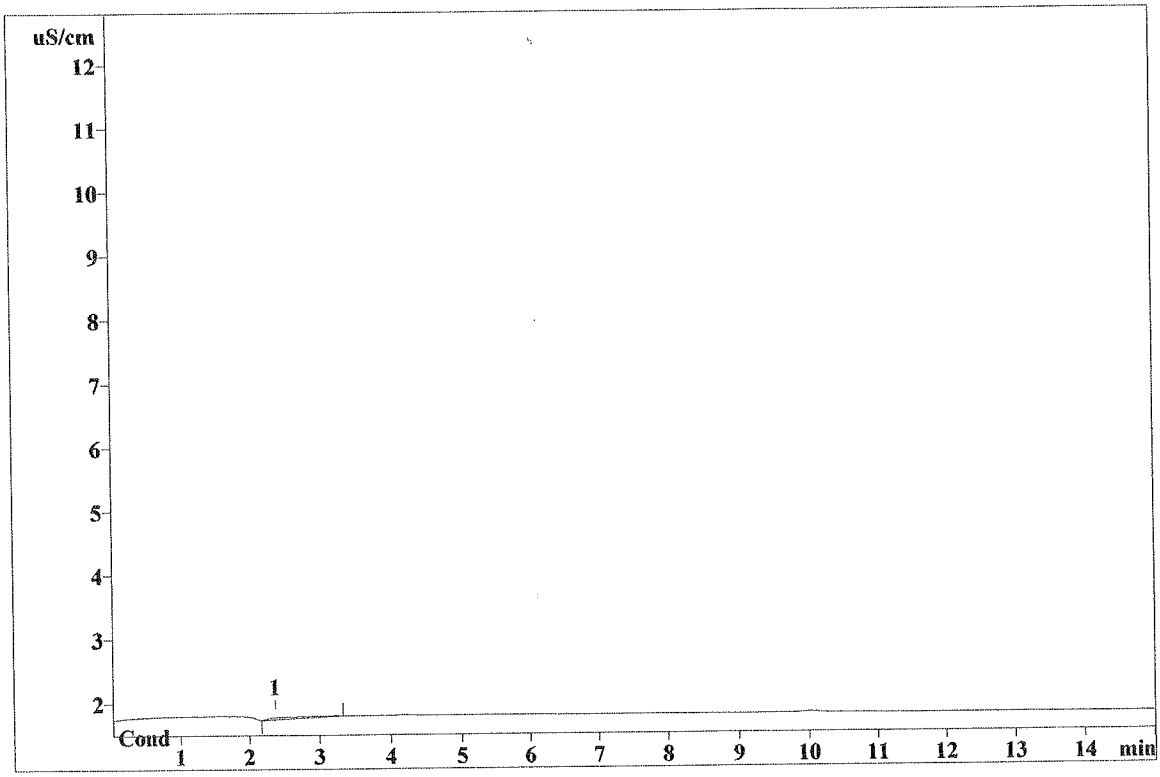
QC DATA

Report date: 12/20/2022 7:31:47 AM
Printed by: VDuran

Ident: AL23-03 ICL023WB
Analysis from: 12/16/2022 9:08:38 AM
File: _2022-12-16_09-08.chw Last save: 12/16/2022 12:26:00 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185915

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 3
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.35	0.03	1.301	0.000	

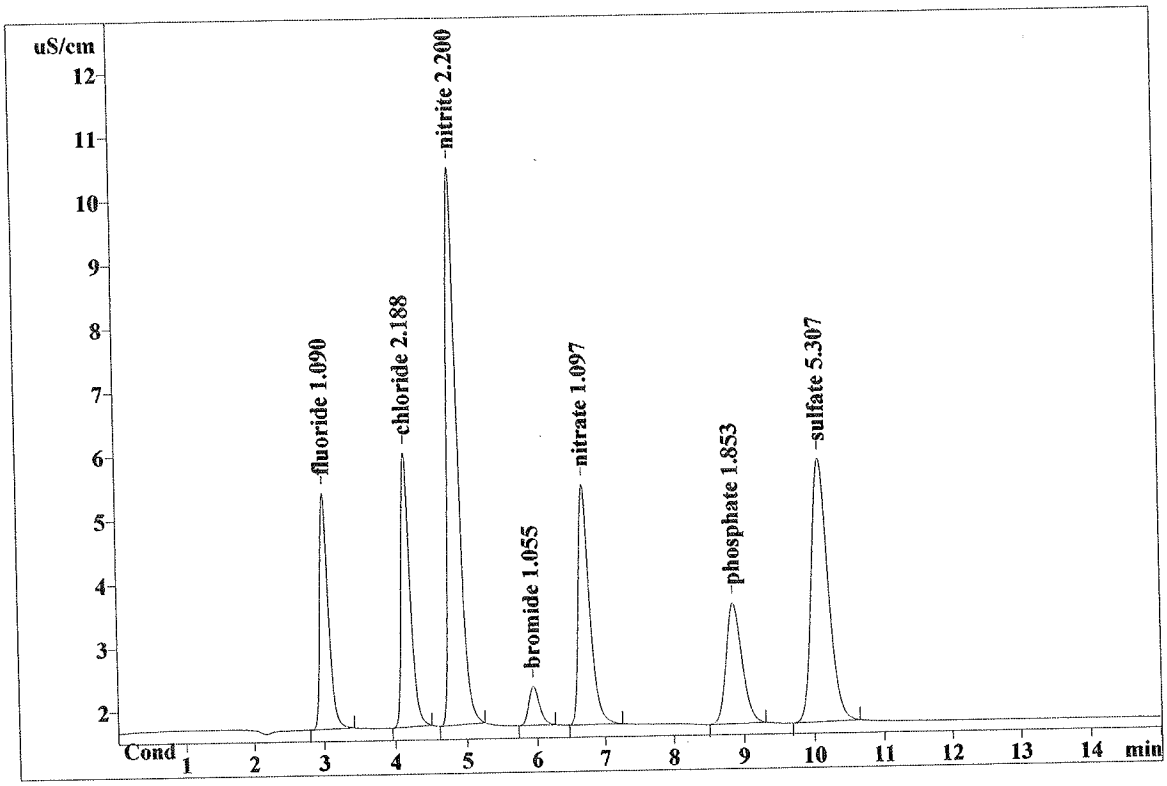
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:32:13 AM
Printed by: VDuran

Ident: AL23-11 ICL023WL
Analysis from: 12/16/2022 11:25:26 AM
File: _2022-12-16_11-25.chw Last save: 12/16/2022 11:40:23 AM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185923

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 11
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.71	31.152	1.090	fluoride
2	4.16	4.30	37.043	2.188	chloride
3	4.85	8.75	89.264	2.200	nitrite
4	5.94	0.62	6.728	1.055	bromide
5	6.70	3.76	44.386	1.097	nitrate
6	8.86	1.91	29.768	1.853	phosphate
7	10.09	4.13	67.694	5.307	sulfate
7	15.00	27.17	306.034	14.791	

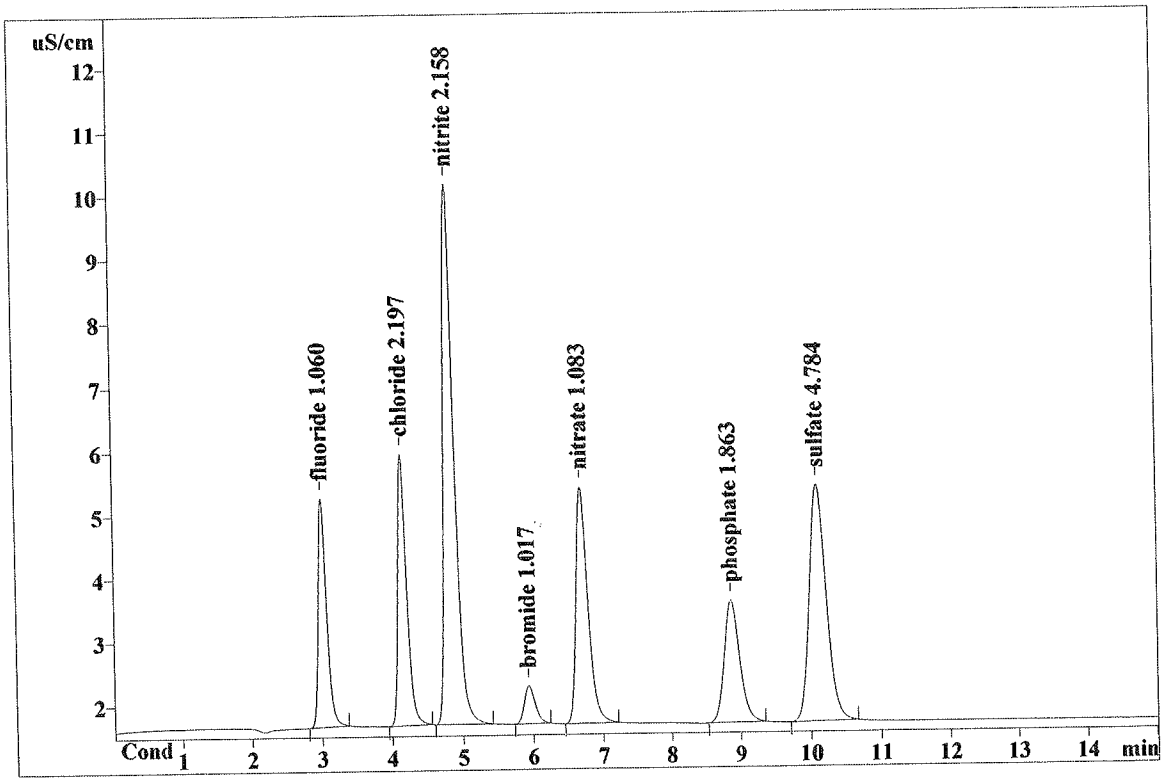
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:32:25 AM
Printed by: VDuran

Ident: AL23-12 ICL023WC
Analysis from: 12/16/2022 11:42:32 AM
File: _2022-12-16_11-42.chw Last save: 12/16/2022 11:57:29 AM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185924

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 12
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.01	3.60	30.239	1.060	fluoride
2	4.16	4.27	37.188	2.197	chloride
3	4.84	8.48	87.486	2.158	nitrite
4	5.93	0.59	6.436	1.017	bromide
5	6.68	3.72	43.803	1.083	nitrate
6	8.86	1.91	29.956	1.863	phosphate
7	10.10	3.72	60.890	4.784	sulfate
7	15.00	26.30	295.998	14.162	

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METROHM LTD

INITIAL CALIBRATION(S)

IC Result Check FormVersion : K09/AK05(2022)

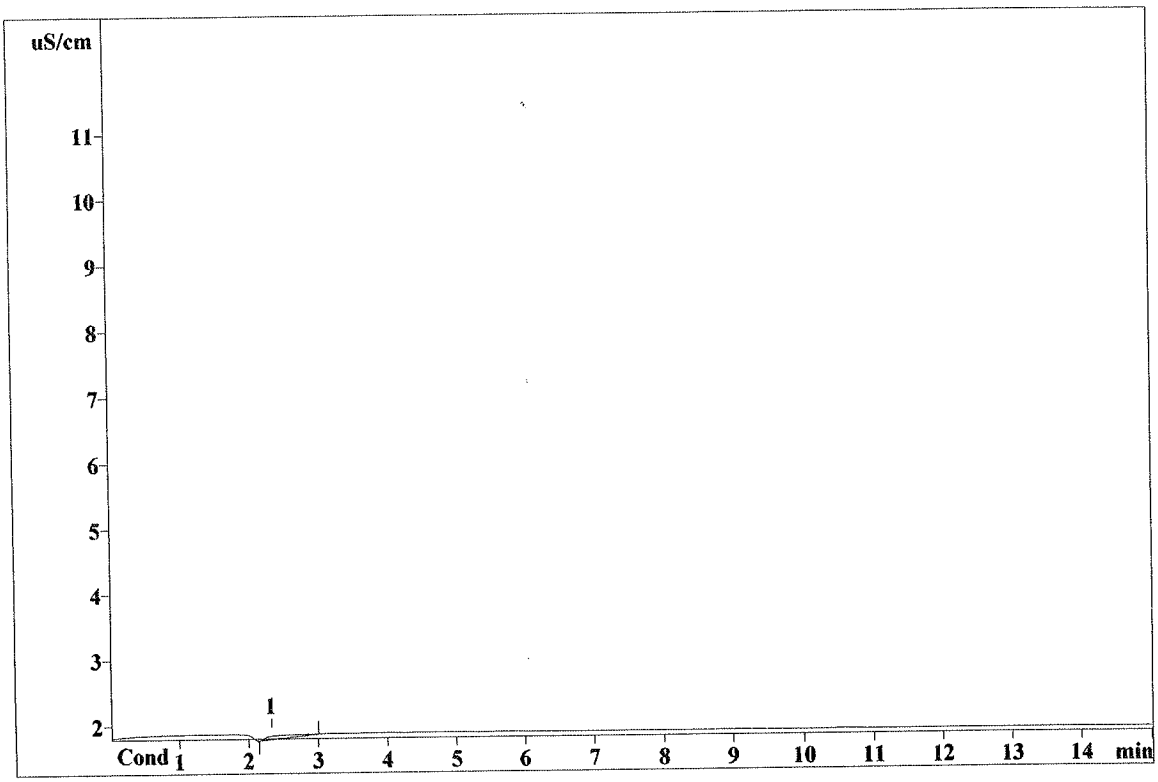
LFID	LSID	Selection	iodide	chloride	fluoride	nitrite	bromide	nitrate	phosphate	sulfate	RawNetID	DF
AK05-01	IB	OCFIBNPS	0	0	0	0	0	0	0	0	_2022-11-09_10-10	1
AK05-02	S0	OCFIBNPS	0	0	0	0	0	0	0	0	_2022-11-09_10-27	1
AK05-03	S1	OCFIBNPS	0	0.117447	0.0899289	0.0970938	0.224115	0.0804976	0.221928	0.175738	_2022-11-09_10-44	1
AK05-04	S2	OCFIBNPS	0	0.152148	0.124012	0.125075	0.250783	0.115628	0.253503	0.229813	_2022-11-09_11-01	1
AK05-05	S3	OCFIBNPS	0	0.238773	0.219074	0.190329	0.338197	0.199641	0.325469	0.355604	_2022-11-09_11-18	1
AK05-06	S4	OCFIBNPS	0	0.477167	0.468769	0.474204	0.561829	0.460361	0.535974	0.51534	_2022-11-09_11-36	1
AK05-07	S5	OCFIBNPS	0	0.930501	0.962779	0.961433	0.978364	0.972662	0.939044	0.944764	_2022-11-09_11-53	1
AK05-08	S6	OCFIBNPS	0	1.87538	1.95252	1.95188	1.80555	2.02005	1.76932	1.80967	_2022-11-09_12-10	1
AK05-09	S7	OCFIBNPS	0	5.0561	5.02614	5.07356	4.66056	5.50633	4.68429	4.74027	_2022-11-09_12-27	1
AK05-10	S8	OCFIBNPS	0	10.58	9.83266	9.97636	9.86983	11.4209	10.0559	10.0005	_2022-11-09_12-44	1
AK05-11	S9	OCFIBNPS	0	21.0757	17.8969	18.4721	20.1527	22.5512	20.062	20.0751	_2022-11-09_13-01	1
AK05-12	ICV	OCFIBNPS	0%*	106.7%	99.7%	102.2%	100%	102.4%	93.5%	97%	_2022-11-09_13-37	1
AK05-13	ICV1	OCFIBNPS	0%*	91.3%	94.3%	96.3%	96.7%	95.9%	90.2%	89.8%*	_2022-11-09_13-55	1
AK05-14	ICB	OCFIBNPS	0	0	0	0	0	0	0	0	_2022-11-09_14-12	1

11/12/22 TW

Report date: 11/9/2022 3:07:16 PM
Printed by: VDuran

Ident: AK05-02 S0
Analysis from: 11/9/2022 10:27:39 AM
File: _2022-11-09_10-27.chw Last save: 11/9/2022 2:48:21 PM
Modified!
Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184910

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



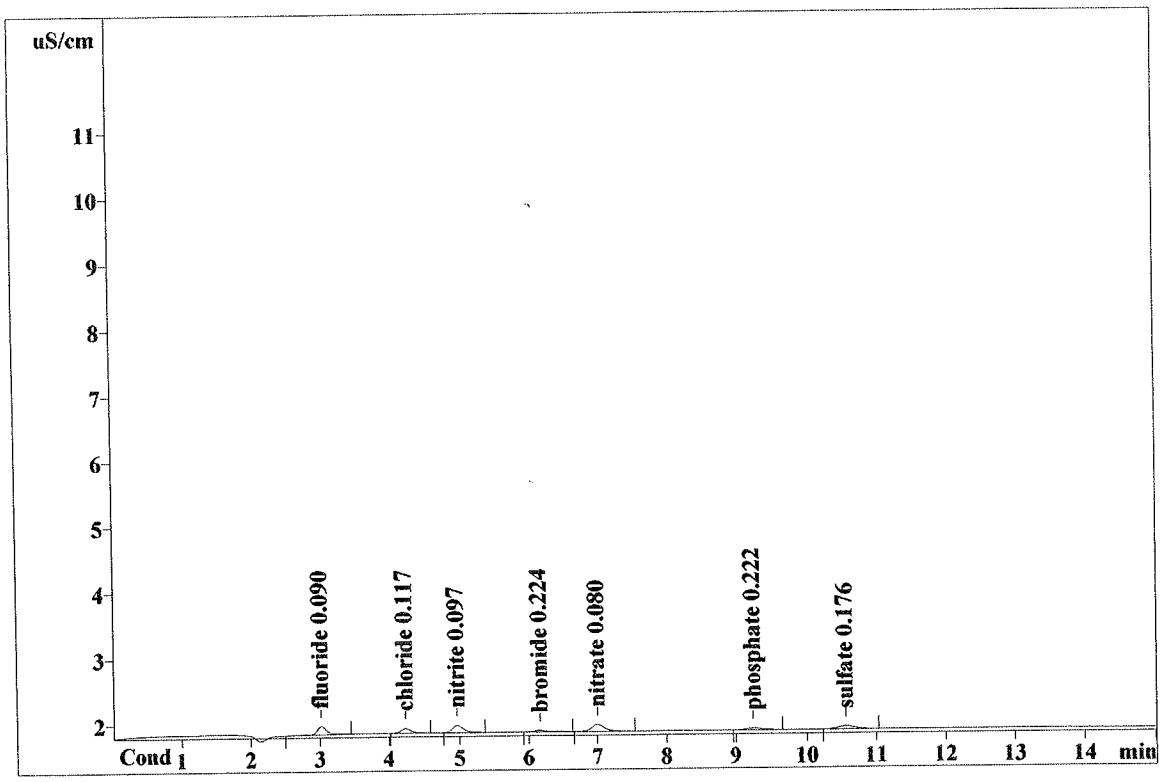
Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.33	0.05	1.576	0.000	

This report has been created by IC Net
METROHM LTD

TH 11/12/22

Report date:	11/9/2022 3:07:23 PM		
Printed by:	VDuran		
Ident:	AK05-03 S1		
Analysis from:	11/9/2022 10:44:45 AM		
File:	_2022-11-09_10-44.chw	Last save:	11/9/2022 2:48:21 PM
Method:	ICD0-K09.mtw	Last save:	11/9/2022 11:33:55 AM
Run operator:	VDuran		
Analysis number:	184911		
SAMPLE:	METHOD 300/9056/4110B		
:	0.05 PPM		
Vial number:	3		
Volume:	1.0 µL		
Dilution:	1.00		
Amount:	1.0000		



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.01	0.13	1.349	0.090	fluoride
2	4.23	0.07	0.699	0.117	chloride
3	4.96	0.11	1.211	0.097	nitrite
4	6.15	0.02	0.332	0.224	bromide
5	7.00	0.11	1.452	0.080	nitrate
6	9.24	0.03	0.530	0.222	phosphate
7	10.55	0.05	0.903	0.176	sulfate
7	15.00	0.52	6.475	1.007	

This report has been created by IC Net
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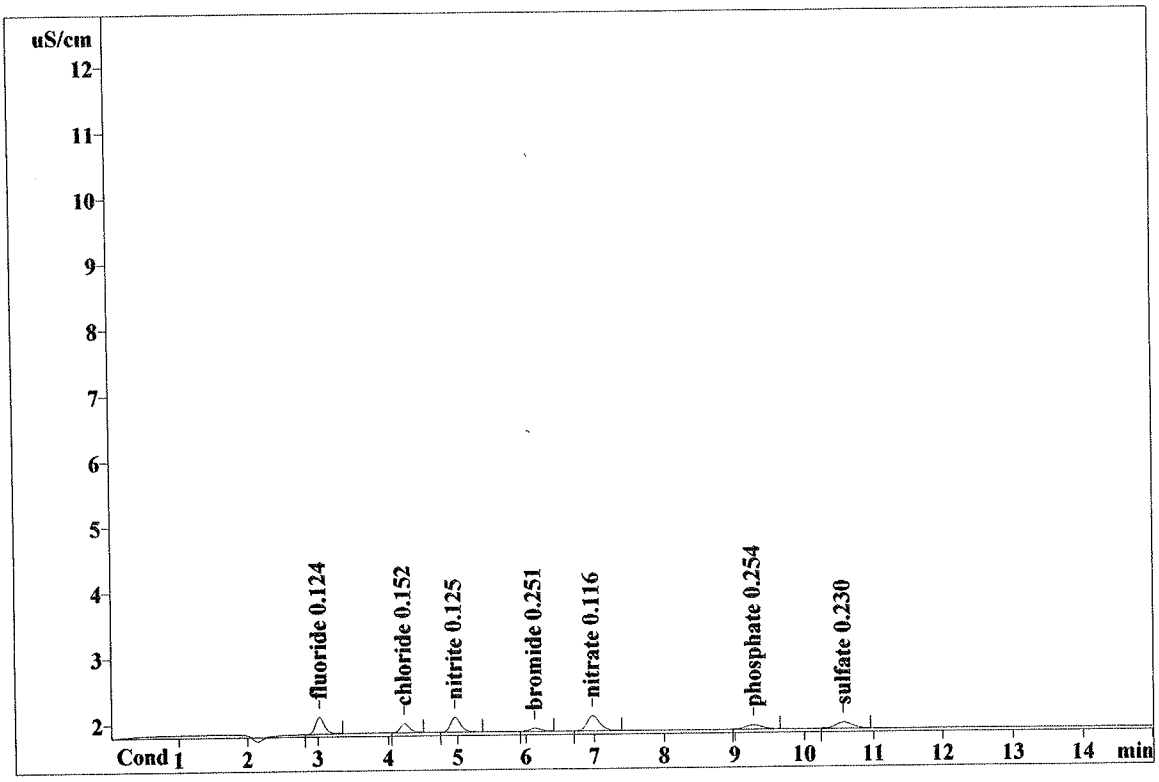
TH 11/12/22

Report date: 11/9/2022 3:13:51 PM
Printed by: VDuran

Ident: AK05-04 S2
Analysis from: 11/9/2022 11:01:51 AM
File: _2022-11-09_11-01.chw Last save: 11/9/2022 3:13:08 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184912

SAMPLE: METHOD 300/9056/4110B
: 0.1 PPM
Vial number: 4
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	0.26	2.364	0.124	fluoride
2	4.23	0.14	1.308	0.152	chloride
3	4.96	0.23	2.382	0.125	nitrite
4	6.13	0.05	0.537	0.251	bromide
5	6.97	0.23	2.936	0.116	nitrate
6	9.26	0.07	1.096	0.254	phosphate
7	10.56	0.09	1.607	0.230	sulfate
7	15.00	1.06	12.230	1.251	

TH 11/12/22

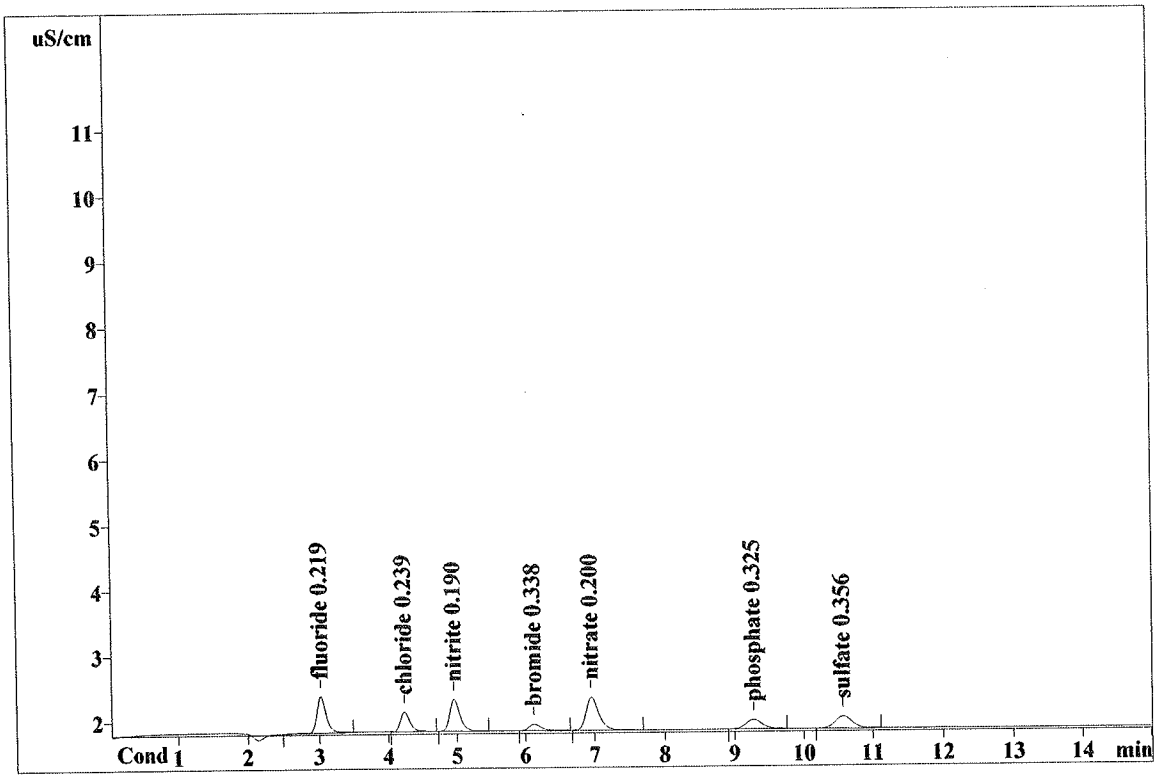
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 3:07:29 PM
Printed by: VDuran

Ident: AK05-05 S3
Analysis from: 11/9/2022 11:18:57 AM
File: _2022-11-09_11-18.chw Last save: 11/9/2022 2:48:21 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184913

SAMPLE: METHOD 300/9056/4110B
: 0.2 PPM
Vial number: 5
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	0.55	5.197	0.219	fluoride
2	4.23	0.30	2.828	0.239	chloride
3	4.95	0.48	5.114	0.190	nitrite
4	6.12	0.10	1.210	0.338	bromide
5	6.95	0.50	6.484	0.200	nitrate
6	9.26	0.14	2.386	0.325	phosphate
7	10.57	0.19	3.244	0.356	sulfate
7	15.00	2.26	26.463	1.867	

This report has been created by IC Net
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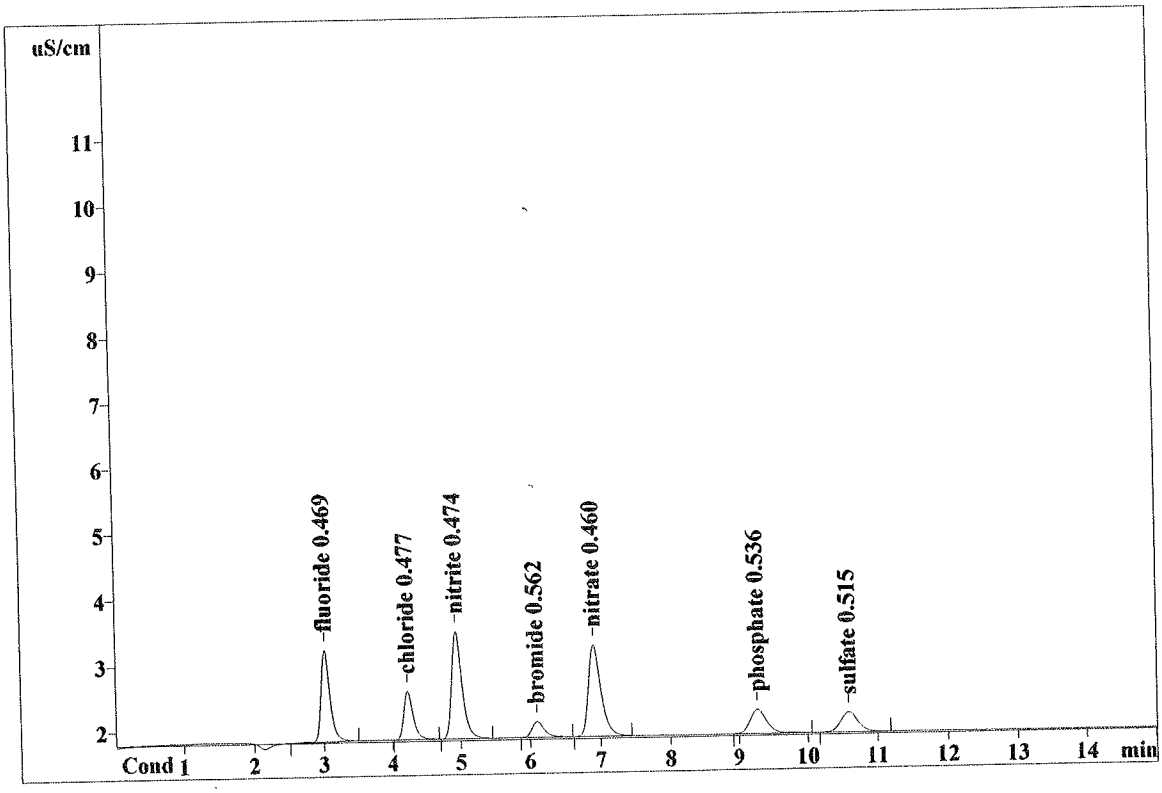
TH 11/12/22

Report date:	11/9/2022 3:07:32 PM		
Printed by:	VDuran		
Ident:	AK05-06 S4		
Analysis from:	11/9/2022 11:36:04 AM		
File:	_2022-11-09_11-36.chw	Last save:	11/9/2022 2:48:21 PM
Method:	ICD0-K09.mtw	Last save:	11/9/2022 11:33:55 AM
Run operator:	VDuran		
Analysis number:	184914		
SAMPLE:	METHOD 300/9056/4110B		
:	0.5 PPM		
Vial number:	6		
Volume:	1.0 µL		
Dilution:	1.00		
Amount:	1.0000		



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	1.41	12.636	0.469	fluoride
2	4.22	0.74	7.012	0.477	chloride
3	4.94	1.64	16.999	0.474	nitrite
4	6.09	0.24	2.931	0.562	bromide
5	6.90	1.40	17.497	0.460	nitrate
6	9.27	0.37	6.160	0.536	phosphate
7	10.58	0.31	5.323	0.515	sulfate
7	15.00	6.11	68.558	3.494	

TH 11/12/22

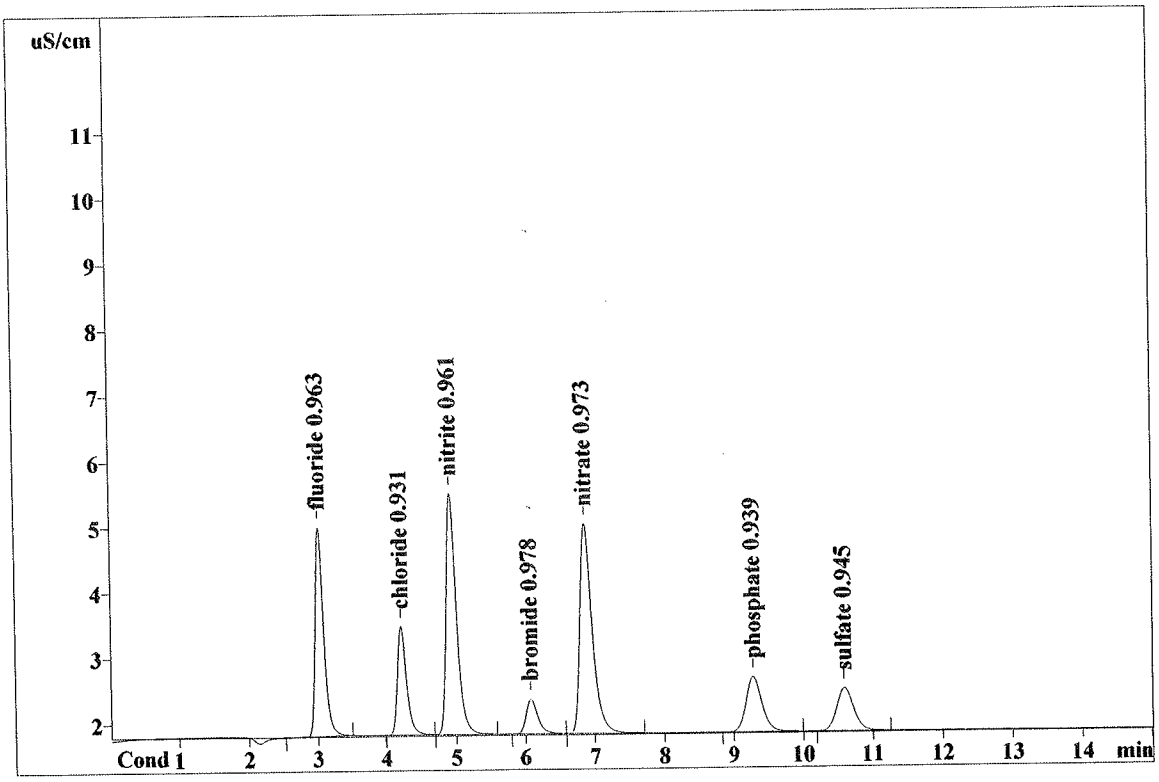
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 3:07:35 PM
Printed by: VDuran

Ident: AK05-07 S5
Analysis from: 11/9/2022 11:53:10 AM
File: _2022-11-09_11-53.chw Last save: 11/9/2022 2:48:22 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184915

SAMPLE: METHOD 300/9056/4110B
: 1.0 PPM
Vial number: 7
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.19	27.355	0.963	fluoride
2	4.22	1.65	14.968	0.931	chloride
3	4.93	3.67	37.398	0.961	nitrite
4	6.07	0.53	6.136	0.978	bromide
5	6.87	3.19	39.136	0.973	nitrate
6	9.28	0.83	13.386	0.939	phosphate
7	10.59	0.65	10.913	0.945	sulfate
7	15.00	13.71	149.292	6.690	

TH 11/12/22

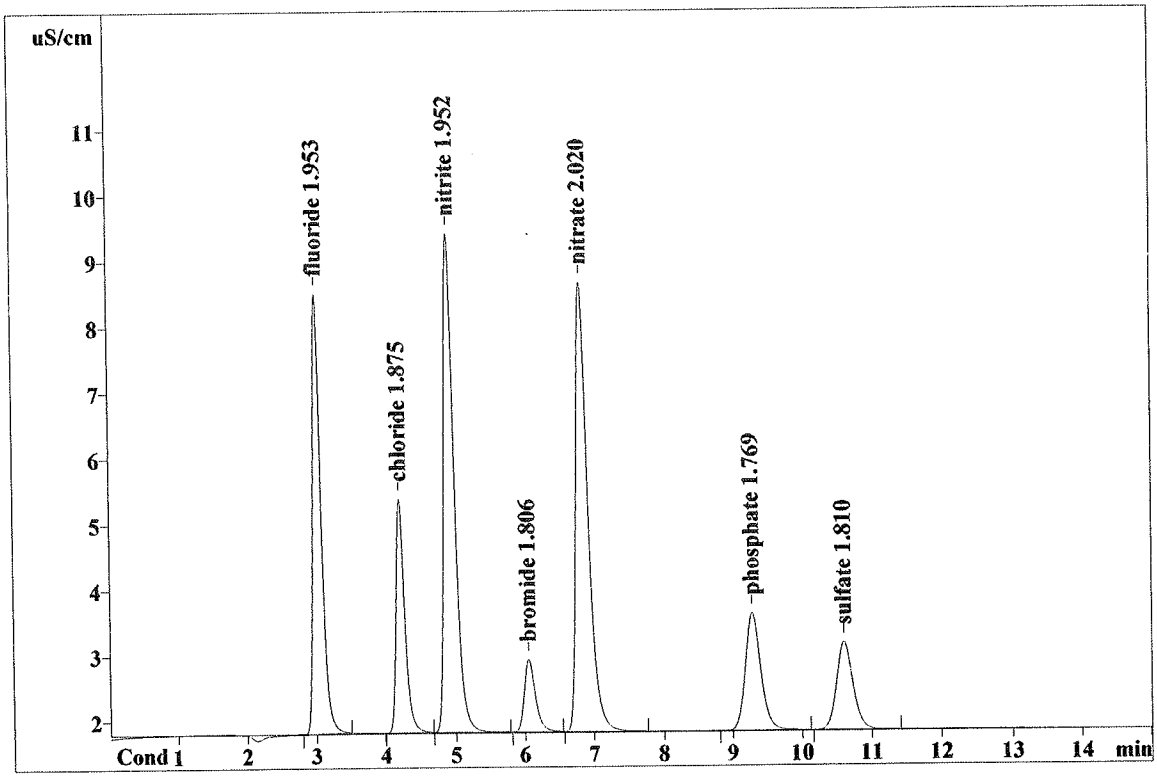
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 3:07:38 PM
Printed by: VDuran

Ident: AK05-08 S6
Analysis from: 11/9/2022 12:10:16 PM
File: _2022-11-09_12-10.chw Last save: 11/9/2022 2:48:22 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184916

SAMPLE: METHOD 300/9056/4110B
: 2.0 PPM
Vial number: 8
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	6.70	56.844	1.953	fluoride
2	4.21	3.57	31.550	1.875	chloride
3	4.92	7.59	78.864	1.952	nitrite
4	6.05	1.11	12.502	1.806	bromide
5	6.83	6.85	83.378	2.020	nitrate
6	9.28	1.80	28.271	1.769	phosphate
7	10.60	1.34	22.171	1.810	sulfate
7	15.00	28.97	313.579	13.184	

TH 11/12/22

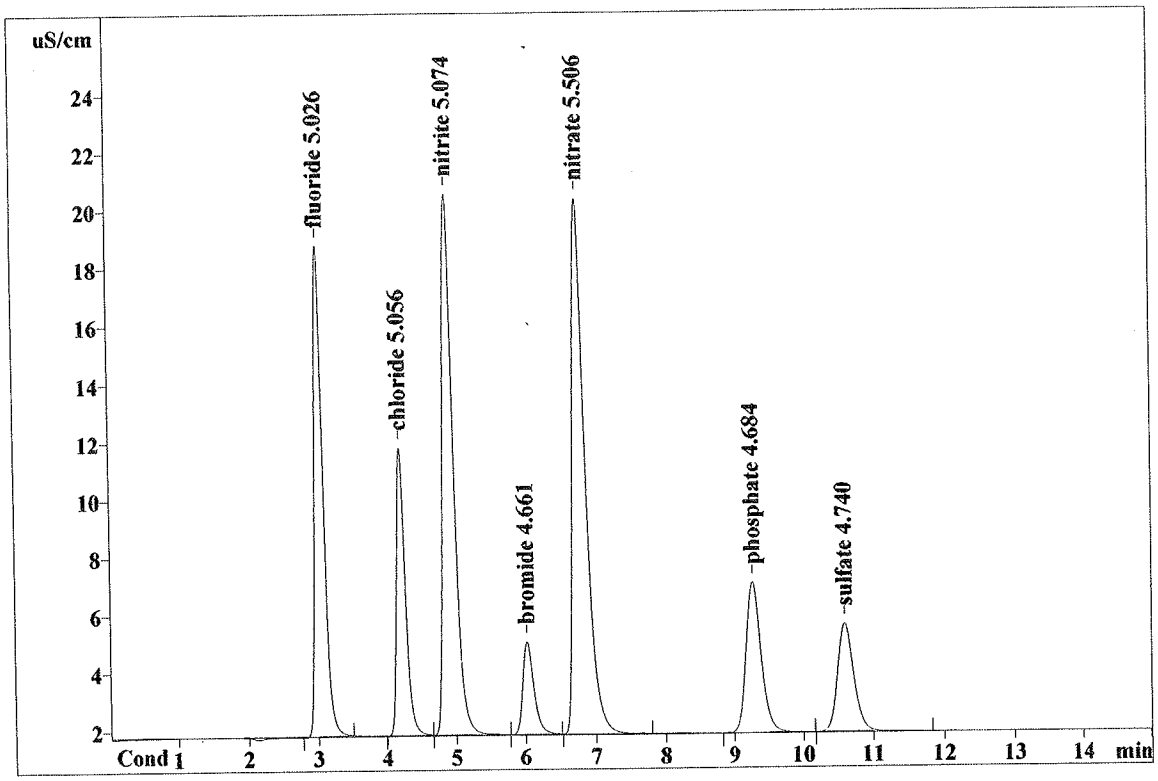
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 3:07:55 PM
Printed by: VDuran

Ident: AK05-09 S7
Analysis from: 11/9/2022 12:27:22 PM
File: _2022-11-09_12-27.chw Last save: 11/9/2022 2:48:22 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184917

SAMPLE: METHOD 300/9056/4110B
: 5.0 PPM
Vial number: 9
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



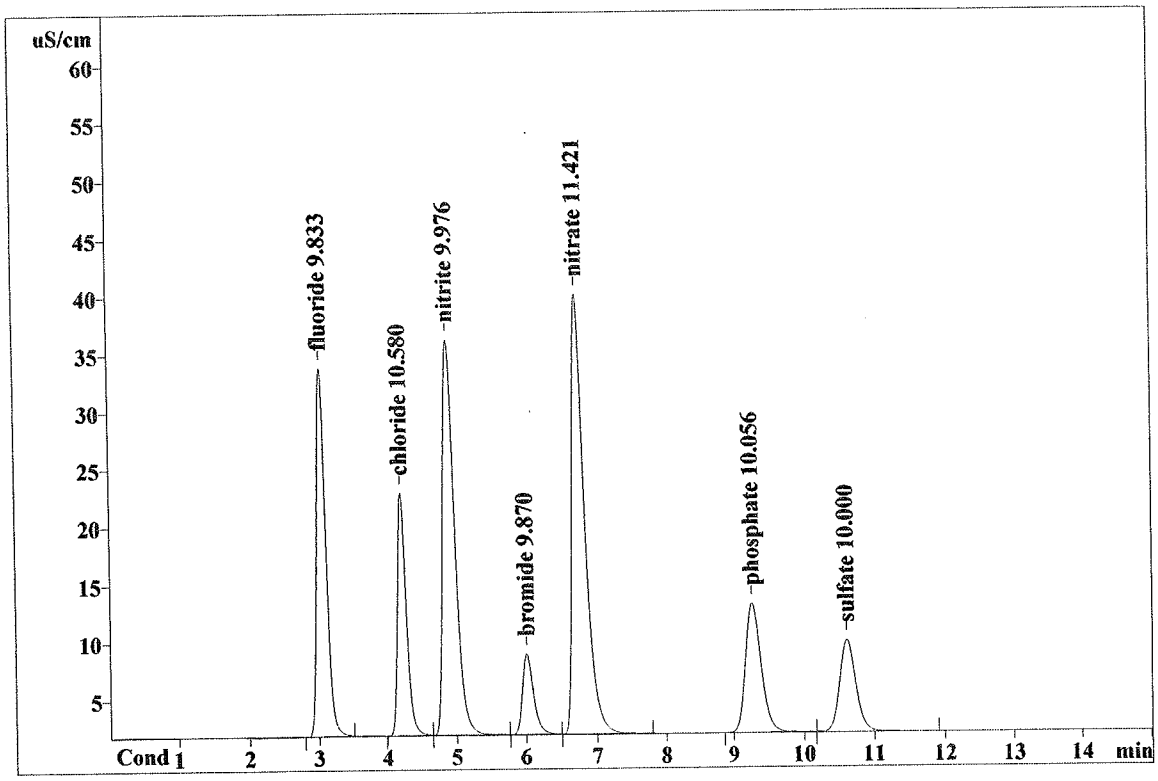
Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.03	16.99	148.421	5.026	fluoride
2	4.21	9.98	87.371	5.056	chloride
3	4.91	18.72	209.559	5.074	nitrite
4	6.03	3.19	34.472	4.661	bromide
5	6.78	18.54	230.637	5.506	nitrate
6	9.28	5.20	80.529	4.684	phosphate
7	10.60	3.73	60.316	4.740	sulfate
7	15.00	76.35	851.304	34.747	

TH 11/12/22

This report has been created by IC Net
METROHM LTD

Report date:	11/9/2022 3:08:02 PM		
Printed by:	VDuran		
Ident:	AK05-10 S8		
Analysis from:	11/9/2022 12:44:28 PM		
File:	_2022-11-09_12-44.chw	Last save:	11/9/2022 2:48:22 PM
Method:	ICD0-K09.mtw	Last save:	11/9/2022 11:33:55 AM
Run operator:	VDuran		
Analysis number:	184918		
SAMPLE:	METHOD 300/9056/4110B		
:	10.0 PPM		
Vial number:	10		
Volume:	1.0 µL		
Dilution:	1.00		
Amount:	1.0000		



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.05	32.02	291.629	9.833	fluoride
2	4.21	21.07	184.314	10.580	chloride
3	4.90	34.35	414.823	9.976	nitrite
4	6.01	7.03	74.559	9.870	bromide
5	6.74	38.24	480.464	11.421	nitrate
6	9.27	11.28	176.829	10.056	phosphate
7	10.61	8.02	128.783	10.000	sulfate
7	15.00	152.02	1751.400	71.736	

TH 11/12/22

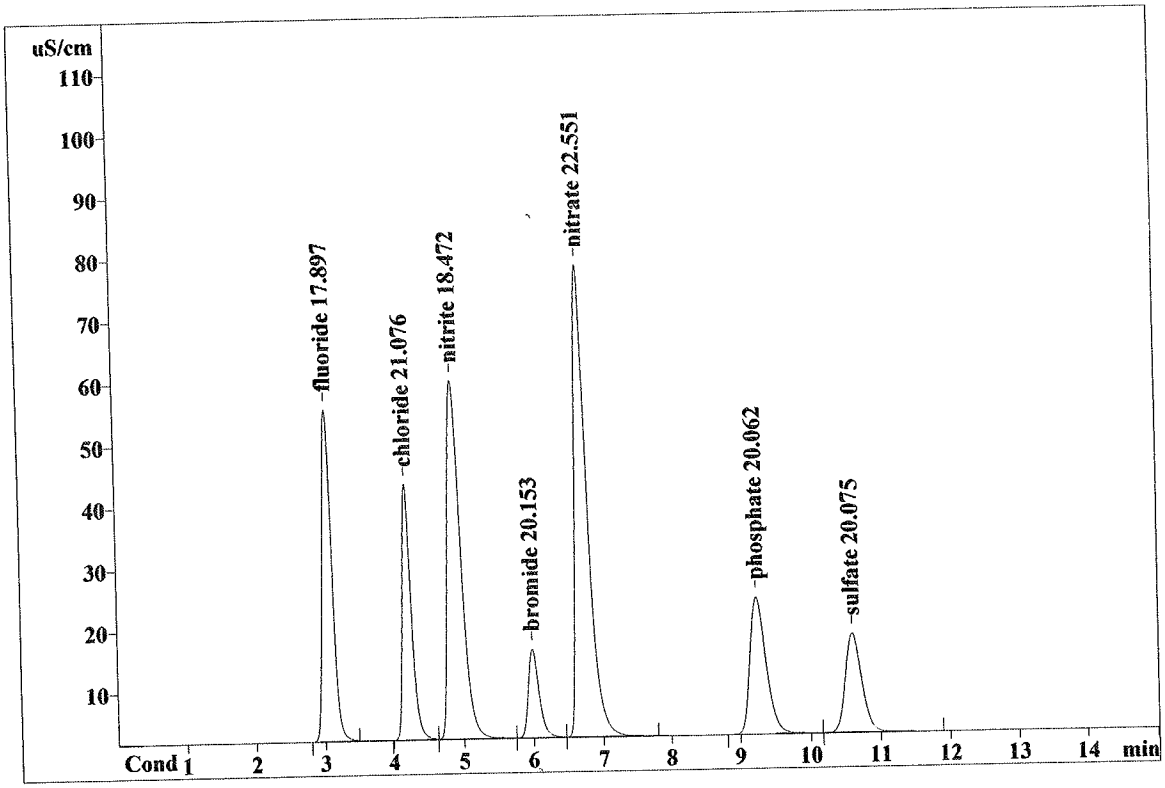
This report has been created by IC Net
METROHM LTD

Report date: 11/9/2022 3:08:15 PM
Printed by: VDuran

Ident: AK05-11 S9
Analysis from: 11/9/2022 1:01:34 PM
File: _2022-11-09_13-01.chw Last save: 11/9/2022 2:48:22 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184919

SAMPLE: METHOD 300/9056/4110B
: 20.0 PPM
Vial number: 11
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.06	53.71	531.900	17.897	fluoride
2	4.20	41.42	368.511	21.076	chloride
3	4.89	57.93	770.511	18.472	nitrite
4	5.99	14.36	153.688	20.153	bromide
5	6.71	76.30	950.606	22.551	nitrate
6	9.25	22.12	356.212	20.062	phosphate
7	10.61	16.05	259.915	20.075	sulfate
7	15.00	281.88	3391.343	140.286	

TH 11/12/22

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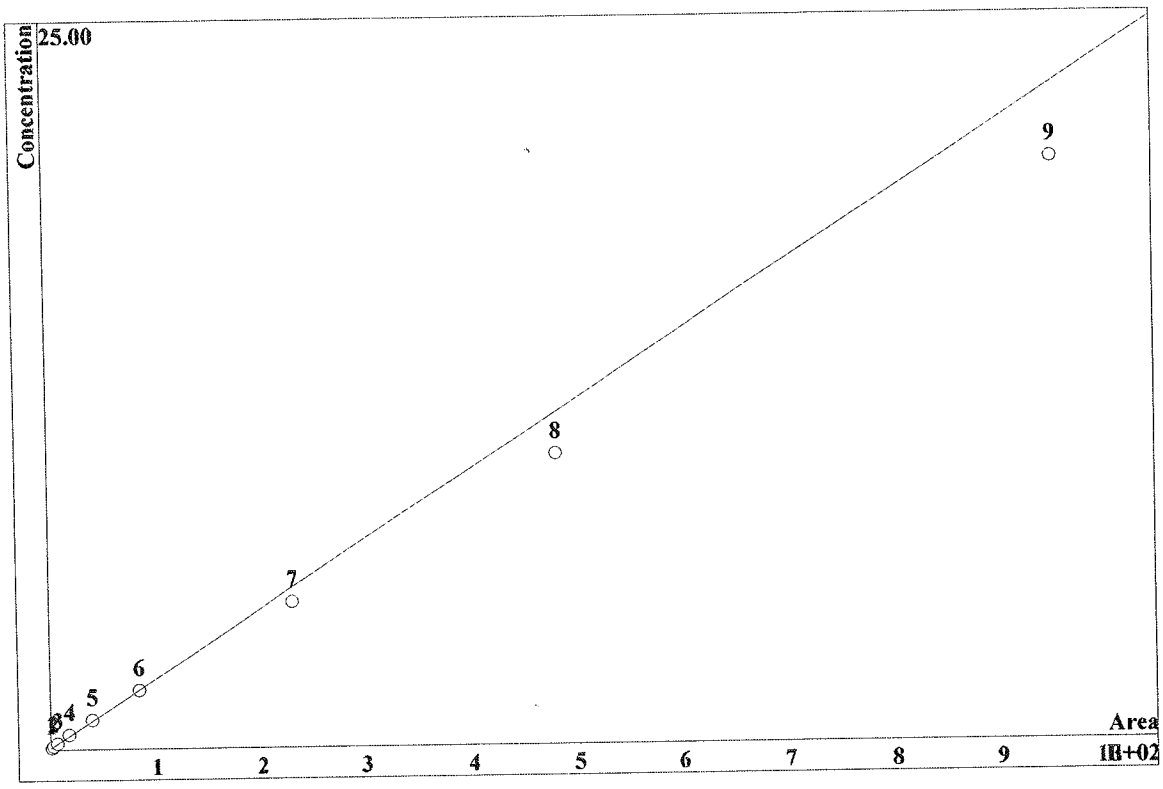
CALIBRATION OF COMPONENT nitrate

Method: ICD0-K09.mtw
Equation: Q = 0.0236744·A + 0.0461273
RSD: 4.887 %
Correlation coefficient: 0.999305



K3 = 0 K2 = 0 K1 = 0.0236744 K0 = 0.0461273
Base: Area
Ref.channel: Cond
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.1069	1.452	0.05	1	6.86	Yes	_2022-11-09_10
2	0.2305	2.985	0.1	1	6.86	Yes	_2022-11-09_10
3	0.5031	6.484	0.2	1	6.86	Yes	_2022-11-09_10
4	1.4	17.5	0.5	1	6.86	Yes	_2022-11-09_10
5	3.192	39.14	1	1	6.86	Yes	_2022-11-09_10
6	6.845	83.38	2	1	6.86	Yes	_2022-11-09_10
7	18.54	230.6	5	1	6.86	No	_2022-11-09_10
8	38.25	480.5	10	1	6.86	No	_2022-11-09_1
9	76.3	950.6	20	1	6.86	No	_2022-11-09_1

TH 11/12/22

SECOND SOURCE VERIFICATION

IC Result Check FormVersion : K09/AK05(2022)

LFID	LSID	Selection	phosphate	nitrite	nitrate	iodide	fluoride	chloride	bromide	sulfate	RawNetID	DF
AK05-01	IB	PINOFCBS	0	0	0	0	0	0	0	0	_2022-11-09_10-10	1
AK05-12	ICV	PINOFCBS	93.5%	102.2%	102.4%	0%*	99.7%	106.7%	100%	97%	_2022-11-09_13-37	1
AK05-13	ICV1	PINOFCBS	90.2%	96.3%	95.9%	0%*	94.3%	91.3%	96.7%	89.8%*	_2022-11-09_13-55	1
AK05-14	ICB	PINOFCBS	0	0	0	0	0	0	0	0	_2022-11-09_14-12	1

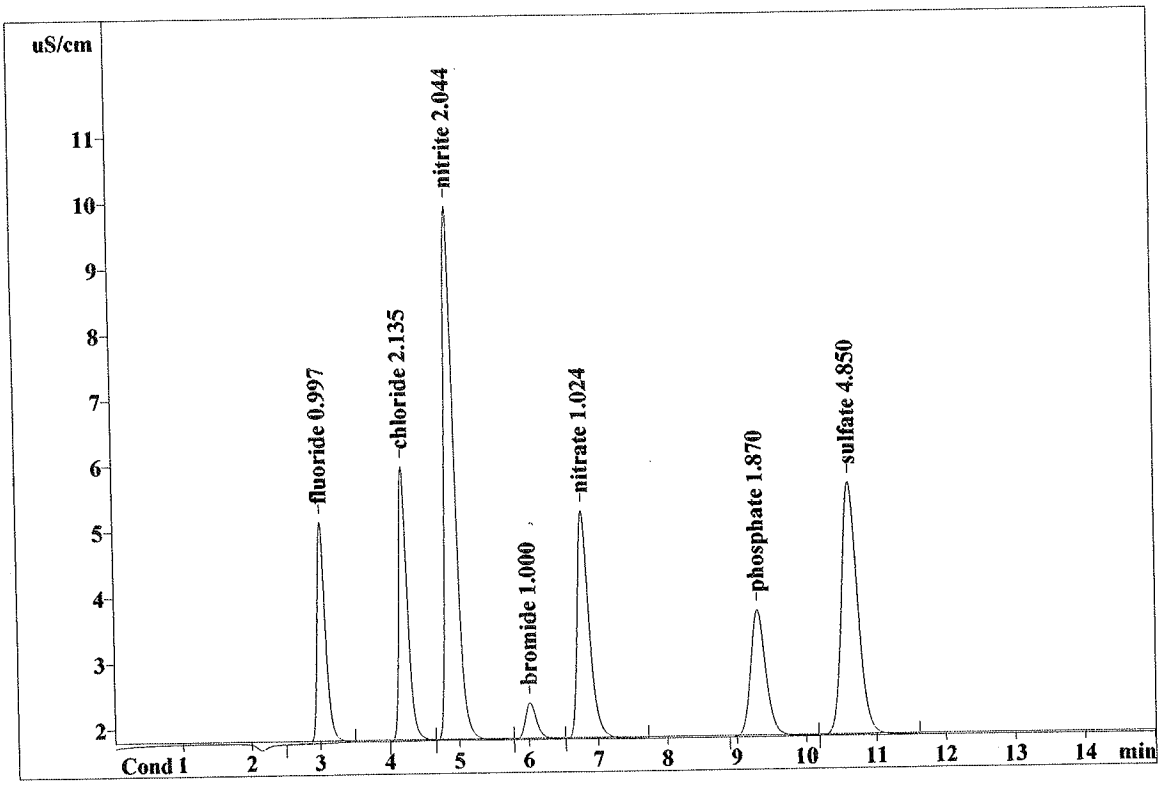
TH 11/12/22

Report date: 11/9/2022 3:08:19 PM
Printed by: VDuran

Ident: AK05-12 ICV
Analysis from: 11/9/2022 1:37:59 PM
File: _2022-11-09_13-37.chw Last save: 11/9/2022 2:48:22 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184921

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 12
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.37	28.381	0.997	fluoride
2	4.20	4.18	36.102	2.135	chloride
3	4.90	8.13	82.735	2.044	nitrite
4	6.01	0.56	6.306	1.000	bromide
5	6.79	3.47	41.296	1.024	nitrate
6	9.31	1.93	30.067	1.870	phosphate
7	10.63	3.85	61.741	4.850	sulfate
7	15.00	25.49	286.628	13.920	

TH 11/12/22

This report has been created by IC Net
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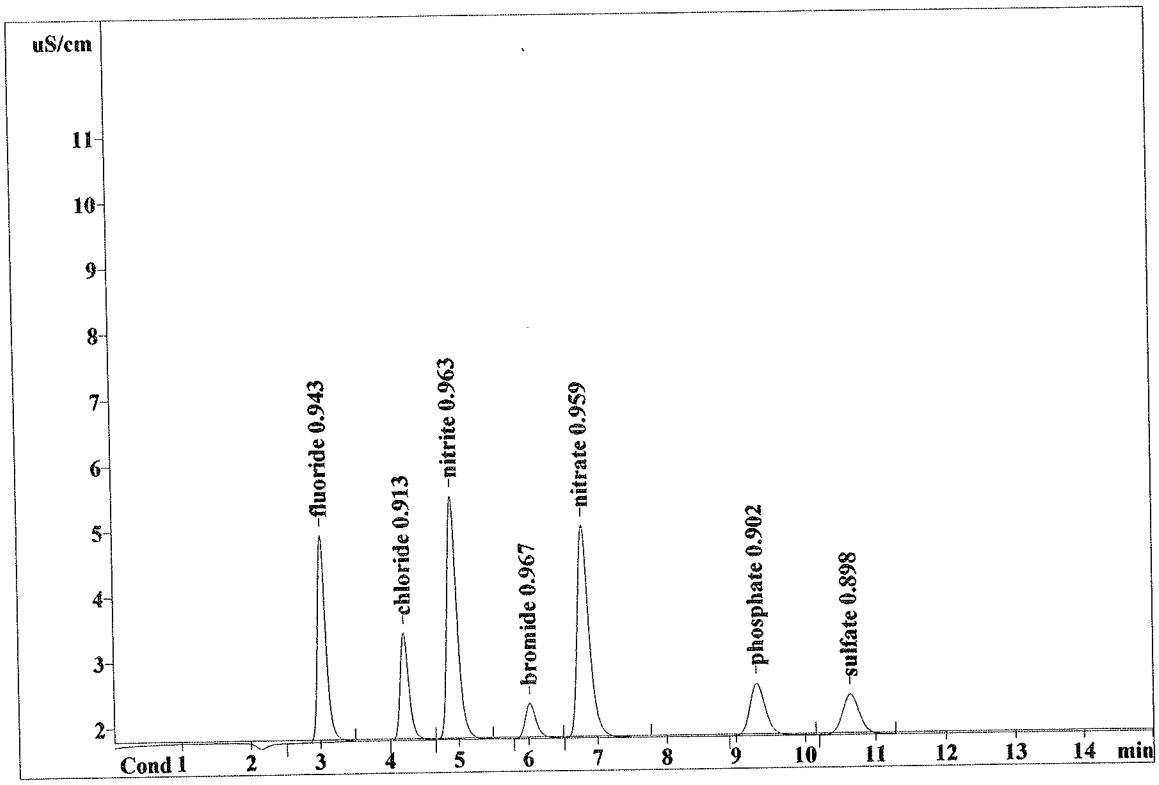
Report date: 11/9/2022 3:08:25 PM
Printed by: VDuran

Ident: AK05-13 ICV1
Analysis from: 11/9/2022 1:55:05 PM
File: _2022-11-09_13-55.chw Last save: 11/9/2022 2:48:23 PM

Method: ICD0-K09.mtw Last save: 11/9/2022 11:33:55 AM
Run operator: VDuran
Analysis number: 184922

SAMPLE: METHOD 300/9056/4110B
: 1.0 PPM
Vial number: 13
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



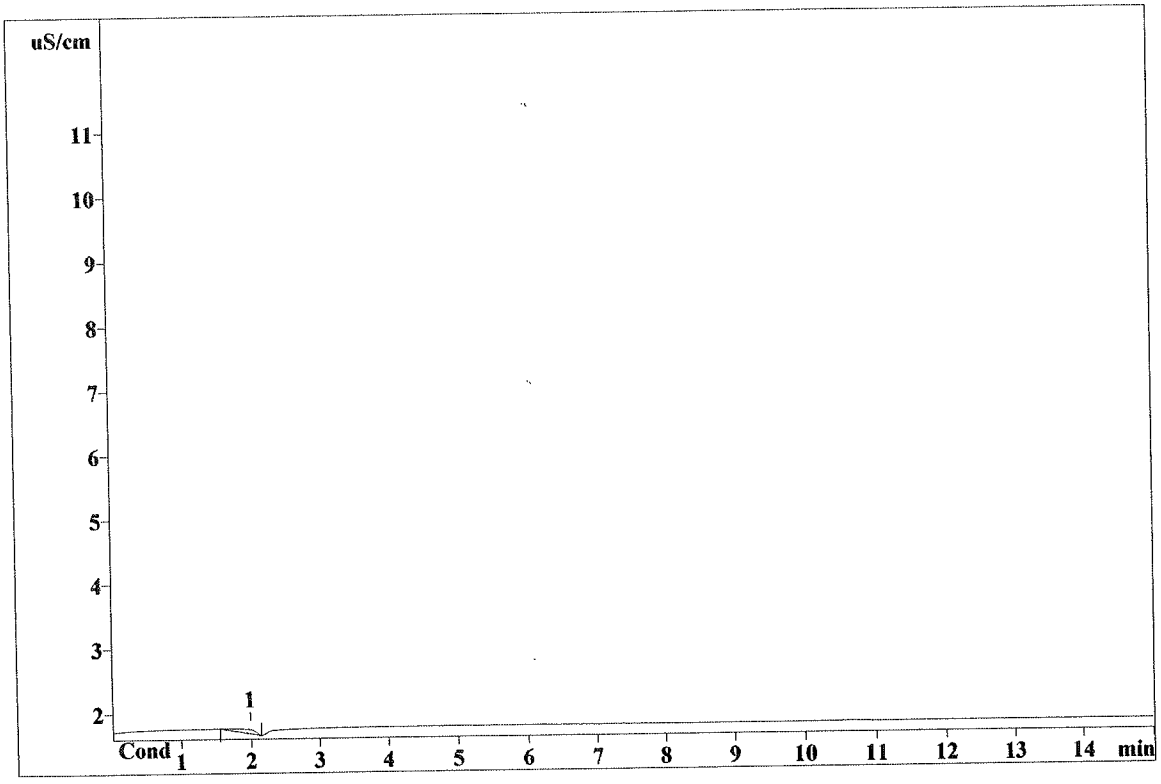
Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.16	26.774	0.943	fluoride
2	4.20	1.64	14.663	0.913	chloride
3	4.91	3.72	37.451	0.963	nitrite
4	6.02	0.53	6.049	0.967	bromide
5	6.79	3.24	38.553	0.959	nitrate
6	9.31	0.80	12.716	0.902	phosphate
7	10.64	0.61	10.303	0.898	sulfate
7	15.00	13.71	146.510	6.545	

TH 11/12/22

This report has been created by IC Net
METROHM LTD

Report date:	11/9/2022 3:08:43 PM		
Printed by:	VDuran		
Ident:	AK05-14 ICB		
Analysis from:	11/9/2022 2:12:11 PM		
File:	_2022-11-09_14-12.chw	Last save:	11/9/2022 2:48:23 PM
Modified!			
Method:	ICD0-K09.mtw	Last save:	11/9/2022 11:33:55 AM
Run operator:	VDuran		
Analysis number:	184923		
SAMPLE:	METHOD 300/9056/4110B		
:			
Vial number:	14		
Volume:	1.0 µL		
Dilution:	1.00		
Amount:	1.0000		



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	1.98	0.06	1.302	0.000	

This report has been created by IC Net
METROHM LTD

TH 11/12/22

DAILY CALIBRATION(S)

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22L237
Method : E300.0
ICAL Ref. : 22AK05
InstrumentID: D0
Parameter : NITRATE

LFID	LSID	Recovery (%)	AnalysisDateTime
AL23-01	CCV209	108.1	12/16/2208:34
AL23-13	CCV211	108.7	12/16/2211:59
AL23-31	CCV215	109.3	12/16/2217:19
AL23-43	CCV217	109.6	12/16/2220:44
AL23-51	CCV219	111.4%	12/16/2223:01

CCV Acceptance Criteria: 90-110%

IC Result Check FormVersion : K09/AK05(2022)

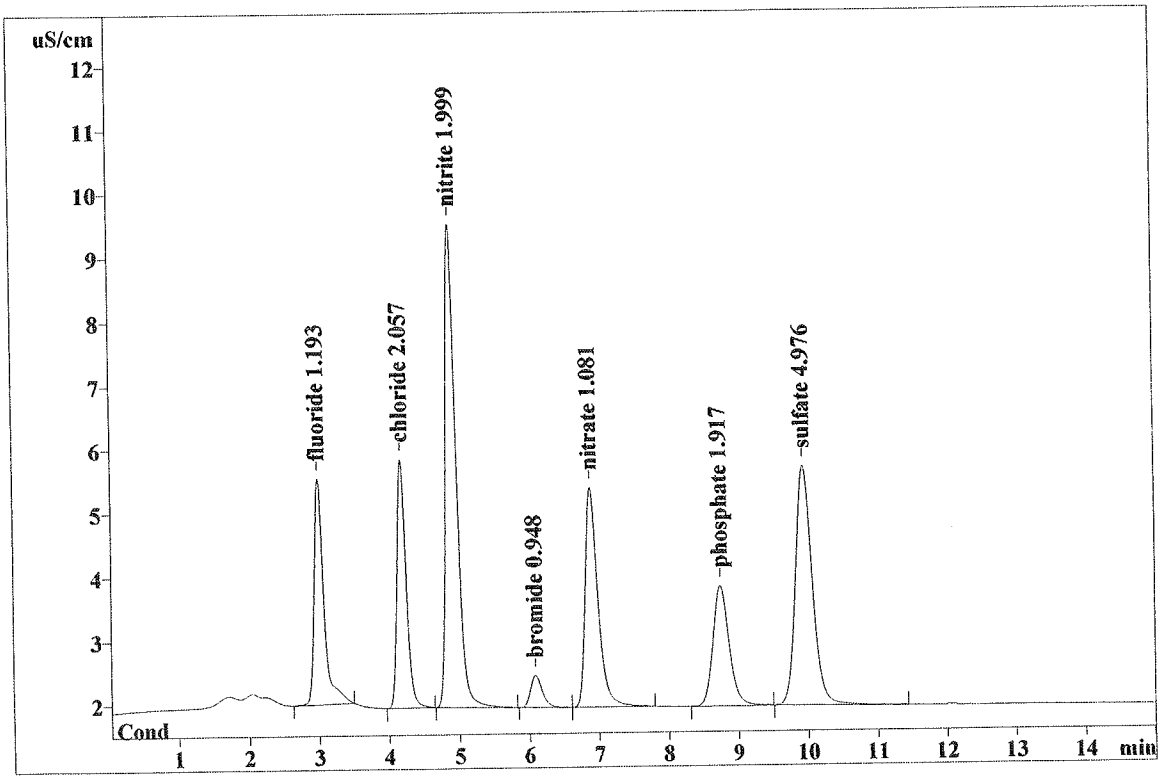
LFID	LSID	Selection	nitrate	chloride	fluoride	iodide	nitrite	bromide	phosphate	sulfate	RawNetID	DF
AL23-01	CCV209	NCFOIBPS	108.1%	102.8%	119.3%*	0%*	100%	94.8%	95.8%	99.5%	_2022-12-16_08-34	1
AL23-02	CCB209	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_08-51	1
AL23-13	CCV211	NCFOIBPS	108.7%	108.9%	107%	0%*	109.7%	104.2%	94.3%	96%	_2022-12-16_11-59	1
AL23-14	CCB211	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_12-16	1
AL23-25	CCV213	NCFOIBPS	105.7%	105.2%	103.8%	0%*	104.8%	102.2%	92.6%	93.2%	_2022-12-16_15-24	1
AL23-26	CCB213	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_15-41	1
AL23-31	CCV215	NCFOIBPS	109.3%	108%	107%	0%*	107.8%	104.5%	95.4%	95.9%	_2022-12-16_17-19	1
AL23-32	CCB215	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_17-36	1
AL23-43	CCV217	NCFOIBPS	109.6%	130.8%*	107.6%	0%*	108.5%	105.2%	95%	98.5%	_2022-12-16_20-44	1
AL23-44	CCB217	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_21-01	1
AL23-51	CCV219	NCFOIBPS	111.4%*	115.4%*	109.1%	0%*	109.5%	105.8%	97.4%	97.3%	_2022-12-16_23-01	1
AL23-52	CCB219	NCFOIBPS	0	0	0	0	0	0	0	0	_2022-12-16_23-18	1

Report date: 12/20/2022 7:31:24 AM
Printed by: VDuran

Ident: AL23-01 CCV209
Analysis from: 12/16/2022 8:34:26 AM
File: _2022-12-16_08-34.chw Last save: 12/16/2022 8:49:23 AM

Method: ICD0-K09.mtw Last save: 12/15/2022 9:20:22 AM
Run operator: VDuran
Analysis number: 185913

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 1
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.00	3.54	34.218	1.193	fluoride
2	4.18	3.89	34.731	2.057	chloride
3	4.90	7.57	80.849	1.999	nitrite
4	6.08	0.50	5.905	0.948	bromide
5	6.88	3.44	43.731	1.081	nitrate
6	8.74	1.89	30.910	1.917	phosphate
7	9.94	3.75	63.384	4.976	sulfate
7	15.00	24.57	293.727	14.171	

This report has been created by IC Net
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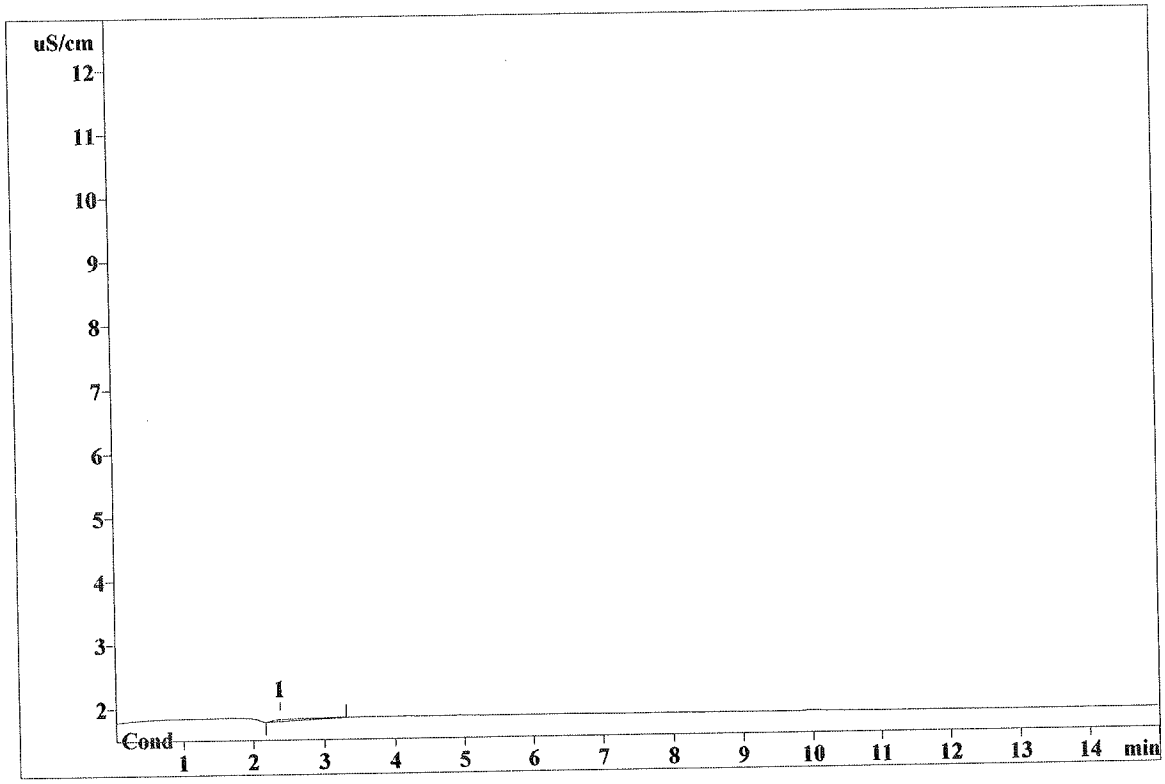
Report date: 12/20/2022 7:31:30 AM
Printed by: VDuran

Ident: AL23-02 CCB209
Analysis from: 12/16/2022 8:51:32 AM
File: _2022-12-16_08-51.chw Last save: 12/16/2022 12:25:51 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185914

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.37	0.03	1.196	0.000	

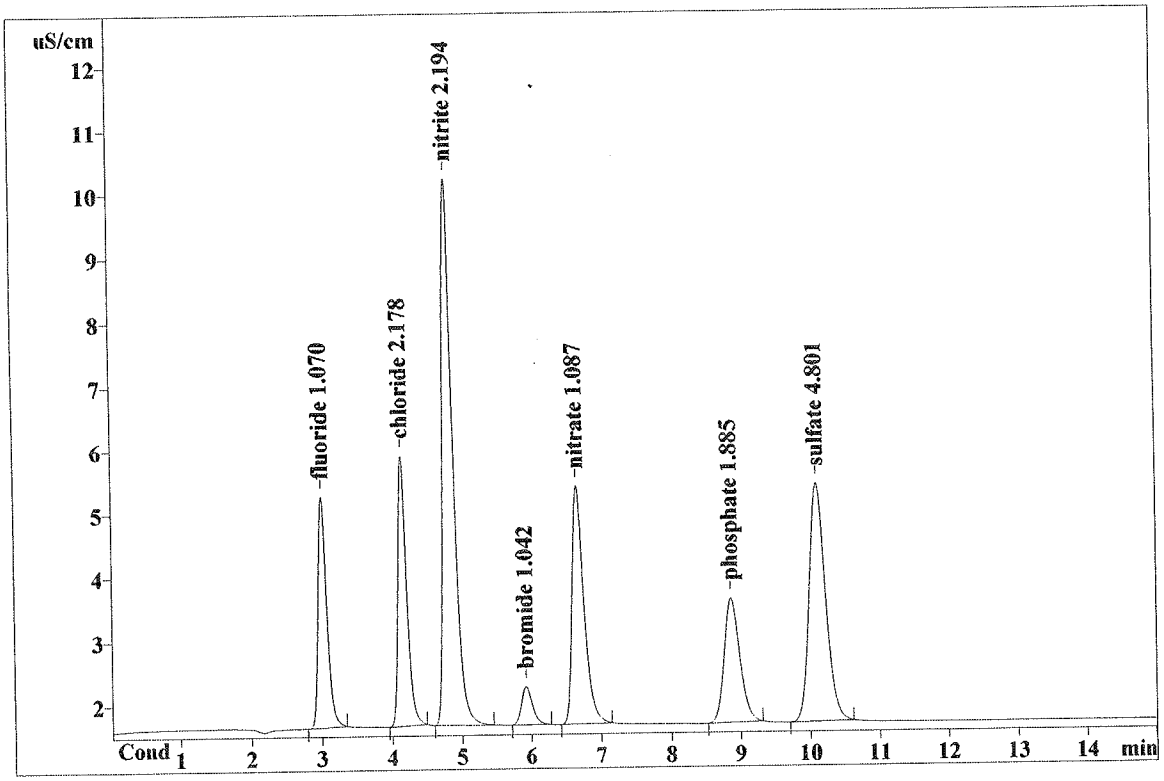
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:32:42 AM
Printed by: VDuran

Ident: AL23-13 CCV211
Analysis from: 12/16/2022 11:59:38 AM
File: _2022-12-16_11-59.chw Last save: 12/16/2022 12:14:35 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185925

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 13
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.01	3.62	30.547	1.070	fluoride
2	4.15	4.24	36.863	2.178	chloride
3	4.83	8.56	88.999	2.194	nitrite
4	5.92	0.60	6.630	1.042	bromide
5	6.67	3.73	43.980	1.087	nitrate
6	8.87	1.94	30.348	1.885	phosphate
7	10.11	3.73	61.112	4.801	sulfate
7	15.00	26.41	298.479	14.258	

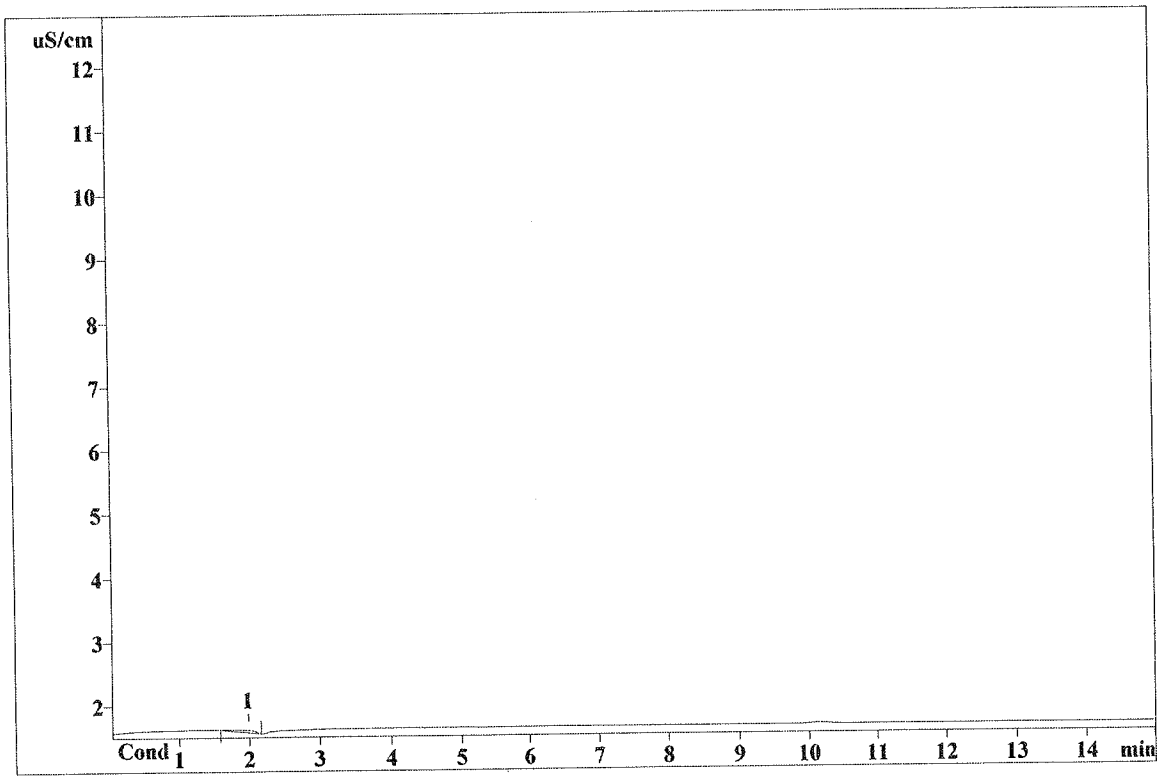
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:32:50 AM
Printed by: VDuran

Ident: AL23-14 CCB211
Analysis from: 12/16/2022 12:16:44 PM
File: _2022-12-16_12-16.chw Last save: 12/16/2022 2:02:41 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185926

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 14
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	1.98	0.04	0.742	0.000	

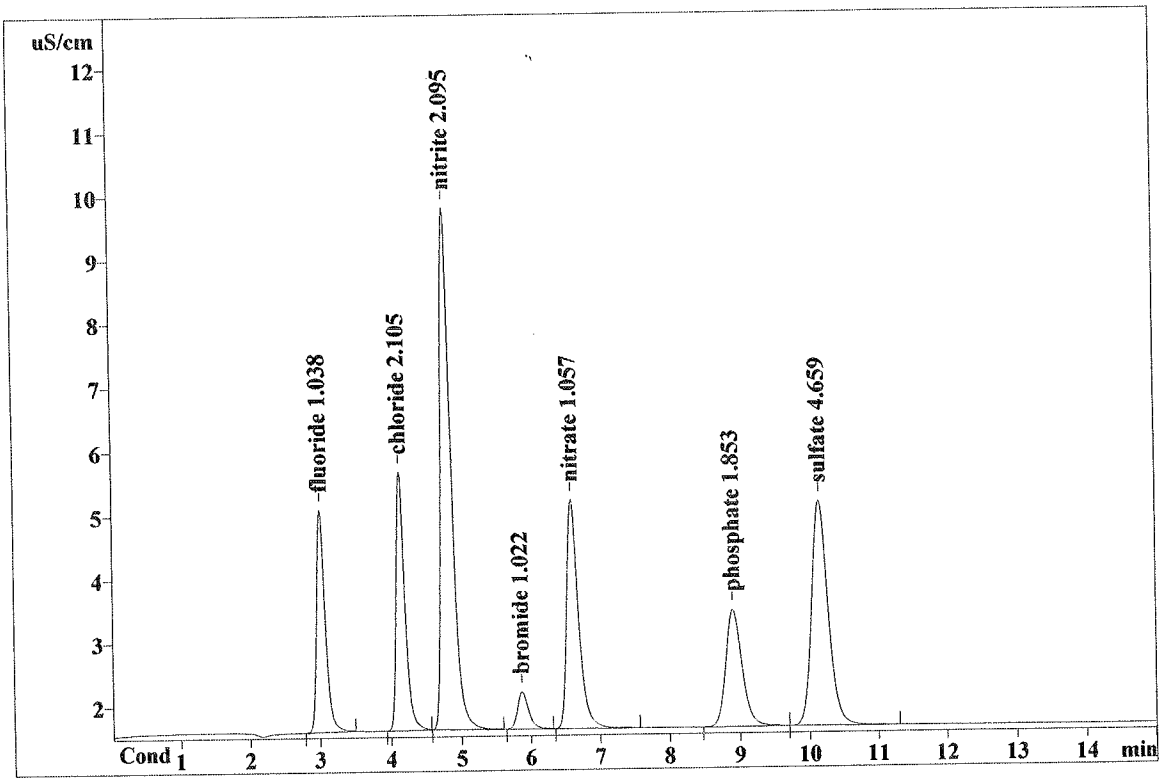
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:33:00 AM
Printed by: VDuran

Ident: AL23-25 CCV213
Analysis from: 12/16/2022 3:24:48 PM
File: _2022-12-16_15-24.chw Last save: 12/16/2022 3:39:45 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185937

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 25
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

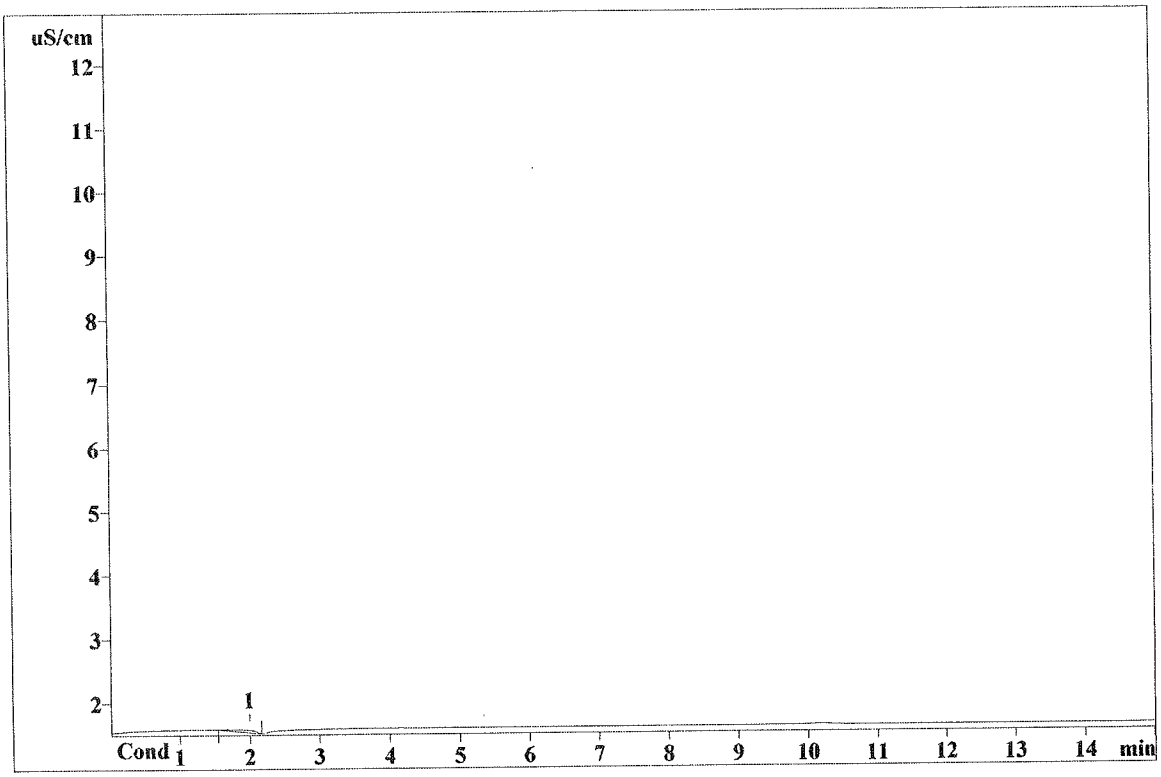
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.49	29.595	1.038	fluoride
2	4.14	4.06	35.571	2.105	chloride
3	4.81	8.19	84.877	2.095	nitrite
4	5.87	0.58	6.468	1.022	bromide
5	6.60	3.60	42.714	1.057	nitrate
6	8.90	1.84	29.770	1.853	phosphate
7	10.15	3.54	59.260	4.659	sulfate
7	15.00	25.30	288.255	13.829	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:34:25 AM
Printed by: VDuran

Ident: AL23-26 CCB213
Analysis from: 12/16/2022 3:41:54 PM
File: _2022-12-16_15-41.chw Last save: 12/16/2022 3:56:51 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185938

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 26
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	1.99	0.04	0.863	0.000	

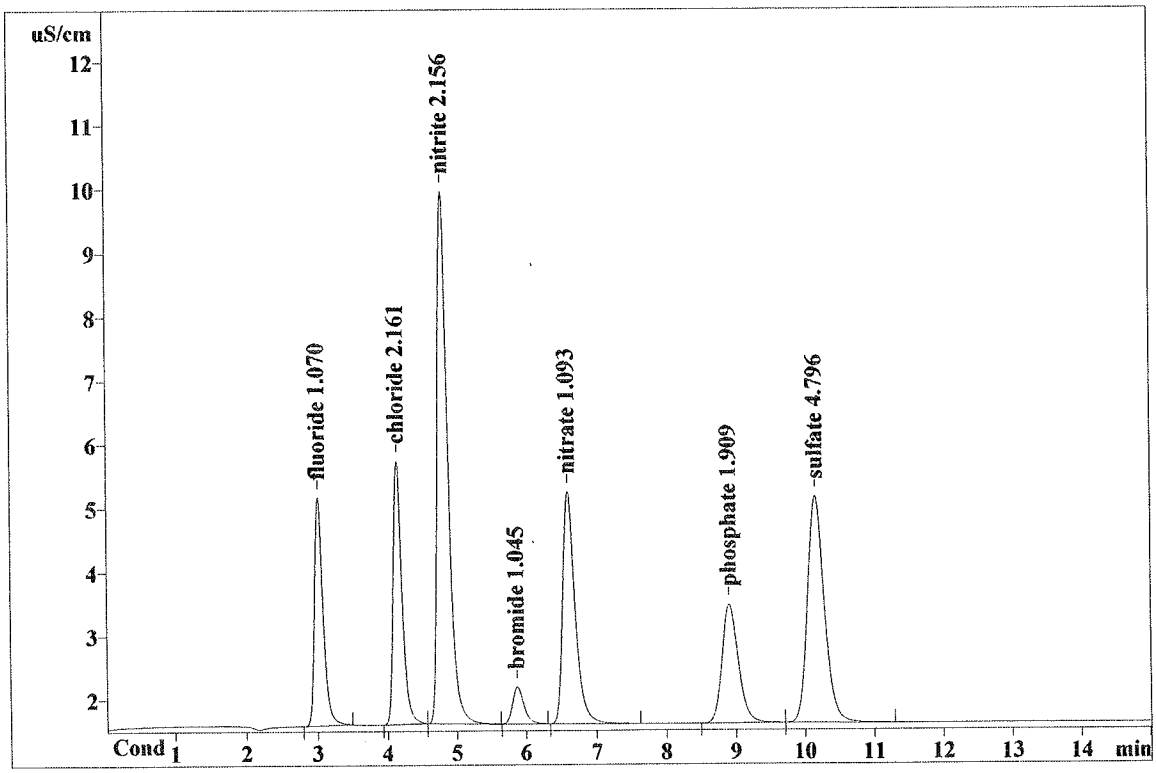
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:34:39 AM
Printed by: VDuran

Ident: AL23-31 CCV215
Analysis from: 12/16/2022 5:19:41 PM
File: _2022-12-16_17-19.chw Last save: 12/16/2022 5:34:38 PM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185943

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 31
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

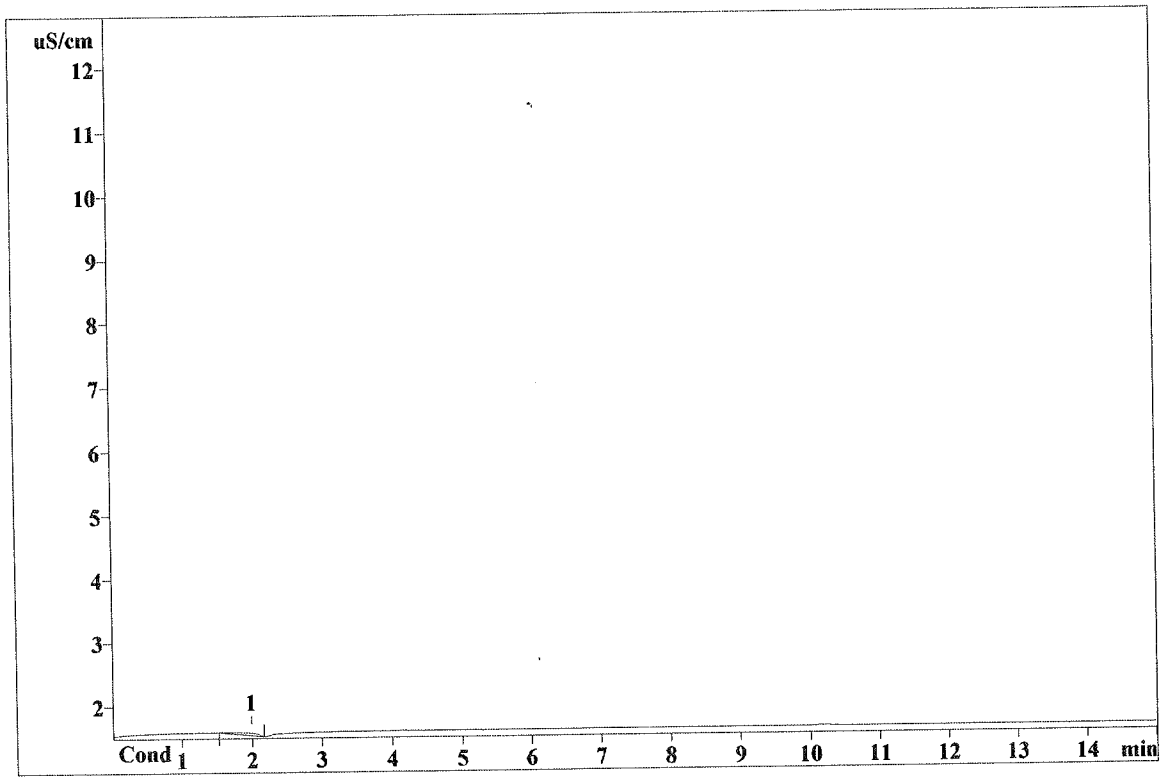
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.58	30.559	1.070	fluoride
2	4.14	4.13	36.555	2.161	chloride
3	4.81	8.35	87.429	2.156	nitrite
4	5.87	0.58	6.653	1.045	bromide
5	6.60	3.64	44.216	1.093	nitrate
6	8.91	1.87	30.768	1.909	phosphate
7	10.16	3.55	61.045	4.796	sulfate
7	15.00	25.70	297.224	14.231	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:35:01 AM
Printed by: VDuran

Ident: AL23-32 CCB215
Analysis from: 12/16/2022 5:36:46 PM
File: _2022-12-16_17-36.chw Last save: 12/16/2022 5:51:44 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185944

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 32
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	1.99	0.04	0.899	0.000	

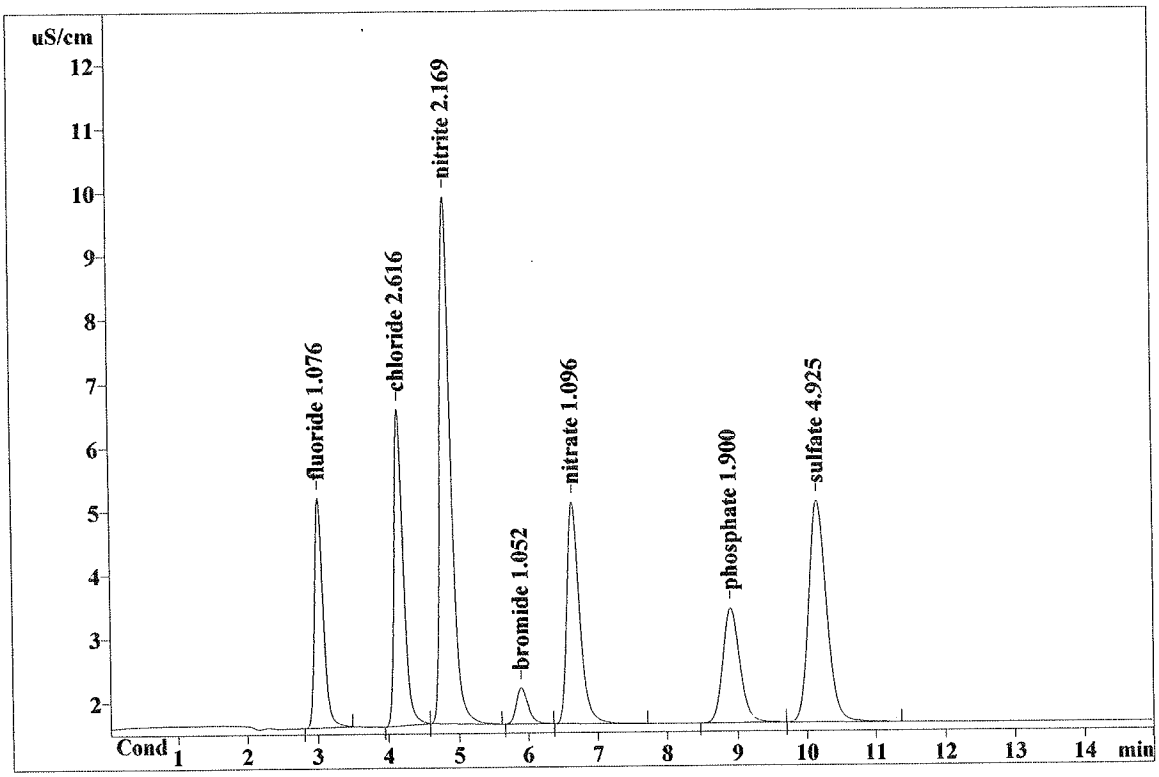
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:37:24 AM
Printed by: VDuran

Ident: AL23-43 CCV217
Analysis from: 12/16/2022 8:44:53 PM
File: _2022-12-16_20-44.chw Last save: 12/19/2022 9:23:26 AM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185955

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 43
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

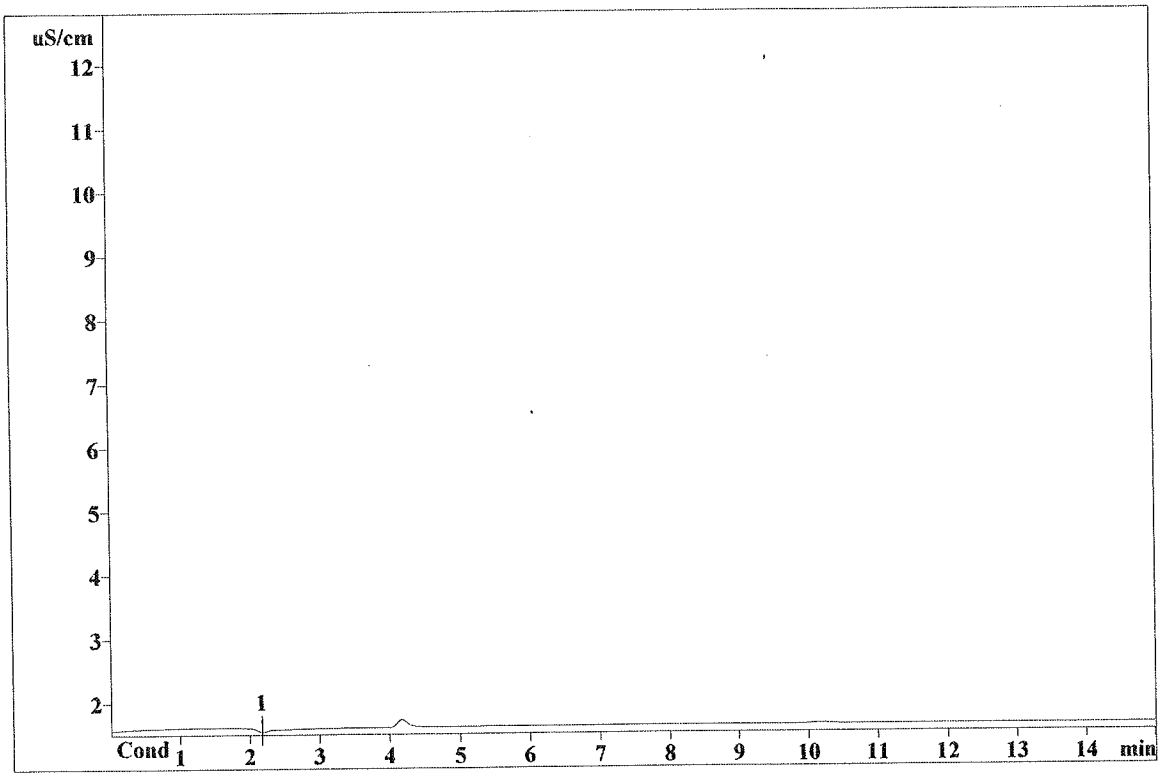
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.60	30.734	1.076	fluoride
2	4.15	4.96	44.556	2.616	chloride
3	4.83	8.26	87.974	2.169	nitrite
4	5.90	0.57	6.703	1.052	bromide
5	6.64	3.48	44.343	1.096	nitrate
6	8.90	1.79	30.621	1.900	phosphate
7	10.16	3.47	62.725	4.925	sulfate
7	15.00	26.14	307.657	14.836	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:38:50 AM
Printed by: VDuran

Ident: AL23-44 CCB217
Analysis from: 12/16/2022 9:01:59 PM
File: _2022-12-16_21-01.chw Last save: 12/16/2022 9:16:56 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185956

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 44
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.17	-0.00	-0.000	0.000	

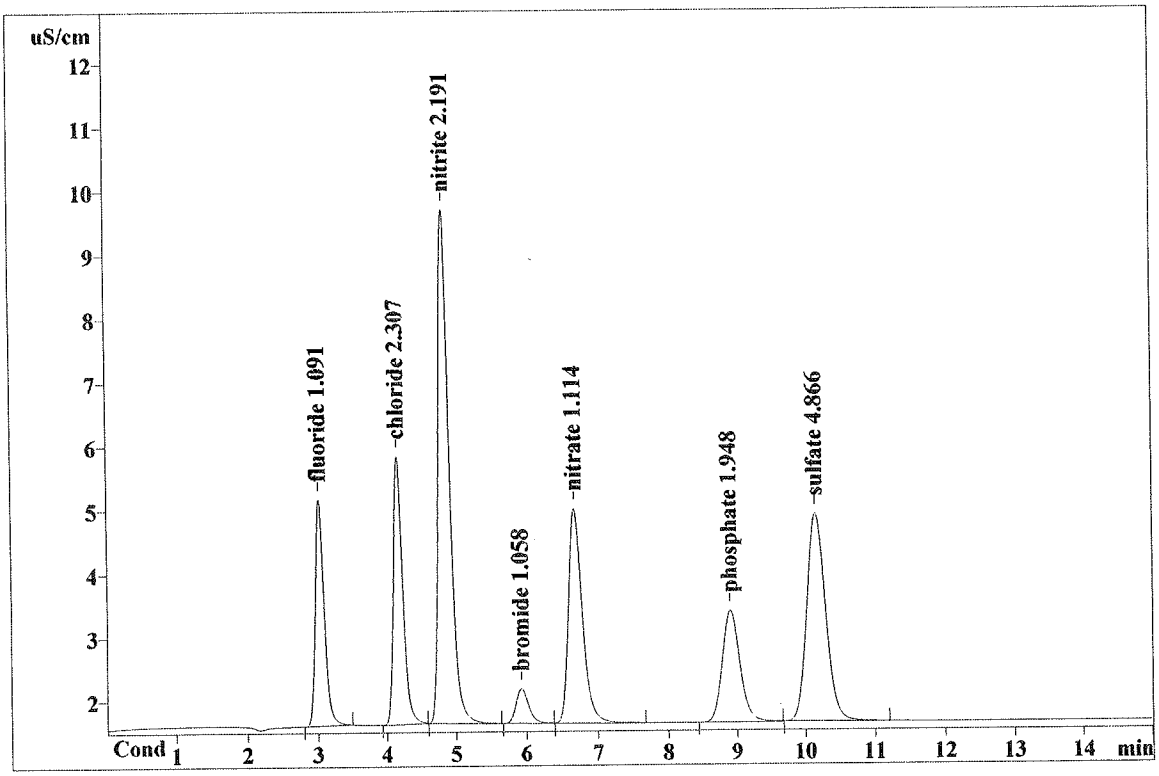
This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:39:32 AM
Printed by: VDuran

Ident: AL23-51 CCV219
Analysis from: 12/16/2022 11:01:41 PM
File: _2022-12-16_23-01.chw Last save: 12/19/2022 9:02:40 AM

Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185963

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 51
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

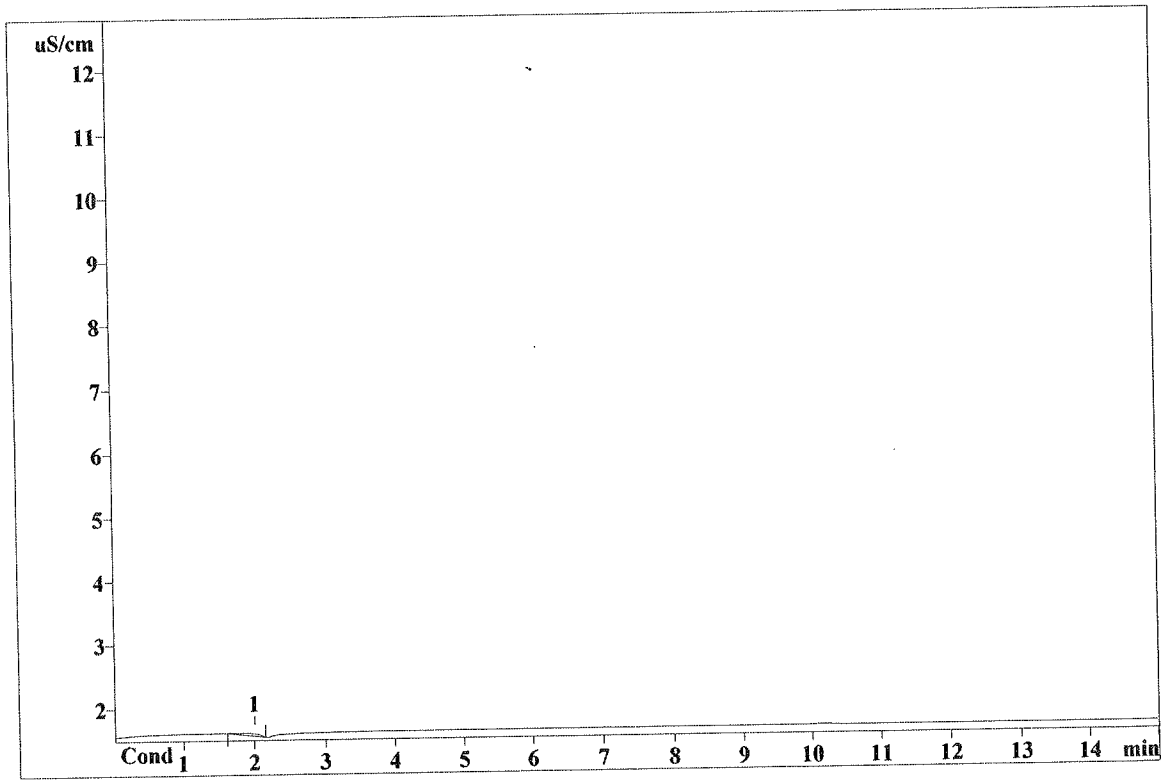
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.02	3.56	31.162	1.091	fluoride
2	4.16	4.21	39.126	2.307	chloride
3	4.84	8.06	88.865	2.191	nitrite
4	5.93	0.54	6.748	1.058	bromide
5	6.67	3.37	45.118	1.114	nitrate
6	8.90	1.76	31.477	1.948	phosphate
7	10.16	3.27	61.947	4.866	sulfate
7	15.00	24.77	304.443	14.574	

This report has been created by IC Net
METROHM LTD

Report date: 12/20/2022 7:39:54 AM
Printed by: VDuran

Ident: AL23-52 CCB219
Analysis from: 12/16/2022 11:18:47 PM
File: _2022-12-16_23-18.chw Last save: 12/16/2022 11:33:44 PM
Modified!
Method: ICD0-K09.mtw Last save: 12/16/2022 8:54:00 AM
Run operator: VDuran
Analysis number: 185964

SAMPLE: METHOD 300/9056/4110B
:
Vial number: 52
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	2.00	0.04	0.707	0.000	

This report has been created by IC Net
METROHM LTD

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence. For dillution preparation (sample aliquot/final volume), refer to sample info

Comments:

	CONCENTRATIONS (PPM)
S1	0.05
S2	0.1
S3	0.2
S4	0.5
S5	1.0
S6	2.0
S7	5.0
S8	10.0
S9	20.0

	LINEARITY (PPM)
F	5
Cl	~~10~~ 5 VD 11109/22
NO2	10
Br	20
NO3	2
PO4	20
SO4	20

Book #: AD0-077
Instrument No.: D0
Pipette ID's: VD 11109/22 ~~039380124~~ B42780066
SW3-02-02-02
439350100
Analytical Sequence: AK05
Method File: ICD0-K09.mtw
Analytical Batch: –

SOP #	Rev. #
☑ EMAX-300.0	13
☑ EMAX-4110B	6
☑ EMAX-9056	9
☐ EMAX-	
STANDARDS ID	
ICAL	SW3B-24-35-01
ICV	SW3B-24.34-02
~~CCV~~ ICV1 VD 11109/22	SW3B-24-35-02
LCS	—
MS	—

Filters Lot #:
0.45 µm: —
0.22 µm: —

Snap Seal Containers Lot #:
4 oz: 31121011
1.5 oz: —

Column: Metrosep A Supp 5-100
Flow Rate: 0.70 mL/min

IC ELUENT PREPARATION Expiration Date: 12/06/22

Std ID	Aliquot	Final Vol*
SP1-06-06-02	20 mL	2 L

IC REGENERANT PREPARATION Expiration Date: 12/06/22

Std ID	Aliquot	Final Vol*
SP1.06.06.03	100 mL	1 L

* Reagent Water ID: SW1A-011-16-07

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC-METROHM	
☐ External Hard Drive	

Analyzed By: VD
Date: 11/09/22

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
2022-11-09_10-10.chw	ICD0-K09.mtw	AK05-01 IB	1	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-11-09_10-27.chw	ICD0-K09.mtw	AK05-02 S0	2	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-11-09_10-44.chw	ICD0-K09.mtw	AK05-03 S1	3	1.0	1.0	1.0	100.0	1	METHOD 300/9056/4110B	0.05 PPM
2022-11-09_11-01.chw	ICD0-K09.mtw	AK05-04 S2	4	1.0	1.0	1.0	100.0	2	METHOD 300/9056/4110B	0.1 PPM
2022-11-09_11-18.chw	ICD0-K09.mtw	AK05-05 S3	5	1.0	1.0	1.0	100.0	3	METHOD 300/9056/4110B	0.2 PPM
2022-11-09_11-36.chw	ICD0-K09.mtw	AK05-06 S4	6	1.0	1.0	1.0	100.0	4	METHOD 300/9056/4110B	0.5 PPM
2022-11-09_11-53.chw	ICD0-K09.mtw	AK05-07 S5	7	1.0	1.0	1.0	100.0	5	METHOD 300/9056/4110B	1.0 PPM
2022-11-09_12-10.chw	ICD0-K09.mtw	AK05-08 S6	8	1.0	1.0	1.0	100.0	6	METHOD 300/9056/4110B	2.0 PPM
2022-11-09_12-27.chw	ICD0-K09.mtw	AK05-09 S7	9	1.0	1.0	1.0	100.0	7	METHOD 300/9056/4110B	5.0 PPM
2022-11-09_12-44.chw	ICD0-K09.mtw	AK05-10 S8	10	1.0	1.0	1.0	100.0	8	METHOD 300/9056/4110B	10.0 PPM
2022-11-09_13-01.chw	ICD0-K09.mtw	AK05-11 S9	11	1.0	1.0	1.0	100.0	9	METHOD 300/9056/4110B	20.0 PPM
2022-11-09_13-37.chw	ICD0-K09.mtw	AK05-12 ICV	12	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-11-09_13-55.chw	ICD0-K09.mtw	AK05-13 ICV1	13	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	1.0 PPM
2022-11-09_14-12.chw	ICD0-K09.mtw	AK05-14 ICB	14	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	

FINAL VD 11/09/22

TH 11/12/22

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence. For dillution preparation (sample aliquot/final volume), refer to sample info

Comments:

Book #:	AD0-078
Instrument No.:	D0
Pipette ID's:	B42780066
	SW3-02-02-02
	439350100
Analytical Sequence:	AL23
Method File:	ICD0 - K09. mtw
Analytical Batch:	ICL023W

SOP #	Rev. #
☑ EMAX-300.0	14
☐ EMAX-4110B	7
☐ EMAX-9056	10
☐ EMAX-	
STANDARDS ID	
ICAL	—
ICV	—
CCV	SW3B - 26 - 06 - 01
LCS	SW3B - 26 - 06 - 02
MS	SCP refer to LCS Parent ID

Filters Lot #:	Snap Seal Containers Lot #:
0.45 µm:	4 oz:
0.22 µm: 291127080	1.5 oz: 16322006

Column: Metrosep A Supp 5-100

Flow Rate: 0.70 mL/min

IC ELUENT PREPARATION Expiration Date: 01/15/23

Std ID	Aliquot	Final Vol*
SP1 - 06 - 06 - 02	20 mL	2 L

IC REGENERANT PREPARATION Expiration Date: 01/16/23

Std ID	Aliquot	Final Vol*
SP1 - 06 - 07 - 01	100 mL	1 L

* Reagent Water ID: SW1A - 011 - 19 - 03

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC-METROHM	
☐ External Hard Drive	

Analyzed By: VD

Date: 12/16/22

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
2022-12-16_08-34.chw	ICD0-K09.mtw	AL23-01 CCV209	1	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_08-51.chw	ICD0-K09.mtw	AL23-02 CCB209	2	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_09-08.chw	ICD0-K09.mtw	AL23-03 ICL023WB	3	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_09-25.chw	ICD0-K09.mtw	AL23-04 L228-03R	4	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_09-42.chw	ICD0-K09.mtw	AL23-05 L228-06R	5	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_09-59.chw	ICD0-K09.mtw	AL23-06 L228-07R	6	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_10-17.chw	ICD0-K09.mtw	AL23-07 L228-04R	7	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_10-34.chw	ICD0-K09.mtw	AL23-08 L228-05R	8	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_10-51.chw	ICD0-K09.mtw	AL23-09 L228-05RD	9	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_11-08.chw	ICD0-K09.mtw	AL23-10 L228-05RM	10	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_11-25.chw	ICD0-K09.mtw	AL23-11 ICL023WL	11	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_11-42.chw	ICD0-K09.mtw	AL23-12 ICL023WC	12	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_11-59.chw	ICD0-K09.mtw	AL23-13 CCV211	13	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_12-16.chw	ICD0-K09.mtw	AL23-14 CCB211	14	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_12-33.chw	ICD0-K09.mtw	AL23-15 L228-08	15	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_12-50.chw	ICD0-K09.mtw	AL23-16 L228-05RS	16	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_13-08.chw	ICD0-K09.mtw	AL23-17 L228-03I DF=40	17	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-16_13-25.chw	ICD0-K09.mtw	AL23-18 L228-03J DF=100	18	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-16_13-42.chw	ICD0-K09.mtw	AL23-19 L228-04I DF=100	19	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-16_13-59.chw	ICD0-K09.mtw	AL23-20 L228-04J DF=200	20	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_14-16.chw	ICD0-K09.mtw	AL23-21 L228-06J DF=40	21	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-16_14-33.chw	ICD0-K09.mtw	AL23-22 L228-06K DF=100	22	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-16_14-50.chw	ICD0-K09.mtw	AL23-23 L228-07I DF=20	23	1.0	20.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/20ml
2022-12-16_15-07.chw	ICD0-K09.mtw	AL23-24 L228-07J DF=200	24	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_15-24.chw	ICD0-K09.mtw	AL23-25 CCV213	25	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_15-41.chw	ICD0-K09.mtw	AL23-26 CCB213	26	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_15-59.chw	ICD0-K09.mtw	AL23-27 L228-08I DF=40	27	1.0	40.0	1.0	100.0	0	METHOD 300/9056/4110B	1ml/40ml
2022-12-16_16-16.chw	ICD0-K09.mtw	AL23-28 L228-08J DF=100	28	1.0	100.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/20ml
2022-12-16_16-42.chw	ICD0-K09.mtw	AL23-29 L228-03K DF=200	29	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_16-59.chw	ICD0-K09.mtw	AL23-30 L228-04K DF=400	30	1.0	400.0	1.0	100.0	0	METHOD 300/9056/4110B	0.1ml/40ml
2022-12-16_17-19.chw	ICD0-K09.mtw	AL23-31 CCV215	31	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_17-36.chw	ICD0-K09.mtw	AL23-32 CCB215	32	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_17-53.chw	ICD0-K09.mtw	AL23-33 L237-01	33	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_18-10.chw	ICD0-K09.mtw	AL23-34 L237-02	34	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_18-28.chw	ICD0-K09.mtw	AL23-35 L237-03I DF=2	35	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml
2022-12-16_18-45.chw	ICD0-K09.mtw	AL23-36 L237-04I DF=2	36	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml HIGH CONDUCTIVITY
2022-12-16_19-02.chw	ICD0-K09.mtw	AL23-37 L237-05I DF=10	37	1.0	10.0	1.0	100.0	0	METHOD 300/9056/4110B	2ml/20ml, HIGH CONDUCTIVITY
2022-12-16_19-19.chw	ICD0-K09.mtw	AL23-38 L237-07I DF=2	38	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml, HIGH CONDUCTIVITY
2022-12-16_19-36.chw	ICD0-K09.mtw	AL23-39 L237-09I DF=2	39	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml, HIGH CONDUCTIVITY
2022-12-16_19-53.chw	ICD0-K09.mtw	AL23-40 L237-11I DF=5	40	1.0	5.0	1.0	100.0	0	METHOD 300/9056/4110B	4ml/20ml, HIGH CONDUCTIVITY
2022-12-16_20-10.chw	ICD0-K09.mtw	AL23-41 L237-13	41	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_20-27.chw	ICD0-K09.mtw	AL23-42 L237-14I DF=2	42	1.0	2.0	1.0	100.0	0	METHOD 300/9056/4110B	10ml/20ml, HIGH CONDUCTIVITY
2022-12-16_20-44.chw	ICD0-K09.mtw	AL23-43 CCV217	43	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_21-01.chw	ICD0-K09.mtw	AL23-44 CCB217	44	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_21-19.chw	ICD0-K09.mtw	AL23-45 L237-15	45	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_21-36.chw	ICD0-K09.mtw	AL23-46 L237-16	46	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_21-53.chw	ICD0-K09.mtw	AL23-47 L228-05T DF=200	47	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_22-10.chw	ICD0-K09.mtw	AL23-48 L228-05TD DF=200	48	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_22-27.chw	ICD0-K09.mtw	AL23-49 L228-05TM DF=200	49	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_22-44.chw	ICD0-K09.mtw	AL23-50 L228-05TS DF=200	50	1.0	200.0	1.0	100.0	0	METHOD 300/9056/4110B	0.2ml/40ml
2022-12-16_23-01.chw	ICD0-K09.mtw	AL23-51 CCV219	51	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	
2022-12-16_23-18.chw	ICD0-K09.mtw	AL23-52 CCB219	52	1.0	1.0	1.0	100.0	0	METHOD 300/9056/4110B	

FINAL CS 12/19/22

RETENTION TIME WINDOW

TWENTY FOUR HOUR RETENTION TIME WINDOW
METHOD 300.0

Lab name: EMAX **Method:** EMAX-300.0

Instrument ID: D0 (761 IC) **IC column:** METROSEP A SUPP 5
Column size: 100X4.0mm

Compound	ICAL Mean RT	from	to	RTW
FLUORIDE	3.03	2.89	3.16	0.137
CHLORIDE	4.22	4.04	4.40	0.181
NITRITE	4.93	4.73	5.13	0.197
BROMIDE	6.07	5.69	6.45	0.380
NITRATE	6.86	6.37	7.35	0.488
PHOSPHATE	9.27	8.93	9.60	0.335
SULFATE	10.59	10.06	11.11	0.527

ICD0-K09.mtw

TH 11/12/22

RETENTION TIME WINDOW
METHOD 300.0

Lab name:	**EMAX**	**Method:**	**EMAX-300.0**
Instrument ID:	D0 (761 IC)	IC column: Column size:	METROSEP A SUPP 5 100X4.0mm

Compound	Retention time Window	
FLUORIDE	**(+/-)**	**0.090**
CHLORIDE	**(+/-)**	**0.104**
NITRITE	**(+/-)**	**0.159**
BROMIDE	**(+/-)**	**0.329**
NITRATE	**(+/-)**	**0.420**
PHOSPHATE	**(+/-)**	**0.528**
SULFATE	**(+/-)**	**0.797**
IODIDE	**(+/-)**	**0.652**

DA
06/03/14

October 20, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N052944

RE: PG&E Topock - OMM TCS PWTF, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on October 05, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab Order: N052944

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab Order: N052944
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N052944-001A	Backwash Pre-filter-100322	Water	10/3/2022 8:00:00 AM	10/5/2022	10/20/2022
N052944-001B	Backwash Pre-filter-100322	Water	10/3/2022 8:00:00 AM	10/5/2022	10/20/2022
N052944-001C	Backwash Pre-filter-100322	Water	10/3/2022 8:00:00 AM	10/5/2022	10/20/2022
N052944-002A	Backwash Post-filter-100322	Water	10/3/2022 8:15:00 AM	10/5/2022	10/20/2022
N052944-002B	Backwash Post-filter-100322	Water	10/3/2022 8:15:00 AM	10/5/2022	10/20/2022
N052944-002C	Backwash Post-filter-100322	Water	10/3/2022 8:15:00 AM	10/5/2022	10/20/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-100322
Lab Order:	N052944	**Collection Date:**	10/3/2022 8:00:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N052944-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221007A**	QC Batch: **R166300**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	10/7/2022 04:30 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221012F**	QC Batch: **95150**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Chromium	360	0.18	5.0		µg/L	5	10/13/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-100322
Lab Order:	N052944	**Collection Date:**	10/3/2022 8:15:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N052944-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221007A**	QC Batch: **R166300**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	10/7/2022 04:49 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221012F**	QC Batch: **95150**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Chromium	260	0.18	5.0		µg/L	5	10/13/2022 02:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N052944
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	**MB-R166300**	SampType:	**MBLK**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**166300**
Client ID:	**PBW**	Batch ID:	**R166300**	TestNo:	**EPA 218.6**			Analysis Date:	**10/7/2022**	SeqNo:	**4862384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	**LCS-R166300**	SampType:	**LCS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**166300**
Client ID:	**LCSW**	Batch ID:	**R166300**	TestNo:	**EPA 218.6**			Analysis Date:	**10/7/2022**	SeqNo:	**4862385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.896	0.20	5.000	0	97.9	90	110				

Sample ID	**N052986-001AMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**166300**
Client ID:	**ZZZZZZ**	Batch ID:	**R166300**	TestNo:	**EPA 218.6**			Analysis Date:	**10/7/2022**	SeqNo:	**4862390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.948	0.20	1.000	1.899	105	90	110				

Sample ID	**N052986-002AMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**166300**
Client ID:	**ZZZZZZ**	Batch ID:	**R166300**	TestNo:	**EPA 218.6**			Analysis Date:	**10/7/2022**	SeqNo:	**4862391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.977	0.20	1.000	0	97.7	90	110				

Sample ID	**N052986-004AMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**166300**
Client ID:	**ZZZZZZ**	Batch ID:	**R166300**	TestNo:	**EPA 218.6**			Analysis Date:	**10/7/2022**	SeqNo:	**4862392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.166	0.20	1.000	0.2089	95.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N052944
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N052986-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.659	0.20	1.000	0.6773	98.2	90	110				

Sample ID **N052986-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.769	0.20	1.000	1.719	105	90	110				

Sample ID **N052986-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.337	0.20	1.000	0.3691	96.8	90	110				

Sample ID **N052986-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.899	0.20	1.000	1.899	100	90	110	2.948	1.69	20	

Sample ID **N052986-003ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.086	0.20						4.077	0.223	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N052944
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N052986-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.168	0.20	5.000	4.077	102	90	110				

Sample ID **N052944-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.464	1.0	5.000	0.5945	97.4	90	110				

Sample ID **N052944-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166300**
Client ID: **ZZZZZZ**	Batch ID: **R166300**	TestNo: **EPA 218.6**		Analysis Date: **10/7/2022**	SeqNo: **4862422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.606	1.0	5.000	0.5755	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N052944
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID **MB-95150**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166450**
Client ID: **PBW**	Batch ID: **95150**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-95150**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166450**
Client ID: **LCSW**	Batch ID: **95150**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.764	1.0	10.00	0	97.6	85	115				

Sample ID **N052945-001F-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166450**
Client ID: **ZZZZZZ**	Batch ID: **95150**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1334.501	25	250.0	1114	88.3	75	125				

Sample ID **N052945-001F-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166450**
Client ID: **ZZZZZZ**	Batch ID: **95150**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1334.610	25	250.0	1114	88.3	75	125	1335	0.00813	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-100322
Lab Order:	N052944	**Collection Date:**	10/3/2022 8:00:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N052944-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221011A**	QC Batch: **95127**				PrepDate:	**10/10/2022**	Analyst: **DJ**
Iron	72	13	20		µg/L	1	10/11/2022 01:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-100322
Lab Order:	N052944	**Collection Date:**	10/3/2022 8:15:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N052944-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221011A**	QC Batch: **95127**				PrepDate:	**10/10/2022**	Analyst: **DJ**
Iron	110	13	20		µg/L	1	10/11/2022 02:00 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N052944
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**MB-95127**	SampType:	**MBLK**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**10/10/2022**	RunNo:	**166352**
Client ID:	**PBW**	Batch ID:	**95127**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**10/11/2022**	SeqNo:	**4864743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	**LCS1-95127**	SampType:	**LCS**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**10/10/2022**	RunNo:	**166352**
Client ID:	**LCSW**	Batch ID:	**95127**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**10/11/2022**	SeqNo:	**4864744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.622	20	100.0	0	109	85	115				

Sample ID	**N052945-001E-MS1**	SampType:	**MS**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**10/10/2022**	RunNo:	**166352**
Client ID:	**ZZZZZZ**	Batch ID:	**95127**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**10/11/2022**	SeqNo:	**4864751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.675	20	100.0	0	99.7	75	125				

Sample ID	**N052945-001E-MSD**	SampType:	**MSD**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**10/10/2022**	RunNo:	**166352**
Client ID:	**ZZZZZZ**	Batch ID:	**95127**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**10/11/2022**	SeqNo:	**4864754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.627	20	100.0	0	111	75	125	99.68	10.4	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-100322
Lab Order:	N052944	**Collection Date:**	10/3/2022 8:00:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N052944-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Manganese	260	0.13	2.5		µg/L	5	10/13/2022 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-100322
Lab Order:	N052944	**Collection Date:**	10/3/2022 8:15:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N052944-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Manganese	250	0.13	2.5		µg/L	5	10/13/2022 01:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N052944
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-95149	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/11/2022	RunNo:	166445
Client ID:	PBW	Batch ID:	95149	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/13/2022	SeqNo:	4871421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	LCS-95149	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/11/2022	RunNo:	166445
Client ID:	LCSW	Batch ID:	95149	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/13/2022	SeqNo:	4871422

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	96.429	0.50	100.0	0	96.4	85	115				

Sample ID	N052945-001E-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/11/2022	RunNo:	166445
Client ID:	ZZZZZZ	Batch ID:	95149	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/13/2022	SeqNo:	4871428

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	107.024	0.50	100.0	17.68	89.3	75	125				

Sample ID	N052945-001E-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/11/2022	RunNo:	166445
Client ID:	ZZZZZZ	Batch ID:	95149	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/13/2022	SeqNo:	4871429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	106.783	0.50	100.0	17.68	89.1	75	125	107.0	0.226	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200	Fax:
Title: OTM Operator	Phone: 916-786-3302 Fax:		
Signature: [signature] Date: 10-3-22	Sampled By: Kevin Ashley		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - OMM TCS PWTF	Signature: [signature] Date: 10-3-22		
Project Number: 30106892			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		
6. Method of Cooling: ICE		
Sample Temp: 1.6°C		

Courier: ASSET
Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N052944-01	Backwash Pre-filter-100322	10/3/22	0800		X	X	X	E	3	PV	BNS	
2	-02	Backwash Post-filter-100322	10/3/22	0815		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
[signature] Kevin Ashley	10/5/22 1520	[signature] Romeo Alcantara	10/5/22 1520
[signature] Romeo Alcantara	10/5/22 1940	[signature] Romeo Alcantara	10/5/22 1940

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Yellow=Customer's Copy

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/5/2022	Workorder:	N052944
Rep sample Temp (Deg C):	1.6	IR Gun ID:	1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

10/6/2022

Checklist Completed By: YR YRodriguez

Reviewed By: for: MBC 10/6/2022

ASSET Laboratories

WORK ORDER Summary

06-Oct-22

WorkOrder: N052944

Client ID: ARCUS02

Project: PG&E Topock - OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 10/5/2022 7:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N052944-001A	Backwash Pre-filter-100322	10/3/2022 8:00:00 AM	10/20/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N052944-001B			10/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N052944-001C			10/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/20/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N052944-002A	Backwash Post-filter-100322	10/3/2022 8:15:00 AM	10/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N052944-002B			10/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N052944-002C			10/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/20/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N052944-003A	FOLDER	10/20/2022	10/20/2022		Folder	Folder	☐	☐	☐	LAB
			10/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/20/2022		Folder	Folder	☐	☐	☐	LAB

October 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053037

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 10, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Sulfate. However, samples result for this analyte was greater than 5x the Method Blank detection therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Barium in QC samples N052945-001E-MS and N052945-001E-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike Duplicate (MSD) is outside recovery criteria in QC sample N053032-001CMSD at 1x

dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N053032-001 and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053037
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053037-001A	MW-76-039-1022	Groundwater	10/10/2022 11:21:00 AM	10/10/2022	10/27/2022
N053037-001B	MW-76-039-1022	Groundwater	10/10/2022 11:21:00 AM	10/10/2022	10/27/2022
N053037-001C	MW-76-039-1022	Groundwater	10/10/2022 11:21:00 AM	10/10/2022	10/27/2022
N053037-001D	MW-76-039-1022	Groundwater	10/10/2022 11:21:00 AM	10/10/2022	10/27/2022
N053037-002A	MW-76-156-1022	Groundwater	10/10/2022 12:05:00 PM	10/10/2022	10/27/2022
N053037-002B	MW-76-156-1022	Groundwater	10/10/2022 12:05:00 PM	10/10/2022	10/27/2022
N053037-002C	MW-76-156-1022	Groundwater	10/10/2022 12:05:00 PM	10/10/2022	10/27/2022
N053037-002D	MW-76-156-1022	Groundwater	10/10/2022 12:05:00 PM	10/10/2022	10/27/2022
N053037-003A	MW-76-181-1022	Groundwater	10/10/2022 12:45:00 PM	10/10/2022	10/27/2022
N053037-003B	MW-76-181-1022	Groundwater	10/10/2022 12:45:00 PM	10/10/2022	10/27/2022
N053037-003C	MW-76-181-1022	Groundwater	10/10/2022 12:45:00 PM	10/10/2022	10/27/2022
N053037-003D	MW-76-181-1022	Groundwater	10/10/2022 12:45:00 PM	10/10/2022	10/27/2022
N053037-004A	MW-76-218-1022	Groundwater	10/10/2022 1:31:00 PM	10/10/2022	10/27/2022
N053037-004B	MW-76-218-1022	Groundwater	10/10/2022 1:31:00 PM	10/10/2022	10/27/2022
N053037-004C	MW-76-218-1022	Groundwater	10/10/2022 1:31:00 PM	10/10/2022	10/27/2022
N053037-004D	MW-76-218-1022	Groundwater	10/10/2022 1:31:00 PM	10/10/2022	10/27/2022
N053037-005A	EB-701-Q422	Groundwater	10/10/2022 1:40:00 PM	10/10/2022	10/27/2022
N053037-006A	MW-77-046-1022	Groundwater	10/10/2022 1:29:00 PM	10/10/2022	10/27/2022
N053037-006B	MW-77-046-1022	Groundwater	10/10/2022 1:29:00 PM	10/10/2022	10/27/2022
N053037-006C	MW-77-046-1022	Groundwater	10/10/2022 1:29:00 PM	10/10/2022	10/27/2022
N053037-006D	MW-77-046-1022	Groundwater	10/10/2022 1:29:00 PM	10/10/2022	10/27/2022
N053037-007A	MW-77-102-1022	Groundwater	10/10/2022 11:22:00 AM	10/10/2022	10/27/2022
N053037-007B	MW-77-102-1022	Groundwater	10/10/2022 11:22:00 AM	10/10/2022	10/27/2022
N053037-007C	MW-77-102-1022	Groundwater	10/10/2022 11:22:00 AM	10/10/2022	10/27/2022
N053037-007D	MW-77-102-1022	Groundwater	10/10/2022 11:22:00 AM	10/10/2022	10/27/2022
N053037-008A	MW-77-158-1022	Groundwater	10/10/2022 11:51:00 AM	10/10/2022	10/27/2022
N053037-008B	MW-77-158-1022	Groundwater	10/10/2022 11:51:00 AM	10/10/2022	10/27/2022
N053037-008C	MW-77-158-1022	Groundwater	10/10/2022 11:51:00 AM	10/10/2022	10/27/2022
N053037-008D	MW-77-158-1022	Groundwater	10/10/2022 11:51:00 AM	10/10/2022	10/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053037
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053037-009A	MW-77-187-1022	Groundwater	10/10/2022 12:26:00 PM	10/10/2022	10/27/2022
N053037-009B	MW-77-187-1022	Groundwater	10/10/2022 12:26:00 PM	10/10/2022	10/27/2022
N053037-009C	MW-77-187-1022	Groundwater	10/10/2022 12:26:00 PM	10/10/2022	10/27/2022
N053037-009D	MW-77-187-1022	Groundwater	10/10/2022 12:26:00 PM	10/10/2022	10/27/2022
N053037-010A	EB-702-Q422	Groundwater	10/10/2022 2:15:00 PM	10/10/2022	10/27/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	180	0.48	4.0		µg/L	20	10/11/2022 09:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:05:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	10/11/2022 10:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1100	2.4	20		µg/L	100	10/11/2022 10:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:31:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	10/11/2022 02:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-701-Q422
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:40:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	10/11/2022 02:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:29:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	10/11/2022 12:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:22:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	10/11/2022 04:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	10/11/2022 01:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	33	0.12	1.0		µg/L	5	10/11/2022 12:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-702-Q422
Lab Order:	N053037	**Collection Date:**	10/10/2022 2:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221011A**	QC Batch: **R166421**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	10/11/2022 02:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R166421**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **PBW**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R166421**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **LCSW**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.963	0.20	5.000	0	99.3	90	110				

Sample ID: **N053037-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869035**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	270.388	4.0	100.0	177.9	92.5	90	110				

Sample ID: **N053037-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	281.978	4.0	100.0	177.9	104	90	110	270.4	4.20	20	

Sample ID: **N053037-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.396	1.0	5.000	0	108	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053033-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166421**
Client ID: **ZZZZZZ** Batch ID: **R166421** TestNo: **EPA 218.6** Analysis Date: **10/11/2022** SeqNo: **4869041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.711	0.20						0.7501	5.38	20	

Sample ID: **N053033-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166421**
Client ID: **ZZZZZZ** Batch ID: **R166421** TestNo: **EPA 218.6** Analysis Date: **10/11/2022** SeqNo: **4869042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.767	0.20	1.000	0.7501	102	90	110				

Sample ID: **N053037-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166421**
Client ID: **ZZZZZZ** Batch ID: **R166421** TestNo: **EPA 218.6** Analysis Date: **10/11/2022** SeqNo: **4869043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1554.440	20	500.0	1080	95.0	90	110				

Sample ID: **N053037-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166421**
Client ID: **ZZZZZZ** Batch ID: **R166421** TestNo: **EPA 218.6** Analysis Date: **10/11/2022** SeqNo: **4869045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	58.675	1.0	25.00	33.19	102	90	110				

Sample ID: **N053037-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166421**
Client ID: **ZZZZZZ** Batch ID: **R166421** TestNo: **EPA 218.6** Analysis Date: **10/11/2022** SeqNo: **4869047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053037-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.108	0.20	1.000	0.1243	98.4	90	110				

Sample ID: **N053037-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N053037-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869055**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Sample ID: **N053037-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869057**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.150	1.0	5.000	0	103	90	110				

Sample ID: **N053037-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166421**
Client ID: **ZZZZZZ**	Batch ID: **R166421**	TestNo: **EPA 218.6**		Analysis Date: **10/11/2022**	SeqNo: **4869068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.306	1.0	5.000	0	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	220	1.2	10		mg/L	20	10/11/2022 06:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.2	0.095	0.50		mg/L	10	10/11/2022 09:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:05:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	660	6.1	50		mg/L	100	10/11/2022 04:29 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/11/2022 09:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	940	6.1	50		mg/L	100	10/11/2022 06:32 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	10/11/2022 10:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:31:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	650	6.1	50		mg/L	100	10/11/2022 06:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/11/2022 10:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:29:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	420	6.1	50		mg/L	100	10/11/2022 07:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/11/2022 10:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:22:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	710	6.1	50		mg/L	100	10/11/2022 07:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	10/11/2022 10:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	550	6.1	50		mg/L	100	10/11/2022 07:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/11/2022 11:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	10/11/2022 05:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221011A** QC Batch: **R166410**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.57	0.095	0.50		mg/L	10	10/11/2022 11:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R166410_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **PBW**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.270	0.50									

Sample ID: **LCS-R166410_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **LCSW**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.076	0.50	4.000	0	102	90	110				

Sample ID: **N053037-002DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **ZZZZZZ**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1087.730	50	400.0	661.0	107	80	120				

Sample ID: **N053037-002DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **ZZZZZZ**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1068.510	50	400.0	661.0	102	80	120	1088	1.78	20	

Sample ID: **N053037-009DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **ZZZZZZ**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	739.350	50						740.6	0.162	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R166410_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **PBW**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.012	0.050									

Sample ID: **LCS-R166410_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **LCSW**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.280	0.050	1.250	0	102	90	110				

Sample ID: **N053037-001DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **ZZZZZZ**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.035	0.50	12.50	3.184	94.8	80	120				

Sample ID: **N053037-001DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **ZZZZZZ**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.119	0.50	12.50	3.184	95.5	80	120	15.04	0.557	20	

Sample ID: **N053031-001EDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166410**
Client ID: **ZZZZZZ**	Batch ID: **R166410**	TestNo: **EPA 300.0**		Analysis Date: **10/11/2022**	SeqNo: **4868592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.206	1.0						15.39	1.20	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053031-001EMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **166410**
Client ID: **ZZZZZZ** Batch ID: **R166410** TestNo: **EPA 300.0** Analysis Date: **10/11/2022** SeqNo: **4868593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	44.876	1.0	25.00	15.39	118	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 07:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:05:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 08:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:31:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 08:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:29:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:22:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 09:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 09:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221011A**	QC Batch: **R166373**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/11/2022 09:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166373**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166373**
Client ID: **PBW**	Batch ID: **R166373**	TestNo: **SM 5310C**		Analysis Date: **10/11/2022**	SeqNo: **4865815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	0.174	1.0									

Sample ID: **LCS-R166373**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166373**
Client ID: **LCSW**	Batch ID: **R166373**	TestNo: **SM 5310C**		Analysis Date: **10/11/2022**	SeqNo: **4865816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.128	1.0	5.000	0	103	85	115				

Sample ID: **N053032-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166373**
Client ID: **ZZZZZZ**	Batch ID: **R166373**	TestNo: **SM 5310C**		Analysis Date: **10/11/2022**	SeqNo: **4865827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	26.062	5.0	25.00	1.635	97.7	75	125				

Sample ID: **N053032-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166373**
Client ID: **ZZZZZZ**	Batch ID: **R166373**	TestNo: **SM 5310C**		Analysis Date: **10/11/2022**	SeqNo: **4865828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.457	5.0	25.00	1.635	103	75	125	26.06	5.21	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 06:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:05:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	240	13	20		µg/L	1	10/13/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 07:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:31:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 07:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:29:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 07:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:22:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 07:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	23	13	20		µg/L	1	10/13/2022 07:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95166**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-95166**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **PBW**	Batch ID: **95166**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-95166**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **LCSW**	Batch ID: **95166**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.953	20	100.0	0	109	85	115				

Sample ID: **N053037-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **ZZZZZZ**	Batch ID: **95166**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.402	20	100.0	0	95.4	75	125				

Sample ID: **N053037-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **ZZZZZZ**	Batch ID: **95166**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.546	20	100.0	0	99.5	75	125	95.40	4.25	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053037-001

Client Sample ID: MW-76-039-1022
Collection Date: 10/10/2022 11:21:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:		**10/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/13/2022 10:13 AM
Barium	54	0.083	1.0		µg/L	1	10/13/2022 10:13 AM
Manganese	ND	0.026	0.50		µg/L	1	10/13/2022 10:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-76-156-1022
Lab Order: N053037
Collection Date: 10/10/2022 12:05:00 PM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053037-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/13/2022 10:19 AM
Barium	98	0.083	1.0		µg/L	1	10/13/2022 10:19 AM
Manganese	1300	0.66	12		µg/L	25	10/13/2022 02:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053037-003

Client Sample ID: MW-76-181-1022
Collection Date: 10/10/2022 12:45:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:		**10/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/13/2022 10:25 AM
Barium	56	0.083	1.0		µg/L	1	10/13/2022 10:25 AM
Manganese	49	0.026	0.50		µg/L	1	10/13/2022 10:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 1:31:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/13/2022 10:31 AM
Barium	78	0.083	1.0		µg/L	1	10/13/2022 10:31 AM
Manganese	470	0.13	2.5		µg/L	5	10/13/2022 02:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053037-006

Client Sample ID: MW-77-046-1022
Collection Date: 10/10/2022 1:29:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221015A**	QC Batch: **95149**			PrepDate:		**10/11/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	10/15/2022 03:23 PM
Barium	56	0.083	1.0		µg/L	1	10/13/2022 10:37 AM
Manganese	600	0.13	2.5		µg/L	5	10/13/2022 02:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053037-007

Client Sample ID: MW-77-102-1022
Collection Date: 10/10/2022 11:22:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:		**10/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/13/2022 10:43 AM
Barium	56	0.083	1.0		µg/L	1	10/13/2022 10:43 AM
Manganese	100	0.026	0.50		µg/L	1	10/13/2022 10:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053037-008

Client Sample ID: MW-77-158-1022
Collection Date: 10/10/2022 11:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221012E**	QC Batch: **95149**			PrepDate:		**10/11/2022**	Analyst: **DJ**
Arsenic	0.65	0.050	0.10		µg/L	1	10/13/2022 10:49 AM
Barium	30	0.083	1.0		µg/L	1	10/13/2022 10:49 AM
Manganese	27	0.026	0.50		µg/L	1	10/13/2022 10:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1022
Lab Order:	N053037	**Collection Date:**	10/10/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053037-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221015A**	QC Batch: **95149**			PrepDate:	**10/11/2022**		Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	10/15/2022 03:29 PM
Barium	24	0.083	1.0		µg/L	1	10/13/2022 10:55 AM
Manganese	9.0	0.026	0.50		µg/L	1	10/13/2022 10:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-95149**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166445**
Client ID: **PBW**	Batch ID: **95149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-95149**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166445**
Client ID: **LCSW**	Batch ID: **95149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.722	0.10	10.00	0	87.2	85	115				
Barium	11.065	1.0	10.00	0	111	85	115				
Manganese	96.429	0.50	100.0	0	96.4	85	115				

Sample ID: **N052945-001E-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166445**
Client ID: **ZZZZZZ**	Batch ID: **95149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.415	0.10	10.00	0	84.1	75	125				
Barium	83.870	1.0	10.00	77.08	67.9	75	125				S
Manganese	107.024	0.50	100.0	17.68	89.3	75	125				

Sample ID: **N052945-001E-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/11/2022**	RunNo: **166445**
Client ID: **ZZZZZZ**	Batch ID: **95149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.550	0.10	10.00	0	85.5	75	125	8.415	1.60	20	
Barium	83.981	1.0	10.00	77.08	69.0	75	125	83.87	0.132	20	S
Manganese	106.783	0.50	100.0	17.68	89.1	75	125	107.0	0.226	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053037
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N052945-001E-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **166445**
Client ID: **ZZZZZZ** Batch ID: **95149** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/13/2022** SeqNo: **4871427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.416	0.10	10.00	0	84.2	80	120				
Barium	84.536	1.0	10.00	77.08	74.5	80	120				S
Manganese	108.143	0.50	100.0	17.68	90.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

ARCUS02 C: 10/24/202 12:00 AM
FOLDER R: 10/10/202
N053037-011A 1 of 1

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email:	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@arcadis.com	P.O.#
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 10/10/22	Sampled By: Riggie Tap		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 10/10/22		
Project Number: 30121866.4Q22GW			

Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		

6. Method of Cooling: ICE
Sample Temp: 2.3c°

Courier: ASSET
Tracking No.:

Matrix: Ground X | Sediment; Potable | Soil; NPDES | Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrite, Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) Nota ter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate, sulfate (EPA 300.0) 1 L poly					Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053037-01	MW-76-039-1022	10/10/2022	11:21		X		X			X			X					E	6	P	BNS	
2	-02	MW-76-156-1022	10/10/2022	12:05		X		X			X			X					E	6	P	BNS	
3	-03	MW-76-181-1022	10/10/2022	12:45		X		X			X			X					E	6	P	BNS	
4	-04	MW-76-218-1022	10/10/2022	13:31		X		X			X			X					E	6	P	BNS	
5	-05	EB-701-Q422	10/10/2022	13:40		X													E	1	P	BNS	
6	-06	MW-77-046-1022	10/10/2022	13:29		X		X			X			X					E	6	P	BNS	
7	-07	MW-77-102-1022	10/10/2022	11:22		X		X			X			X					E	6	P	BNS	
8	-08	MW-77-158-1022	10/10/2022	11:51		X		X			X			X					E	6	P	BNS	
9	-09	MW-77-187-1022	10/10/2022	12:26		X		X			X			X					E	6	P	BNS	
10	-10	EB-702-Q422	10/10/2022	14:15		X													E	1	P	BNS	
11																							
12																							
13																							
14																							

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tap	10/10/22 1507	Romeo Arcamada	10/10/22 1507
Romeo Arcamada	10/10/22 1810	Romeo Arcamada	10/10/22 1810
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/10/2022	Workorder:	N053037
Rep sample Temp (Deg C):	2.3	IR Gun ID:	1
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For: 10/11/2022

Checklist Completed By: EF YRodriguez

for:

Reviewed By: MBC 10/12/2022

ASSET Laboratories

WORK ORDER Summary

12-Oct-22

WorkOrder: N053037

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/10/2022 6:10 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053037-001A	MW-76-039-1022	10/10/2022 11:21:00 AM	10/25/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-001B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-001C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-001D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-002A	MW-76-156-1022	10/10/2022 12:05:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-002B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-002C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-002D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-003A	MW-76-181-1022	10/10/2022 12:45:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-003B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-003C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

12-Oct-22

WorkOrder: N053037

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/10/2022 6:10 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053037-003D	MW-76-181-1022	10/10/2022 12:45:00 PM	10/25/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-004A	MW-76-218-1022	10/10/2022 1:31:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-004B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-004C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-004D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-005A	EB-701-Q422	10/10/2022 1:40:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-006A	MW-77-046-1022	10/10/2022 1:29:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-006B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-006C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-006D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-007A	MW-77-102-1022	10/10/2022 11:22:00 AM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-007B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

12-Oct-22

WorkOrder: N053037

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/10/2022 6:10 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053037-007B	MW-77-102-1022	10/10/2022 11:22:00 AM	10/25/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-007C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-007D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-008A	MW-77-158-1022	10/10/2022 11:51:00 AM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-008B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-008C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-008D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-009A	MW-77-187-1022	10/10/2022 12:26:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053037-009B			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053037-009C			10/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053037-009D			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053037-010A	EB-702-Q422	10/10/2022 2:15:00 PM	10/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

12-Oct-22

WorkOrder: N053037

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/10/2022 6:10 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053037-011A	FOLDER	10/25/2022	10/25/2022		Folder	Folder	☐	☐	☐	LAB
			10/25/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/25/2022		Folder	Folder	☐	☐	☐	LAB

October 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053064

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 11, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053064

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Sulfate. However, samples result for this analyte was greater than 5x the Method Blank detection therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N053064-001B-MS and N053064-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *27-Oct-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053064
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053064-001A	MW-39-040-1022	Groundwater	10/11/2022 8:58:00 AM	10/11/2022	10/27/2022
N053064-001B	MW-39-040-1022	Groundwater	10/11/2022 8:58:00 AM	10/11/2022	10/27/2022
N053064-001C	MW-39-040-1022	Groundwater	10/11/2022 8:58:00 AM	10/11/2022	10/27/2022
N053064-001D	MW-39-040-1022	Groundwater	10/11/2022 8:58:00 AM	10/11/2022	10/27/2022
N053064-002A	MW-39-050-1022	Groundwater	10/11/2022 9:29:00 AM	10/11/2022	10/27/2022
N053064-002B	MW-39-050-1022	Groundwater	10/11/2022 9:29:00 AM	10/11/2022	10/27/2022
N053064-002C	MW-39-050-1022	Groundwater	10/11/2022 9:29:00 AM	10/11/2022	10/27/2022
N053064-002D	MW-39-050-1022	Groundwater	10/11/2022 9:29:00 AM	10/11/2022	10/27/2022
N053064-003A	MW-39-060-1022	Groundwater	10/11/2022 11:50:00 AM	10/11/2022	10/27/2022
N053064-003B	MW-39-060-1022	Groundwater	10/11/2022 11:50:00 AM	10/11/2022	10/27/2022
N053064-003C	MW-39-060-1022	Groundwater	10/11/2022 11:50:00 AM	10/11/2022	10/27/2022
N053064-003D	MW-39-060-1022	Groundwater	10/11/2022 11:50:00 AM	10/11/2022	10/27/2022
N053064-004A	MW-39-070-1022	Groundwater	10/11/2022 8:21:00 AM	10/11/2022	10/27/2022
N053064-004B	MW-39-070-1022	Groundwater	10/11/2022 8:21:00 AM	10/11/2022	10/27/2022
N053064-004C	MW-39-070-1022	Groundwater	10/11/2022 8:21:00 AM	10/11/2022	10/27/2022
N053064-004D	MW-39-070-1022	Groundwater	10/11/2022 8:21:00 AM	10/11/2022	10/27/2022
N053064-005A	MW-906-Q422	Groundwater	10/11/2022 8:31:00 AM	10/11/2022	10/27/2022
N053064-005B	MW-906-Q422	Groundwater	10/11/2022 8:31:00 AM	10/11/2022	10/27/2022
N053064-005C	MW-906-Q422	Groundwater	10/11/2022 8:31:00 AM	10/11/2022	10/27/2022
N053064-005D	MW-906-Q422	Groundwater	10/11/2022 8:31:00 AM	10/11/2022	10/27/2022
N053064-006A	MW-39-080-1022	Groundwater	10/11/2022 10:05:00 AM	10/11/2022	10/27/2022
N053064-006B	MW-39-080-1022	Groundwater	10/11/2022 10:05:00 AM	10/11/2022	10/27/2022
N053064-006C	MW-39-080-1022	Groundwater	10/11/2022 10:05:00 AM	10/11/2022	10/27/2022
N053064-006D	MW-39-080-1022	Groundwater	10/11/2022 10:05:00 AM	10/11/2022	10/27/2022
N053064-007A	MW-39-100-1022	Groundwater	10/11/2022 10:35:00 AM	10/11/2022	10/27/2022
N053064-007B	MW-39-100-1022	Groundwater	10/11/2022 10:35:00 AM	10/11/2022	10/27/2022
N053064-007C	MW-39-100-1022	Groundwater	10/11/2022 10:35:00 AM	10/11/2022	10/27/2022
N053064-007D	MW-39-100-1022	Groundwater	10/11/2022 10:35:00 AM	10/11/2022	10/27/2022
N053064-008A	MW-30-050-1022	Groundwater	10/11/2022 12:55:00 PM	10/11/2022	10/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053064
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053064-008B	MW-30-050-1022	Groundwater	10/11/2022 12:55:00 PM	10/11/2022	10/27/2022
N053064-008C	MW-30-050-1022	Groundwater	10/11/2022 12:55:00 PM	10/11/2022	10/27/2022
N053064-008D	MW-30-050-1022	Groundwater	10/11/2022 12:55:00 PM	10/11/2022	10/27/2022
N053064-009A	EB-704-Q422	Groundwater	10/11/2022 2:00:00 PM	10/11/2022	10/27/2022
N053064-010A	MW-82-046-1022	Groundwater	10/11/2022 8:51:00 AM	10/11/2022	10/27/2022
N053064-010B	MW-82-046-1022	Groundwater	10/11/2022 8:51:00 AM	10/11/2022	10/27/2022
N053064-010C	MW-82-046-1022	Groundwater	10/11/2022 8:51:00 AM	10/11/2022	10/27/2022
N053064-010D	MW-82-046-1022	Groundwater	10/11/2022 8:51:00 AM	10/11/2022	10/27/2022
N053064-011A	MW-82-112-1022	Groundwater	10/11/2022 9:23:00 AM	10/11/2022	10/27/2022
N053064-011B	MW-82-112-1022	Groundwater	10/11/2022 9:23:00 AM	10/11/2022	10/27/2022
N053064-011C	MW-82-112-1022	Groundwater	10/11/2022 9:23:00 AM	10/11/2022	10/27/2022
N053064-011D	MW-82-112-1022	Groundwater	10/11/2022 9:23:00 AM	10/11/2022	10/27/2022
N053064-012A	MW-909-Q422	Groundwater	10/11/2022 9:33:00 AM	10/11/2022	10/27/2022
N053064-012B	MW-909-Q422	Groundwater	10/11/2022 9:33:00 AM	10/11/2022	10/27/2022
N053064-012C	MW-909-Q422	Groundwater	10/11/2022 9:33:00 AM	10/11/2022	10/27/2022
N053064-012D	MW-909-Q422	Groundwater	10/11/2022 9:33:00 AM	10/11/2022	10/27/2022
N053064-013A	MW-82-168-1022	Groundwater	10/11/2022 10:03:00 AM	10/11/2022	10/27/2022
N053064-013B	MW-82-168-1022	Groundwater	10/11/2022 10:03:00 AM	10/11/2022	10/27/2022
N053064-013C	MW-82-168-1022	Groundwater	10/11/2022 10:03:00 AM	10/11/2022	10/27/2022
N053064-013D	MW-82-168-1022	Groundwater	10/11/2022 10:03:00 AM	10/11/2022	10/27/2022
N053064-014A	MW-910-Q422	Groundwater	10/11/2022 10:13:00 AM	10/11/2022	10/27/2022
N053064-014B	MW-910-Q422	Groundwater	10/11/2022 10:13:00 AM	10/11/2022	10/27/2022
N053064-014C	MW-910-Q422	Groundwater	10/11/2022 10:13:00 AM	10/11/2022	10/27/2022
N053064-014D	MW-910-Q422	Groundwater	10/11/2022 10:13:00 AM	10/11/2022	10/27/2022
N053064-015A	MW-82-198-1022	Groundwater	10/11/2022 10:50:00 AM	10/11/2022	10/27/2022
N053064-015B	MW-82-198-1022	Groundwater	10/11/2022 10:50:00 AM	10/11/2022	10/27/2022
N053064-015C	MW-82-198-1022	Groundwater	10/11/2022 10:50:00 AM	10/11/2022	10/27/2022
N053064-015D	MW-82-198-1022	Groundwater	10/11/2022 10:50:00 AM	10/11/2022	10/27/2022
N053064-016A	MW-81-043-1022	Groundwater	10/11/2022 11:51:00 AM	10/11/2022	10/27/2022
N053064-016B	MW-81-043-1022	Groundwater	10/11/2022 11:51:00 AM	10/11/2022	10/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053064
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053064-016C	MW-81-043-1022	Groundwater	10/11/2022 11:51:00 AM	10/11/2022	10/27/2022
N053064-016D	MW-81-043-1022	Groundwater	10/11/2022 11:51:00 AM	10/11/2022	10/27/2022
N053064-017A	MW-81-098-1022	Groundwater	10/11/2022 12:13:00 PM	10/11/2022	10/27/2022
N053064-017B	MW-81-098-1022	Groundwater	10/11/2022 12:13:00 PM	10/11/2022	10/27/2022
N053064-017C	MW-81-098-1022	Groundwater	10/11/2022 12:13:00 PM	10/11/2022	10/27/2022
N053064-017D	MW-81-098-1022	Groundwater	10/11/2022 12:13:00 PM	10/11/2022	10/27/2022
N053064-018A	MW-44-115-1022	Groundwater	10/11/2022 1:12:00 PM	10/11/2022	10/27/2022
N053064-018B	MW-44-115-1022	Groundwater	10/11/2022 1:12:00 PM	10/11/2022	10/27/2022
N053064-018C	MW-44-115-1022	Groundwater	10/11/2022 1:12:00 PM	10/11/2022	10/27/2022
N053064-018D	MW-44-115-1022	Groundwater	10/11/2022 1:12:00 PM	10/11/2022	10/27/2022
N053064-019A	MW-44-125-1022	Groundwater	10/11/2022 12:51:00 PM	10/11/2022	10/27/2022
N053064-019B	MW-44-125-1022	Groundwater	10/11/2022 12:51:00 PM	10/11/2022	10/27/2022
N053064-019C	MW-44-125-1022	Groundwater	10/11/2022 12:51:00 PM	10/11/2022	10/27/2022
N053064-019D	MW-44-125-1022	Groundwater	10/11/2022 12:51:00 PM	10/11/2022	10/27/2022
N053064-020A	EB-703-Q422	Groundwater	10/11/2022 1:20:00 PM	10/11/2022	10/27/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:58:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 02:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:29:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 03:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 03:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 04:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	13	0.45	1.0		µg/L	5	10/14/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:35:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	310	2.2	5.0		µg/L	25	10/17/2022 10:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 06:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-704-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221014B**	QC Batch: **R166526**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/14/2022 06:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/17/2022 10:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:23:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/17/2022 11:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/17/2022 12:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/17/2022 12:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:13:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/17/2022 12:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	2.6	0.45	1.0		µg/L	5	10/17/2022 01:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A** QC Batch: **R166598**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	13	0.090	0.20		µg/L	1	10/17/2022 01:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.5	0.45	1.0		µg/L	5	10/17/2022 02:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 1:12:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.1	0.45	1.0		µg/L	5	10/17/2022 02:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/17/2022 03:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-703-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 1:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/17/2022 03:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **MB1-R166526**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:			RunNo: **166526**			
Client ID: **PBW**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**			SeqNo: **4876805**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS1-R166526**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:			RunNo: **166526**			
Client ID: **LCSW**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**			SeqNo: **4876806**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.925	0.20	5.000	0	98.5	90	110				

Sample ID: **N053064-001A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:			RunNo: **166526**			
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**			SeqNo: **4876808**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N053064-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:			RunNo: **166526**			
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**			SeqNo: **4876809**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.049	0.20	1.000	0	105	90	110				

Sample ID: **N053064-001A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:			RunNo: **166526**			
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**			SeqNo: **4876810**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110	1.049	1.14	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.060	0.20	1.000	0	106	90	110				

Sample ID: **N053064-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Sample ID: **N053064-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Sample ID: **N053064-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N053064-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.025	1.0	25.00	13.19	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.051	0.20	1.000	0	105	90	110				

Sample ID: **N053064-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4876830**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID: **N053064-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166526**
Client ID: **ZZZZZZ**	Batch ID: **R166526**	TestNo: **EPA 218.6**		Analysis Date: **10/15/2022**	SeqNo: **4876858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R166598**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **LCSW**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.806	0.20	5.000	0	96.1	90	110				

Sample ID: **MB1-R166598**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **PBW**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053064-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	436.000	5.0	125.0	314.1	97.5	90	110				

Sample ID: **N053064-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.144	1.0	5.000	0	103	90	110				

Sample ID: **N053064-011A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	1.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.980	1.0	5.000	0	99.6	90	110				

Sample ID: **N053064-011A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.033	1.0	5.000	0	101	90	110	4.980	1.07	20	

Sample ID: **N053064-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	1.0	5.000	0	103	90	110				

Sample ID: **N053064-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.212	1.0	5.000	0	104	90	110				

Sample ID: **N053064-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.342	1.0	5.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-015A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.661	1.0	5.000	2.596	101	90	110				

Sample ID: **N053064-016A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.786	0.20	5.000	12.78	100	90	110				

Sample ID: **N053064-017A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.637	1.0	5.000	1.526	102	90	110				

Sample ID: **N053064-018A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.350	1.0	5.000	1.118	105	90	110				

Sample ID: **N053064-019A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.158	1.0	5.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-020A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.083	0.20	1.000	0	108	90	110				

Sample ID: **N053084-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.481	1.0	25.00	17.07	97.7	90	110				

Sample ID: **N053084-001A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.404	1.0	25.00	17.07	97.3	90	110	41.48	0.186	20	

Sample ID: **N053084-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	661.035	10	250.0	413.4	99.0	90	110				

Sample ID: **N053084-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	54.199	1.0	25.00	29.49	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053084-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1141.470	20	500.0	648.7	98.6	90	110				

Sample ID: **N053085-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	346.110	10	250.0	101.7	97.8	90	110				

Sample ID: **N053085-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	228.130	4.0	100.0	132.2	95.9	90	110				

Sample ID: **N053085-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	615.775	10	250.0	372.2	97.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-001

Client Sample ID: MW-39-040-1022
Collection Date: 10/11/2022 8:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	120	1.2	10		mg/L	20	10/17/2022 12:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A** QC Batch: **R166412**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	10/12/2022 09:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-002

Client Sample ID: MW-39-050-1022
Collection Date: 10/11/2022 9:29:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	10/17/2022 12:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A** QC Batch: **R166412**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	10/12/2022 09:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	210	1.2	10		mg/L	20	10/17/2022 01:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A**	QC Batch: **R166412**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 10:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-004

Client Sample ID: MW-39-070-1022
Collection Date: 10/11/2022 8:21:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	280	3.0	25		mg/L	50	10/17/2022 01:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A** QC Batch: **R166412**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 10:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-005

Client Sample ID: MW-906-Q422
Collection Date: 10/11/2022 8:31:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	280	3.0	25		mg/L	50	10/17/2022 01:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A** QC Batch: **R166412**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 11:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	590	3.0	25		mg/L	50	10/17/2022 02:01 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A** QC Batch: **R166412**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 11:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-007

Client Sample ID: MW-39-100-1022
Collection Date: 10/11/2022 10:35:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	10/17/2022 07:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A**	QC Batch: **R166412**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 03:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	200	1.2	10		mg/L	20	10/17/2022 04:03 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012A** QC Batch: **R166412**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	10/12/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-010

Client Sample ID: MW-82-046-1022
Collection Date: 10/11/2022 8:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	1500	12	100		mg/L	200	10/17/2022 04:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012B**	QC Batch: **R166413**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 11:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:23:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	10/17/2022 04:34 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012B** QC Batch: **R166413**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.0	0.095	0.50		mg/L	10	10/12/2022 11:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-012

Client Sample ID: MW-909-Q422
Collection Date: 10/11/2022 9:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	730	6.1	50		mg/L	100	10/17/2022 04:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012B** QC Batch: **R166413**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	10/12/2022 11:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	560	3.0	25		mg/L	50	10/17/2022 05:04 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012B** QC Batch: **R166413**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 09:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:13:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	540	3.0	25		mg/L	50	10/17/2022 05:19 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012B**	QC Batch: **R166413**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/12/2022 10:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	890	6.1	50		mg/L	100	10/17/2022 05:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012B** QC Batch: **R166413**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	10/12/2022 11:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A** QC Batch: **R166589**				PrepDate:			Analyst: **RAB**
Sulfate	300	3.0	25		mg/L	50	10/17/2022 06:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C** QC Batch: **R166414**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.3	0.095	0.50		mg/L	10	10/13/2022 02:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	10/17/2022 06:36 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C**	QC Batch: **R166414**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.81	0.095	0.50		mg/L	10	10/13/2022 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-018

Client Sample ID: MW-44-115-1022
Collection Date: 10/11/2022 1:12:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	10/17/2022 06:51 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C**	QC Batch: **R166414**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 02:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017A**	QC Batch: **R166589**			PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	10/17/2022 07:07 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C**	QC Batch: **R166414**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 02:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R166589_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166589**
Client ID: **PBW**	Batch ID: **R166589**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.308	0.50									

Sample ID: **LCS-R166589_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166589**
Client ID: **LCSW**	Batch ID: **R166589**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.103	0.50	4.000	0	103	90	110				

Sample ID: **N053064-002DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166589**
Client ID: **ZZZZZZ**	Batch ID: **R166589**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	286.942	10	80.00	193.8	116	80	120				

Sample ID: **N053064-006DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166589**
Client ID: **ZZZZZZ**	Batch ID: **R166589**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	557.015	25						593.8	6.39	20	

Sample ID: **N053064-006DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166589**
Client ID: **ZZZZZZ**	Batch ID: **R166589**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	768.350	25	200.0	593.8	87.3	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053064-002DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166589**
Client ID: **ZZZZZZ**	Batch ID: **R166589**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	276.236	10	80.00	193.8	103	80	120	286.9	3.80	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R166412_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **PBW**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4868721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R166412_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **LCSW**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4868722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.240	0.050	1.250	0	99.2	90	110				

Sample ID: **N053060-001CMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **ZZZZZZ**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4868747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	21.194	0.50	12.50	6.609	117	80	120				

Sample ID: **N053060-001CMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **ZZZZZZ**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4868748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	19.322	0.50	12.50	6.609	102	80	120	21.19	9.24	20	

Sample ID: **N053064-002DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **ZZZZZZ**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4868749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.415	0.25	6.250	0	103	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053060-001CMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **ZZZZZZ**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4868755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	19.124	0.50	12.50	6.609	100	80	120				

Sample ID: **N053054-001DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166412**
Client ID: **ZZZZZZ**	Batch ID: **R166412**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4897394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.900	0.25						4.797	2.11	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R166413_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166413**
Client ID: **LCSW**	Batch ID: **R166413**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4874813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.284	0.050	1.250	0	103	90	110				

Sample ID: **MB-R166413_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166413**
Client ID: **PBW**	Batch ID: **R166413**	TestNo: **EPA 300.0**		Analysis Date: **10/12/2022**	SeqNo: **4874814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N053062-013EMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166413**
Client ID: **ZZZZZZ**	Batch ID: **R166413**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	90.535	2.5	62.50	24.46	106	80	120				

Sample ID: **N053062-013EMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166413**
Client ID: **ZZZZZZ**	Batch ID: **R166413**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	91.850	2.5	62.50	24.46	108	80	120	90.54	1.44	20	

Sample ID: **N053064-013DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166413**
Client ID: **ZZZZZZ**	Batch ID: **R166413**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.464	0.50						0.2410	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053064-013DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **166413**
Client ID: **ZZZZZZ** Batch ID: **R166413** TestNo: **EPA 300.0** Analysis Date: **10/13/2022** SeqNo: **4874842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.244	0.50	12.50	0.2410	96.0	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R166414_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **PBW**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R166414_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **LCSW**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.240	0.050	1.250	0	99.2	90	110				

Sample ID: **N053064-019DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **ZZZZZZ**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Sample ID: **N053064-019DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **ZZZZZZ**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.765	0.50	12.50	0	102	80	120				

Sample ID: **N053062-005EMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **ZZZZZZ**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.476	0.050	1.250	0.1446	107	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053062-005EMSD** SampType: **MSD** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **166414**
Client ID: **ZZZZZZ** Batch ID: **R166414** TestNo: **EPA 300.0** Analysis Date: **10/13/2022** SeqNo: **4874956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.399	0.050	1.250	0.1446	100	80	120	1.476	5.37	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:58:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221012A**	QC Batch: **R166433**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.9	0.14	1.0		mg/L	1	10/12/2022 06:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:29:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221012A**	QC Batch: **R166433**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/12/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221012A**	QC Batch: **R166433**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/12/2022 07:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221012A**	QC Batch: **R166433**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/12/2022 07:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221012A**	QC Batch: **R166433**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/12/2022 07:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 01:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:35:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 01:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.9	0.14	1.0		mg/L	1	10/13/2022 03:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:23:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 04:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-014

Client Sample ID: MW-910-Q422
Collection Date: 10/11/2022 10:13:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 03:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 05:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 05:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 1:12:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 06:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166433**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166433**
Client ID: **PBW**	Batch ID: **R166433**	TestNo: **SM 5310C**		Analysis Date: **10/12/2022**	SeqNo: **4869469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R166433**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166433**
Client ID: **LCSW**	Batch ID: **R166433**	TestNo: **SM 5310C**		Analysis Date: **10/12/2022**	SeqNo: **4869470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.187	1.0	5.000	0	104	85	115				

Sample ID: **N053060-002EMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166433**
Client ID: **ZZZZZZ**	Batch ID: **R166433**	TestNo: **SM 5310C**		Analysis Date: **10/12/2022**	SeqNo: **4869472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.639	1.0	5.000	0.5589	81.6	75	125				

Sample ID: **N053060-002EMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166433**
Client ID: **ZZZZZZ**	Batch ID: **R166433**	TestNo: **SM 5310C**		Analysis Date: **10/12/2022**	SeqNo: **4869482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.500	1.0	5.000	0.5589	78.8	75	125	4.639	3.06	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166456**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **PBW**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R166456**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **LCSW**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.961	1.0	5.000	0	99.2	85	115				

Sample ID: **N053077-001DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **ZZZZZZ**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	6.270	1.0	5.000	1.917	87.1	75	125				

Sample ID: **N053077-001DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **ZZZZZZ**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	6.295	1.0	5.000	1.917	87.6	75	125	6.270	0.401	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:58:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	220	13	20		µg/L	1	10/13/2022 03:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:29:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	32	13	20		µg/L	1	10/13/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 04:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	190	13	20		µg/L	1	10/13/2022 04:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:35:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 04:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	27	13	20		µg/L	1	10/13/2022 05:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	6100	13	20		µg/L	1	10/13/2022 05:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:23:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 05:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	49	13	20		µg/L	1	10/13/2022 05:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-014

Client Sample ID: MW-910-Q422
Collection Date: 10/11/2022 10:13:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	43	13	20		µg/L	1	10/13/2022 05:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 10:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	20	13	20		µg/L	1	10/13/2022 05:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	46	13	20		µg/L	1	10/13/2022 05:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	43	13	20		µg/L	1	10/13/2022 05:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 1:12:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**			PrepDate:	**10/12/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/13/2022 05:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221013B**	QC Batch: **95165**				PrepDate:	**10/12/2022**	Analyst: **DJ**
Iron	400	13	20		µg/L	1	10/13/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-95165**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **PBW**	Batch ID: **95165**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **N053064-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **ZZZZZZ**	Batch ID: **95165**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	350.320	20	100.0	221.5	129	75	125				S

Sample ID: **N053064-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **ZZZZZZ**	Batch ID: **95165**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	355.315	20	100.0	221.5	134	75	125	350.3	1.42	20	S

Sample ID: **LCS-95165**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/12/2022**	RunNo: **166449**
Client ID: **LCSW**	Batch ID: **95165**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/13/2022**	SeqNo: **4871667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	87.531	20	100.0	0	87.5	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053064-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **166449**
Client ID: **ZZZZZZ** Batch ID: **95165** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/13/2022** SeqNo: **4871641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	343.154	20	100.0	221.5	122	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-001

Client Sample ID: MW-39-040-1022
Collection Date: 10/11/2022 8:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	14	0.050	0.10		µg/L	1	10/20/2022 07:12 AM
Barium	61	0.083	1.0		µg/L	1	10/21/2022 02:02 AM
Manganese	100	0.13	2.5		µg/L	5	10/21/2022 02:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-002

Client Sample ID: MW-39-050-1022
Collection Date: 10/11/2022 9:29:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	10/20/2022 07:42 AM
Barium	42	0.083	1.0		µg/L	1	10/21/2022 02:31 AM
Manganese	220	0.13	2.5		µg/L	5	10/21/2022 11:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-39-060-1022
Lab Order: N053064
Collection Date: 10/11/2022 11:50:00 AM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053064-003

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:		**10/17/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	10/20/2022 07:48 AM
Barium	38	0.083	1.0		µg/L	1	10/21/2022 02:37 AM
Manganese	250	0.13	2.5		µg/L	5	10/21/2022 11:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-004

Client Sample ID: MW-39-070-1022
Collection Date: 10/11/2022 8:21:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	0.97	0.050	0.10		µg/L	1	10/20/2022 08:12 AM
Barium	45	0.083	1.0		µg/L	1	10/21/2022 03:01 AM
Manganese	18	0.026	0.50		µg/L	1	10/20/2022 08:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-005

Client Sample ID: MW-906-Q422
Collection Date: 10/11/2022 8:31:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:		**10/17/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	10/20/2022 08:18 AM
Barium	45	0.083	1.0		µg/L	1	10/21/2022 03:07 AM
Manganese	19	0.026	0.50		µg/L	1	10/20/2022 08:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-39-080-1022
Lab Order: N053064
Collection Date: 10/11/2022 10:05:00 AM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053064-006

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:		**10/17/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 08:24 AM
Barium	27	0.083	1.0		µg/L	1	10/21/2022 03:13 AM
Manganese	5.8	0.026	0.50		µg/L	1	10/20/2022 08:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-007

Client Sample ID: MW-39-100-1022
Collection Date: 10/11/2022 10:35:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 08:30 AM
Barium	35	0.083	1.0		µg/L	1	10/21/2022 03:19 AM
Manganese	12	0.026	0.50		µg/L	1	10/20/2022 08:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-008

Client Sample ID: MW-30-050-1022
Collection Date: 10/11/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	10/20/2022 08:36 AM
Barium	16	0.083	1.0		µg/L	1	10/21/2022 03:25 AM
Manganese	370	0.13	2.5		µg/L	5	10/21/2022 11:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-010

Client Sample ID: MW-82-046-1022
Collection Date: 10/11/2022 8:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	21	0.050	0.10		µg/L	1	10/20/2022 08:42 AM
Barium	59	0.083	1.0		µg/L	1	10/21/2022 03:31 AM
Manganese	240	0.13	2.5		µg/L	5	10/21/2022 11:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-011

Client Sample ID: MW-82-112-1022
Collection Date: 10/11/2022 9:23:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 08:48 AM
Barium	59	0.083	1.0		µg/L	1	10/21/2022 03:37 AM
Manganese	150	0.026	0.50		µg/L	1	10/20/2022 08:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q422
Lab Order:	N053064	**Collection Date:**	10/11/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 08:54 AM
Barium	61	0.083	1.0		µg/L	1	10/21/2022 03:43 AM
Manganese	150	0.026	0.50		µg/L	1	10/20/2022 08:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-013

Client Sample ID: MW-82-168-1022
Collection Date: 10/11/2022 10:03:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 09:00 AM
Barium	35	0.083	1.0		µg/L	1	10/21/2022 03:49 AM
Manganese	38	0.026	0.50		µg/L	1	10/20/2022 09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-014

Client Sample ID: MW-910-Q422
Collection Date: 10/11/2022 10:13:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 09:23 AM
Barium	31	0.083	1.0		µg/L	1	10/21/2022 04:12 AM
Manganese	33	0.026	0.50		µg/L	1	10/20/2022 09:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053064-015

Client Sample ID: MW-82-198-1022
Collection Date: 10/11/2022 10:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 09:29 AM
Barium	36	0.083	1.0		µg/L	1	10/21/2022 04:18 AM
Manganese	67	0.026	0.50		µg/L	1	10/20/2022 09:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 11:51:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	3.3	0.050	0.10		µg/L	1	10/20/2022 09:35 AM
Barium	76	0.083	1.0		µg/L	1	10/21/2022 04:24 AM
Manganese	41	0.026	0.50		µg/L	1	10/20/2022 09:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-81-098-1022
Lab Order: N053064
Collection Date: 10/11/2022 12:13:00 PM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053064-017

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:		**10/17/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 09:41 AM
Barium	59	0.083	1.0		µg/L	1	10/21/2022 04:30 AM
Manganese	160	0.026	0.50		µg/L	1	10/20/2022 09:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1022
Lab Order:	N053064	**Collection Date:**	10/11/2022 1:12:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053064-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221020B**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	10/21/2022 04:36 AM
Barium	21	0.083	1.0		µg/L	1	10/21/2022 04:36 AM
Manganese	17	0.026	0.50		µg/L	1	10/20/2022 09:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-44-125-1022
Lab Order: N053064
Collection Date: 10/11/2022 12:51:00 PM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053064-019

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221020B**	QC Batch: **95245**			PrepDate:		**10/17/2022**	Analyst: **DJ**
Arsenic	1.7	0.050	0.10		µg/L	1	10/21/2022 04:42 AM
Barium	48	0.083	1.0		µg/L	1	10/21/2022 04:42 AM
Manganese	550	0.13	2.5		µg/L	5	10/21/2022 11:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-95245**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166669**
Client ID: **PBW**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-95245**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166669**
Client ID: **LCSW**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.645	0.10	10.00	0	96.5	85	115				
Manganese	95.093	0.50	100.0	0	95.1	85	115				

Sample ID: **N053064-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166669**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.754	0.10	10.00	13.74	90.1	75	125				

Sample ID: **N053064-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166669**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	23.592	0.10	10.00	13.74	98.5	75	125	22.75	3.62	20	

Sample ID: **MB-95245**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **PBW**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053064
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-95245**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **LCSW**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887511**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	10.084	1.0	10.00	0	101	85	115				

Sample ID: **N053064-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	70.610	1.0	10.00	61.22	93.9	75	125				

Sample ID: **N053064-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	72.108	1.0	10.00	61.22	109	75	125	70.61	2.10	20	

Sample ID: **N053064-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	225.569	2.5	100.0	101.4	124	75	125				

Sample ID: **N053064-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	209.594	2.5	100.0	101.4	108	75	125	225.6	7.34	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ARCOS02 C: 10/26/202 12:00 AM
FOLDER R: 10/11/2022
N053064-021A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: [redacted]	Address:	Sample Receipt: Y N; 1. Chilled; 2. Headspace ✓; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number DL1; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Sample Temp: 2.4 / 3.1 °C
Submitted By: Riggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Courier:
Title: Field Tech	Sampled By: Riggie Tep		Tracking No.:
Signature: Date: 10/11/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 10/11/22		
Project Name: PG&E Topock - PCM			
Project Number: 30121866.4Q22GW			

Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrite, Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	500mL poly: Total metals (SW6010) No filter; HNO3 Total Iron	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	1 L poly: Nitrate, sulfate (EPA 300.0)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053064-01	MW-39-040-1022	10/11/2022	8:58		X		X			X			X	E	6	P	BNS	
2	-02	MW-39-050-1022	10/11/2022	9:29		X		X			X			X	E	6	P	BNS	
3	-03	MW-39-060-1022	10/11/2022	11:50		X		X			X			X	E	6	P	BNS	
4	-04	MW-39-070-1022	10/11/2022	8:21		X		X			X			X	E	6	P	BNS	
5	-05	MW-906-Q422	10/11/2022	8:31		X		X			X			X	E	6	P	BNS	
6	-06	MW-39-080-1022	10/11/2022	10:05		X		X			X			X	E	6	P	BNS	
7	-07	MW-39-100-1022	10/11/2022	10:35		X		X			X			X	E	6	P	BNS	
8	-08	MW-30-050-1022	10/11/2022	12:55		X		X			X			X	E	6	P	BNS	
9	-09	EB-704-Q422	10/11/2022	14:00		X									E	1	P	BNS	
10																			
11																			
12																			
13																			
14																			

Relinquished by (Signature and Printed Name): Riggie Tep 10/11/22 Date/Time: 1515
Received by (Signature and Printed Name): Romeo Acampara 10/11/22 Date/Time: 1515
Relinquished by (Signature and Printed Name): Romeo Acampara 10/11/22 Date/Time: 1845
Received by (Signature and Printed Name): Romeo Acampara 10/11/22 Date/Time: 1845
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email:	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@nivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tep			Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: Date: 10/11/22	Sampled By: Riggie Tep		Global ID:		Regulatory		5. IR number IR #1
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: Ice
Project Name: PG&E Topock - PCM	Signature: Date: 10/11/22						Sample Temp: 2.4/3.1 °C
Project Number: 30121866.4Q22GW							Courier: Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) :to filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)					Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053064-10	MW-82-046-1022	10/11/2022	8:51		X		X			X			X				E	6	P	BNS	
2	-11	MW-82-112-1022	10/11/2022	9:23		X		X			X			X				E	6	P	BNS	
3	-12	MW-909-Q422	10/11/2022	9:33		X		X			X			X				E	6	P	BNS	
4	-13	MW-82-168-1022	10/11/2022	10:03		X		X			X			X				E	6	P	BNS	
5	-14	MW-910-Q422	10/11/2022	10:13		X		X			X			X				E	6	P	BNS	
6	-15	MW-82-198-1022	10/11/2022	10:50		X		X			X			X				E	6	P	BNS	
7	-16	MW-81-043-1022	10/11/2022	11:51		X		X			X			X				E	6	P	BNS	
8	-17	MW-81-098-1022	10/11/2022	12:13		X		X			X			X				E	6	P	BNS	
9	-18	MW-44-115-1022	10/11/2022	13:12		X		X			X			X				E	6	P	BNS	
10	-19	MW-44-125-1022	10/11/2022	12:51		X		X			X			X				E	6	P	BNS	
11	-20	EB-703-Q422	10/11/2022	13:20		X												E	1	P	BNS	
12																						
13																						
14																						

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Riggie Tep	10/11/22 1512	ROMEO ALCANTARA	10/11/22 1515
ROMEO ALCANTARA	10/11/22 1845	ROMEO ALCANTARA	10/11/22 1845

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
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5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/11/2022	Workorder:	N053064
Rep sample Temp (Deg C):	2.4/3.1	IR Gun ID:	1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 10/12/2022

Reviewed By: for: MBC 10/20/2022

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-001A	MW-39-040-1022	10/11/2022 8:58:00 AM	10/26/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-001B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-001C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-001D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-002A	MW-39-050-1022	10/11/2022 9:29:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-002B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-002C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-002D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-003A	MW-39-060-1022	10/11/2022 11:50:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-003B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-003C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-003D	MW-39-060-1022	10/11/2022 11:50:00 AM	10/26/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-004A	MW-39-070-1022	10/11/2022 8:21:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-004B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-004C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-004D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-005A	MW-906-Q422	10/11/2022 8:31:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-005B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-005C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-005D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-006A	MW-39-080-1022	10/11/2022 10:05:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-006B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-006B	MW-39-080-1022	10/11/2022 10:05:00 AM	10/26/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-006C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-006D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-007A	MW-39-100-1022	10/11/2022 10:35:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-007B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-007C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-007D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-008A	MW-30-050-1022	10/11/2022 12:55:00 PM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-008B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-008C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-008D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-009A	EB-704-Q422	10/11/2022 2:00:00 PM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-010A	MW-82-046-1022	10/11/2022 8:51:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-010B	MW-82-046-1022	10/11/2022 8:51:00 AM	10/26/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-010C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-010D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-011A	MW-82-112-1022	10/11/2022 9:23:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-011B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-011C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-011D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-012A	MW-909-Q422	10/11/2022 9:33:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-012B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-012C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-012D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-012D	MW-909-Q422	10/11/2022 9:33:00 AM	10/26/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-013A	MW-82-168-1022	10/11/2022 10:03:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-013B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-013C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-013D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-014A	MW-910-Q422	10/11/2022 10:13:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-014B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-014C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-014D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-015A	MW-82-198-1022	10/11/2022 10:50:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-015B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-015C	MW-82-198-1022	10/11/2022 10:50:00 AM	10/26/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-015D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-016A	MW-81-043-1022	10/11/2022 11:51:00 AM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-016B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-016C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-016D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-017A	MW-81-098-1022	10/11/2022 12:13:00 PM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-017B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-017C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-017D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-018A	MW-44-115-1022	10/11/2022 1:12:00 PM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-018B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Oct-22

WorkOrder: N053064

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/11/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053064-018B	MW-44-115-1022	10/11/2022 1:12:00 PM	10/26/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-018C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-018D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-019A	MW-44-125-1022	10/11/2022 12:51:00 PM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-019B			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053064-019C			10/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053064-019D			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053064-020A	EB-703-Q422	10/11/2022 1:20:00 PM	10/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053064-021A	FOLDER	10/26/2022	10/26/2022		Folder	Folder	☐	☐	☐	LAB
			10/26/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/26/2022		Folder	Folder	☐	☐	☐	LAB

November 04, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053083

RE: PG&E Topock-OMM TCS PWTF, 30106892

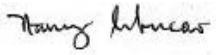
Attention: Brian Prowd

Enclosed are the results for sample(s) received on October 12, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053083

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery and RPD criteria for Iron in QC samples N053101-008BMS, N053101-009BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053083-001C-MS and N053083-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053083
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053083-001A	Backwash Pre-filter-101122	Water	10/11/2022 10:30:00 AM	10/12/2022	11/4/2022
N053083-001B	Backwash Pre-filter-101122	Water	10/11/2022 10:30:00 AM	10/12/2022	11/4/2022
N053083-001C	Backwash Pre-filter-101122	Water	10/11/2022 10:30:00 AM	10/12/2022	11/4/2022
N053083-002A	Backwash Post-filter-101122	Water	10/11/2022 10:45:00 AM	10/12/2022	11/4/2022
N053083-002B	Backwash Post-filter-101122	Water	10/11/2022 10:45:00 AM	10/12/2022	11/4/2022
N053083-002C	Backwash Post-filter-101122	Water	10/11/2022 10:45:00 AM	10/12/2022	11/4/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-101122
Lab Order:	N053083	**Collection Date:**	10/11/2022 10:30:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053083-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221013A**	QC Batch: **R166494**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	450	2.4	20		µg/L	100	10/13/2022 03:11 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221101E**	QC Batch: **96435**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Chromium	460	0.18	5.0		µg/L	5	11/1/2022 09:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-101122
Lab Order:	N053083	**Collection Date:**	10/11/2022 10:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053083-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221013A**	QC Batch: **R166494**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	440	2.4	20		µg/L	100	10/13/2022 03:30 PM
TOTAL METALS BY ICPMS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP7_221101E**	QC Batch: **96435**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Chromium	440	0.18	5.0		µg/L	5	11/1/2022 10:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R166494**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **PBW**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R166494**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **LCSW**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.821	0.20	5.000	0	96.4	90	110				

Sample ID: **N053076-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **ZZZZZZ**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.218	0.20						1.180	3.14	20	

Sample ID: **N053077-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **ZZZZZZ**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.504	0.20	1.000	0.4972	101	90	110				

Sample ID: **N053077-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **ZZZZZZ**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875103**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.481	0.20	1.000	0.4972	98.4	90	110	1.504	1.53	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053083-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **ZZZZZZ**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	944.170	20	500.0	452.5	98.3	90	110				

Sample ID: **N053083-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166494**
Client ID: **ZZZZZZ**	Batch ID: **R166494**	TestNo: **EPA 218.6**		Analysis Date: **10/13/2022**	SeqNo: **4875122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	939.050	20	500.0	445.0	98.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-96435**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **PBW**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.043	1.0									

Sample ID: **LCS-96435**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **LCSW**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.185	1.0	10.00	0	102	85	115				

Sample ID: **N053083-001C-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **ZZZZZZ**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	516.386	5.0	10.00	463.7	527	75	125				S

Sample ID: **N053083-001C-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **ZZZZZZ**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	487.639	5.0	10.00	463.7	240	75	125	516.4	5.73	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **N053083-001C-PS** SampType: **PS** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: RunNo: **167023**
Client ID: **ZZZZZZ** Batch ID: **96435** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/1/2022** SeqNo: **4906859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	659.186	5.0	10.00	463.7	1960	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-101122
Lab Order:	N053083	**Collection Date:**	10/11/2022 10:30:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053083-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-101122
Lab Order:	N053083	**Collection Date:**	10/11/2022 10:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053083-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96263**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **PBW**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96263**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **LCSW**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.877	20	100.0	0	95.9	85	115				

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	128.655	20	100.0	0	129	75	125				S

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.307	20	100.0	0	95.3	75	125	128.7	29.8	20	R

Sample ID: **N053101-009BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.894	20	100.0	39.84	56.1	75	125				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053101-009BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	116.443	20	100.0	39.84	76.6	75	125	95.89	19.4	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053101-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	50.818	20	100.0	0	50.8	80	120				S

Sample ID: **N053101-009B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	85.375	20	100.0	39.84	45.5	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-101122
Lab Order:	N053083	**Collection Date:**	10/11/2022 10:30:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053083-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Manganese	36	0.026	0.50		µg/L	1	10/20/2022 09:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-101122
Lab Order:	N053083	**Collection Date:**	10/11/2022 10:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053083-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95245**			PrepDate:	**10/17/2022**		Analyst: **DJ**
Manganese	40	0.026	0.50		µg/L	1	10/20/2022 10:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053083
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-95245**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166669**
Client ID: **PBW**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-95245**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166669**
Client ID: **LCSW**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.093	0.50	100.0	0	95.1	85	115				

Sample ID: **N053064-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	225.569	2.5	100.0	101.4	124	75	125				

Sample ID: **N053064-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/17/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95245**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	209.594	2.5	100.0	101.4	108	75	125	225.6	7.34	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N053083

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

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California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
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www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9817-051	Labspec	CalTrans	2. Headspace
Submitted By: Kevin A.		Phone: 949-727-1400. ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Arcadis operator	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 10-11-22	Sampled By: Kevin A		Global ID:	Regulatory	5. IR number IR#1 1.0
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - OMM TCS PWTF	Signature: Date: 10-11-22				Sample Temp: 4.3 c
Project Number: 30106892					Courier: ASSET Tracking No.:

Matrix: Ground | Sediment | Potable | Soil | NPDES | Other Solid | Surface | Water X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered 250 mL poly	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered 500mL poly	Total chromium (SW6020) No filter; HNO3 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053083-01	Backwash Pre-filter-101122	10/11/22	10:50		X	X	X	E	3	PV	BNS	
2	-02	Backwash Post-filter-101122	10/11/22	10:45		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name): Kevin Ashley Date/Time: 10/12/22 1520
Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs =200% Next Day=100% 2 Workdays =50% 3 Workdays =35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 10/12/2022 Workorder: N053083

Rep sample Temp (Deg C): 4.3 IR Gun ID: 1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 10/13/2022

Reviewed By: for: MBC 10/13/2022

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053083

Client ID: ARCUS02

Project: PG&E Topock-OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053083-001A	Backwash Pre-filter-101122	10/11/2022 10:30:00 AM	10/27/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053083-001B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053083-001C			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053083-002A	Backwash Post-filter-101122	10/11/2022 10:45:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053083-002B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053083-002C			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053083-003A	FOLDER	10/27/2022	10/27/2022		Folder	Folder	☐	☐	☐	LAB
			10/27/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/27/2022		Folder	Folder	☐	☐	☐	LAB

October 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053084

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 12, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N053077-001BMS and N053077-001BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053085-008BMS and N053085-008BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053084
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053084-001A	IRZ-09-100-1022	Groundwater	10/11/2022 12:00:00 PM	10/12/2022	10/27/2022
N053084-001B	IRZ-09-100-1022	Groundwater	10/11/2022 12:00:00 PM	10/12/2022	10/27/2022
N053084-001C	IRZ-09-100-1022	Groundwater	10/11/2022 12:00:00 PM	10/12/2022	10/27/2022
N053084-001D	IRZ-09-100-1022	Groundwater	10/11/2022 12:00:00 PM	10/12/2022	10/27/2022
N053084-001E	IRZ-09-100-1022	Groundwater	10/11/2022 12:00:00 PM	10/12/2022	10/27/2022
N053084-002A	IRZ-13D-210-1022	Groundwater	10/11/2022 11:30:00 AM	10/12/2022	10/27/2022
N053084-002B	IRZ-13D-210-1022	Groundwater	10/11/2022 11:30:00 AM	10/12/2022	10/27/2022
N053084-002C	IRZ-13D-210-1022	Groundwater	10/11/2022 11:30:00 AM	10/12/2022	10/27/2022
N053084-002D	IRZ-13D-210-1022	Groundwater	10/11/2022 11:30:00 AM	10/12/2022	10/27/2022
N053084-002E	IRZ-13D-210-1022	Groundwater	10/11/2022 11:30:00 AM	10/12/2022	10/27/2022
N053084-003A	IRZ-13S-095-1022	Groundwater	10/11/2022 11:15:00 AM	10/12/2022	10/27/2022
N053084-003B	IRZ-13S-095-1022	Groundwater	10/11/2022 11:15:00 AM	10/12/2022	10/27/2022
N053084-003C	IRZ-13S-095-1022	Groundwater	10/11/2022 11:15:00 AM	10/12/2022	10/27/2022
N053084-003D	IRZ-13S-095-1022	Groundwater	10/11/2022 11:15:00 AM	10/12/2022	10/27/2022
N053084-003E	IRZ-13S-095-1022	Groundwater	10/11/2022 11:15:00 AM	10/12/2022	10/27/2022
N053084-004A	IRZ-23-143-1022	Groundwater	10/11/2022 9:30:00 AM	10/12/2022	10/27/2022
N053084-004B	IRZ-23-143-1022	Groundwater	10/11/2022 9:30:00 AM	10/12/2022	10/27/2022
N053084-004C	IRZ-23-143-1022	Groundwater	10/11/2022 9:30:00 AM	10/12/2022	10/27/2022
N053084-004D	IRZ-23-143-1022	Groundwater	10/11/2022 9:30:00 AM	10/12/2022	10/27/2022
N053084-004E	IRZ-23-143-1022	Groundwater	10/11/2022 9:30:00 AM	10/12/2022	10/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-001

Client Sample ID: IRZ-09-100-1022
Collection Date: 10/11/2022 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	17	0.45	1.0		µg/L	5	10/17/2022 05:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	410	4.5	10		µg/L	50	10/17/2022 06:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	29	0.45	1.0		µg/L	5	10/17/2022 06:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	650	9.0	20		µg/L	100	10/17/2022 07:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R166598**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **LCSW**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.806	0.20	5.000	0	96.1	90	110				

Sample ID: **MB1-R166598**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **PBW**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053064-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	436.000	5.0	125.0	314.1	97.5	90	110				

Sample ID: **N053064-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.144	1.0	5.000	0	103	90	110				

Sample ID: **N053064-011A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	1.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.980	1.0	5.000	0	99.6	90	110				

Sample ID: **N053064-011A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.033	1.0	5.000	0	101	90	110	4.980	1.07	20	

Sample ID: **N053064-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	1.0	5.000	0	103	90	110				

Sample ID: **N053064-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.212	1.0	5.000	0	104	90	110				

Sample ID: **N053064-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.342	1.0	5.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-015A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.661	1.0	5.000	2.596	101	90	110				

Sample ID: **N053064-016A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.786	0.20	5.000	12.78	100	90	110				

Sample ID: **N053064-017A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.637	1.0	5.000	1.526	102	90	110				

Sample ID: **N053064-018A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.350	1.0	5.000	1.118	105	90	110				

Sample ID: **N053064-019A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.158	1.0	5.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053064-020A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.083	0.20	1.000	0	108	90	110				

Sample ID: **N053084-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.481	1.0	25.00	17.07	97.7	90	110				

Sample ID: **N053084-001A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.404	1.0	25.00	17.07	97.3	90	110	41.48	0.186	20	

Sample ID: **N053084-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	661.035	10	250.0	413.4	99.0	90	110				

Sample ID: **N053084-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	54.199	1.0	25.00	29.49	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053084-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1141.470	20	500.0	648.7	98.6	90	110				

Sample ID: **N053085-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	346.110	10	250.0	101.7	97.8	90	110				

Sample ID: **N053085-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	228.130	4.0	100.0	132.2	95.9	90	110				

Sample ID: **N053085-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	615.775	10	250.0	372.2	97.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-001

Client Sample ID: IRZ-09-100-1022
Collection Date: 10/11/2022 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	480	3.0	25		mg/L	50	10/17/2022 10:10 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C**	QC Batch: **R166414**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	10/13/2022 08:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-002

Client Sample ID: IRZ-13D-210-1022
Collection Date: 10/11/2022 11:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B** QC Batch: **R166590**				PrepDate:			Analyst: **RAB**
Sulfate	910	6.1	50		mg/L	100	10/17/2022 10:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C** QC Batch: **R166414**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.095	0.50		mg/L	10	10/13/2022 08:42 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-003

Client Sample ID: IRZ-13S-095-1022
Collection Date: 10/11/2022 11:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	460	3.0	25		mg/L	50	10/17/2022 10:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C**	QC Batch: **R166414**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.095	0.50		mg/L	10	10/13/2022 08:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-004

Client Sample ID: IRZ-23-143-1022
Collection Date: 10/11/2022 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	470	3.0	25		mg/L	50	10/17/2022 09:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221012C**	QC Batch: **R166414**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.0	0.095	0.50		mg/L	10	10/13/2022 08:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R166590_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166590**
Client ID: **LCSW**	Batch ID: **R166590**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.110	0.50	4.000	0	103	90	110				

Sample ID: **MB-R166590_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166590**
Client ID: **PBW**	Batch ID: **R166590**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **N053085-008DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166590**
Client ID: **ZZZZZZ**	Batch ID: **R166590**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	922.730	50	400.0	520.6	101	80	120				

Sample ID: **N053085-008DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166590**
Client ID: **ZZZZZZ**	Batch ID: **R166590**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	926.080	50	400.0	520.6	101	80	120	922.7	0.362	20	

Sample ID: **N053084-004BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166590**
Client ID: **ZZZZZZ**	Batch ID: **R166590**	TestNo: **EPA 300.0**		Analysis Date: **10/17/2022**	SeqNo: **4881223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	469.360	25						471.9	0.531	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053084-004BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **166590**
Client ID: **ZZZZZZ** Batch ID: **R166590** TestNo: **EPA 300.0** Analysis Date: **10/17/2022** SeqNo: **4881224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	674.205	25	200.0	471.9	101	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R166414_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **PBW**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R166414_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **LCSW**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.240	0.050	1.250	0	99.2	90	110				

Sample ID: **N053064-019DDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **ZZZZZZ**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Sample ID: **N053064-019DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **ZZZZZZ**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.765	0.50	12.50	0	102	80	120				

Sample ID: **N053062-005EMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166414**
Client ID: **ZZZZZZ**	Batch ID: **R166414**	TestNo: **EPA 300.0**		Analysis Date: **10/13/2022**	SeqNo: **4874955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.476	0.050	1.250	0.1446	107	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053062-005EMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **166414**
Client ID: **ZZZZZZ** Batch ID: **R166414** TestNo: **EPA 300.0** Analysis Date: **10/13/2022** SeqNo: **4874956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.399	0.050	1.250	0.1446	100	80	120	1.476	5.37	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 12:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 07:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 07:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 07:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 07:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166456**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **PBW**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R166456**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **LCSW**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.961	1.0	5.000	0	99.2	85	115				

Sample ID: **N053077-001DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **ZZZZZZ**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	6.270	1.0	5.000	1.917	87.1	75	125				

Sample ID: **N053077-001DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **ZZZZZZ**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	6.295	1.0	5.000	1.917	87.6	75	125	6.270	0.401	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-001

Client Sample ID: IRZ-09-100-1022
Collection Date: 10/11/2022 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:		**10/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:09 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221026A**	QC Batch: **96385**			PrepDate:		**10/25/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/26/2022 12:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-002

Client Sample ID: IRZ-13D-210-1022
Collection Date: 10/11/2022 11:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:		**10/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:22 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221026A**	QC Batch: **96385**			PrepDate:		**10/25/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/26/2022 01:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:		**10/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:28 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221026A**	QC Batch: **96385**			PrepDate:		**10/25/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/26/2022 01:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:		**10/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:33 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221026A**	QC Batch: **96385**			PrepDate:		**10/25/2022**	Analyst: **DJ**
Iron	110	13	20		µg/L	1	10/26/2022 01:20 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-95217**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**
Client ID: **PBW**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-95217**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**
Client ID: **LCSW**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.286	20	100.0	0	94.3	85	115				

Sample ID: **N053077-001BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	410.995	20	100.0	338.4	72.6	75	125				S

Sample ID: **N053077-001BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	397.455	20	100.0	338.4	59.1	75	125	411.0	3.35	20	S

Sample ID: **N053085-008BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	179.229	20	100.0	79.45	99.8	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053085-008BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	203.739	20	100.0	79.45	124	75	125	179.2	12.8	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **MB-96385**	SampType: **MBLK**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **10/25/2022**	RunNo: **166840**
Client ID: **PBW**	Batch ID: **96385**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/26/2022**	SeqNo: **4895817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS1-96385**	SampType: **LCS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **10/25/2022**	RunNo: **166840**
Client ID: **LCSW**	Batch ID: **96385**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/26/2022**	SeqNo: **4895818**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.978	20	100.0	0	103	85	115				

Sample ID: **N053084-001E-MS1**	SampType: **MS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **10/25/2022**	RunNo: **166840**
Client ID: **ZZZZZZ**	Batch ID: **96385**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/26/2022**	SeqNo: **4895822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.704	20	100.0	0	94.7	75	125				

Sample ID: **N053084-001E-MSD**	SampType: **MSD**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **10/25/2022**	RunNo: **166840**
Client ID: **ZZZZZZ**	Batch ID: **96385**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/26/2022**	SeqNo: **4895823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	92.012	20	100.0	0	92.0	75	125	94.70	2.88	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053077-001B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166531**
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	402.428	20	100.0	338.4	64.1	80	120				S

Sample ID: **N053085-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166531**
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	192.581	20	100.0	79.45	113	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N053084-001E-PS** SampType: **PS** TestCode: **6010_WPGEP** Units: **µg/L** Prep Date: RunNo: **166840**
Client ID: **ZZZZZZ** Batch ID: **96385** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **10/26/2022** SeqNo: **4895821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	52.043	20	100.0	0	52.0	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-1022
Lab Order:	N053084	**Collection Date:**	10/11/2022 12:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053084-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221020B**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Manganese	0.94	0.026	0.50		µg/L	1	10/21/2022 05:42 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: IRZ-13D-210-1022
Lab Order: N053084
Collection Date: 10/11/2022 11:30:00 AM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053084-002

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	10/20/2022 10:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-003

Client Sample ID: IRZ-13S-095-1022
Collection Date: 10/11/2022 11:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	10/20/2022 11:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053084-004

Client Sample ID: IRZ-23-143-1022
Collection Date: 10/11/2022 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	10/20/2022 11:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-95246**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166669**
Client ID: **PBW**	Batch ID: **95246**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-95246**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166669**
Client ID: **LCSW**	Batch ID: **95246**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.067	0.50	100.0	0	95.1	85	115				

Sample ID: **N053085-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95246**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	738.958	2.5	100.0	686.5	52.5	75	125				S

Sample ID: **N053085-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95246**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	716.115	2.5	100.0	686.5	29.7	75	125	739.0	3.14	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053084
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053085-008B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **166696**
Client ID: **ZZZZZZ** Batch ID: **95246** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **10/21/2022** SeqNo: **4887606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	736.880	2.5	100.0	686.5	50.4	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 10/27/202 12:00 AM
FOLDER R: 10/12/2022
N053084-005A 1 of 1

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@crifgen.com	Address:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#
Submitted By: Kevin Ashley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:
Title: Otm operator		
Signature: Date: 10-11-22	Sampled By: Kevin Ashley	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may	
Project Name: PG&E Topock - PCM	Signature: Date: 10-11-22	
Project Number: 30121866.4Q22GW		

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

ED			
Excel EDD		RWQCB	✓
Geotracker		CalTrans	
Labspec		LEVEL III	
Others	✓	LEVEL IV	
Specify: RWQCB		Regulatory	
Global ID:		Specify State:	

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present	✓	
5. IR number	IR#	
6. Method of Cooling: ICE		

Sample Temp: 4.3C°

Courier: ASSET

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Iron, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	500mL poly: Total metals (SW6010) No filter; HNO3 Total Iron	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053084-01	IRZ-09-100-1022	10/11/22	12:8pm		X	X	X			X	X		E	7	P	BNS	
2	-02	IRZ-13D-210-1022	10/11/22	11:36		X	X	X			X	X		E	7	P	BNS	
3	-03	IRZ-13S-095-1022	10/11/22	11:15A		X	X	X			X	X		E	7	P	BNS	
4	-04	IRZ-23-143-1022	10/11/22	9:30A		X	X	X			X	X		E	7	P	BNS	
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Kevin Ashley Date/Time: 10/12/22 1520

Relinquished by (Signature and Printed Name): Romeo Alcantara Date/Time: 10/12/22 1520

Relinquished by (Signature and Printed Name): Romeo Alcantara Date/Time: 10/12/22 1840

Relinquished by (Signature and Printed Name): Romeo Alcantara Date/Time: 10/12/22 1840

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report
2. Regular TAT is 5-7 business days ,surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3 % of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net30 days
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:				
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:		
T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 10/12/2022 Workorder: N053084

Rep sample Temp (Deg C): 4.3 IR Gun ID: 1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See Correspondence.

Checklist Completed By: EF EFanegoF 10/13/2022

Reviewed By: for: MBC 10/13/2022

Subject: RE: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053084)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 10/13/2022, 1:49 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi,
Please use 11:15

Thanks,
Laura

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, October 13, 2022 12:52 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053084)

Hi Laura,

Please advise on the following discrepancy for the attached COC.

Sample 3: Collection time is 11:15 on COC and 11:45 on labels

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

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ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053084

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053084-001A	IRZ-09-100-1022	10/11/2022 12:00:00 PM	10/27/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053084-001B			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053084-001C			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053084-001D			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053084-001E			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053084-002A	IRZ-13D-210-1022	10/11/2022 11:30:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053084-002B			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053084-002C			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053084-002D			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053084-002E			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053084-003A	IRZ-13S-095-1022	10/11/2022 11:15:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053084-003B			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053084

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053084-003B	IRZ-13S-095-1022	10/11/2022 11:15:00 AM	10/27/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053084-003C			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053084-003D			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053084-003E			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053084-004A	IRZ-23-143-1022	10/11/2022 9:30:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053084-004B			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053084-004C			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053084-004D			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053084-004E			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053084-005A	FOLDER	10/27/2022	10/27/2022		Folder	Folder	☐	☐	☐	LAB
			10/27/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/27/2022		Folder	Folder	☐	☐	☐	LAB

October 31, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053085

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 12, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053085

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Sample N053085-007 (EB-705-Q422) was only analyzed for Hexavalent Chromium. Please see attached correspondence.

Subcontracted Analyses:

TOC by SM 5310B was subcontracted to Enthalpy Analytical- Orange, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N053077-001BMS and N053077-001BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Barium in QC sample N053085-008BMS possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053085-008BMS and N053085-008BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B:

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria for Ethanol. Analyte recovery on both met acceptance criteria.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053085-008CMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N053085-008 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053085
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053085-001A	TW-02D-1022	Groundwater	10/12/2022 9:08:00 AM	10/12/2022	10/31/2022
N053085-001B	TW-02D-1022	Groundwater	10/12/2022 9:08:00 AM	10/12/2022	10/31/2022
N053085-001C	TW-02D-1022	Groundwater	10/12/2022 9:08:00 AM	10/12/2022	10/31/2022
N053085-001D	TW-02D-1022	Groundwater	10/12/2022 9:08:00 AM	10/12/2022	10/31/2022
N053085-002A	TW-02S-1022	Groundwater	10/12/2022 8:34:00 AM	10/12/2022	10/31/2022
N053085-002B	TW-02S-1022	Groundwater	10/12/2022 8:34:00 AM	10/12/2022	10/31/2022
N053085-002C	TW-02S-1022	Groundwater	10/12/2022 8:34:00 AM	10/12/2022	10/31/2022
N053085-002D	TW-02S-1022	Groundwater	10/12/2022 8:34:00 AM	10/12/2022	10/31/2022
N053085-003A	TW-03D-1022	Groundwater	10/12/2022 9:41:00 AM	10/12/2022	10/31/2022
N053085-003B	TW-03D-1022	Groundwater	10/12/2022 9:41:00 AM	10/12/2022	10/31/2022
N053085-003C	TW-03D-1022	Groundwater	10/12/2022 9:41:00 AM	10/12/2022	10/31/2022
N053085-003D	TW-03D-1022	Groundwater	10/12/2022 9:41:00 AM	10/12/2022	10/31/2022
N053085-004A	MW-34-080-1022	Groundwater	10/12/2022 12:41:00 PM	10/12/2022	10/31/2022
N053085-004B	MW-34-080-1022	Groundwater	10/12/2022 12:41:00 PM	10/12/2022	10/31/2022
N053085-004C	MW-34-080-1022	Groundwater	10/12/2022 12:41:00 PM	10/12/2022	10/31/2022
N053085-004D	MW-34-080-1022	Groundwater	10/12/2022 12:41:00 PM	10/12/2022	10/31/2022
N053085-005A	MW-45-095a-1022	Groundwater	10/12/2022 11:32:00 AM	10/12/2022	10/31/2022
N053085-005B	MW-45-095a-1022	Groundwater	10/12/2022 11:32:00 AM	10/12/2022	10/31/2022
N053085-005C	MW-45-095a-1022	Groundwater	10/12/2022 11:32:00 AM	10/12/2022	10/31/2022
N053085-005D	MW-45-095a-1022	Groundwater	10/12/2022 11:32:00 AM	10/12/2022	10/31/2022
N053085-006A	MW-71-035-1022	Groundwater	10/12/2022 10:31:00 AM	10/12/2022	10/31/2022
N053085-006B	MW-71-035-1022	Groundwater	10/12/2022 10:31:00 AM	10/12/2022	10/31/2022
N053085-006C	MW-71-035-1022	Groundwater	10/12/2022 10:31:00 AM	10/12/2022	10/31/2022
N053085-006D	MW-71-035-1022	Groundwater	10/12/2022 10:31:00 AM	10/12/2022	10/31/2022
N053085-007A	EB-705-Q422	Groundwater	10/12/2022 1:00:00 PM	10/12/2022	10/31/2022
N053085-007B	EB-705-Q422	Groundwater	10/12/2022 1:00:00 PM	10/12/2022	10/31/2022
N053085-007C	EB-705-Q422	Groundwater	10/12/2022 1:00:00 PM	10/12/2022	10/31/2022
N053085-007D	EB-705-Q422	Groundwater	10/12/2022 1:00:00 PM	10/12/2022	10/31/2022
N053085-008A	MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	10/12/2022	10/31/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053085
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053085-008B	MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	10/12/2022	10/31/2022
N053085-008C	MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	10/12/2022	10/31/2022
N053085-008D	MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	10/12/2022	10/31/2022
N053085-008E	MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	10/12/2022	10/31/2022
N053085-008F	MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	10/12/2022	10/31/2022
N053085-009A	MW-31-135-1022	Groundwater	10/12/2022 9:52:00 AM	10/12/2022	10/31/2022
N053085-009B	MW-31-135-1022	Groundwater	10/12/2022 9:52:00 AM	10/12/2022	10/31/2022
N053085-009C	MW-31-135-1022	Groundwater	10/12/2022 9:52:00 AM	10/12/2022	10/31/2022
N053085-009D	MW-31-135-1022	Groundwater	10/12/2022 9:52:00 AM	10/12/2022	10/31/2022
N053085-010A	MW-20-070-1022	Groundwater	10/12/2022 12:19:00 PM	10/12/2022	10/31/2022
N053085-010B	MW-20-070-1022	Groundwater	10/12/2022 12:19:00 PM	10/12/2022	10/31/2022
N053085-010C	MW-20-070-1022	Groundwater	10/12/2022 12:19:00 PM	10/12/2022	10/31/2022
N053085-010D	MW-20-070-1022	Groundwater	10/12/2022 12:19:00 PM	10/12/2022	10/31/2022
N053085-011A	MW-20-100-1022	Groundwater	10/12/2022 1:35:00 PM	10/12/2022	10/31/2022
N053085-011B	MW-20-100-1022	Groundwater	10/12/2022 1:35:00 PM	10/12/2022	10/31/2022
N053085-011C	MW-20-100-1022	Groundwater	10/12/2022 1:35:00 PM	10/12/2022	10/31/2022
N053085-011D	MW-20-100-1022	Groundwater	10/12/2022 1:35:00 PM	10/12/2022	10/31/2022
N053085-012A	MW-20-130-1022	Groundwater	10/12/2022 12:58:00 PM	10/12/2022	10/31/2022
N053085-012B	MW-20-130-1022	Groundwater	10/12/2022 12:58:00 PM	10/12/2022	10/31/2022
N053085-012C	MW-20-130-1022	Groundwater	10/12/2022 12:58:00 PM	10/12/2022	10/31/2022
N053085-012D	MW-20-130-1022	Groundwater	10/12/2022 12:58:00 PM	10/12/2022	10/31/2022
N053085-013A	MW-36-090-1022	Groundwater	10/12/2022 8:02:00 AM	10/12/2022	10/31/2022
N053085-013B	MW-36-090-1022	Groundwater	10/12/2022 8:02:00 AM	10/12/2022	10/31/2022
N053085-013C	MW-36-090-1022	Groundwater	10/12/2022 8:02:00 AM	10/12/2022	10/31/2022
N053085-013D	MW-36-090-1022	Groundwater	10/12/2022 8:02:00 AM	10/12/2022	10/31/2022
N053085-014A	MW-36-100-1022	Groundwater	10/12/2022 8:39:00 AM	10/12/2022	10/31/2022
N053085-014B	MW-36-100-1022	Groundwater	10/12/2022 8:39:00 AM	10/12/2022	10/31/2022
N053085-014C	MW-36-100-1022	Groundwater	10/12/2022 8:39:00 AM	10/12/2022	10/31/2022
N053085-014D	MW-36-100-1022	Groundwater	10/12/2022 8:39:00 AM	10/12/2022	10/31/2022
N053085-015A	EB-706-Q422	Groundwater	10/12/2022 1:55:00 PM	10/12/2022	10/31/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	100	4.5	10		µg/L	50	10/17/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	130	1.8	4.0		µg/L	20	10/17/2022 07:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221017A**	QC Batch: **R166598**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	370	4.5	10		µg/L	50	10/17/2022 08:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:41:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/19/2022 12:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 11:32:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/19/2022 12:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/19/2022 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-705-Q422
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/19/2022 01:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	10/19/2022 10:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:52:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	17	0.45	1.0		µg/L	5	10/19/2022 01:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:19:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	890	9.0	20		µg/L	100	10/19/2022 03:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1700	18	40		µg/L	200	10/19/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1800	18	40		µg/L	200	10/19/2022 04:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:02:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/19/2022 03:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:39:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/19/2022 05:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-706-Q422
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:55:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221019A**	QC Batch: **R166644**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	10/19/2022 05:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R166598	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166598
Client ID:	LCSW	Batch ID:	R166598	TestNo:	EPA 218.6			Analysis Date:	10/17/2022	SeqNo:	4881541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.806	0.20	5.000	0	96.1	90	110				

Sample ID	MB1-R166598	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166598
Client ID:	PBW	Batch ID:	R166598	TestNo:	EPA 218.6			Analysis Date:	10/17/2022	SeqNo:	4881542

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053064-007A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166598
Client ID:	ZZZZZZ	Batch ID:	R166598	TestNo:	EPA 218.6			Analysis Date:	10/17/2022	SeqNo:	4881544

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	436.000	5.0	125.0	314.1	97.5	90	110				

Sample ID	N053064-010A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166598
Client ID:	ZZZZZZ	Batch ID:	R166598	TestNo:	EPA 218.6			Analysis Date:	10/17/2022	SeqNo:	4881546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.144	1.0	5.000	0	103	90	110				

Sample ID	N053064-011A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166598
Client ID:	ZZZZZZ	Batch ID:	R166598	TestNo:	EPA 218.6			Analysis Date:	10/17/2022	SeqNo:	4881548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	1.0						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053064-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.980	1.0	5.000	0	99.6	90	110				

Sample ID **N053064-011A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.033	1.0	5.000	0	101	90	110	4.980	1.07	20	

Sample ID **N053064-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	1.0	5.000	0	103	90	110				

Sample ID **N053064-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.212	1.0	5.000	0	104	90	110				

Sample ID **N053064-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.342	1.0	5.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053064-015A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.661	1.0	5.000	2.596	101	90	110				

Sample ID **N053064-016A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.786	0.20	5.000	12.78	100	90	110				

Sample ID **N053064-017A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.637	1.0	5.000	1.526	102	90	110				

Sample ID **N053064-018A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.350	1.0	5.000	1.118	105	90	110				

Sample ID **N053064-019A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.158	1.0	5.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053064-020A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.083	0.20	1.000	0	108	90	110				

Sample ID **N053084-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.481	1.0	25.00	17.07	97.7	90	110				

Sample ID **N053084-001A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.404	1.0	25.00	17.07	97.3	90	110	41.48	0.186	20	

Sample ID **N053084-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	661.035	10	250.0	413.4	99.0	90	110				

Sample ID **N053084-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **166598**
Client ID: **ZZZZZZ** Batch ID: **R166598** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4881588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	54.199	1.0	25.00	29.49	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053084-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1141.470	20	500.0	648.7	98.6	90	110				

Sample ID **N053085-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	346.110	10	250.0	101.7	97.8	90	110				

Sample ID **N053085-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	228.130	4.0	100.0	132.2	95.9	90	110				

Sample ID **N053085-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **166598**
Client ID: **ZZZZZZ**	Batch ID: **R166598**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4881596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	615.775	10	250.0	372.2	97.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R166644	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644		
Client ID:	LCSW	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883731		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.854	0.20	5.000	0	97.1	90	110						

Sample ID	MB1-R166644	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644		
Client ID:	PBW	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883732		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053085-008A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644		
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883738		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	1.0						0	0	20			

Sample ID	N053085-008A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644		
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883739		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.286	1.0	5.000	0	106	90	110						

Sample ID	N053085-008A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644		
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883740		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.334	1.0	5.000	0	107	90	110	5.286	0.895	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053085-004A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.434	1.0	5.000	0	109	90	110				

Sample ID	N053085-005A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883747

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.862	1.0	5.000	0.6760	104	90	110				

Sample ID	N053085-007A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.067	0.20	1.000	0	107	90	110				

Sample ID	N053085-009A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883755

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.038	1.0	25.00	17.29	99.0	90	110				

Sample ID	N053085-013A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883759

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053085-010A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883761

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1384.230	20	500.0	885.7	99.7	90	110				

Sample ID	N053085-011A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883763

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2691.020	40	1000	1672	102	90	110				

Sample ID	N053085-012A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883767

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2859.480	40	1000	1845	101	90	110				

Sample ID	N053085-014A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0	103	90	110				

Sample ID	N053085-014A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883770

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.038	0.20	1.000	0	104	90	110	1.025	1.19	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053085-015A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883772

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID	N053085-006A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	166644
Client ID:	ZZZZZZ	Batch ID:	R166644	TestNo:	EPA 218.6			Analysis Date:	10/19/2022	SeqNo:	4883774

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.785	1.0	5.000	0.6280	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	690	6.1	50		mg/L	100	10/17/2022 10:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 02:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	300	1.2	10		mg/L	20	10/17/2022 11:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	10/13/2022 02:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	710	6.1	50		mg/L	100	10/17/2022 11:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.55	0.095	0.50		mg/L	10	10/13/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:41:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	640	3.0	25		mg/L	50	10/17/2022 11:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 11:32:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	430	3.0	25		mg/L	50	10/18/2022 12:28 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	1200	12	100		mg/L	200	10/18/2022 12:43 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.50	0.095	0.50		mg/L	10	10/13/2022 03:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	520	6.1	50		mg/L	100	10/17/2022 08:08 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013B**	QC Batch: **R166522**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 07:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:52:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	640	6.1	50		mg/L	100	10/18/2022 12:59 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.79	0.095	0.50		mg/L	10	10/13/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:19:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B** QC Batch: **R166590**				PrepDate:			Analyst: **RAB**
Sulfate	550	3.0	25		mg/L	50	10/18/2022 01:14 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A** QC Batch: **R166521**				PrepDate:			Analyst: **RAB**
Nitrate as N	31	0.19	1.0		mg/L	20	10/13/2022 04:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	660	6.1	50		mg/L	100	10/18/2022 01:29 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.2	0.095	0.50		mg/L	10	10/13/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	1200	12	100		mg/L	200	10/18/2022 01:44 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.6	0.095	0.50		mg/L	10	10/13/2022 05:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:02:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	290	3.0	25		mg/L	50	10/18/2022 02:00 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013A**	QC Batch: **R166521**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 05:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:39:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221017B**	QC Batch: **R166590**			PrepDate:			Analyst: **RAB**
Sulfate	400	3.0	25		mg/L	50	10/18/2022 02:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221013B**	QC Batch: **R166522**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/13/2022 07:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	LCS-R166590_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	166590
Client ID:	LCSW	Batch ID:	R166590	TestNo:	EPA 300.0			Analysis Date:	10/17/2022	SeqNo:	4881215

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.110	0.50	4.000	0	103	90	110				

Sample ID	MB-R166590_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	166590
Client ID:	PBW	Batch ID:	R166590	TestNo:	EPA 300.0			Analysis Date:	10/17/2022	SeqNo:	4881216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	N053085-008DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	166590
Client ID:	ZZZZZZ	Batch ID:	R166590	TestNo:	EPA 300.0			Analysis Date:	10/17/2022	SeqNo:	4881218

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	922.730	50	400.0	520.6	101	80	120				

Sample ID	N053085-008DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	166590
Client ID:	ZZZZZZ	Batch ID:	R166590	TestNo:	EPA 300.0			Analysis Date:	10/17/2022	SeqNo:	4881219

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	926.080	50	400.0	520.6	101	80	120	922.7	0.362	20	

Sample ID	N053084-004BDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	166590
Client ID:	ZZZZZZ	Batch ID:	R166590	TestNo:	EPA 300.0			Analysis Date:	10/17/2022	SeqNo:	4881223

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	469.360	25						471.9	0.531	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N053084-004BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	166590
Client ID:	ZZZZZZ	Batch ID:	R166590	TestNo:	EPA 300.0			Analysis Date:	10/17/2022	SeqNo:	4881224

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	674.205	25	200.0	471.9	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R166521_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166521
Client ID:	PBW	Batch ID:	R166521	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876522

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.012	0.050									

Sample ID	LCS-R166521_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166521
Client ID:	LCSW	Batch ID:	R166521	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876523

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.298	0.050	1.250	0	104	90	110				

Sample ID	N053077-001CMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166521
Client ID:	ZZZZZZ	Batch ID:	R166521	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.270	0.25	6.250	0.1250	98.3	80	120				

Sample ID	N053077-001CMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166521
Client ID:	ZZZZZZ	Batch ID:	R166521	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876549

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.284	0.25	6.250	0.1250	98.5	80	120	6.270	0.223	20	

Sample ID	N053076-003EDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166521
Client ID:	ZZZZZZ	Batch ID:	R166521	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876550

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	20.106	1.0						20.95	4.10	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053085-002DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166521
Client ID:	ZZZZZZ	Batch ID:	R166521	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876551

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.611	0.50	12.50	1.666	104	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	LCS-R166522_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166522
Client ID:	LCSW	Batch ID:	R166522	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876598

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.238	0.050	1.250	0	99.1	90	110				

Sample ID	MB-R166522_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166522
Client ID:	PBW	Batch ID:	R166522	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876599

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	N053085-008DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166522
Client ID:	ZZZZZZ	Batch ID:	R166522	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.491	0.50	12.50	0.2210	98.2	80	120				

Sample ID	N053085-008DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166522
Client ID:	ZZZZZZ	Batch ID:	R166522	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876605

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.940	0.50	12.50	0.2210	102	80	120	12.49	3.53	20	

Sample ID	N053085-014DDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	166522
Client ID:	ZZZZZZ	Batch ID:	R166522	TestNo:	EPA 300.0			Analysis Date:	10/13/2022	SeqNo:	4876606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0.1050	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221013A**	QC Batch: **R166456**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/13/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 12:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 12:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:41:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 01:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 11:32:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 01:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 03:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	10/14/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:52:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 04:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:19:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 04:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 04:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 05:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:02:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 05:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:39:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 05:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R166456**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **PBW**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R166456**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **LCSW**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.961	1.0	5.000	0	99.2	85	115				

Sample ID **N053077-001DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **ZZZZZZ**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	6.270	1.0	5.000	1.917	87.1	75	125				

Sample ID **N053077-001DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166456**
Client ID: **ZZZZZZ**	Batch ID: **R166456**	TestNo: **SM 5310C**		Analysis Date: **10/13/2022**	SeqNo: **4872636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	6.295	1.0	5.000	1.917	87.6	75	125	6.270	0.401	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID	MB-R166520	SampType:	MBLK	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	166520		
Client ID:	PBW	Batch ID:	R166520	TestNo:	SM 5310C			Analysis Date:	10/14/2022	SeqNo:	4876477		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	ND	1.0											

Sample ID	LCS-R166520	SampType:	LCS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	166520		
Client ID:	LCSW	Batch ID:	R166520	TestNo:	SM 5310C			Analysis Date:	10/14/2022	SeqNo:	4876478		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	5.020	1.0	5.000	0	100	85	115						

Sample ID	N053085-008CMS	SampType:	MS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	166520		
Client ID:	ZZZZZZ	Batch ID:	R166520	TestNo:	SM 5310C			Analysis Date:	10/14/2022	SeqNo:	4876493		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	263.140	50	250.0	29.36	93.5	75	125						

Sample ID	N053085-008CMSD	SampType:	MSD	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	166520		
Client ID:	ZZZZZZ	Batch ID:	R166520	TestNo:	SM 5310C			Analysis Date:	10/14/2022	SeqNo:	4876494		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	263.165	50	250.0	29.36	93.5	75	125	263.1	0.00950	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 01:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:41:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**				PrepDate:	**10/13/2022**	Analyst: **DJ**
Iron	410	13	20		µg/L	1	10/17/2022 01:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 11:32:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**				PrepDate:	**10/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 02:01 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**				PrepDate:	**10/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 02:07 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	79	13	20		µg/L	1	10/17/2022 02:12 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:52:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 03:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:19:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**			PrepDate:	**10/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/17/2022 03:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:02:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**				PrepDate:	**10/13/2022**	Analyst: **DJ**
Iron	140	13	20		µg/L	1	10/17/2022 03:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:39:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221017A**	QC Batch: **95217**				PrepDate:	**10/13/2022**	Analyst: **DJ**
Iron	710	13	20		µg/L	1	10/17/2022 03:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-95217	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	10/13/2022	RunNo:	166531
Client ID:	PBW	Batch ID:	95217	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/17/2022	SeqNo:	4877809

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-95217	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	10/13/2022	RunNo:	166531
Client ID:	LCSW	Batch ID:	95217	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/17/2022	SeqNo:	4877810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.286	20	100.0	0	94.3	85	115				

Sample ID	N053077-001BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	10/13/2022	RunNo:	166531
Client ID:	ZZZZZZ	Batch ID:	95217	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/17/2022	SeqNo:	4877814

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	410.995	20	100.0	338.4	72.6	75	125				S

Sample ID	N053077-001BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	10/13/2022	RunNo:	166531
Client ID:	ZZZZZZ	Batch ID:	95217	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/17/2022	SeqNo:	4877815

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	397.455	20	100.0	338.4	59.1	75	125	411.0	3.35	20	S

Sample ID	N053085-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	10/13/2022	RunNo:	166531
Client ID:	ZZZZZZ	Batch ID:	95217	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/17/2022	SeqNo:	4877836

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	179.229	20	100.0	79.45	99.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N053085-008BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/13/2022**	RunNo: **166531**				
Client ID: **ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877837**				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	203.739	20	100.0	79.45	124	75	125	179.2	12.8	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N053077-001B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166531**
Client ID:	**ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	402.428	20	100.0	338.4	64.1	80	120				S

Sample ID	**N053085-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166531**
Client ID:	**ZZZZZZ**	Batch ID: **95217**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/17/2022**	SeqNo: **4877835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	192.581	20	100.0	79.45	113	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053085-001

Client Sample ID: TW-02D-1022
Collection Date: 10/12/2022 9:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	10/20/2022 11:16 AM
Barium	22	0.083	1.0		µg/L	1	10/20/2022 11:16 AM
Manganese	5.2	0.026	0.50		µg/L	1	10/20/2022 11:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221020B**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	0.49	0.050	0.10		µg/L	1	10/21/2022 06:12 AM
Barium	160	0.083	1.0		µg/L	1	10/20/2022 11:22 AM
Manganese	ND	0.026	0.50		µg/L	1	10/20/2022 11:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221020B**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	3.3	0.050	0.10		µg/L	1	10/21/2022 06:18 AM
Barium	25	0.083	1.0		µg/L	1	10/20/2022 11:28 AM
Manganese	41	0.026	0.50		µg/L	1	10/20/2022 11:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:41:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 11:52 AM
Barium	39	0.083	1.0		µg/L	1	10/20/2022 11:52 AM
Manganese	150	0.026	0.50		µg/L	1	10/20/2022 11:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 11:32:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 11:58 AM
Barium	31	0.083	1.0		µg/L	1	10/20/2022 11:58 AM
Manganese	360	0.13	2.5		µg/L	5	10/21/2022 12:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 12:04 PM
Barium	50	0.083	1.0		µg/L	1	10/20/2022 12:04 PM
Manganese	120	0.026	0.50		µg/L	1	10/20/2022 12:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 12:10 PM
Barium	91	0.083	1.0		µg/L	1	10/20/2022 12:10 PM
Manganese	690	0.13	2.5		µg/L	5	10/21/2022 07:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 9:52:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**				PrepDate:	**10/15/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 12:40 PM
Barium	40	0.083	1.0		µg/L	1	10/20/2022 12:40 PM
Manganese	3.5	0.026	0.50		µg/L	1	10/20/2022 12:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053085-010

Client Sample ID: MW-20-070-1022
Collection Date: 10/12/2022 12:19:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:		**10/15/2022**	Analyst: **DJ**
Arsenic	0.92	0.050	0.10		µg/L	1	10/20/2022 01:04 PM
Barium	43	0.083	1.0		µg/L	1	10/20/2022 01:04 PM
Manganese	ND	0.026	0.50		µg/L	1	10/20/2022 01:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**				PrepDate:	**10/15/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 01:10 PM
Barium	67	0.083	1.0		µg/L	1	10/20/2022 01:10 PM
Manganese	ND	0.026	0.50		µg/L	1	10/20/2022 01:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**				PrepDate:	**10/15/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/20/2022 01:16 PM
Barium	28	0.083	1.0		µg/L	1	10/20/2022 01:16 PM
Manganese	4.0	0.026	0.50		µg/L	1	10/20/2022 01:16 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:02:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	10/20/2022 01:22 PM
Barium	48	0.083	1.0		µg/L	1	10/20/2022 01:22 PM
Manganese	160	0.026	0.50		µg/L	1	10/20/2022 01:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 8:39:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221019G**	QC Batch: **95246**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	3.4	0.050	0.10		µg/L	1	10/20/2022 01:28 PM
Barium	61	0.083	1.0		µg/L	1	10/20/2022 01:28 PM
Manganese	590	0.13	2.5		µg/L	5	10/28/2022 05:57 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-95246	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/15/2022	RunNo:	166669
Client ID:	PBW	Batch ID:	95246	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/20/2022	SeqNo:	4885754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID	LCS-95246	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/15/2022	RunNo:	166669
Client ID:	LCSW	Batch ID:	95246	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/20/2022	SeqNo:	4885755

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.034	0.10	10.00	0	100	85	115				
Barium	10.792	1.0	10.00	0	108	85	115				
Manganese	95.067	0.50	100.0	0	95.1	85	115				

Sample ID	N053085-008BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/15/2022	RunNo:	166669
Client ID:	ZZZZZZ	Batch ID:	95246	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/20/2022	SeqNo:	4885771

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.577	0.10	10.00	0	85.8	75	125				
Barium	104.530	1.0	10.00	91.00	135	75	125				S

Sample ID	N053085-008BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	10/15/2022	RunNo:	166669
Client ID:	ZZZZZZ	Batch ID:	95246	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/20/2022	SeqNo:	4885772

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.633	0.10	10.00	0	86.3	75	125	8.577	0.648	20	
Barium	98.990	1.0	10.00	91.00	79.9	75	125	104.5	5.44	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053085-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95246**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	738.958	2.5	100.0	686.5	52.5	75	125				S

Sample ID **N053085-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166696**
Client ID: **ZZZZZZ**	Batch ID: **95246**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/21/2022**	SeqNo: **4887608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	716.115	2.5	100.0	686.5	29.7	75	125	739.0	3.14	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053085-008B-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	166669
Client ID:	ZZZZZZ	Batch ID:	95246	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/20/2022	SeqNo:	4885770

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.461	0.10	10.00	0	84.6	80	120				
Barium	100.552	1.0	10.00	91.00	95.5	80	120				

Sample ID	N053085-008B-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	166696
Client ID:	ZZZZZZ	Batch ID:	95246	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	10/21/2022	SeqNo:	4887606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	736.880	2.5	100.0	686.5	50.4	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1022
Lab Order:	N053085	**Collection Date:**	10/12/2022 10:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053085-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOA APPENDIX 9							
			EPA 8260B				
RunID: **NV00922-MS5_221021B**	QC Batch: **P22VW183**			PrepDate:			Analyst: **CA**
Ethanol	23000	2100	10000		µg/L	100	10/22/2022 01:14 PM
Surr: 1,2-Dichloroethane-d4	99.9	0	77-138		%REC	100	10/22/2022 01:14 PM
Surr: 4-Bromofluorobenzene	102	0	80-120		%REC	100	10/22/2022 01:14 PM
Surr: Dibromofluoromethane	101	0	80-132		%REC	100	10/22/2022 01:14 PM
Surr: Toluene-d8	105	0	80-120		%REC	100	10/22/2022 01:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WPAPP9

Sample ID **P221021LCS** SampType: **LCS** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **166769**
Client ID: **LCSW** Batch ID: **P22VW183** TestNo: **EPA 8260B** Analysis Date: **10/22/2022** SeqNo: **4892676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	341.150	100	400.0	0	85.3	70	130				
Surr: 1,2-Dichloroethane-d4	22.470		25.00		89.9	77	138				
Surr: 4-Bromofluorobenzene	27.370		25.00		109	80	120				
Surr: Dibromofluoromethane	23.050		25.00		92.2	80	132				
Surr: Toluene-d8	26.260		25.00		105	80	120				

Sample ID **N053101-008EMS** SampType: **MS** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **166769**
Client ID: **ZZZZZZ** Batch ID: **P22VW183** TestNo: **EPA 8260B** Analysis Date: **10/22/2022** SeqNo: **4892680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	729.880	200	800.0	0	91.2	70	130				
Surr: 1,2-Dichloroethane-d4	45.560		50.00		91.1	77	138				
Surr: 4-Bromofluorobenzene	53.540		50.00		107	80	120				
Surr: Dibromofluoromethane	45.660		50.00		91.3	80	132				
Surr: Toluene-d8	51.360		50.00		103	80	120				

Sample ID **N053101-008EMSD** SampType: **MSD** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **166769**
Client ID: **ZZZZZZ** Batch ID: **P22VW183** TestNo: **EPA 8260B** Analysis Date: **10/22/2022** SeqNo: **4892681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	999.020	200	800.0	0	125	70	130	729.9	31.1	30	R
Surr: 1,2-Dichloroethane-d4	46.400		50.00		92.8	77	138		0		
Surr: 4-Bromofluorobenzene	53.820		50.00		108	80	120		0		
Surr: Dibromofluoromethane	46.840		50.00		93.7	80	132		0		
Surr: Toluene-d8	52.900		50.00		106	80	120		0		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053085
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WPAPP9

Sample ID **N053101-009EMS**	SampType: **MS**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **166769**
Client ID: **ZZZZZZ**	Batch ID: **P22VW183**	TestNo: **EPA 8260B**		Analysis Date: **10/22/2022**	SeqNo: **4892682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	778.240	200	800.0	0	97.3	70	130				
Surr: 1,2-Dichloroethane-d4	45.580		50.00		91.2	77	138				
Surr: 4-Bromofluorobenzene	54.680		50.00		109	80	120				
Surr: Dibromofluoromethane	48.220		50.00		96.4	80	132				
Surr: Toluene-d8	53.140		50.00		106	80	120				

Sample ID **N053085-008FMS**	SampType: **MS**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **166769**
Client ID: **ZZZZZZ**	Batch ID: **P22VW183**	TestNo: **EPA 8260B**		Analysis Date: **10/22/2022**	SeqNo: **4892683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	57607.000	10000	40000	22810	87.0	70	130				
Surr: 1,2-Dichloroethane-d4	2225.000		2500		89.0	77	138				
Surr: 4-Bromofluorobenzene	2605.000		2500		104	80	120				
Surr: Dibromofluoromethane	2311.000		2500		92.4	80	132				
Surr: Toluene-d8	2662.000		2500		106	80	120				

Sample ID **P221021MB3**	SampType: **MBLK**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **166769**
Client ID: **PBW**	Batch ID: **P22VW183**	TestNo: **EPA 8260B**		Analysis Date: **10/22/2022**	SeqNo: **4892686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	20.980		25.00		83.9	77	138				
Surr: 4-Bromofluorobenzene	24.640		25.00		98.6	80	120				
Surr: Dibromofluoromethane	23.670		25.00		94.7	80	132				
Surr: Toluene-d8	26.300		25.00		105	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

N053085

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III ✓; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: [redacted]	Address:	Sample Receipt Condition: Y N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number IR 1
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pgr.com P.O.#	6. Method of Cooling: ICE
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Global ID: Specify State:
Title: Field Tech	Phone: 916-786-3302 Fax:		Sample Temp: 2.3c / 2.6c
Signature: Date: 10/12/22	Sampled By: Riggie Tep		Courier: ASSET
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Tracking No.:
Project Name: PG&E Topock - PCM	Signature: Date: 10/12/22		
Project Number: 30121866.4Q22GW			

Matrix: Ground; Potable; NPDES; Surface; X Sediment; Soil; Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) N> filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Ethanol (EPA 8260); HCl (3x40 mL VOA)	Total Organic Carbon (SM5310B); H2SO4 (6x40 mL VOA wrapped in foil)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053085-01	TW-02D-1022	10/12/2022	9:08		X		X			X			X			E	6	P	BNS	
2	-02	TW-02S-1022	10/12/2022	8:34		X		X			X			X			E	6	P	BNS	
3	-03	TW-03D-1022	10/12/2022	9:41		X		X			X			X			E	6	P	BNS	
4	-04	MW-34-080-1022	10/12/2022	12:41		X		X			X			X			E	6	P	BNS	
5	-05	MW-45-095a-1022	10/12/2022	11:32		X		X			X			X			E	6	P	BNS	
6	-06	MW-71-035-1022	10/12/2022	10:31		X		X			X			X			E	6	P	BNS	
7	-07	EB-705-Q422	10/12/2022	13:00		X		X			X			X			E	6	P	BNS	
8	-08	MW-31-060-1022	10/12/2022	10:56		X		X			X			X	X	X	E	21	P	BNS	MS/MSD
9	-09	MW-31-135-1022	10/12/2022	9:52		X		X			X			X			E	6	P	BNS	
10	-10	MW-20-070-1022	10/12/2022	12:19		X		X			X			X			E	6	P	BNS	
11	-11	MW-20-100-1022	10/12/2022	13:35		X		X			X			X			E	6	P	BNS	
12	-12	MW-20-130-1022	10/12/2022	12:58		X		X			X			X			E	6	P	BNS	
13	-13	MW-36-090-1022	10/12/2022	8:02		X		X			X			X			E	6	P	BNS	
14																					

Relinquished by (Signature and Printed Name): Riggie Tep Date/Time: 10/12/22 1511
Relinquished by (Signature and Printed Name): Romeo Aucantara Date/Time: 10/12/22 1511
Relinquished by (Signature and Printed Name): Romeo Aucantara Date/Time: 10/12/22 1840
Relinquished by (Signature and Printed Name): Romeo Aucantara Date/Time: 10/12/22 1840

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 46 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 2 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes		EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:		Excel EDD		RTNE		1. Chilled	✓	
Address: Roseville, CA 95678	Email:	Address:		Geotracker		RWQCB	✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.#	Labspec		CalTrans		3. Container Intact	✓	
Submitted By: Riggie Tep				Others	✓	LEVEL III		4. Seal Present		
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200	Fax:	Specify: RWQCB		LEVEL IV		5. IR number		
Signature: Date: 10/12/22	Sampled By: Riggie Tep			Global ID:		Regulatory		6. Method of Cooling: ICE		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for					Specify State:		Sample Temp: 2.3 / 2.6 C		
Project Name: PG&E Topock - PCM	Signature:	Date: 10/12/22						Courier: ASSET		
Project Number: 30121866.4Q22GW								Tracking No.:		

Matrix: Ground X | Sediment; Potable | Soil; NPDES | Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053085-14	MW-36-100-1022	10/12/2022	8:39		X		X			X			X	E	6	P	BNS	
2	-15	EB-706-Q422	10/12/2022	13:55		X									E	1	P	BNS	
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			

Reliquished by (Signature and Printed Name): Riggie Tep Date/Time: 10/12/22 1511
Reliquished by (Signature and Printed Name): Romeo Aucantara Date/Time: 10/12/22 1511
Reliquished by (Signature and Printed Name): Romeo Aucantara Date/Time: 10/12/22 1840
Reliquished by (Signature and Printed Name): Romeo Aucantara Date/Time: 10/12/22 1840
Reliquished by (Signature and Printed Name): Date/Time:
Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs,=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 10/12/2022 Workorder: N053085

Rep sample Temp (Deg C): 2.3/2.6 IR Gun ID: 1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See correspondence.

Checklist Completed By: EF EFanegoF 10/13/2022

Reviewed By: for: MBC 10/25/2022

Subject: RE: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053085)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 10/13/2022, 1:47 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi Yoandra,

- Sample 7 (EB-705-Q422) will be analyzed only for Hex Cr Correct

- Sample 15: ID is EB-706-Q422 on COC and MW-706-Q422 on labels Sample ID should be EB-706-Q422

Thanks,
Laura

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, October 13, 2022 12:51 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053085)

Hi Laura,

Please, advise on the following issues for the attached COC:

- Sample 7 (EB-705-Q422) will be analyzed only for Hex Cr

- Sample 15: ID is EB-706-Q422 on COC and MW-706-Q422 on labels

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

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ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053085

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053085-001A	TW-02D-1022	10/12/2022 9:08:00 AM	10/27/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-001B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-001C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-001D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-002A	TW-02S-1022	10/12/2022 8:34:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-002B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-002C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-002D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-003A	TW-03D-1022	10/12/2022 9:41:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-003B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-003C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053085

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053085-003D	TW-03D-1022	10/12/2022 9:41:00 AM	10/27/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-004A	MW-34-080-1022	10/12/2022 12:41:00 PM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-004B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-004C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-004D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-005A	MW-45-095a-1022	10/12/2022 11:32:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-005B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-005C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-005D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-006A	MW-71-035-1022	10/12/2022 10:31:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-006B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053085

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053085-006B	MW-71-035-1022	10/12/2022 10:31:00 AM	10/27/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-006C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-006D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-007A	EB-705-Q422	10/12/2022 1:00:00 PM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-007B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☑	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N053085-007C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☑	☐	☐	VW
N053085-007D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☑	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☑	☐	☐	WW
N053085-008A	MW-31-060-1022	10/12/2022 10:56:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	INTRANSIT
N053085-008B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053085-008C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053085-008D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053085-008E			10/27/2022		SM5310B	TOTAL ORGANIC CARBON	☐	☑	☑	SUB
N053085-008F			10/27/2022		EPA 8260B	VOA appendix 9	☐	☑	☐	VW

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053085

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053085-009A	MW-31-135-1022	10/12/2022 9:52:00 AM	10/27/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-009B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-009C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-009D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-010A	MW-20-070-1022	10/12/2022 12:19:00 PM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-010B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-010C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-010D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-011A	MW-20-100-1022	10/12/2022 1:35:00 PM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-011B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-011C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053085

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053085-011D	MW-20-100-1022	10/12/2022 1:35:00 PM	10/27/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-012A	MW-20-130-1022	10/12/2022 12:58:00 PM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-012B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-012C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-012D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-013A	MW-36-090-1022	10/12/2022 8:02:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-013B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-013C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-013D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-014A	MW-36-100-1022	10/12/2022 8:39:00 AM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-014B			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

13-Oct-22

WorkOrder: N053085

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/12/2022 6:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053085-014B	MW-36-100-1022	10/12/2022 8:39:00 AM	10/27/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053085-014C			10/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053085-014D			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053085-015A	EB-706-Q422	10/12/2022 1:55:00 PM	10/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053085-016A	FOLDER	10/27/2022	10/27/2022		Folder	Folder	☐	☐	☐	LAB
			10/27/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/27/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

Enthalpy Analytical
931 W. Barkley Ave.
Orange, CA 92868

TEL: (714) 771-6900
FAX: (714) 538-1209
Acct #:

Field Sampler: Riggie Tep

13-Oct-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM5310B**		
N053085-008E / MW-31-060-1022	Groundwater	10/12/2022 10:56:00 AM	VOA	1	(MS/MSD)	

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53085A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for TOC by SM5310B. EDD requirement Labspec7 edata.

GSO #: 557980198

		Date/Time			Date/Time
Relinquished by:	YRodriguez	10/13/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

November 04, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053100

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 13, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053100

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to matrix. Sample has dark pink color.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary due to matrix. Digestate is colored.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053101-009BMS and N053101-009BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *04-Nov-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053100
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053100-001A	MW-67-185-1022	Groundwater	10/13/2022 9:33:00 AM	10/13/2022	11/4/2022
N053100-001B	MW-67-185-1022	Groundwater	10/13/2022 9:33:00 AM	10/13/2022	11/4/2022
N053100-001C	MW-67-185-1022	Groundwater	10/13/2022 9:33:00 AM	10/13/2022	11/4/2022
N053100-002A	MW-68-180-1022	Groundwater	10/13/2022 8:49:00 AM	10/13/2022	11/4/2022
N053100-002B	MW-68-180-1022	Groundwater	10/13/2022 8:49:00 AM	10/13/2022	11/4/2022
N053100-003A	EB-707-Q422	Groundwater	10/13/2022 1:55:00 PM	10/13/2022	11/4/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-1022
Lab Order:	N053100	**Collection Date:**	10/13/2022 9:33:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053100-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221014C** QC Batch: **R166498**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	150	9.6	80		µg/L	400	10/14/2022 09:25 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_221027E** QC Batch: **95247**				PrepDate:	**10/15/2022**		Analyst: **DJ**
Chromium	180	0.18	5.0		µg/L	5	10/28/2022 12:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-1022
Lab Order:	N053100	**Collection Date:**	10/13/2022 8:49:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053100-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221014C**	QC Batch: **R166498**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	39000	120	1000		µg/L	5000	10/14/2022 08:00 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP7_221101D**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Chromium	40000	8.8	250		µg/L	250	11/1/2022 09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-707-Q422
Lab Order:	N053100	**Collection Date:**	10/13/2022 1:55:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053100-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221014C**	QC Batch: **R166498**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	10/14/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R166498**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **PBW**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875247**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R166498**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **LCSW**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875248**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.099	0.20	5.000	0	102	90	110				

Sample ID: **N053100-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **ZZZZZZ**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63778.500	1000	25000	38520	101	90	110				

Sample ID: **N053100-002AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **ZZZZZZ**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63860.000	1000	25000	38520	101	90	110	63780	0.128	20	

Sample ID: **N053099-013ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **ZZZZZZ**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.527	0.20						2.520	0.258	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053100-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **ZZZZZZ**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.972	0.20	1.000	0	97.2	90	110				

Sample ID: **N053100-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166498**
Client ID: **ZZZZZZ**	Batch ID: **R166498**	TestNo: **EPA 218.6**		Analysis Date: **10/14/2022**	SeqNo: **4875259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.520	80	400.0	154.9	99.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-95247**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166918**
Client ID: **PBW**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-95247**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166918**
Client ID: **LCSW**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.864	1.0	10.00	0	88.6	85	115				

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166918**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	16.344	1.0	10.00	6.688	96.6	75	125				

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166918**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901328**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	16.421	1.0	10.00	6.688	97.3	75	125	16.34	0.468	20	

Sample ID: **N053101-009BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166918**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	806.518	5.0	10.00	786.9	196	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053101-009BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166918**				
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901340**				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	853.864	5.0	10.00	786.9	669	75	125	806.5	5.70	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053101-008B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **166918**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	16.508	1.0	10.00	6.688	98.2	80	120				

Sample ID: **N053101-009B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **166918**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/28/2022**	SeqNo: **4901336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	834.551	5.0	10.00	786.9	476	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-1022
Lab Order:	N053100	**Collection Date:**	10/13/2022 9:33:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053100-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	25	3.8	20		mg/L	400	10/14/2022 08:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R166523_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **PBW**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R166523_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **LCSW**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.228	0.050	1.250	0	98.3	90	110				

Sample ID: **N053101-008DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.610	0.50	12.50	0	101	80	120				

Sample ID: **N053101-008DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.006	0.50	12.50	0	96.0	80	120	12.61	4.91	20	

Sample ID: **N053101-009DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.370	0.50	12.50	2.187	97.5	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053101-009DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.334	0.50	12.50	2.187	97.2	80	120	14.37	0.251	20	

Sample ID: **N053101-002DDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.338	0.50						5.972	5.95	20	

Sample ID: **N053115-009BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	34.122	1.0	25.00	9.544	98.3	80	120				

Sample ID: **N053115-009BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	38.208	1.0	25.00	9.544	115	80	120	34.12	11.3	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab ID: N053100-001

Client Sample ID: MW-67-185-1022
Collection Date: 10/13/2022 9:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Manganese	1400	0.66	12		µg/L	25	10/27/2022 03:43 AM
Molybdenum	24	0.60	2.5		µg/L	5	10/27/2022 03:37 AM
Selenium	180	0.22	2.5		µg/L	5	10/27/2022 03:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-1022
Lab Order:	N053100	**Collection Date:**	10/13/2022 8:49:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053100-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A				**EPA 6020**			
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Molybdenum	49	0.60	2.5		µg/L	5	10/27/2022 03:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-95247**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **PBW**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-95247**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **LCSW**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	100.247	0.50	100.0	0	100	85	115				
Molybdenum	10.020	0.50	10.00	0	100	85	115				
Selenium	9.644	0.50	10.00	0	96.4	85	115				

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	15.285	0.50	10.00	4.668	106	75	125				
Selenium	9.808	0.50	10.00	0.1230	96.9	75	125				

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899940**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	323.288	2.5	100.0	219.1	104	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053100
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	15.156	0.50	10.00	4.668	105	75	125	15.28	0.847	20	
Selenium	9.872	0.50	10.00	0.1230	97.5	75	125	9.808	0.649	20	

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	315.006	2.5	100.0	219.1	96.0	75	125	323.3	2.59	20	

Sample ID: **N053101-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	135.522	0.50	100.0	40.20	95.3	75	125				
Molybdenum	59.961	0.50	10.00	50.49	94.7	75	125				
Selenium	19.578	0.50	10.00	10.49	90.9	75	125				

Sample ID: **N053101-009BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	144.816	0.50	100.0	40.20	105	75	125	135.5	6.63	20	
Molybdenum	62.829	0.50	10.00	50.49	123	75	125	59.96	4.67	20	
Selenium	20.995	0.50	10.00	10.49	105	75	125	19.58	6.99	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/13/2022	Workorder:	N053100
Rep sample Temp (Deg C):	3.8/2.4	IR Gun ID:	1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For: 10/14/2022

Checklist Completed By: EF YRodriguez

Reviewed By: for: MBC 10/18/2022

ASSET Laboratories

WORK ORDER Summary

18-Oct-22

WorkOrder: N053100

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/13/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053100-001A	MW-67-185-1022	10/13/2022 9:33:00 AM	10/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053100-001B			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053100-001C			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053100-002A	MW-68-180-1022	10/13/2022 8:49:00 AM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053100-002B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053100-003A	EB-707-Q422	10/13/2022 1:55:00 PM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053100-004A	FOLDER	10/28/2022	10/28/2022		Folder	Folder	☐	☐	☐	LAB
			10/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/28/2022		Folder	Folder	☐	☐	☐	LAB

November 04, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053101

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 13, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

TOC by SM 5310B was subcontracted to Enthalpy Analytical- Orange, CA.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery and RPD criteria for Iron in QC samples N053101-008BMS, N053101-009BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Barium in QC samples N053101-008BMS, N053101-008BMSD and N053101-009BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 8260B:

Dilution was necessary due to matrix. Samples are turbid and with sediments.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria. Analyte recovery on both met acceptance criteria.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC samples N053101-008CMS and N053101-009CMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N053101-008/009 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N053085-008CMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N053085-008 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053101
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053101-001A	MW-78-070-1022	Groundwater	10/13/2022 1:45:00 PM	10/13/2022	11/4/2022
N053101-001B	MW-78-070-1022	Groundwater	10/13/2022 1:45:00 PM	10/13/2022	11/4/2022
N053101-001C	MW-78-070-1022	Groundwater	10/13/2022 1:45:00 PM	10/13/2022	11/4/2022
N053101-001D	MW-78-070-1022	Groundwater	10/13/2022 1:45:00 PM	10/13/2022	11/4/2022
N053101-002A	MW-78-142-1022	Groundwater	10/13/2022 1:37:00 PM	10/13/2022	11/4/2022
N053101-002B	MW-78-142-1022	Groundwater	10/13/2022 1:37:00 PM	10/13/2022	11/4/2022
N053101-002C	MW-78-142-1022	Groundwater	10/13/2022 1:37:00 PM	10/13/2022	11/4/2022
N053101-002D	MW-78-142-1022	Groundwater	10/13/2022 1:37:00 PM	10/13/2022	11/4/2022
N053101-003A	MW-79-058-1022	Groundwater	10/13/2022 12:51:00 PM	10/13/2022	11/4/2022
N053101-003B	MW-79-058-1022	Groundwater	10/13/2022 12:51:00 PM	10/13/2022	11/4/2022
N053101-003C	MW-79-058-1022	Groundwater	10/13/2022 12:51:00 PM	10/13/2022	11/4/2022
N053101-003D	MW-79-058-1022	Groundwater	10/13/2022 12:51:00 PM	10/13/2022	11/4/2022
N053101-004A	MW-79-102-1022	Groundwater	10/13/2022 12:21:00 PM	10/13/2022	11/4/2022
N053101-004B	MW-79-102-1022	Groundwater	10/13/2022 12:21:00 PM	10/13/2022	11/4/2022
N053101-004C	MW-79-102-1022	Groundwater	10/13/2022 12:21:00 PM	10/13/2022	11/4/2022
N053101-004D	MW-79-102-1022	Groundwater	10/13/2022 12:21:00 PM	10/13/2022	11/4/2022
N053101-005A	MW-80-057-1022	Groundwater	10/13/2022 8:15:00 AM	10/13/2022	11/4/2022
N053101-005B	MW-80-057-1022	Groundwater	10/13/2022 8:15:00 AM	10/13/2022	11/4/2022
N053101-005C	MW-80-057-1022	Groundwater	10/13/2022 8:15:00 AM	10/13/2022	11/4/2022
N053101-005D	MW-80-057-1022	Groundwater	10/13/2022 8:15:00 AM	10/13/2022	11/4/2022
N053101-006A	MW-80-082-1022	Groundwater	10/13/2022 8:54:00 AM	10/13/2022	11/4/2022
N053101-006B	MW-80-082-1022	Groundwater	10/13/2022 8:54:00 AM	10/13/2022	11/4/2022
N053101-006C	MW-80-082-1022	Groundwater	10/13/2022 8:54:00 AM	10/13/2022	11/4/2022
N053101-006D	MW-80-082-1022	Groundwater	10/13/2022 8:54:00 AM	10/13/2022	11/4/2022
N053101-007A	MW-908-Q422	Groundwater	10/13/2022 9:09:00 AM	10/13/2022	11/4/2022
N053101-007B	MW-908-Q422	Groundwater	10/13/2022 9:09:00 AM	10/13/2022	11/4/2022
N053101-007C	MW-908-Q422	Groundwater	10/13/2022 9:09:00 AM	10/13/2022	11/4/2022
N053101-007D	MW-908-Q422	Groundwater	10/13/2022 9:09:00 AM	10/13/2022	11/4/2022
N053101-008A	MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	10/13/2022	11/4/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053101
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053101-008B	MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	10/13/2022	11/4/2022
N053101-008C	MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	10/13/2022	11/4/2022
N053101-008D	MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	10/13/2022	11/4/2022
N053101-008E	MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	10/13/2022	11/4/2022
N053101-008F	MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	10/13/2022	11/4/2022
N053101-009A	MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	10/13/2022	11/4/2022
N053101-009B	MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	10/13/2022	11/4/2022
N053101-009C	MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	10/13/2022	11/4/2022
N053101-009D	MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	10/13/2022	11/4/2022
N053101-009E	MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	10/13/2022	11/4/2022
N053101-009F	MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	10/13/2022	11/4/2022
N053101-010A	MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	10/13/2022	11/4/2022
N053101-010B	MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	10/13/2022	11/4/2022
N053101-010C	MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	10/13/2022	11/4/2022
N053101-010D	MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	10/13/2022	11/4/2022
N053101-010E	MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	10/13/2022	11/4/2022
N053101-010F	MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	10/13/2022	11/4/2022
N053101-011A	EB-708-Q422	Groundwater	10/13/2022 2:00:00 PM	10/13/2022	11/4/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221018B**	QC Batch: **R166615**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	14	0.12	1.0		µg/L	5	10/18/2022 03:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:37:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4500	24	200		µg/L	1000	10/17/2022 06:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	350	2.4	20		µg/L	100	10/17/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:21:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221018B**	QC Batch: **R166615**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	170	0.48	4.0		µg/L	20	10/18/2022 03:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	640	2.4	20		µg/L	100	10/17/2022 07:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:54:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221018B**	QC Batch: **R166615**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	20	0.12	1.0		µg/L	5	10/18/2022 04:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221018B**	QC Batch: **R166615**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	20	0.12	1.0		µg/L	5	10/18/2022 05:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	7.0	0.024	0.20		µg/L	1	10/17/2022 09:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 10:53:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	720	4.8	40		µg/L	200	10/17/2022 04:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 11:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	720	4.8	40		µg/L	200	10/17/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-708-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221017B**	QC Batch: **R166558**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	10/17/2022 09:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R166558**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **LCSW**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.992	0.20	5.000	0	99.8	90	110				

Sample ID: **MB-R166558**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **PBW**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053101-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **ZZZZZZ**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1753.840	40	1000	720.0	103	90	110				

Sample ID: **N053101-009AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **ZZZZZZ**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1762.360	40	1000	720.0	104	90	110	1754	0.485	20	

Sample ID: **N053114-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **ZZZZZZ**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879575**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.816	0.20						1.849	1.77	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053101-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166558**
Client ID: **ZZZZZZ** Batch ID: **R166558** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4879580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9536.200	200	5000	4470	101	90	110				

Sample ID: **N053101-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166558**
Client ID: **ZZZZZZ** Batch ID: **R166558** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4879582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	859.400	20	500.0	347.5	102	90	110				

Sample ID: **N053101-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166558**
Client ID: **ZZZZZZ** Batch ID: **R166558** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4879584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1136.630	20	500.0	640.4	99.3	90	110				

Sample ID: **N053101-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166558**
Client ID: **ZZZZZZ** Batch ID: **R166558** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4879588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1725.500	40	1000	724.7	100	90	110				

Sample ID: **N053101-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **166558**
Client ID: **ZZZZZZ** Batch ID: **R166558** TestNo: **EPA 218.6** Analysis Date: **10/17/2022** SeqNo: **4879590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.980	0.20	1.000	0	98.0	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053101-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **ZZZZZZ**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.881	0.20	5.000	7.008	97.5	90	110				

Sample ID: **N053101-008AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166558**
Client ID: **ZZZZZZ**	Batch ID: **R166558**	TestNo: **EPA 218.6**		Analysis Date: **10/17/2022**	SeqNo: **4879593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.789	0.20	5.000	7.008	95.6	90	110	11.88	0.773	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R166615**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **LCSW**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.999	0.20	5.000	0	100	90	110				

Sample ID: **MB-R166615**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **PBW**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882102**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053101-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **ZZZZZZ**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882107**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.567	1.0	25.00	14.14	102	90	110				

Sample ID: **N053101-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **ZZZZZZ**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.612	1.0	25.00	14.14	102	90	110	39.57	0.115	20	

Sample ID: **N053101-004ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **ZZZZZZ**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	171.754	4.0						174.0	1.32	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053101-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **ZZZZZZ**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	272.180	4.0	100.0	174.0	98.1	90	110				

Sample ID: **N053101-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **ZZZZZZ**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45.696	1.0	25.00	20.21	102	90	110				

Sample ID: **N053101-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166615**
Client ID: **ZZZZZZ**	Batch ID: **R166615**	TestNo: **EPA 218.6**		Analysis Date: **10/18/2022**	SeqNo: **4882120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45.085	1.0	25.00	19.92	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-001

Client Sample ID: MW-78-070-1022
Collection Date: 10/13/2022 1:45:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Sulfate	530	3.0	25		mg/L	50	10/14/2022 07:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/14/2022 09:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-002

Client Sample ID: MW-78-142-1022
Collection Date: 10/13/2022 1:37:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Sulfate	760	6.1	50		mg/L	100	10/14/2022 07:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	6.0	0.095	0.50		mg/L	10	10/14/2022 10:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Sulfate	560	3.0	25		mg/L	50	10/14/2022 07:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.73	0.095	0.50		mg/L	10	10/14/2022 10:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:21:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Sulfate	550	6.1	50		mg/L	100	10/14/2022 07:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/14/2022 10:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-005

Client Sample ID: MW-80-057-1022
Collection Date: 10/13/2022 8:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	10/14/2022 03:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	6.3	0.095	0.50		mg/L	10	10/14/2022 10:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:54:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Sulfate	530	3.0	25		mg/L	50	10/14/2022 06:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/14/2022 11:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Sulfate	540	3.0	25		mg/L	50	10/14/2022 06:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A**	QC Batch: **R166523**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/14/2022 11:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-008

Client Sample ID: MW-26-1022
Collection Date: 10/13/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	10/14/2022 01:39 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	10/14/2022 09:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 10:53:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Sulfate	460	3.0	25		mg/L	50	10/14/2022 01:54 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.2	0.095	0.50		mg/L	10	10/14/2022 09:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-010

Client Sample ID: MW-907-Q422
Collection Date: 10/13/2022 11:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Sulfate	500	3.0	25		mg/L	50	10/14/2022 06:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221014A** QC Batch: **R166523**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.1	0.095	0.50		mg/L	10	10/14/2022 12:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R166523_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **PBW**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R166523_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **LCSW**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.057	0.50	4.000	0	101	90	110				

Sample ID: **N053101-008DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	721.705	25	200.0	511.1	105	80	120				

Sample ID: **N053101-008DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	706.370	25	200.0	511.1	97.6	80	120	721.7	2.15	20	

Sample ID: **N053101-009DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	664.405	25	200.0	457.2	104	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053101-009DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	663.155	25	200.0	457.2	103	80	120	664.4	0.188	20	

Sample ID: **N053101-005DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	507.735	25						511.2	0.687	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R166523_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **PBW**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R166523_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **LCSW**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.228	0.050	1.250	0	98.3	90	110				

Sample ID: **N053101-008DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.610	0.50	12.50	0	101	80	120				

Sample ID: **N053101-008DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.006	0.50	12.50	0	96.0	80	120	12.61	4.91	20	

Sample ID: **N053101-009DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876633**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.370	0.50	12.50	2.187	97.5	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053101-009DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.334	0.50	12.50	2.187	97.2	80	120	14.37	0.251	20	

Sample ID: **N053101-002DDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.338	0.50						5.972	5.95	20	

Sample ID: **N053115-009BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	34.122	1.0	25.00	9.544	98.3	80	120				

Sample ID: **N053115-009BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **166523**
Client ID: **ZZZZZZ**	Batch ID: **R166523**	TestNo: **EPA 300.0**		Analysis Date: **10/14/2022**	SeqNo: **4876645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	38.208	1.0	25.00	9.544	115	80	120	34.12	11.3	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 06:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:37:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 06:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 06:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:21:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 07:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:54:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 07:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 07:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221018A**	QC Batch: **R166611**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	10/18/2022 04:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 10:53:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221019A**	QC Batch: **R166661**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	10/19/2022 02:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 11:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221014A**	QC Batch: **R166520**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	10/14/2022 08:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166520**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166520**
Client ID: **PBW**	Batch ID: **R166520**	TestNo: **SM 5310C**		Analysis Date: **10/14/2022**	SeqNo: **4876477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R166520**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166520**
Client ID: **LCSW**	Batch ID: **R166520**	TestNo: **SM 5310C**		Analysis Date: **10/14/2022**	SeqNo: **4876478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.020	1.0	5.000	0	100	85	115				

Sample ID: **N053085-008CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166520**
Client ID: **ZZZZZZ**	Batch ID: **R166520**	TestNo: **SM 5310C**		Analysis Date: **10/14/2022**	SeqNo: **4876493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	263.140	50	250.0	29.36	93.5	75	125				

Sample ID: **N053085-008CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166520**
Client ID: **ZZZZZZ**	Batch ID: **R166520**	TestNo: **SM 5310C**		Analysis Date: **10/14/2022**	SeqNo: **4876494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	263.165	50	250.0	29.36	93.5	75	125	263.1	0.00950	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166611**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166611**
Client ID: **PBW**	Batch ID: **R166611**	TestNo: **SM 5310C**		Analysis Date: **10/18/2022**	SeqNo: **4881857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R166611**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166611**
Client ID: **LCSW**	Batch ID: **R166611**	TestNo: **SM 5310C**		Analysis Date: **10/18/2022**	SeqNo: **4881858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.034	1.0	5.000	0	101	85	115				

Sample ID: **N053101-008CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166611**
Client ID: **ZZZZZZ**	Batch ID: **R166611**	TestNo: **SM 5310C**		Analysis Date: **10/18/2022**	SeqNo: **4881865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	83.712	20	100.0	0	83.7	75	125				

Sample ID: **N053101-008CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166611**
Client ID: **ZZZZZZ**	Batch ID: **R166611**	TestNo: **SM 5310C**		Analysis Date: **10/18/2022**	SeqNo: **4881868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	81.932	20	100.0	0	81.9	75	125	83.71	2.15	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R166661**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166661**
Client ID: **PBW**	Batch ID: **R166661**	TestNo: **SM 5310C**		Analysis Date: **10/19/2022**	SeqNo: **4884876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R166661**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166661**
Client ID: **LCSW**	Batch ID: **R166661**	TestNo: **SM 5310C**		Analysis Date: **10/19/2022**	SeqNo: **4884877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.108	1.0	5.000	0	102	85	115				

Sample ID: **N053101-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166661**
Client ID: **ZZZZZZ**	Batch ID: **R166661**	TestNo: **SM 5310C**		Analysis Date: **10/19/2022**	SeqNo: **4884884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	89.236	20	100.0	4.586	84.6	75	125				

Sample ID: **N053101-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **166661**
Client ID: **ZZZZZZ**	Batch ID: **R166661**	TestNo: **SM 5310C**		Analysis Date: **10/19/2022**	SeqNo: **4884885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	90.866	20	100.0	4.586	86.3	75	125	89.24	1.81	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**			PrepDate:	**10/18/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:37:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:21:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:54:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**			PrepDate:	**10/18/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 02:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 02:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-008

Client Sample ID: MW-26-1022
Collection Date: 10/13/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	10/20/2022 02:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-009

Client Sample ID: MW-51-1022
Collection Date: 10/13/2022 10:53:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221020C** QC Batch: **96263**				PrepDate:		**10/18/2022**	Analyst: **DJ**
Iron	40	13	20		µg/L	1	10/20/2022 02:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 11:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221020C**	QC Batch: **96263**				PrepDate:	**10/18/2022**	Analyst: **DJ**
Iron	21	13	20		µg/L	1	10/20/2022 03:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96263**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **PBW**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96263**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **LCSW**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.877	20	100.0	0	95.9	85	115				

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	128.655	20	100.0	0	129	75	125				S

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.307	20	100.0	0	95.3	75	125	128.7	29.8	20	R

Sample ID: **N053101-009BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.894	20	100.0	39.84	56.1	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053101-009BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **10/18/2022**	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	116.443	20	100.0	39.84	76.6	75	125	95.89	19.4	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053101-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	50.818	20	100.0	0	50.8	80	120				S

Sample ID: **N053101-009B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **166667**
Client ID: **ZZZZZZ**	Batch ID: **96263**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/20/2022**	SeqNo: **4885522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	85.375	20	100.0	39.84	45.5	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/27/2022 04:01 AM
Barium	160	0.083	1.0		µg/L	1	10/27/2022 04:01 AM
Manganese	620	0.13	2.5		µg/L	5	10/27/2022 04:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 1:37:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP7_221101A**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	4.2	0.050	0.10		µg/L	1	11/1/2022 07:30 PM
Barium	30	0.083	1.0		µg/L	1	10/27/2022 04:13 AM
Manganese	1.4	0.026	0.50		µg/L	1	10/27/2022 04:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 12:51:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/27/2022 04:36 AM
Barium	280	0.42	5.0		µg/L	5	10/27/2022 04:42 AM
Manganese	ND	0.026	0.50		µg/L	1	10/27/2022 04:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-79-102-1022
Lab Order: N053101
Collection Date: 10/13/2022 12:21:00 PM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053101-004

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**				PrepDate:	**10/15/2022**	Analyst: **DJ**
Arsenic	1.0	0.050	0.10		µg/L	1	10/27/2022 04:48 AM
Barium	45	0.083	1.0		µg/L	1	10/27/2022 04:48 AM
Manganese	3.0	0.026	0.50		µg/L	1	10/27/2022 04:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/27/2022 05:00 AM
Barium	83	0.083	1.0		µg/L	1	10/27/2022 05:00 AM
Manganese	10	0.026	0.50		µg/L	1	10/27/2022 05:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 8:54:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	10/27/2022 05:12 AM
Barium	46	0.083	1.0		µg/L	1	10/27/2022 05:12 AM
Manganese	0.97	0.026	0.50		µg/L	1	10/27/2022 05:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-908-Q422
Lab Order: N053101
Collection Date: 10/13/2022 9:09:00 AM
Project: PG&E Topock - PCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053101-007

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:		**10/15/2022**	Analyst: **DJ**
Arsenic	2.6	0.050	0.10		µg/L	1	10/27/2022 05:24 AM
Barium	44	0.083	1.0		µg/L	1	10/27/2022 05:24 AM
Manganese	0.93	0.026	0.50		µg/L	1	10/27/2022 05:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**				PrepDate:	**10/15/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	10/27/2022 05:59 AM
Barium	80	0.083	1.0		µg/L	1	10/27/2022 05:59 AM
Manganese	220	0.13	2.5		µg/L	5	10/27/2022 06:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1022
Lab Order:	N053101	**Collection Date:**	10/13/2022 10:53:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221026C**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	10/27/2022 07:10 AM
Barium	91	0.083	1.0		µg/L	1	10/27/2022 07:10 AM
Manganese	40	0.026	0.50		µg/L	1	10/27/2022 07:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q422
Lab Order:	N053101	**Collection Date:**	10/13/2022 11:08:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053101-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP7_221101A**	QC Batch: **95247**			PrepDate:	**10/15/2022**		Analyst: **DJ**
Arsenic	3.5	0.050	0.10		µg/L	1	11/1/2022 07:36 PM
Barium	84	0.083	1.0		µg/L	1	10/27/2022 08:21 AM
Manganese	29	0.026	0.50		µg/L	1	10/27/2022 08:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-95247**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **PBW**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-95247**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **LCSW**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.251	0.10	10.00	0	103	85	115				
Barium	11.131	1.0	10.00	0	111	85	115				
Manganese	100.247	0.50	100.0	0	100	85	115				

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.431	0.10	10.00	0	104	75	125				
Barium	84.131	1.0	10.00	80.24	38.9	75	125				S

Sample ID: **N053101-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899940**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	323.288	2.5	100.0	219.1	104	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.499	0.10	10.00	0	105	75	125	10.43	0.649	20	
Barium	84.270	1.0	10.00	80.24	40.3	75	125	84.13	0.165	20	S

Sample ID: **N053101-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	315.006	2.5	100.0	219.1	96.0	75	125	323.3	2.59	20	

Sample ID: **N053101-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.532	0.10	10.00	1.290	102	75	125				
Barium	98.993	1.0	10.00	91.26	77.3	75	125				
Manganese	135.522	0.50	100.0	40.20	95.3	75	125				

Sample ID: **N053101-009BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/15/2022**	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.946	0.10	10.00	1.290	107	75	125	11.53	3.53	20	
Barium	108.444	1.0	10.00	91.26	172	75	125	98.99	9.11	20	S
Manganese	144.816	0.50	100.0	40.20	105	75	125	135.5	6.63	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053101-008B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.150	0.10	10.00	0	101	80	120				
Barium	83.987	1.0	10.00	80.24	37.5	80	120				S

Sample ID: **N053101-008B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899938**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	314.431	2.5	100.0	219.1	95.4	80	120				

Sample ID: **N053101-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **166892**
Client ID: **ZZZZZZ**	Batch ID: **95247**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **10/27/2022**	SeqNo: **4899948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.397	0.10	10.00	1.290	101	80	120				
Barium	101.274	1.0	10.00	91.26	100	80	120				
Manganese	138.350	0.50	100.0	40.20	98.2	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-008

Client Sample ID: MW-26-1022
Collection Date: 10/13/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOA APPENDIX 9							
			EPA 8260B				
RunID: **NV00922-MS5_221021B**	QC Batch: **P22VW183**			PrepDate:			Analyst: **CA**
Ethanol	ND	42	200		µg/L	2	10/22/2022 11:53 AM
Surr: 1,2-Dichloroethane-d4	95.7	0	77-138		%REC	2	10/22/2022 11:53 AM
Surr: 4-Bromofluorobenzene	104	0	80-120		%REC	2	10/22/2022 11:53 AM
Surr: Dibromofluoromethane	102	0	80-132		%REC	2	10/22/2022 11:53 AM
Surr: Toluene-d8	104	0	80-120		%REC	2	10/22/2022 11:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-009

Client Sample ID: MW-51-1022
Collection Date: 10/13/2022 10:53:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOA APPENDIX 9							
			EPA 8260B				
RunID: **NV00922-MS5_221021B**	QC Batch: **P22VW183**			PrepDate:			Analyst: **CA**
Ethanol	ND	42	200		µg/L	2	10/22/2022 12:20 PM
Surr: 1,2-Dichloroethane-d4	98.2	0	77-138		%REC	2	10/22/2022 12:20 PM
Surr: 4-Bromofluorobenzene	106	0	80-120		%REC	2	10/22/2022 12:20 PM
Surr: Dibromofluoromethane	106	0	80-132		%REC	2	10/22/2022 12:20 PM
Surr: Toluene-d8	106	0	80-120		%REC	2	10/22/2022 12:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053101-010

Client Sample ID: MW-907-Q422
Collection Date: 10/13/2022 11:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOA APPENDIX 9							
			EPA 8260B				
RunID: **NV00922-MS5_221021B**	QC Batch: **P22VW183**			PrepDate:			Analyst: **CA**
Ethanol	ND	42	200		µg/L	2	10/22/2022 12:47 PM
Surr: 1,2-Dichloroethane-d4	96.2	0	77-138		%REC	2	10/22/2022 12:47 PM
Surr: 4-Bromofluorobenzene	104	0	80-120		%REC	2	10/22/2022 12:47 PM
Surr: Dibromofluoromethane	106	0	80-132		%REC	2	10/22/2022 12:47 PM
Surr: Toluene-d8	107	0	80-120		%REC	2	10/22/2022 12:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WPAPP9

Sample ID: **P221021LCS** SampType: **LCS** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **166769**
Client ID: **LCSW** Batch ID: **P22VW183** TestNo: **EPA 8260B** Analysis Date: **10/22/2022** SeqNo: **4892676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	341.150	100	400.0	0	85.3	70	130				
Surr: 1,2-Dichloroethane-d4	22.470		25.00		89.9	77	138				
Surr: 4-Bromofluorobenzene	27.370		25.00		109	80	120				
Surr: Dibromofluoromethane	23.050		25.00		92.2	80	132				
Surr: Toluene-d8	26.260		25.00		105	80	120				

Sample ID: **N053101-008EMS** SampType: **MS** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **166769**
Client ID: **ZZZZZZ** Batch ID: **P22VW183** TestNo: **EPA 8260B** Analysis Date: **10/22/2022** SeqNo: **4892680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	729.880	200	800.0	0	91.2	70	130				
Surr: 1,2-Dichloroethane-d4	45.560		50.00		91.1	77	138				
Surr: 4-Bromofluorobenzene	53.540		50.00		107	80	120				
Surr: Dibromofluoromethane	45.660		50.00		91.3	80	132				
Surr: Toluene-d8	51.360		50.00		103	80	120				

Sample ID: **N053101-008EMSD** SampType: **MSD** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **166769**
Client ID: **ZZZZZZ** Batch ID: **P22VW183** TestNo: **EPA 8260B** Analysis Date: **10/22/2022** SeqNo: **4892681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	999.020	200	800.0	0	125	70	130	729.9	31.1	30	R
Surr: 1,2-Dichloroethane-d4	46.400		50.00		92.8	77	138		0		
Surr: 4-Bromofluorobenzene	53.820		50.00		108	80	120		0		
Surr: Dibromofluoromethane	46.840		50.00		93.7	80	132		0		
Surr: Toluene-d8	52.900		50.00		106	80	120		0		

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053101
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WPAPP9

Sample ID: **N053101-009EMS**	SampType: **MS**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **166769**
Client ID: **ZZZZZZ**	Batch ID: **P22VW183**	TestNo: **EPA 8260B**		Analysis Date: **10/22/2022**	SeqNo: **4892682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	778.240	200	800.0	0	97.3	70	130				
Surr: 1,2-Dichloroethane-d4	45.580		50.00		91.2	77	138				
Surr: 4-Bromofluorobenzene	54.680		50.00		109	80	120				
Surr: Dibromofluoromethane	48.220		50.00		96.4	80	132				
Surr: Toluene-d8	53.140		50.00		106	80	120				

Sample ID: **N053085-008FMS**	SampType: **MS**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **166769**
Client ID: **ZZZZZZ**	Batch ID: **P22VW183**	TestNo: **EPA 8260B**		Analysis Date: **10/22/2022**	SeqNo: **4892683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	57607.000	10000	40000	22810	87.0	70	130				
Surr: 1,2-Dichloroethane-d4	2225.000		2500		89.0	77	138				
Surr: 4-Bromofluorobenzene	2605.000		2500		104	80	120				
Surr: Dibromofluoromethane	2311.000		2500		92.4	80	132				
Surr: Toluene-d8	2662.000		2500		106	80	120				

Sample ID: **P221021MB3**	SampType: **MBLK**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **166769**
Client ID: **PBW**	Batch ID: **P22VW183**	TestNo: **EPA 8260B**		Analysis Date: **10/22/2022**	SeqNo: **4892686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	20.980		25.00		83.9	77	138				
Surr: 4-Bromofluorobenzene	24.640		25.00		98.6	80	120				
Surr: Dibromofluoromethane	23.670		25.00		94.7	80	132				
Surr: Toluene-d8	26.300		25.00		105	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email:	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to:	Labspec		CalTrans		2. Headspace
Submitted By: Maggie Top		P.O.#	Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: Date: 10/13/22	Sampled By: Maggie Top	Global ID:			Regulatory		5. IR number 1
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 10/13/22						Sample Temp: 3.8 | 2.4 °C
Project Number: 30121866.4Q22GW							Courier: Tracking No.:

Matrix: Ground X, Sediment; Potable, Soil; NPDES, Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Ethanol (EPA 8260); HCl (3x40 mL VOA)	Total Organic Carbon (SM5310B); H2SO4 (6x40 mL VOA wrapped in foil)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053101-01	MW-78-070-1022	10/13/2022	13:45		X		X			X			X			E	6	P	BNS	
2	-02	MW-78-142-1022	10/13/2022	13:37		X		X			X			X			E	6	P	BNS	
3	-03	MW-79-058-1022	10/13/2022	12:51		X		X			X			X			E	6	P	BNS	
4	-04	MW-79-102-1022	10/13/2022	12:21		X		X			X			X			E	6	P	BNS	
5	-05	MW-80-057-1022	10/13/2022	8:15		X		X			X			X			E	6	P	BNS	
6	-06	MW-80-082-1022	10/13/2022	8:54		X		X			X			X			E	6	P	BNS	
7	-07	MW-908-Q422	10/13/2022	9:09		X		X			X			X			E	6	P	BNS	
8	-08	MW-26-1022	10/13/2022	9:50		X		X			X			X	X	X	E	14	P	BNS	MS/MSD
9	-09	MW-51-1022	10/13/2022	10:53		X		X			X			X	X	X	E	21	P	BNS	MS/MSD
10	-10	MW-907-Q422	10/13/2022	11:08		X		X			X			X	X	X	E	12	P	BNS	
11	-11	EB-708-Q422	10/13/2022	14:00		X											E	1	P	BNS	
12																					
13																					
14																					

Relinquished by (Signature and Printed Name): Maggie Top Date/Time: 10/13/22 1458
Relinquished by (Signature and Printed Name): Romeo Alcantara Date/Time: 10/13/22 1458
Relinquished by (Signature and Printed Name): Romeo Alcantara Date/Time: 10/13/22 1845
Relinquished by (Signature and Printed Name): Romeo Alcantara Date/Time: 10/13/22 1845
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 6 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/13/2022	Workorder:	N053101
Rep sample Temp (Deg C):	3.8/2.4	IR Gun ID:	1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For: 10/14/2022

Checklist Completed By: EF YRodriguez

Reviewed By: for: MBC 10/27/2022

ASSET Laboratories

WORK ORDER Summary

27-Oct-22

WorkOrder: N053101

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/13/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053101-001A	MW-78-070-1022	10/13/2022 1:45:00 PM	10/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-001B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-001C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-001D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-002A	MW-78-142-1022	10/13/2022 1:37:00 PM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-002B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-002C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-002D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-003A	MW-79-058-1022	10/13/2022 12:51:00 PM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-003B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-003C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

27-Oct-22

WorkOrder: N053101

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/13/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053101-003D	MW-79-058-1022	10/13/2022 12:51:00 PM	10/28/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-004A	MW-79-102-1022	10/13/2022 12:21:00 PM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-004B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-004C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-004D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-005A	MW-80-057-1022	10/13/2022 8:15:00 AM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-005B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-005C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-005D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-006A	MW-80-082-1022	10/13/2022 8:54:00 AM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-006B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Oct-22

WorkOrder: N053101

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/13/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053101-006B	MW-80-082-1022	10/13/2022 8:54:00 AM	10/28/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-006C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-006D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-007A	MW-908-Q422	10/13/2022 9:09:00 AM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-007B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-007C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-007D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-008A	MW-26-1022	10/13/2022 9:50:00 AM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053101-008B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053101-008C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053101-008D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053101-008E			10/28/2022		EPA 8260B	VOA appendix 9	☐	☑	☐	VW
N053101-008F			10/28/2022		SM5310B	TOTAL ORGANIC CARBON	☐	☑	☑	SUB

ASSET Laboratories

WORK ORDER Summary

27-Oct-22

WorkOrder: N053101

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/13/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053101-009A	MW-51-1022	10/13/2022 10:53:00 AM	10/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053101-009B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053101-009C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053101-009D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053101-009E			10/28/2022		EPA 8260B	VOA appendix 9	☐	☑	☐	VW
N053101-009F			10/28/2022		SM5310B	TOTAL ORGANIC CARBON	☐	☑	☑	SUB
N053101-010A	MW-907-Q422	10/13/2022 11:08:00 AM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-010B			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053101-010C			10/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053101-010D			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			10/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053101-010E			10/28/2022		EPA 8260B	VOA appendix 9	☐	☐	☐	VW
N053101-010F			10/28/2022		SM5310B	TOTAL ORGANIC CARBON	☐	☐	☑	SUB
N053101-011A	EB-708-Q422	10/13/2022 2:00:00 PM	10/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053101-012A	FOLDER	10/28/2022	10/28/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

27-Oct-22

WorkOrder: N053101

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 10/13/2022 6:45 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053101-012A	FOLDER	10/28/2022	10/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			10/28/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

Enthalpy Analytical
931 W. Barkley Ave.
Orange, CA 92868

TEL: (714) 771-6900
FAX: (714) 538-1209
Acct #:

Field Sampler: Reggie Tep

17-Oct-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM5310B**		
N053101-008F / MW-26-1022	Groundwater	10/13/2022 9:50:00 AM	VOA	1	(MS/MSD)	
N053101-009F / MW-51-1022	Groundwater	10/13/2022 10:53:00 AM	VOA	1	(MS/MSD)	
N053101-010F / MW-907-Q422	Groundwater	10/13/2022 11:08:00 AM	VOA	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53101A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for TOC by SM5310B. EDD requirement Labspec7 edata.

GLS #: 557997624

		Date/Time			Date/Time
Relinquished by:	YRodriguez	10/17/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

November 08, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053230

RE: PG&E Topock-OMM TCS PWTF, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on October 21, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053230

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC samples N053083-001C-MS and N053083-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053230
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053230-001A	Backwash Pre-filter-101822	Water	10/18/2022 9:45:00 AM	10/21/2022	11/8/2022
N053230-001B	Backwash Pre-filter-101822	Water	10/18/2022 9:45:00 AM	10/21/2022	11/8/2022
N053230-001C	Backwash Pre-filter-101822	Water	10/18/2022 9:45:00 AM	10/21/2022	11/8/2022
N053230-002A	Backwash Post-filter-101822	Water	10/18/2022 10:00:00 AM	10/21/2022	11/8/2022
N053230-002B	Backwash Post-filter-101822	Water	10/18/2022 10:00:00 AM	10/21/2022	11/8/2022
N053230-002C	Backwash Post-filter-101822	Water	10/18/2022 10:00:00 AM	10/21/2022	11/8/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-101822
Lab Order:	N053230	**Collection Date:**	10/18/2022 9:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053230-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221025A**	QC Batch: **R166820**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	310	1.2	10		µg/L	50	10/25/2022 10:24 AM
TOTAL METALS BY ICPMS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP7_221101E**	QC Batch: **96435**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Chromium	310	0.18	5.0		µg/L	5	11/1/2022 10:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-101822
Lab Order:	N053230	**Collection Date:**	10/18/2022 10:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053230-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221025A**	QC Batch: **R166820**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	300	1.2	10		µg/L	50	10/25/2022 10:33 AM
TOTAL METALS BY ICPMS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP7_221101E**	QC Batch: **96435**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Chromium	420	0.18	5.0		µg/L	5	11/1/2022 11:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053230
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R166820**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **PBW**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R166820**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **LCSW**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	0.20	5.000	0	100	90	110				

Sample ID: **N053243-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **ZZZZZZ**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2460.880	40	1000	1446	102	90	110				

Sample ID: **N053230-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **ZZZZZZ**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894881**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	560.520	10	250.0	308.7	101	90	110				

Sample ID: **N053230-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **ZZZZZZ**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	564.225	10	250.0	308.7	102	90	110	560.5	0.659	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053230
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053230-002ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **ZZZZZZ**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	310.535	10						304.0	2.13	20	

Sample ID: **N053230-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **ZZZZZZ**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	561.680	10	250.0	304.0	103	90	110				

Sample ID: **N053243-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166820**
Client ID: **ZZZZZZ**	Batch ID: **R166820**	TestNo: **EPA 218.6**		Analysis Date: **10/25/2022**	SeqNo: **4894887**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	715.920	10	250.0	453.1	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053230
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-96435**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **PBW**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.043	1.0									

Sample ID: **LCS-96435**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **LCSW**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.185	1.0	10.00	0	102	85	115				

Sample ID: **N053083-001C-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **ZZZZZZ**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	516.386	5.0	10.00	463.7	527	75	125				S

Sample ID: **N053083-001C-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **ZZZZZZ**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	487.639	5.0	10.00	463.7	240	75	125	516.4	5.73	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053230
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **N053083-001C-PS** SampType: **PS** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: RunNo: **167023**
Client ID: **ZZZZZZ** Batch ID: **96435** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/1/2022** SeqNo: **4906859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	659.186	5.0	10.00	463.7	1960	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-101822
Lab Order:	N053230	**Collection Date:**	10/18/2022 9:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053230-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221102B**	QC Batch: **96490**			PrepDate:	**11/1/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/2/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-101822
Lab Order:	N053230	**Collection Date:**	10/18/2022 10:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053230-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221102B**	QC Batch: **96490**			PrepDate:	**11/1/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/2/2022 02:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053230
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96490**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/1/2022**	RunNo: **167021**
Client ID: **PBW**	Batch ID: **96490**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96490**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/1/2022**	RunNo: **167021**
Client ID: **LCSW**	Batch ID: **96490**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.575	20	100.0	0	108	85	115				

Sample ID: **N053341-002B-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/1/2022**	RunNo: **167021**
Client ID: **ZZZZZZ**	Batch ID: **96490**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	117.320	20	100.0	31.93	85.4	75	125				

Sample ID: **N053341-002B-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/1/2022**	RunNo: **167021**
Client ID: **ZZZZZZ**	Batch ID: **96490**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	137.301	20	100.0	31.93	105	75	125	117.3	15.7	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-101822
Lab Order:	N053230	**Collection Date:**	10/18/2022 9:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053230-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP7_221102D**	QC Batch: **96447**			PrepDate:	**10/28/2022**		Analyst: **DJ**
Manganese	42	0.026	0.50		µg/L	1	11/2/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-101822
Lab Order:	N053230	**Collection Date:**	10/18/2022 10:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053230-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP7_221102D** QC Batch: **96447**				PrepDate: **10/28/2022**			Analyst: **DJ**
Manganese	44	0.026	0.50		µg/L	1	11/2/2022 07:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053230
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96447**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **PBW**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-96447**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **LCSW**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	101.451	0.50	100.0	0	101	85	115				

Sample ID: **N053226-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **ZZZZZZ**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.416	0.50	100.0	1.515	91.9	75	125				

Sample ID: **N053226-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **ZZZZZZ**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.630	0.50	100.0	1.515	91.1	75	125	93.42	0.845	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200	Fax:
Title: OHM operator	Phone: 916-786-3302 Fax:		
Signature: [signature] Date: 10/18/22	Sampled By: Kevin Ashley		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - OMM TCS PWTF	Signature: [signature] Date: 10/18/22		
Project Number: 30106892			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		
6. Method of Cooling: ICE		
Sample Temp: 2.0°C		

Courier: ASSET
Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053230-001	Backwash Pre-filter-101822	10/18/22	9:45 A		X	X	X	E	3	PV	BNS	
2	-002	Backwash Post-filter-101822	10/18/22	10:00 A		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
[signature] Kevin Ashley	10/21/22 1500	Da Romeo Alcantara	10/21/22 1500
Da Romeo Alcantara	10/21/22 1725	Yeandra Rodriguez	10/21/22 1725

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/21/2022	Workorder:	N053230
Rep sample Temp (Deg C):	2.0	IR Gun ID:	1

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See correspondence.

For:

Checklist Completed By: YR EFanegoF 10/24/2022

Reviewed By: for: MBC 11/1/2022

Subject: RE: PG&E Topock-OMM TCS PWTF, 30106892 (ASSET Labs No. N053230)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 10/24/2022, 1:08 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi Yoandra,
The sample date was 10/18.

Thanks,
Laura

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Monday, October 24, 2022 2:38 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PG&E Topock-OMM TCS PWTF, 30106892 (ASSET Labs No. N053230)

Hi Laura,

Please confirm collection date for the samples on the attached COC:

- COC: 10/18/22

- Labels: 10/14/22

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

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ASSET Laboratories

WORK ORDER Summary

24-Oct-22

WorkOrder: N053230

Client ID: ARCUS02

Project: PG&E Topock-OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 10/21/2022 5:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053230-001A	Backwash Pre-filter-101822	10/18/2022 9:45:00 AM	11/7/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053230-001B			11/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/7/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053230-001C			11/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/7/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053230-002A	Backwash Post-filter-101822	10/18/2022 10:00:00 AM	11/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053230-002B			11/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/7/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053230-002C			11/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/7/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053230-003A	FOLDER	11/7/2022	11/7/2022		Folder	Folder	☐	☐	☐	LAB
			11/7/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/7/2022		Folder	Folder	☐	☐	☐	LAB

November 10, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053288

RE: PG&E Topock-OMM TCS PWTF, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on October 26, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053288
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053288-001A	Backwash Pre-filter-102522	Water	10/25/2022 1:00:00 PM	10/26/2022	11/10/2022
N053288-001B	Backwash Pre-filter-102522	Water	10/25/2022 1:00:00 PM	10/26/2022	11/10/2022
N053288-001C	Backwash Pre-filter-102522	Water	10/25/2022 1:00:00 PM	10/26/2022	11/10/2022
N053288-002A	Backwash Post-filter-102522	Water	10/25/2022 1:15:00 PM	10/26/2022	11/10/2022
N053288-002B	Backwash Post-filter-102522	Water	10/25/2022 1:15:00 PM	10/26/2022	11/10/2022
N053288-002C	Backwash Post-filter-102522	Water	10/25/2022 1:15:00 PM	10/26/2022	11/10/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053288

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside recovery and RPD criteria for Iron in QC sample N053243-001E-MS1 and N053243-001E-MSD1 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC samples N053083-001C-MS and N053083-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-102522
Lab Order:	N053288	**Collection Date:**	10/25/2022 1:00:00 PM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053288-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221027A**	QC Batch: **R166903**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	300	1.2	10		µg/L	50	10/27/2022 12:48 PM
TOTAL METALS BY ICPMS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP7_221101E**	QC Batch: **96435**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Chromium	400	0.18	5.0		µg/L	5	11/2/2022 01:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab ID: N053288-002

Client Sample ID: Backwash Post-filter-102522
Collection Date: 10/25/2022 1:15:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221027A** QC Batch: **R166903**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	300	1.2	10		µg/L	50	10/27/2022 01:45 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221101E** QC Batch: **96435**				PrepDate:	**10/27/2022**		Analyst: **DJ**
Chromium	370	0.18	5.0		µg/L	5	11/2/2022 01:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R166903**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166903**
Client ID: **PBW**	Batch ID: **R166903**	TestNo: **EPA 218.6**		Analysis Date: **10/27/2022**	SeqNo: **4900477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R166903**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166903**
Client ID: **LCSW**	Batch ID: **R166903**	TestNo: **EPA 218.6**		Analysis Date: **10/27/2022**	SeqNo: **4900478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.335	0.20	5.000	0	107	90	110				

Sample ID: **N053288-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166903**
Client ID: **ZZZZZZ**	Batch ID: **R166903**	TestNo: **EPA 218.6**		Analysis Date: **10/27/2022**	SeqNo: **4900480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	557.970	10	250.0	299.0	104	90	110				

Sample ID: **N053288-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166903**
Client ID: **ZZZZZZ**	Batch ID: **R166903**	TestNo: **EPA 218.6**		Analysis Date: **10/27/2022**	SeqNo: **4900483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	566.415	10	250.0	299.0	107	90	110	558.0	1.50	20	

Sample ID: **N053288-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166903**
Client ID: **ZZZZZZ**	Batch ID: **R166903**	TestNo: **EPA 218.6**		Analysis Date: **10/27/2022**	SeqNo: **4900484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	296.830	10						299.0	0.738	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053288-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **166903**
Client ID: **ZZZZZZ**	Batch ID: **R166903**	TestNo: **EPA 218.6**		Analysis Date: **10/27/2022**	SeqNo: **4900486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	552.870	10	250.0	295.6	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-96435**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **PBW**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.043	1.0									

Sample ID: **LCS-96435**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **LCSW**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.185	1.0	10.00	0	102	85	115				

Sample ID: **N053083-001C-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **ZZZZZZ**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	516.386	5.0	10.00	463.7	527	75	125				S

Sample ID: **N053083-001C-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167023**
Client ID: **ZZZZZZ**	Batch ID: **96435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/1/2022**	SeqNo: **4906865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	487.639	5.0	10.00	463.7	240	75	125	516.4	5.73	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **N053083-001C-PS** SampType: **PS** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: RunNo: **167023**
Client ID: **ZZZZZZ** Batch ID: **96435** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/1/2022** SeqNo: **4906859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	659.186	5.0	10.00	463.7	1960	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-102522
Lab Order:	N053288	**Collection Date:**	10/25/2022 1:00:00 PM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053288-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221102B**	QC Batch: **96430**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Iron	82	13	20		µg/L	1	11/2/2022 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-102522
Lab Order:	N053288	**Collection Date:**	10/25/2022 1:15:00 PM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053288-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221102B**	QC Batch: **96430**			PrepDate:	**10/27/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/2/2022 02:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96430**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167021**
Client ID: **PBW**	Batch ID: **96430**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS1-96430**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167021**
Client ID: **LCSW**	Batch ID: **96430**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	112.360	20	100.0	0	112	85	115				

Sample ID: **N053243-001E-MS1**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167021**
Client ID: **ZZZZZZ**	Batch ID: **96430**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	785.885	20	100.0	0	786	75	125				S

Sample ID: **N053243-001E-MSD1**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **10/27/2022**	RunNo: **167021**
Client ID: **ZZZZZZ**	Batch ID: **96430**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4906573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	221.994	20	100.0	0	222	75	125	785.9	112	20	SR

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053243-001E-PS** SampType: **PS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: RunNo: **167021**
Client ID: **ZZZZZZ** Batch ID: **96430** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **11/2/2022** SeqNo: **4906571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	469.752	20	100.0	0	470	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-102522
Lab Order:	N053288	**Collection Date:**	10/25/2022 1:00:00 PM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053288-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP7_221102D** QC Batch: **96447**				PrepDate: **10/28/2022**			Analyst: **DJ**
Manganese	47	0.026	0.50		µg/L	1	11/2/2022 08:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-102522
Lab Order:	N053288	**Collection Date:**	10/25/2022 1:15:00 PM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053288-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP7_221102D** QC Batch: **96447**				PrepDate: **10/28/2022**			Analyst: **DJ**
Manganese	48	0.026	0.50		µg/L	1	11/2/2022 08:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053288
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96447**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **PBW**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908004**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-96447**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **LCSW**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	101.451	0.50	100.0	0	101	85	115				

Sample ID: **N053226-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **ZZZZZZ**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.416	0.50	100.0	1.515	91.9	75	125				

Sample ID: **N053226-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **10/28/2022**	RunNo: **167039**
Client ID: **ZZZZZZ**	Batch ID: **96447**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/2/2022**	SeqNo: **4908017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.630	0.50	100.0	1.515	91.1	75	125	93.42	0.845	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 11/10/202 12:00 AM
FOLDER R: 10/26/2022
N053288-003A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD		
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com; daniel.moore@arcadis.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9617-051	Labespec	CalTrans	2. Headspace
Submitted By: Kevin Ashley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Gym operator			Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 10/25/22	Sampled By: Kevin Ashley		Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - OMM TCS PWTF	Signature: Date: 10/25/22				Sample Temp: 1.82
Project Number: 30108882					Courier: Tracking No.:

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface; Water (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053288-001	Backwash Pre-filter-102522	10/25/22	1pm		X	X	X	E	3	PV	BNS	
2	-002	Backwash Post-filter-102522	10/25/22	1:15pm		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Kevin Ashley Kevin Ashley		Dante Ortiz Dante Ortiz	10/26/22 15:08
Dante Ortiz Dante Ortiz	10/26/22 18:24	Dante Ortiz Dante Ortiz	10/26/22 18:24
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are a liable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/26/2022	Workorder:	N053288
Rep sample Temp (Deg C):	1.8	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 10/27/2022

Reviewed By: for: MBC 11/1/2022

ASSET Laboratories

WORK ORDER Summary

27-Oct-22

WorkOrder: N053288

Client ID: ARCUS02

Project: PG&E Topock-OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 10/26/2022 6:24 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053288-001A	Backwash Pre-filter-102522	10/25/2022 1:00:00 PM	11/10/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053288-001B			11/10/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/10/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053288-001C			11/10/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053288-002A	Backwash Post-filter-102522	10/25/2022 1:15:00 PM	11/10/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053288-002B			11/10/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/10/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053288-002C			11/10/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/10/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053288-003A	FOLDER	11/10/2022	11/10/2022		Folder	Folder	☐	☐	☐	LAB
			11/10/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/10/2022		Folder	Folder	☐	☐	☐	LAB

November 22, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053418

RE: PG&E Topock-OMM TCS PWTF, 30106892

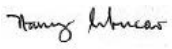
Attention: Brian Prowd

Enclosed are the results for sample(s) received on November 04, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053418

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053541-001A-MS and N053541-001A-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *22-Nov-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053418
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053418-001A	Backwash Pre-filter-110222	Water	11/2/2022 8:45:00 AM	11/4/2022	11/22/2022
N053418-001B	Backwash Pre-filter-110222	Water	11/2/2022 8:45:00 AM	11/4/2022	11/22/2022
N053418-001C	Backwash Pre-filter-110222	Water	11/2/2022 8:45:00 AM	11/4/2022	11/22/2022
N053418-002A	Backwash Post-filter-110222	Water	11/2/2022 9:00:00 AM	11/4/2022	11/22/2022
N053418-002B	Backwash Post-filter-110222	Water	11/2/2022 9:00:00 AM	11/4/2022	11/22/2022
N053418-002C	Backwash Post-filter-110222	Water	11/2/2022 9:00:00 AM	11/4/2022	11/22/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-110222
Lab Order:	N053418	**Collection Date:**	11/2/2022 8:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053418-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221110A**	QC Batch: **R167310**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	270	1.2	10		µg/L	50	11/10/2022 05:16 PM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221113A**	QC Batch: **96678**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	340	0.18	5.0		µg/L	5	11/13/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-110222
Lab Order:	N053418	**Collection Date:**	11/2/2022 9:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053418-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221110A**	QC Batch: **R167310**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	280	1.2	10		µg/L	50	11/10/2022 05:44 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113A**	QC Batch: **96678**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	310	0.18	5.0		µg/L	5	11/13/2022 04:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053418
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **MB-R167310**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **PBW**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID **LCS-R167310**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **LCSW**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.158	0.20	5.000	0	103	90	110				

Sample ID **N053368-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	114.400	2.0	50.00	64.71	99.4	90	110				

Sample ID **N053368-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.988	0.20	1.000	1.931	106	90	110				

Sample ID **N053368-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.064	0.20	1.000	0	106	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053418
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053418-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	522.750	10	250.0	268.4	102	90	110				

Sample ID **N053418-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	528.100	10	250.0	268.4	104	90	110	522.8	1.02	20	

Sample ID **N053418-002ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	272.700	10						275.0	0.840	20	

Sample ID **N053418-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	531.300	10	250.0	275.0	103	90	110				

Sample ID **N053419-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167310**
Client ID: **ZZZZZZ**	Batch ID: **R167310**	TestNo: **EPA 218.6**		Analysis Date: **11/10/2022**	SeqNo: **4923646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.525	1.0	5.000	0	90.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053418
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	MB-96678	SampType:	MBLK	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167326
Client ID:	PBW	Batch ID:	96678	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/13/2022	SeqNo:	4924348

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96678	SampType:	LCS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167326
Client ID:	LCSW	Batch ID:	96678	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/13/2022	SeqNo:	4924349

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.745	1.0	10.00	0	107	85	115				

Sample ID	N053541-001A-MS	SampType:	MS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167326
Client ID:	ZZZZZZ	Batch ID:	96678	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/13/2022	SeqNo:	4924353

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.347	1.0	10.00	23.05	73.0	75	125				S

Sample ID	N053541-001A-MSD	SampType:	MSD	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167326
Client ID:	ZZZZZZ	Batch ID:	96678	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/13/2022	SeqNo:	4924354

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.036	1.0	10.00	23.05	69.9	75	125	30.35	1.03	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053418
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID **N053541-001A-PS**	SampType: **PS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date:				RunNo: **167326**			
Client ID: **ZZZZZZ**	Batch ID: **96678**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**				SeqNo: **4924352**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.141	1.0	10.00	23.05	70.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-110222
Lab Order:	N053418	**Collection Date:**	11/2/2022 8:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053418-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 12:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-110222
Lab Order:	N053418	**Collection Date:**	11/2/2022 9:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053418-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	110	13	20		µg/L	1	11/16/2022 12:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053418
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**MB-96618**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**PBW**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	**LCS-96618**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**LCSW**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.296	20	100.0	0	110	85	115				

Sample ID	**N053412-002D-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**ZZZZZZ**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	132.855	20	100.0	22.41	110	75	125				

Sample ID	**N053412-002D-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**ZZZZZZ**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.619	20	100.0	22.41	91.2	75	125	132.9	15.6	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-110222
Lab Order:	N053418	**Collection Date:**	11/2/2022 8:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053418-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Manganese	55	0.026	0.50		µg/L	1	11/10/2022 01:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-110222
Lab Order:	N053418	**Collection Date:**	11/2/2022 9:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053418-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Manganese	56	0.026	0.50		µg/L	1	11/10/2022 01:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053418
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96619**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167257**
Client ID: **PBW**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4919860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.048	0.50									

Sample ID **LCS-96619**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167257**
Client ID: **LCSW**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4919861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	103.330	0.50	100.0	0	103	85	115				

Sample ID **N053418-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167257**
Client ID: **ZZZZZZ**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4919874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	155.212	0.50	100.0	54.84	100	75	125				

Sample ID **N053418-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167257**
Client ID: **ZZZZZZ**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4919875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	155.910	0.50	100.0	54.84	101	75	125	155.2	0.448	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200	Fax:
Title: O+M operator	Phone: 916-786-3302 Fax:		
Signature: [signature] Date: 11-2-22	Sampled By: Kevin A.		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - OMM TCS PWTF	Signature: [signature] Date: 11-2-22		
Project Number: 30106892			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 3.3°C		

Courier:

Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053418-001	Backwash Pre-filter-110222	11/2/22	845A		X	X	X	E	3	PV	BNS	
2	-002	Backwash Post-filter-110222	11/2/22	900A		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
Kevin Ashley [signature]		Dante Ortiz Dante Ortiz	Nov 4, 2022 15:25
Dante Ortiz Dante Ortiz	Nov 4, 22 18:13	Dante Ortiz Dante Ortiz	Nov 4, 2022 18:13

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:			
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:		
T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/4/2022	Workorder:	N053418
Rep sample Temp (Deg C):	3.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For: 11/7/2022

Checklist Completed By: EF YRodriguez

Reviewed By: for: MBC 11/12/2022

ASSET Laboratories

WORK ORDER Summary

12-Nov-22

WorkOrder: N053418

Client ID: ARCUS02

Project: PG&E Topock-OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 11/4/2022 6:13 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053418-001A	Backwash Pre-filter-110222	11/2/2022 8:45:00 AM	11/21/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053418-001B			11/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053418-001C			11/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/21/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053418-002A	Backwash Post-filter-110222	11/2/2022 9:00:00 AM	11/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053418-002B			11/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053418-002C			11/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/21/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053418-003A	FOLDER	11/21/2022	11/21/2022		Folder	Folder	☐	☐	☐	LAB
			11/21/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/21/2022		Folder	Folder	☐	☐	☐	LAB

November 30, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053449

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 07, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.1 ug/L) and hexavalent chromium (0 ug/L) for sample N053449-008 (MW-77-102-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (19 ug/L) and hexavalent chromium (6.1 ug/L) for sample N053449-010 (MW-77-187-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (20 ug/L) and hexavalent chromium (6.2 ug/L) for sample N053449-011 (MW-918-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053449-001BMS and N053449-001BMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.1 ug/L) and hexavalent chromium (0 ug/L) for sample N053449-008 (MW-77-102-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.0 and 0.88 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (19 ug/L) and hexavalent chromium (6.1 ug/L) for sample N053449-010 (MW-77-187-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 20 and 5.9 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (20 ug/L) and hexavalent chromium (6.2 ug/L) for sample N053449-011 (MW-918-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 19 and 6.3 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053418-001B-MS and N053418-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Some samples required dilution for Selenium due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meet internal standard recovery limit.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053449-001DMS at 1x dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample

reference N053449-001D and MS/MSD were reported at 10x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *30-Nov-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053449
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053449-001A	MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	11/7/2022	11/30/2022
N053449-001B	MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	11/7/2022	11/30/2022
N053449-001C	MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	11/7/2022	11/30/2022
N053449-001D	MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	11/7/2022	11/30/2022
N053449-001E	MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	11/7/2022	11/30/2022
N053449-002A	MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	11/7/2022	11/30/2022
N053449-002B	MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	11/7/2022	11/30/2022
N053449-002C	MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	11/7/2022	11/30/2022
N053449-002D	MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	11/7/2022	11/30/2022
N053449-002E	MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	11/7/2022	11/30/2022
N053449-003A	MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	11/7/2022	11/30/2022
N053449-003B	MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	11/7/2022	11/30/2022
N053449-003C	MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	11/7/2022	11/30/2022
N053449-003D	MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	11/7/2022	11/30/2022
N053449-003E	MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	11/7/2022	11/30/2022
N053449-004A	MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	11/7/2022	11/30/2022
N053449-004B	MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	11/7/2022	11/30/2022
N053449-004C	MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	11/7/2022	11/30/2022
N053449-004D	MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	11/7/2022	11/30/2022
N053449-004E	MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	11/7/2022	11/30/2022
N053449-005A	MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	11/7/2022	11/30/2022
N053449-005B	MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	11/7/2022	11/30/2022
N053449-005C	MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	11/7/2022	11/30/2022
N053449-005D	MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	11/7/2022	11/30/2022
N053449-005E	MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	11/7/2022	11/30/2022
N053449-006A	EB-709-Q422	Groundwater	11/7/2022 1:36:00 PM	11/7/2022	11/30/2022
N053449-007A	MW-77-046-Q422	Groundwater	11/7/2022 1:14:00 PM	11/7/2022	11/30/2022
N053449-007B	MW-77-046-Q422	Groundwater	11/7/2022 1:14:00 PM	11/7/2022	11/30/2022
N053449-007C	MW-77-046-Q422	Groundwater	11/7/2022 1:14:00 PM	11/7/2022	11/30/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053449
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053449-007D	MW-77-046-Q422	Groundwater	11/7/2022 1:14:00 PM	11/7/2022	11/30/2022
N053449-008A	MW-77-102-Q422	Groundwater	11/7/2022 11:18:00 AM	11/7/2022	11/30/2022
N053449-008B	MW-77-102-Q422	Groundwater	11/7/2022 11:18:00 AM	11/7/2022	11/30/2022
N053449-008C	MW-77-102-Q422	Groundwater	11/7/2022 11:18:00 AM	11/7/2022	11/30/2022
N053449-008D	MW-77-102-Q422	Groundwater	11/7/2022 11:18:00 AM	11/7/2022	11/30/2022
N053449-009A	MW-77-158-Q422	Groundwater	11/7/2022 11:45:00 AM	11/7/2022	11/30/2022
N053449-009B	MW-77-158-Q422	Groundwater	11/7/2022 11:45:00 AM	11/7/2022	11/30/2022
N053449-009C	MW-77-158-Q422	Groundwater	11/7/2022 11:45:00 AM	11/7/2022	11/30/2022
N053449-009D	MW-77-158-Q422	Groundwater	11/7/2022 11:45:00 AM	11/7/2022	11/30/2022
N053449-010A	MW-77-187-Q422	Groundwater	11/7/2022 12:13:00 PM	11/7/2022	11/30/2022
N053449-010B	MW-77-187-Q422	Groundwater	11/7/2022 12:13:00 PM	11/7/2022	11/30/2022
N053449-010C	MW-77-187-Q422	Groundwater	11/7/2022 12:13:00 PM	11/7/2022	11/30/2022
N053449-010D	MW-77-187-Q422	Groundwater	11/7/2022 12:13:00 PM	11/7/2022	11/30/2022
N053449-011A	MW-918-Q422	Groundwater	11/7/2022 12:23:00 PM	11/7/2022	11/30/2022
N053449-011B	MW-918-Q422	Groundwater	11/7/2022 12:23:00 PM	11/7/2022	11/30/2022
N053449-011C	MW-918-Q422	Groundwater	11/7/2022 12:23:00 PM	11/7/2022	11/30/2022
N053449-011D	MW-918-Q422	Groundwater	11/7/2022 12:23:00 PM	11/7/2022	11/30/2022
N053449-012A	EB-710-Q422	Groundwater	11/7/2022 2:00:00 PM	11/7/2022	11/30/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221114A**	QC Batch: **R167374**			PrepDate:			Analyst: **CR**
Hexavalent Chromium	200	1.8	4.0		µg/L	20	11/14/2022 12:10 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221110B**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	200	0.18	5.0		µg/L	5	11/10/2022 02:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:49:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221114A** QC Batch: **R167374**				PrepDate:			Analyst: **CR**
Hexavalent Chromium	18	0.45	1.0		µg/L	5	11/14/2022 01:31 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221109D** QC Batch: **96619**				PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	19	0.035	1.0		µg/L	1	11/10/2022 01:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221114A**	QC Batch: **R167374**			PrepDate:			Analyst: **CR**
Hexavalent Chromium	720	9.0	20		µg/L	100	11/14/2022 02:17 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221110B**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	700	0.18	5.0		µg/L	5	11/10/2022 03:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221114A**	QC Batch: **R167374**			PrepDate:			Analyst: **CR**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/14/2022 09:06 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/10/2022 02:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A**	QC Batch: **R167409**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	760	9.0	20		µg/L	100	11/15/2022 11:54 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221110B**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	730	0.18	5.0		µg/L	5	11/10/2022 03:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-709-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:36:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221114A**	QC Batch: **R167374**			PrepDate:			Analyst: **CR**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/14/2022 03:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:14:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221114A**	QC Batch: **R167374**			PrepDate:			Analyst: **CR**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/14/2022 09:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/10/2022 02:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/16/2022 09:28 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221109D** QC Batch: **96619**				PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	1.1	0.035	1.0		µg/L	1	11/10/2022 02:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221115A** QC Batch: **R167409**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/16/2022 12:40 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221109D** QC Batch: **96619**				PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/10/2022 02:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A**	QC Batch: **R167409**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	6.1	0.090	0.20		µg/L	1	11/16/2022 01:25 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	19	0.035	1.0		µg/L	1	11/10/2022 02:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:23:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A**	QC Batch: **R167409**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	6.2	0.090	0.20		µg/L	1	11/15/2022 11:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Chromium	20	0.035	1.0		µg/L	1	11/10/2022 03:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-710-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A**	QC Batch: **R167409**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/16/2022 01:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**MB-96619**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167257**
Client ID:	**PBW**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4919639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	**LCS-96619**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167257**
Client ID:	**LCSW**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4919640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.712	1.0	10.00	0	107	85	115				

Sample ID	**N053418-001B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167269**
Client ID:	**ZZZZZZ**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4920972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	325.570	5.0	10.00	339.2	-137	75	125				S

Sample ID	**N053418-001B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/9/2022**	RunNo: **167269**
Client ID:	**ZZZZZZ**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4920973**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	362.422	5.0	10.00	339.2	232	75	125	325.6	10.7	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167374	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374		
Client ID:	LCSW	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930107		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.374	0.20	5.000	0	107	90	110						

Sample ID	MB1-R167374	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374		
Client ID:	PBW	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930108		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053449-001A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374		
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930110		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	196.156	4.0						196.1	0.00510	20			

Sample ID	N053449-001A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374		
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930111		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	294.900	4.0	100.0	196.1	98.8	90	110						

Sample ID	N053449-001A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374		
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930112		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	294.942	4.0	100.0	196.1	98.8	90	110	294.9	0.0142	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053448-001A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930114

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1375.640	20	500.0	882.0	98.7	90	110				

Sample ID	N053449-006A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930127

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Sample ID	N053449-004A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.650	1.0	5.000	0	93.0	90	110				

Sample ID	N053449-007A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930158

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.670	1.0	5.000	0	93.4	90	110				

Sample ID	N053449-002A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930159

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	23.517	1.0	5.000	18.46	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053449-003A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167374
Client ID:	ZZZZZZ	Batch ID:	R167374	TestNo:	EPA 218.6			Analysis Date:	11/14/2022	SeqNo:	4930160

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1262.970	20	500.0	723.0	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167409	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	LCSW	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/15/2022	SeqNo:	4931363

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.899	0.20	5.000	0	98.0	90	110				

Sample ID	MB1-R167409	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	PBW	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/15/2022	SeqNo:	4931364

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053449-011A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	ZZZZZZ	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/15/2022	SeqNo:	4931375

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.196	0.20						6.208	0.205	20	

Sample ID	N053449-011A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	ZZZZZZ	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/15/2022	SeqNo:	4931376

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.344	0.20	5.000	6.208	103	90	110				

Sample ID	N053449-011A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	ZZZZZZ	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/15/2022	SeqNo:	4931377

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.339	0.20	5.000	6.208	103	90	110	11.34	0.0423	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053449-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **167409**
Client ID: **ZZZZZZ** Batch ID: **R167409** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1258.450	20	500.0	756.7	100	90	110				

Sample ID **N053449-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **167409**
Client ID: **ZZZZZZ** Batch ID: **R167409** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.959	1.0	5.000	0	99.2	90	110				

Sample ID **N053449-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **167409**
Client ID: **ZZZZZZ** Batch ID: **R167409** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.085	0.20	5.000	6.126	99.2	90	110				

Sample ID **N053449-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **167409**
Client ID: **ZZZZZZ** Batch ID: **R167409** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931389**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110				

Sample ID **N053481-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **167409**
Client ID: **ZZZZZZ** Batch ID: **R167409** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.086	1.0	5.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053481-003A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	ZZZZZZ	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931399

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.263	1.0	5.000	0	105	90	110				

Sample ID	N053481-005A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167409
Client ID:	ZZZZZZ	Batch ID:	R167409	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931405

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.616	1.0	5.000	1.557	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167457	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457		
Client ID:	LCSW	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931512		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.793	0.20	5.000	0	95.9	90	110						

Sample ID	MB1-R167457	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457		
Client ID:	PBW	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931513		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053630-009D-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457		
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931515		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	6.211	0.20						6.221	0.158	20			

Sample ID	N053630-009D-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457		
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931516		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	11.159	0.20	5.000	6.221	98.8	90	110						

Sample ID	N053630-009D-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457		
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931517		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	11.100	0.20	5.000	6.221	97.6	90	110	11.16	0.536	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053449-008A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931525

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.973	1.0	5.000	0.6780	106	90	110				

Sample ID	N053481-004A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931527

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.081	1.0	5.000	0	102	90	110				

Sample ID	N053481-006A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.402	1.0	25.00	14.38	100	90	110				

Sample ID	N053481-002A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931537

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	1.0						0	0	20	

Sample ID	N053481-002A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.833	1.0	5.000	0	96.7	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053481-002A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931539

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.868	1.0	5.000	0	97.4	90	110	4.833	0.722	20	

Sample ID	N053481-007A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931543

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.994	1.0	5.000	1.746	105	90	110				

Sample ID	N053481-008A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931545

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.946	0.20	1.000	0	94.6	90	110				

Sample ID	N053481-009A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931549

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.6	90	110				

Sample ID	N053481-010A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931553

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.085	1.0	5.000	1.008	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053481-011A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931557

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.193	1.0	5.000	0	104	90	110				

Sample ID	N053481-012A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931561

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

Sample ID	N053481-013A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.042	0.20	1.000	0	104	90	110				

Sample ID	N053481-014A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.080	0.20	1.000	0	108	90	110				

Sample ID	N053481-016A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167457
Client ID:	ZZZZZZ	Batch ID:	R167457	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4931567

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.050	0.20	1.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N053418-001B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167269**
Client ID:	**ZZZZZZ**	Batch ID: **96619**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/10/2022**	SeqNo: **4920971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	292.032	5.0	10.00	339.2	-472	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/8/2022 11:04 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Sulfate	220	1.2	10		mg/L	20	11/8/2022 02:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.6	0.095	0.50		mg/L	10	11/8/2022 11:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053449-002

Client Sample ID: MW-76-156-Q422
Collection Date: 11/7/2022 11:49:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/8/2022 11:56 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Sulfate	760	6.1	50		mg/L	100	11/8/2022 03:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.3	0.095	0.50		mg/L	10	11/8/2022 11:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/8/2022 12:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Sulfate	920	6.1	50		mg/L	100	11/8/2022 04:46 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	11/8/2022 12:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053449-004

Client Sample ID: MW-76-218-Q422
Collection Date: 11/7/2022 1:26:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/8/2022 12:42 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Sulfate	640	6.1	50		mg/L	100	11/8/2022 05:02 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/8/2022 12:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053449-005

Client Sample ID: MW-917-Q422
Collection Date: 11/7/2022 12:45:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/8/2022 12:57 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Sulfate	920	6.1	50		mg/L	100	11/8/2022 05:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A** QC Batch: **R167186**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.095	0.50		mg/L	10	11/8/2022 12:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:14:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Sulfate	510	6.1	50		mg/L	100	11/8/2022 05:32 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/8/2022 01:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Sulfate	770	6.1	50		mg/L	100	11/8/2022 05:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	11/8/2022 01:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Sulfate	540	6.1	50		mg/L	100	11/8/2022 06:03 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/8/2022 02:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Sulfate	640	6.1	50		mg/L	100	11/8/2022 06:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/8/2022 02:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:23:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Sulfate	630	6.1	50		mg/L	100	11/8/2022 06:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221108A**	QC Batch: **R167186**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/8/2022 02:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID **MB-R167186_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167186**
Client ID: **PBW**	Batch ID: **R167186**	TestNo: **EPA 300.0**		Analysis Date: **11/8/2022**	SeqNo: **4916274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID **LCS-R167186_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167186**
Client ID: **LCSW**	Batch ID: **R167186**	TestNo: **EPA 300.0**		Analysis Date: **11/8/2022**	SeqNo: **4916275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.273	0.50	1.250	0	102	90	110				

Sample ID **N053449-001BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167186**
Client ID: **ZZZZZZ**	Batch ID: **R167186**	TestNo: **EPA 300.0**		Analysis Date: **11/8/2022**	SeqNo: **4916277**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	16.492	5.0	12.50	0	132	80	120				S

Sample ID **N053449-001BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167186**
Client ID: **ZZZZZZ**	Batch ID: **R167186**	TestNo: **EPA 300.0**		Analysis Date: **11/8/2022**	SeqNo: **4916278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.575	5.0	12.50	0	157	80	120	16.49	17.1	20	S

Sample ID **N053449-002BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167186**
Client ID: **ZZZZZZ**	Batch ID: **R167186**	TestNo: **EPA 300.0**		Analysis Date: **11/8/2022**	SeqNo: **4916280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R167186_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	PBW	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R167186_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	LCSW	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916320

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.990	0.50	4.000	0	99.8	90	110				

Sample ID	N053449-001BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	ZZZZZZ	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916324

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	304.364	10	80.00	223.2	102	80	120				

Sample ID	N053449-001BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	ZZZZZZ	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916325

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	305.108	10	80.00	223.2	102	80	120	304.4	0.244	20	

Sample ID	N053449-002BDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	ZZZZZZ	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916327

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	748.230	50						757.5	1.23	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167186_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	PBW	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916294

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167186_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	LCSW	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916295

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.277	0.050	1.250	0	102	90	110				

Sample ID	N053449-001BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	ZZZZZZ	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916297

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.170	0.50	12.50	3.602	101	80	120				

Sample ID	N053449-001BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	ZZZZZZ	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916298

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.649	0.50	12.50	3.602	120	80	120	16.17	14.2	20	S

Sample ID	N053449-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167186
Client ID:	ZZZZZZ	Batch ID:	R167186	TestNo:	EPA 300.0			Analysis Date:	11/8/2022	SeqNo:	4916300

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.085	0.50						2.346	11.8	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.4	10		mg/L	10	11/10/2022 12:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:49:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 06:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 06:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 06:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 06:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:14:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 07:11 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 08:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 08:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 08:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:23:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110A**	QC Batch: **R167259**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/10/2022 09:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167259**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167259**
Client ID: **PBW**	Batch ID: **R167259**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167259**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167259**
Client ID: **LCSW**	Batch ID: **R167259**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.937	1.0	5.000	0	98.7	85	115				

Sample ID **N053449-001DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167259**
Client ID: **ZZZZZZ**	Batch ID: **R167259**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	45.853	10	50.00	0	91.7	75	125				

Sample ID **N053449-001DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167259**
Client ID: **ZZZZZZ**	Batch ID: **R167259**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	45.879	10	50.00	0	91.8	75	125	45.85	0.0567	20	

Sample ID **LCSD-R167259**	SampType: **LCSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167259**
Client ID: **LCSS02**	Batch ID: **R167259**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4922588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.930	1.0	5.000	0	98.6	85	115	4.937	0.134	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:49:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:15 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:21 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:14:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	26	13	20		µg/L	1	11/16/2022 01:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:23:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96618**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**MB-96618**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**PBW**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	**LCS-96618**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**LCSW**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.296	20	100.0	0	110	85	115				

Sample ID	**N053412-002D-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**ZZZZZZ**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	132.855	20	100.0	22.41	110	75	125				

Sample ID	**N053412-002D-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID:	**ZZZZZZ**	Batch ID: **96618**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.619	20	100.0	22.41	91.2	75	125	132.9	15.6	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:		**11/9/2022**	Analyst: **DJ**
Arsenic	0.42	0.050	0.10		µg/L	1	11/10/2022 01:53 AM
Barium	47	0.083	1.0		µg/L	1	11/10/2022 01:53 AM
Manganese	1.6	0.026	0.50		µg/L	1	11/10/2022 01:53 AM
Molybdenum	24	0.12	0.50		µg/L	1	11/10/2022 01:53 AM
Selenium	4.3	0.044	0.50		µg/L	1	11/10/2022 01:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:49:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:		**11/9/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/10/2022 01:59 AM
Barium	38	0.083	1.0		µg/L	1	11/10/2022 01:59 AM
Manganese	16	0.026	0.50		µg/L	1	11/10/2022 01:59 AM
Molybdenum	29	0.12	0.50		µg/L	1	11/10/2022 01:59 AM
Selenium	1.1	0.044	0.50		µg/L	1	11/10/2022 01:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**				PrepDate:	**11/9/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/10/2022 02:23 AM
Barium	38	0.083	1.0		µg/L	1	11/10/2022 02:23 AM
Manganese	24	0.026	0.50		µg/L	1	11/10/2022 02:23 AM
Molybdenum	32	0.12	0.50		µg/L	1	11/10/2022 02:23 AM
Selenium	1.2	0.044	0.50		µg/L	1	11/10/2022 02:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:26:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/10/2022 02:29 AM
Barium	69	0.083	1.0		µg/L	1	11/10/2022 02:29 AM
Manganese	430	0.13	2.5		µg/L	5	11/10/2022 03:29 PM
Molybdenum	26	0.12	0.50		µg/L	1	11/10/2022 02:29 AM
Selenium	ND	0.044	0.50		µg/L	1	11/10/2022 02:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:		**11/9/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/10/2022 02:35 AM
Barium	39	0.083	1.0		µg/L	1	11/10/2022 02:35 AM
Manganese	26	0.026	0.50		µg/L	1	11/10/2022 02:35 AM
Molybdenum	33	0.12	0.50		µg/L	1	11/10/2022 02:35 AM
Selenium	ND	0.22	2.5		µg/L	5	11/10/2022 03:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 1:14:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**	Analyst: **DJ**	
Arsenic	3.1	0.050	0.10		µg/L	1	11/10/2022 02:41 AM
Barium	60	0.083	1.0		µg/L	1	11/10/2022 02:41 AM
Manganese	500	0.13	2.5		µg/L	5	11/10/2022 03:41 PM
Molybdenum	81	0.12	0.50		µg/L	1	11/10/2022 02:41 AM
Selenium	2.2	0.044	0.50		µg/L	1	11/10/2022 02:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**				PrepDate:	**11/9/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/10/2022 02:47 AM
Barium	64	0.083	1.0		µg/L	1	11/10/2022 02:47 AM
Manganese	120	0.026	0.50		µg/L	1	11/10/2022 02:47 AM
Molybdenum	26	0.12	0.50		µg/L	1	11/10/2022 02:47 AM
Selenium	ND	0.22	2.5		µg/L	5	11/10/2022 03:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:		**11/9/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	11/10/2022 02:53 AM
Barium	30	0.083	1.0		µg/L	1	11/10/2022 02:53 AM
Manganese	28	0.026	0.50		µg/L	1	11/10/2022 02:53 AM
Molybdenum	34	0.12	0.50		µg/L	1	11/10/2022 02:53 AM
Selenium	ND	0.044	0.50		µg/L	1	11/10/2022 02:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**				PrepDate:	**11/9/2022**	Analyst: **DJ**
Arsenic	3.9	0.050	0.10		µg/L	1	11/10/2022 02:59 AM
Barium	22	0.083	1.0		µg/L	1	11/10/2022 02:59 AM
Manganese	13	0.026	0.50		µg/L	1	11/10/2022 02:59 AM
Molybdenum	150	0.12	0.50		µg/L	1	11/10/2022 02:59 AM
Selenium	ND	0.22	2.5		µg/L	5	11/10/2022 03:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q422
Lab Order:	N053449	**Collection Date:**	11/7/2022 12:23:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053449-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221109D**	QC Batch: **96619**			PrepDate:	**11/9/2022**		Analyst: **DJ**
Arsenic	4.1	0.050	0.10		µg/L	1	11/10/2022 03:05 AM
Barium	22	0.083	1.0		µg/L	1	11/10/2022 03:05 AM
Manganese	13	0.026	0.50		µg/L	1	11/10/2022 03:05 AM
Molybdenum	160	0.12	0.50		µg/L	1	11/10/2022 03:05 AM
Selenium	ND	0.22	2.5		µg/L	5	11/10/2022 04:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96619** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/9/2022** RunNo: **167257**
Client ID: **PBW** Batch ID: **96619** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/10/2022** SeqNo: **4919860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	0.219	1.0									
Manganese	0.048	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-96619** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/9/2022** RunNo: **167257**
Client ID: **LCSW** Batch ID: **96619** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/10/2022** SeqNo: **4919861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.158	0.10	10.00	0	102	85	115				
Barium	10.564	1.0	10.00	0	106	85	115				
Manganese	103.330	0.50	100.0	0	103	85	115				
Molybdenum	10.045	0.50	10.00	0	100	85	115				
Selenium	10.082	0.50	10.00	0	101	85	115				

Sample ID **N053418-001B-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/9/2022** RunNo: **167257**
Client ID: **ZZZZZZ** Batch ID: **96619** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/10/2022** SeqNo: **4919874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.588	0.10	10.00	0	95.9	75	125				
Barium	60.256	1.0	10.00	52.21	80.4	75	125				
Manganese	155.212	0.50	100.0	54.84	100	75	125				
Molybdenum	30.880	0.50	10.00	19.91	110	75	125				
Selenium	13.627	0.50	10.00	3.538	101	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053449
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053418-001B-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/9/2022** RunNo: **167257**
Client ID: **ZZZZZZ** Batch ID: **96619** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/10/2022** SeqNo: **4919875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.803	0.10	10.00	0	98.0	75	125	9.588	2.22	20	
Barium	61.235	1.0	10.00	52.21	90.2	75	125	60.26	1.61	20	
Manganese	155.910	0.50	100.0	54.84	101	75	125	155.2	0.448	20	
Molybdenum	31.254	0.50	10.00	19.91	113	75	125	30.88	1.20	20	
Selenium	14.322	0.50	10.00	3.538	108	75	125	13.63	4.97	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

Contact us:
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P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		1. Chilled	✓	
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		3. Container Intact	✓	
Submitted By: Riggie Tap	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Others	✓	LEVEL III		4. Seal Present		
Title: Field Tech			Specify: RWQCB		LEVEL IV		5. IR number	3	
Signature: Date: 11/07/22	Sampled By: Riggie Tap		Global ID:		Regulatory		6. Method of Cooling: ICE		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		Sample Temp: 3.2c/3.5c		
Project Name: PG&E Topock - PCM	Signature: Date: 11/07/22	Matrix: Ground X Sediment; Potable Soil; NPDES Other Solid; Surface					Courier: ASSET		
Project Number: 30121866.4Q22GW							Tracking No.:		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrite, Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053449-001	MW-76-039-Q422	11/7/2022	11:09		X	X	X	X	X	X		X		E	7	P	BNS	
2	-002	MW-76-156-Q422	11/7/2022	11:49		X	X	X	X	X	X		X		E	7	P	BNS	
3	-003	MW-76-181-Q422	11/7/2022	12:35		X	X	X	X	X	X		X		E	7	P	BNS	
4	-004	MW-76-218-Q422	11/7/2022	13:26		X	X	X	X	X	X		X		E	7	P	BNS	
5	-005	MW-917-Q422	11/7/2022	12:45		X	X	X	X	X	X		X		E	7	P	BNS	
6	-006	EB-709-Q422	11/7/2022	13:36		X									E	1	P	BNS	
7	-007	MW-77-046-Q422	11/7/2022	13:14		X	X (5)	X	X	X	X		X	X (5)	E	6	P	BNS	
8	-008	MW-77-102-Q422	11/7/2022	11:18		X	X (5)	X	X	X	X		X	X (5)	E	6	P	BNS	
9	-009	MW-77-158-Q422	11/7/2022	11:45		X	X (5)	X	X	X	X		X	X (5)	E	6	P	BNS	
10	-010	MW-77-187-Q422	11/7/2022	12:13		X	X (5)	X	X	X	X		X	X (5)	E	6	P	BNS	
11	-011	MW-918-Q422	11/7/2022	12:23		X	X (5)	X	X	X	X		X	X (5)	E	6	P	BNS	
12	-012	EB-710-Q422	11/7/2022	14:00		X									E	1	P	BNS	
13																			
14																			

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Riggie Tap	11/07/22 1535	Dante Ortiz Dante Ortiz	11/7/22 15:25
Dante Ortiz Dante Ortiz	11/7/22 18:25	Dante Ortiz Dante Ortiz	11/7/22 18:25
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/7/2022	Workorder:	N053449
Rep sample Temp (Deg C):	3.2/3.5	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/8/2022

Reviewed By: for: MBC 11/17/2022

ASSET Laboratories

WORK ORDER Summary

18-Nov-22

WorkOrder: N053449

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/7/2022 6:35 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053449-001A	MW-76-039-Q422	11/7/2022 11:09:00 AM	11/22/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-001B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-001C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-001D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-001E			11/22/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053449-002A	MW-76-156-Q422	11/7/2022 11:49:00 AM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-002B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-002C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-002D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

18-Nov-22

WorkOrder: N053449

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/7/2022 6:35 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053449-002E	MW-76-156-Q422	11/7/2022 11:49:00 AM	11/22/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053449-003A	MW-76-181-Q422	11/7/2022 12:35:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-003B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-003C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-003D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-003E			11/22/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053449-004A	MW-76-218-Q422	11/7/2022 1:26:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-004B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-004C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-Nov-22

WorkOrder: N053449

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/7/2022 6:35 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053449-004D	MW-76-218-Q422	11/7/2022 1:26:00 PM	11/22/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-004E			11/22/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053449-005A	MW-917-Q422	11/7/2022 12:45:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-005B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-005C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-005D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-005E			11/22/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053449-006A	EB-709-Q422	11/7/2022 1:36:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-007A	MW-77-046-Q422	11/7/2022 1:14:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-007B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-007C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-Nov-22

WorkOrder: N053449

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/7/2022 6:35 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053449-007C	MW-77-046-Q422	11/7/2022 1:14:00 PM	11/22/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-007D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-008A	MW-77-102-Q422	11/7/2022 11:18:00 AM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-008B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-008C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-008D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-009A	MW-77-158-Q422	11/7/2022 11:45:00 AM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-009B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-009C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-009D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-010A	MW-77-187-Q422	11/7/2022 12:13:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-010B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-Nov-22

WorkOrder: N053449

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/7/2022 6:35 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053449-010B	MW-77-187-Q422	11/7/2022 12:13:00 PM	11/22/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-010C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-010D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-011A	MW-918-Q422	11/7/2022 12:23:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-011B			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053449-011C			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053449-011D			11/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053449-012A	EB-710-Q422	11/7/2022 2:00:00 PM	11/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WS-CA
N053449-013A	FOLDER	11/22/2022	11/22/2022		Folder	Folder	☐	☐	☐	LAB
			11/22/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/22/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

09-Nov-22

				Ammonia	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N053449-001E / MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	16OZP	1		
N053449-002E / MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	16OZP	1		
N053449-003E / MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	16OZP	1		
N053449-004E / MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	16OZP	1		
N053449-005E / MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53449A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500. EDD requirement Labspec7 edata.

GSO #: 558181164

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/9/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2227718

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53449A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Wet Chemistry Analysis

SM-4500-NH3G

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Case Narrative

Sample Receipt

Work Order: 2227718
COC Number: N53449A
Default Cooler was received at 1.2 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2227718-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-05	SM-4500-NH3G	Ammonia as N (Distilled)

Holding Times

The sample holding time was exceeded.

Lab Number	Method	Analyte
2227718-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227718-05	SM-4500-NH3G	Ammonia as N (Distilled)

Method Blanks

Lab Number	Method	Analyte	Concentration
B156162-BLK1	SM-4500-NH3G	Ammonia as N (Distilled)	JB 0.11490 mg/L

Analyte detected in the Method Blank at a level between the PQL and > 1/2 the PQL.

Lab Number	Method	Analyte
B156162-BLK1	SM-4500-NH3G	Ammonia as N (Distilled)

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156162	SM-4500-NH3G	2226883-01	<Not Client Sample>

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Discussion

The data package was revised to include the calibration summary in the Raw Data - Analytical Runs section.

Chain of Custody and Cooler Receipt Form for 2227718 Page 1 of 2

2227718

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

09-Nov-22

	Sample ID	Matrix	Date Collected	Bottle Type	Ammonia SM4500-NH3D	Requested Tests	
1	N053449-001E / MW-76-039-Q422	Groundwater	11/7/2022 11:09:00 AM	16OZP	1		
2	N053449-002E / MW-76-156-Q422	Groundwater	11/7/2022 11:49:00 AM	16OZP	1		
3	N053449-003E / MW-76-181-Q422	Groundwater	11/7/2022 12:35:00 PM	16OZP	1		
4	N053449-004E / MW-76-218-Q422	Groundwater	11/7/2022 1:26:00 PM	16OZP	1		
5	N053449-005E / MW-917-Q422	Groundwater	11/7/2022 12:45:00 PM	16OZP	1		

CHK BY TJC DISTRIBUTION SUB-OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53449A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500. EDD requirement Labspec7 excel.

GSO #: 558181164

	Date/Time		Date/Time
Relinquished by: YRodriguez	02 1630	Received by: Imayes	11-10-22 1610
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2227718 Page 2 of 2

PACE ANALYTICAL COOLER RECEIPT FORM Page 1 Of 1

Submission #: 22-27718

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337

Temperature: (A) 1.3 °C / (C) 1.2 °C

Date/Time 11-10-22

Analyst Init SMT/1610

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS	A	A	A	A	A					
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: Tes Date/Time: 11/15/22 1400

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMPREC rev 23]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2227718**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2227718
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053449-001E/ MW-76-039-Q422	2227718-01
N053449-002E/ MW-76-156-Q422	2227718-02
N053449-003E/ MW-76-181-Q422	2227718-03
N053449-004E/ MW-76-218-Q422	2227718-04
N053449-005E/ MW-917-Q422	2227718-05

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-10-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053449-001E/ MW-76-039-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227718-01
File ID: 20221219003-NH3-014
Sampled: 11/07/22 11:09
Prepared: 12/16/22 11:00
Analyzed: 12/19/22 13:52
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.79 ml / 6 ml
Batch: B156162
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.31	2.15	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053449-002E/ MW-76-156-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227718-02
File ID: 20221219003-NH3-015
Sampled: 11/07/22 11:49
Prepared: 12/16/22 11:00
Analyzed: 12/19/22 13:54
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.77 ml / 6 ml
Batch: B156162
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.44	2.17	BD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053449-003E/ MW-76-181-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227718-03
File ID: 20221219003-NH3-018
Sampled: 11/07/22 12:35
Prepared: 12/16/22 11:00
Analyzed: 12/19/22 13:56
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.77 ml / 6 ml
Batch: B156162
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.44	2.17	BD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N053449-004E/ MW-76-218-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227718-04
File ID: 20221219003-NH3-019
Sampled: 11/07/22 13:26
Prepared: 12/16/22 11:00
Analyzed: 12/19/22 13:57
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.78 ml / 6 ml
Batch: B156162
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.30	2.16	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053449-005E/ MW-917-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227718-05
File ID: 20221219003-NH3-020
Sampled: 11/07/22 12:45
Prepared: 12/16/22 11:00
Analyzed: 12/19/22 13:58
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.79 ml / 6 ml
Batch: B156162
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.28	2.15	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156162
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053449-001E/ MW-76-039-Q422	2227718-01	20221219003-NH3-014	12/16/22 11:00	
N053449-002E/ MW-76-156-Q422	2227718-02	20221219003-NH3-015	12/16/22 11:00	
N053449-003E/ MW-76-181-Q422	2227718-03	20221219003-NH3-018	12/16/22 11:00	
N053449-004E/ MW-76-218-Q422	2227718-04	20221219003-NH3-019	12/16/22 11:00	
N053449-005E/ MW-917-Q422	2227718-05	20221219003-NH3-020	12/16/22 11:00	
Blank	B156162-BLK1	20221219003-NH3-007	12/16/22 11:00	
LCS	B156162-BS1	20221219003-NH3-006	12/16/22 11:00	
Duplicate	B156162-DUP1	20221219003-NH3-009	12/16/22 11:00	
Matrix Spike	B156162-MS1	20221219003-NH3-010	12/16/22 11:00	
Matrix Spike Dup	B156162-MSD1	20221219003-NH3-011	12/16/22 11:00	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2227718	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156162-BLK1	File ID:	20221219003-NH3-007
Prepared:	12/16/22 11:00	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	12/19/22 13:46	Instrument:	SC-1		
Batch:	B156162	Sequence:	2223430	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.11490	J

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

Duplicate

DUPLICATES
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156162
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2227718
Project: Level IV + labSpec7
Laboratory ID: B156162-DUP1
Lab Source ID: 2226883-01
Initial/Final: 5.65 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	0.43242		0.42786		1.06		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156162
Laboratory ID: B156162-MS1
Preparation: No Prep
Initial/Final: 5.09 ml / 6 ml
Source Sample Number: 2226883-01

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.3576	0.43242	2.5970	91.8	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	2.3576	2.7212	97.1	4.67	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156162
Laboratory ID: B156162-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	2.0625	103	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield	SDG:	2227718
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223430	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223430-ICV1	20221219001-NH3-018	12/19/22 12:12
Initial Cal Blank	2223430-ICB1	20221219001-NH3-019	12/19/22 12:13
Calibration Check	2223430-CCV1	20221219003-NH3-004	12/19/22 13:43
Calibration Blank	2223430-CCB1	20221219003-NH3-005	12/19/22 13:45
LCS	B156162-BS1	20221219003-NH3-006	12/19/22 13:45
Blank	B156162-BLK1	20221219003-NH3-007	12/19/22 13:46
Duplicate	B156162-DUP1	20221219003-NH3-009	12/19/22 13:48
Matrix Spike	B156162-MS1	20221219003-NH3-010	12/19/22 13:48
Matrix Spike Dup	B156162-MSD1	20221219003-NH3-011	12/19/22 13:50
N053449-001E/ MW-76-039-Q422	2227718-01	20221219003-NH3-014	12/19/22 13:52
N053449-002E/ MW-76-156-Q422	2227718-02	20221219003-NH3-015	12/19/22 13:54
Calibration Check	2223430-CCV2	20221219003-NH3-016	12/19/22 13:54
Calibration Blank	2223430-CCB2	20221219003-NH3-017	12/19/22 13:55
N053449-003E/ MW-76-181-Q422	2227718-03	20221219003-NH3-018	12/19/22 13:56
N053449-004E/ MW-76-218-Q422	2227718-04	20221219003-NH3-019	12/19/22 13:57
N053449-005E/ MW-917-Q422	2227718-05	20221219003-NH3-020	12/19/22 13:58
Calibration Check	2223430-CCV3	20221219003-NH3-028	12/19/22 14:05
Calibration Blank	2223430-CCB3	20221219003-NH3-029	12/19/22 14:06

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Project: Level IV + labSpec7
Sequence: 2223430
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223430-ICB1	Ammonia as N (Distilled)	0.022600	0.20	mg/L		SM-4500-NH3G
2223430-CCB1	Ammonia as N (Distilled)	0.066800	0.20	mg/L		SM-4500-NH3G
2223430-CCB2	Ammonia as N (Distilled)	0.074700	0.20	mg/L		SM-4500-NH3G
2223430-CCB3	Ammonia as N (Distilled)	0.069800	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2227718
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223430

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223430-ICV1	Ammonia as N (Distilled)	2.0000	1.9519	97.6	mg/L	SM-4500-NH3G
2223430-CCV1	Ammonia as N (Distilled)	2.0000	2.0698	103	mg/L	SM-4500-NH3G
2223430-CCV2	Ammonia as N (Distilled)	2.0000	2.0679	103	mg/L	SM-4500-NH3G
2223430-CCV3	Ammonia as N (Distilled)	2.0000	2.1185	106	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227718
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053449-001E/ MW-76-039-Q422	11/07/22 11:09	11/10/22 10:10	12/16/22 11:00	42.00	28.00	12/19/22 13:52	42.00	28.00	*
N053449-002E/ MW-76-156-Q422	11/07/22 11:49	11/10/22 10:10	12/16/22 11:00	42.00	28.00	12/19/22 13:54	42.00	28.00	*
N053449-003E/ MW-76-181-Q422	11/07/22 12:35	11/10/22 10:10	12/16/22 11:00	42.00	28.00	12/19/22 13:56	42.00	28.00	*
N053449-004E/ MW-76-218-Q422	11/07/22 13:26	11/10/22 10:10	12/16/22 11:00	42.00	28.00	12/19/22 13:57	42.00	28.00	*
N053449-005E/ MW-917-Q422	11/07/22 12:45	11/10/22 10:10	12/16/22 11:00	42.00	28.00	12/19/22 13:58	42.00	28.00	*

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0937**	**0.00**	**11:57:20 AM**
DIL-1	**RBL**	**0.0000**	**0.0727**	**0.00**	**11:57:38 AM**
DIL-1	**RBL**	**0.0000**	**0.0569**	**0.00**	**11:59:08 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0082**	**0.00**	**11:59:26 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0079**	**0.00**	**12:00:56 PM**
SR5-1	**Std-2**	**0.2000**	**0.0227**	**0.00**	**12:01:14 PM**
SR5-1	**Std-2**	**0.2000**	**0.0223**	**0.00**	**12:02:44 PM**
SR5-2	**Std-3**	**0.5000**	**0.0679**	**0.00**	**12:03:02 PM**
SR5-2	**Std-3**	**0.5000**	**0.0699**	**0.00**	**12:04:33 PM**
SR5-3	**Std-4**	**1.0000**	**0.1778**	**0.00**	**12:04:50 PM**
SR5-3	**Std-4**	**1.0000**	**0.1469**	**0.00**	**12:06:21 PM**
SR5-4	**Std-5**	**2.0000**	**0.2976**	**0.00**	**12:06:39 PM**
SR5-4	**Std-5**	**2.0000**	**0.2993**	**0.00**	**12:08:09 PM**
SR5-5	**Std-6**	**5.0000**	**0.8065**	**0.00**	**12:08:27 PM**
SR5-5	**Std-6**	**5.0000**	**0.8218**	**0.00**	**12:09:57 PM**
ST-2	**^CCV (2 mg/L)**	**1.9160**	**0.3029**	**95.80**	**12:10:15 PM**
R-5	**~CCB (0 mg/L)**	**0.0214**	**-0.0082**	**0.00**	**12:11:45 PM**
1	**ICV1**	**1.9519**	**0.3088**	**0.00**	**12:12:03 PM**
2	**ICB1**	**0.0226**	**-0.0080**	**0.00**	**12:13:33 PM**
3	**B156210-BS1**	**1.8679**	**0.2950**	**0.00**	**12:13:51 PM**
4	**B156210-BLK1**	**0.0244**	**-0.0077**	**0.00**	**12:15:21 PM**
5	**2227726-03**	**0.0890**	**0.0029**	**0.00**	**12:15:39 PM**
6	**B156210-DUP1**	**0.0792**	**0.0013**	**0.00**	**12:17:09 PM**
7	**B156210-MS1**	**2.0585**	**0.3263**	**0.00**	**12:17:27 PM**
8	**B156210-MSD1**	**2.0835**	**0.3304**	**0.00**	**12:18:57 PM**
9	**2227726-01**	**0.1633**	**0.0151**	**0.00**	**12:19:15 PM**
10	**2227726-02**	**0.0963**	**0.0041**	**0.00**	**12:20:45 PM**
ST-2	**^CCV (2 mg/L)**	**2.0189**	**0.3198**	**100.95**	**12:21:03 PM**
R-5	**~CCB (0 mg/L)**	**0.0263**	**-0.0074**	**0.00**	**12:22:33 PM**
11	**2227726-04**	**0.1870**	**0.0190**	**0.00**	**12:22:51 PM**
12	**2228278-01**	**0.2157**	**0.0237**	**0.00**	**12:24:21 PM**
13	**2228789-01**	**0.1608**	**0.0147**	**0.00**	**12:24:39 PM**
14	**2228789-02**	**0.1481**	**0.0126**	**0.00**	**12:26:09 PM**
15	**2228799-01**	**0.3222**	**0.0412**	**0.00**	**12:26:27 PM**
16	**2228799-02**	**1.7497**	**0.2756**	**0.00**	**12:27:57 PM**
17	**2228799-03**	**1.8764**	**0.2964**	**0.00**	**12:28:15 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
18	**LOD**	**0.0750**	**0.0006**	**0.00**	**12:29:45 PM**
19	**LOQ**	**0.0805**	**0.0015**	**0.00**	**12:30:03 PM**
ST-2	**^CCV (2 mg/L)**	**1.9958**	**0.3160**	**99.79**	**12:31:33 PM**
R-5	**~CCB (0 mg/L)**	**0.0269**	**-0.0073**	**0.00**	**12:31:51 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0589**	**0.00**	**1:41:29 PM**
DIL-1	**RBL**	**0.0000**	**0.0591**	**0.00**	**1:41:47 PM**
DIL-1	**RBL**	**0.0000**	**0.0588**	**0.00**	**1:43:17 PM**
ST-2	**^CCV (2 mg/L)**	**2.0698**	**0.3282**	**103.49**	**1:43:35 PM**
R-5	**~CCB (0 mg/L)**	**0.0668**	**-0.0008**	**0.00**	**1:45:05 PM**
3	**B156162-BS1**	**2.0625**	**0.3270**	**0.00**	**1:45:23 PM**
4	**B156162-BLK1**	**0.1149**	**0.0071**	**0.00**	**1:46:53 PM**
5	**2226883-01**	**0.4072**	**0.0552**	**0.00**	**1:47:11 PM**
6	**B156162-DUP1**	**0.4029**	**0.0545**	**0.00**	**1:48:41 PM**
7	**B156162-MS1**	**2.2031**	**0.3501**	**0.00**	**1:48:59 PM**
8	**B156162-MSD1**	**2.3085**	**0.3674**	**0.00**	**1:50:29 PM**
9	**2226883-02**	**0.4151**	**0.0565**	**0.00**	**1:50:47 PM**
10	**2226883-03**	**0.1380**	**0.0110**	**0.00**	**1:52:17 PM**
11	**2227718-01**	**0.1429**	**0.0118**	**0.00**	**1:52:35 PM**
12	**2227718-02**	**0.2032**	**0.0217**	**0.00**	**1:54:06 PM**
ST-2	**^CCV (2 mg/L)**	**2.0679**	**0.3279**	**103.40**	**1:54:23 PM**
R-5	**~CCB (0 mg/L)**	**0.0747**	**0.0005**	**0.00**	**1:55:54 PM**
13	**2227718-03**	**0.2032**	**0.0217**	**0.00**	**1:56:12 PM**
14	**2227718-04**	**0.1404**	**0.0114**	**0.00**	**1:57:42 PM**
15	**2227718-05**	**0.1301**	**0.0096**	**0.00**	**1:58:00 PM**
16	**2224647-02RE1**	**1.2902**	**0.2002**	**0.00**	**1:59:30 PM**
17	**2224647-05RE1**	**1.7781**	**0.2803**	**0.00**	**1:59:48 PM**
18	**B156251-BS1**	**2.0643**	**0.3273**	**0.00**	**2:01:18 PM**
19	**B156251-BLK1**	**0.0923**	**0.0034**	**0.00**	**2:01:36 PM**
20	**2227727-04**	**0.1849**	**0.0187**	**0.00**	**2:03:06 PM**
21	**B156251-DUP1**	**0.1898**	**0.0195**	**0.00**	**2:03:24 PM**
22	**B156251-MS1**	**2.1830**	**0.3468**	**0.00**	**2:04:54 PM**
ST-2	**^CCV (2 mg/L)**	**2.1185**	**0.3362**	**105.92**	**2:05:12 PM**
R-5	**~CCB (0 mg/L)**	**0.0698**	**-0.0003**	**0.00**	**2:06:42 PM**
23	**B156251-MSD1**	**2.1587**	**0.3428**	**0.00**	**2:07:00 PM**
24	**2227727-05**	**0.1721**	**0.0166**	**0.00**	**2:08:30 PM**
25	**2227727-06**	**0.1812**	**0.0181**	**0.00**	**2:08:48 PM**
26	**2227727-07**	**0.1611**	**0.0148**	**0.00**	**2:10:18 PM**
27	**2227727-08**	**0.1770**	**0.0174**	**0.00**	**2:10:36 PM**
28	**2227727-09**	**0.1678**	**0.0159**	**0.00**	**2:12:06 PM**
29	**2227727-10**	**0.1739**	**0.0169**	**0.00**	**2:12:24 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219003**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
30	**2227727-11**	**0.1599**	**0.0146**	**0.00**	**2:13:54 PM**
31	**2227727-02**	**0.3420**	**0.0445**	**0.00**	**2:14:12 PM**
32	**2227727-03**	**0.2141**	**0.0235**	**0.00**	**2:15:42 PM**
ST-2	**^CCV (2 mg/L)**	**2.1361**	**0.3391**	**106.81**	**2:16:00 PM**
R-5	**~CCB (0 mg/L)**	**0.0728**	**0.0002**	**0.00**	**2:17:30 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219003**

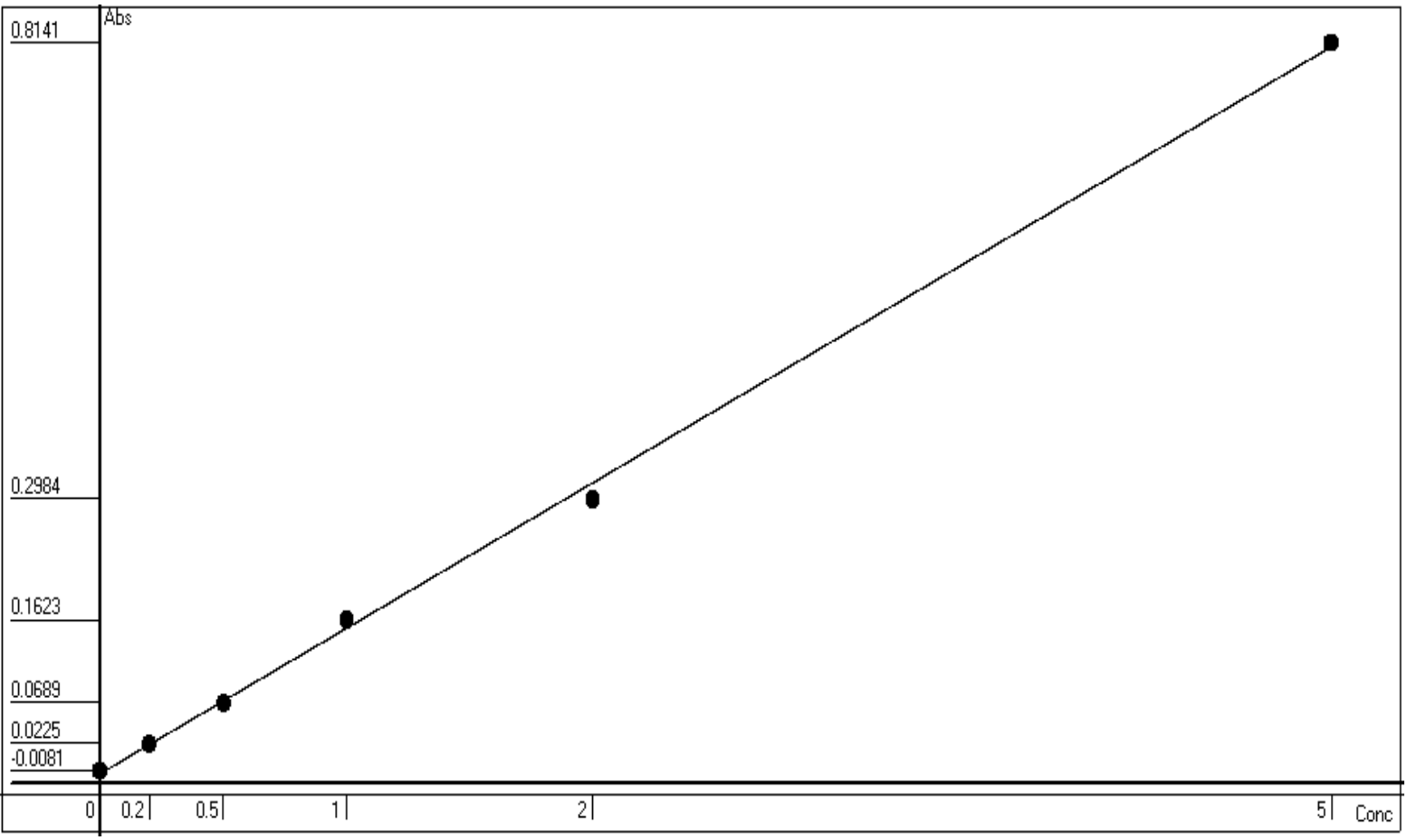
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221219001 Description : [NH3] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0081	0	0.0220	2.20
2	0.0225	0.2	0.2083	4.15
3	0.0689	0.5	0.4909	-1.82
4	0.1623	1	1.0597	5.97
5	0.2984	2	1.8886	-5.57
6	0.8141	5	5.0292	0.58

Conc= +6.09*Abso +0.0713 R^2=0.9990

RBL 0.0648 0

Report Date 12/19/2022 Run Date 12/19/2022

Replicate Report - BNH3 -

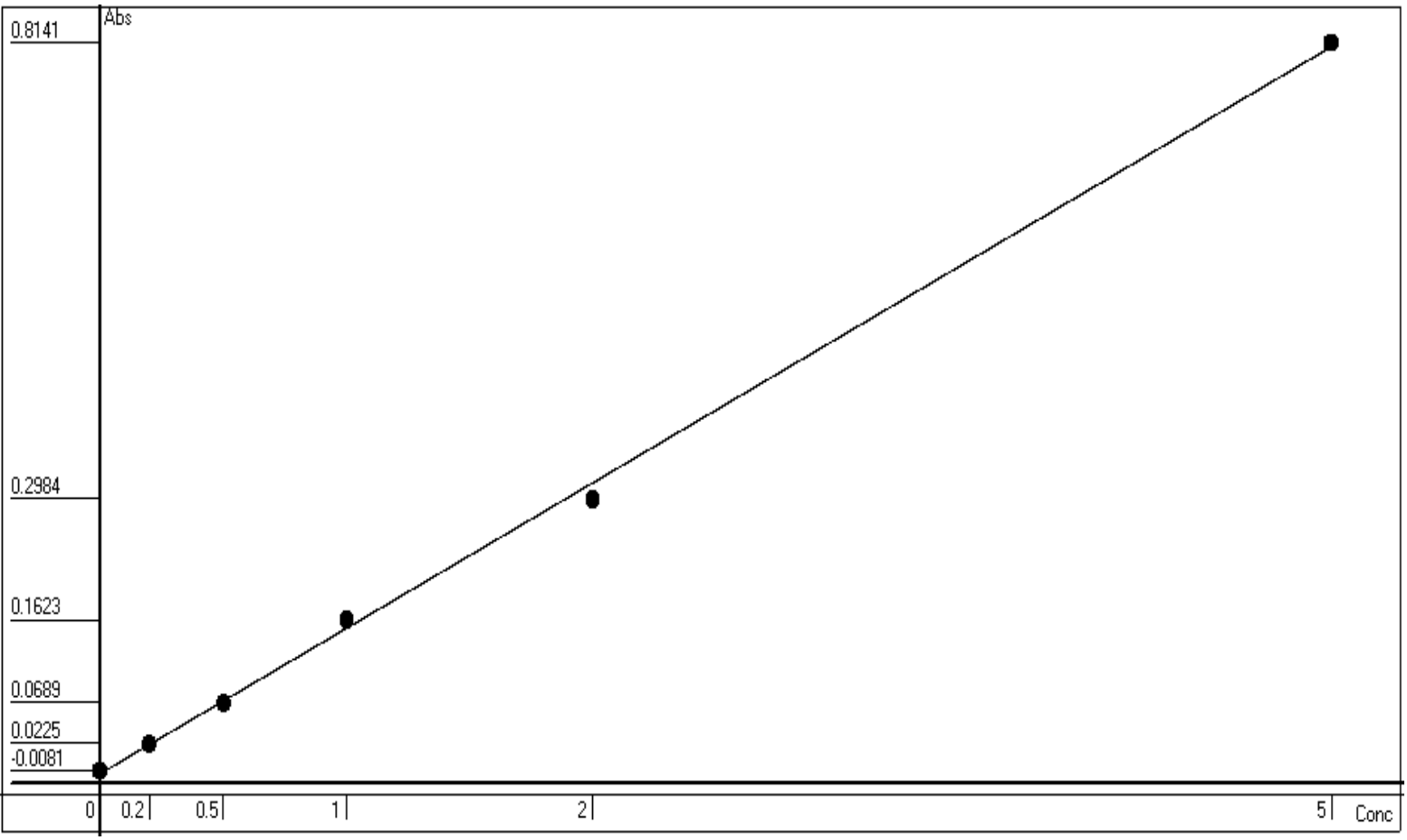
Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0082	-0.0079	/	/
2	0.0227	0.0223	/	/
3	0.0679	0.0699	/	/
4	0.1778	0.1469	/	/
5	0.2976	0.2993	/	/
6	0.8065	0.8218	/	/

Print Date:12/19/2022 [WESTCO]

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221219003 Description : [NH3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0081	0	0.0220	2.20
2	0.0225	0.2	0.2083	4.15
3	0.0689	0.5	0.4909	-1.82
4	0.1623	1	1.0597	5.97
5	0.2984	2	1.8886	-5.57
6	0.8141	5	5.0292	0.58

Conc= +6.09*Abso +0.0713 R^2=0.9990

RBL

Report Date 12/19/2022 Run Date 12/19/2022

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156162

BC Laboratories

Printed: 1/10/2023 1:47:35PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2224647-02RE1 C	i350.1w Ammonia as N	12/16/2022 11:00AM	AKC	0.565	6					
2224647-05RE1 C	i350.1w Ammonia as N	12/16/2022 11:00AM	AKC	0.291	6					
2226883-01 J	i350.1w Ammonia as N	12/16/2022 11:00AM	AKC	5.65	6					
2226883-01 J	im350.1w Ammonia as N	12/16/2022 11:00AM	AKC	5.65	6					
2226883-01 J	iSM4500NH3Gw Dist NH3 as N	12/16/2022 11:00AM	AKC	5.65	6					
2226883-02 J	im350.1w Ammonia as N	12/16/2022 11:00AM	AKC	5.68	6					
2226883-03 J	im350.1w Ammonia as N	12/16/2022 11:00AM	AKC	5.7	6					
2227718-01 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 11:00AM	AKC	2.79	6					
2227718-02 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 11:00AM	AKC	2.77	6					
2227718-03 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 11:00AM	AKC	2.77	6					
2227718-04 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 11:00AM	AKC	2.78	6					
2227718-05 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 11:00AM	AKC	2.79	6					
B156162-BLK1	QC	12/16/2022 11:00AM	AKC	6	6					
B156162-BS1	QC	12/16/2022 11:00AM	AKC	6	6	2J06023		600		
B156162-DUP1	QC	12/16/2022 11:00AM	AKC	5.65	6		2226883-01			
B156162-MS1	QC	12/16/2022 11:00AM	AKC	5.09	6	2J06023	2226883-01	600		
B156162-MSD1	QC	12/16/2022 11:00AM	AKC	5.09	6	2J06023	2226883-01	600		

Spike Mixes	Description	Solvent	Prepared	Expires
2J06023	NH3-N STD 20 SPIKE WATER	DI	10/5/2022 1 by zzzManpreet Br	1/5/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223430

Instrument: SC-1
Calibration ID:
Sequence Date: 12/19/2022
Printed: 1/10/2023 1:47:35PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223430-ICV1	QC		1		2J06021		
2223430-ICB1	QC		2				
2223430-CCV1	QC		3		2J06022		
2223430-CCB1	QC		4				
B156162-BS1	QC		5				
B156162-BLK1	QC		6				
2226883-01	i350.1w Ammonia as N	J	7				
2226883-01	im350.1w Ammonia as N	J	8				
2226883-01	iSM4500NH3Gw Dist NH3 as N	J	9				
B156162-DUP1	QC		10				
B156162-MS1	QC		11				
B156162-MSD1	QC		12				
2226883-02	im350.1w Ammonia as N	J	13				
2226883-03	im350.1w Ammonia as N	J	14				
2227718-01	iSM4500NH3Gw Dist NH3 as N	A	15				
2227718-02	iSM4500NH3Gw Dist NH3 as N	A	16				
2223430-CCV2	QC		17		2J06022		
2223430-CCB2	QC		18				
2227718-03	iSM4500NH3Gw Dist NH3 as N	A	19				
2227718-04	iSM4500NH3Gw Dist NH3 as N	A	20				
2227718-05	iSM4500NH3Gw Dist NH3 as N	A	21				
2224647-02RE1	i350.1w Ammonia as N	C	22				
2224647-05RE1	i350.1w Ammonia as N	C	23				
B156251-BS1	QC		24				
B156251-BLK1	QC		25				
2227727-04	iSM4500NH3Gw Dist NH3 as N	A	26				
B156251-DUP1	QC		27				
B156251-MS1	QC		28				
2223430-CCV3	QC		29		2J06022		
2223430-CCB3	QC		30				
B156251-MSD1	QC		31				
2227727-05	iSM4500NH3Gw Dist NH3 as N	A	32				
2227727-06	iSM4500NH3Gw Dist NH3 as N	A	33				
2227727-07	iSM4500NH3Gw Dist NH3 as N	A	34				
2227727-08	iSM4500NH3Gw Dist NH3 as N	A	35				
2227727-09	iSM4500NH3Gw Dist NH3 as N	A	36				
2227727-10	iSM4500NH3Gw Dist NH3 as N	A	37				
2227727-11	iSM4500NH3Gw Dist NH3 as N	A	38				
2227727-02	iSM4500NH3Gw Dist NH3 as N	A	39				

ANALYSIS SEQUENCE

2223430

Instrument: SC-1
Calibration ID:
Sequence Date: 12/19/2022
Printed: 1/10/2023 1:47:35PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2227727-03	iSM4500NH3Gw Dist NH3 as N	A	40				
2223430-CCV4	QC		41		2J06022		
2223430-CCB4	QC		42				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:47:35PM
Project: Level IV + labSpec7
Project Number: N53449A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

November 30, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053481

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 08, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053481

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.7 ug/L) and hexavalent chromium (1.7 ug/L) for sample N053481-007 (MW-81-098-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Nitrate as N in QC sample N053481-002DMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Iron in QC sample N053481-015BMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria for Iron; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.7 ug/L) and hexavalent chromium (1.7 ug/L) for sample N053481-007 (MW-81-098-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.7 and 2.5 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053481-002BMS, N053481-015BMS and N053481-015BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Molybdenum in QC sample N053481-002BMS possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053481-002CMS at lower dilutions possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N053481-002 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053481
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053481-001A	MW-82-046-Q422	Groundwater	11/8/2022 8:20:00 AM	11/8/2022	11/30/2022
N053481-001B	MW-82-046-Q422	Groundwater	11/8/2022 8:20:00 AM	11/8/2022	11/30/2022
N053481-001C	MW-82-046-Q422	Groundwater	11/8/2022 8:20:00 AM	11/8/2022	11/30/2022
N053481-001D	MW-82-046-Q422	Groundwater	11/8/2022 8:20:00 AM	11/8/2022	11/30/2022
N053481-002A	MW-82-112-Q422	Groundwater	11/8/2022 8:56:00 AM	11/8/2022	11/30/2022
N053481-002B	MW-82-112-Q422	Groundwater	11/8/2022 8:56:00 AM	11/8/2022	11/30/2022
N053481-002C	MW-82-112-Q422	Groundwater	11/8/2022 8:56:00 AM	11/8/2022	11/30/2022
N053481-002D	MW-82-112-Q422	Groundwater	11/8/2022 8:56:00 AM	11/8/2022	11/30/2022
N053481-003A	MW-82-168-Q422	Groundwater	11/8/2022 9:40:00 AM	11/8/2022	11/30/2022
N053481-003B	MW-82-168-Q422	Groundwater	11/8/2022 9:40:00 AM	11/8/2022	11/30/2022
N053481-003C	MW-82-168-Q422	Groundwater	11/8/2022 9:40:00 AM	11/8/2022	11/30/2022
N053481-003D	MW-82-168-Q422	Groundwater	11/8/2022 9:40:00 AM	11/8/2022	11/30/2022
N053481-004A	MW-921-Q422	Groundwater	11/8/2022 9:50:00 AM	11/8/2022	11/30/2022
N053481-004B	MW-921-Q422	Groundwater	11/8/2022 9:50:00 AM	11/8/2022	11/30/2022
N053481-004C	MW-921-Q422	Groundwater	11/8/2022 9:50:00 AM	11/8/2022	11/30/2022
N053481-004D	MW-921-Q422	Groundwater	11/8/2022 9:50:00 AM	11/8/2022	11/30/2022
N053481-005A	MW-82-198-Q422	Groundwater	11/8/2022 10:28:00 AM	11/8/2022	11/30/2022
N053481-005B	MW-82-198-Q422	Groundwater	11/8/2022 10:28:00 AM	11/8/2022	11/30/2022
N053481-005C	MW-82-198-Q422	Groundwater	11/8/2022 10:28:00 AM	11/8/2022	11/30/2022
N053481-005D	MW-82-198-Q422	Groundwater	11/8/2022 10:28:00 AM	11/8/2022	11/30/2022
N053481-006A	MW-81-043-Q422	Groundwater	11/8/2022 11:19:00 AM	11/8/2022	11/30/2022
N053481-006B	MW-81-043-Q422	Groundwater	11/8/2022 11:19:00 AM	11/8/2022	11/30/2022
N053481-006C	MW-81-043-Q422	Groundwater	11/8/2022 11:19:00 AM	11/8/2022	11/30/2022
N053481-006D	MW-81-043-Q422	Groundwater	11/8/2022 11:19:00 AM	11/8/2022	11/30/2022
N053481-007A	MW-81-098-Q422	Groundwater	11/8/2022 11:42:00 AM	11/8/2022	11/30/2022
N053481-007B	MW-81-098-Q422	Groundwater	11/8/2022 11:42:00 AM	11/8/2022	11/30/2022
N053481-007C	MW-81-098-Q422	Groundwater	11/8/2022 11:42:00 AM	11/8/2022	11/30/2022
N053481-007D	MW-81-098-Q422	Groundwater	11/8/2022 11:42:00 AM	11/8/2022	11/30/2022
N053481-008A	MW-44-070-Q422	Groundwater	11/8/2022 12:22:00 PM	11/8/2022	11/30/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053481
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053481-008B	MW-44-070-Q422	Groundwater	11/8/2022 12:22:00 PM	11/8/2022	11/30/2022
N053481-008C	MW-44-070-Q422	Groundwater	11/8/2022 12:22:00 PM	11/8/2022	11/30/2022
N053481-008D	MW-44-070-Q422	Groundwater	11/8/2022 12:22:00 PM	11/8/2022	11/30/2022
N053481-008E	MW-44-070-Q422	Groundwater	11/8/2022 12:22:00 PM	11/8/2022	11/30/2022
N053481-009A	MW-44-070-EB-Q422	Groundwater	11/8/2022 12:05:00 PM	11/8/2022	11/30/2022
N053481-010A	MW-44-115-Q422	Groundwater	11/8/2022 1:06:00 PM	11/8/2022	11/30/2022
N053481-010B	MW-44-115-Q422	Groundwater	11/8/2022 1:06:00 PM	11/8/2022	11/30/2022
N053481-010C	MW-44-115-Q422	Groundwater	11/8/2022 1:06:00 PM	11/8/2022	11/30/2022
N053481-010D	MW-44-115-Q422	Groundwater	11/8/2022 1:06:00 PM	11/8/2022	11/30/2022
N053481-011A	MW-44-125-Q422	Groundwater	11/8/2022 12:44:00 PM	11/8/2022	11/30/2022
N053481-011B	MW-44-125-Q422	Groundwater	11/8/2022 12:44:00 PM	11/8/2022	11/30/2022
N053481-011C	MW-44-125-Q422	Groundwater	11/8/2022 12:44:00 PM	11/8/2022	11/30/2022
N053481-011D	MW-44-125-Q422	Groundwater	11/8/2022 12:44:00 PM	11/8/2022	11/30/2022
N053481-011E	MW-44-125-Q422	Groundwater	11/8/2022 12:44:00 PM	11/8/2022	11/30/2022
N053481-012A	MW-44-125-EB-Q422	Groundwater	11/8/2022 12:27:00 PM	11/8/2022	11/30/2022
N053481-013A	EB-711-Q422	Groundwater	11/8/2022 1:16:00 PM	11/8/2022	11/30/2022
N053481-014A	MW-39-040-Q422	Groundwater	11/8/2022 8:45:00 AM	11/8/2022	11/30/2022
N053481-014B	MW-39-040-Q422	Groundwater	11/8/2022 8:45:00 AM	11/8/2022	11/30/2022
N053481-014C	MW-39-040-Q422	Groundwater	11/8/2022 8:45:00 AM	11/8/2022	11/30/2022
N053481-014D	MW-39-040-Q422	Groundwater	11/8/2022 8:45:00 AM	11/8/2022	11/30/2022
N053481-015A	MW-39-050-Q422	Groundwater	11/8/2022 9:49:00 AM	11/8/2022	11/30/2022
N053481-015B	MW-39-050-Q422	Groundwater	11/8/2022 9:49:00 AM	11/8/2022	11/30/2022
N053481-015C	MW-39-050-Q422	Groundwater	11/8/2022 9:49:00 AM	11/8/2022	11/30/2022
N053481-015D	MW-39-050-Q422	Groundwater	11/8/2022 9:49:00 AM	11/8/2022	11/30/2022
N053481-016A	MW-39-060-Q422	Groundwater	11/8/2022 10:33:00 AM	11/8/2022	11/30/2022
N053481-016B	MW-39-060-Q422	Groundwater	11/8/2022 10:33:00 AM	11/8/2022	11/30/2022
N053481-016C	MW-39-060-Q422	Groundwater	11/8/2022 10:33:00 AM	11/8/2022	11/30/2022
N053481-016D	MW-39-060-Q422	Groundwater	11/8/2022 10:33:00 AM	11/8/2022	11/30/2022
N053481-017A	MW-39-070-Q422	Groundwater	11/8/2022 8:16:00 AM	11/8/2022	11/30/2022
N053481-017B	MW-39-070-Q422	Groundwater	11/8/2022 8:16:00 AM	11/8/2022	11/30/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053481
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053481-017C	MW-39-070-Q422	Groundwater	11/8/2022 8:16:00 AM	11/8/2022	11/30/2022
N053481-017D	MW-39-070-Q422	Groundwater	11/8/2022 8:16:00 AM	11/8/2022	11/30/2022
N053481-018A	MW-39-080-Q422	Groundwater	11/8/2022 9:18:00 AM	11/8/2022	11/30/2022
N053481-018B	MW-39-080-Q422	Groundwater	11/8/2022 9:18:00 AM	11/8/2022	11/30/2022
N053481-018C	MW-39-080-Q422	Groundwater	11/8/2022 9:18:00 AM	11/8/2022	11/30/2022
N053481-018D	MW-39-080-Q422	Groundwater	11/8/2022 9:18:00 AM	11/8/2022	11/30/2022
N053481-019A	MW-39-100-Q422	Groundwater	11/8/2022 11:09:00 AM	11/8/2022	11/30/2022
N053481-019B	MW-39-100-Q422	Groundwater	11/8/2022 11:09:00 AM	11/8/2022	11/30/2022
N053481-019C	MW-39-100-Q422	Groundwater	11/8/2022 11:09:00 AM	11/8/2022	11/30/2022
N053481-019D	MW-39-100-Q422	Groundwater	11/8/2022 11:09:00 AM	11/8/2022	11/30/2022
N053481-020A	MW-30-030-Q422	Groundwater	11/8/2022 12:57:00 PM	11/8/2022	11/30/2022
N053481-020B	MW-30-030-Q422	Groundwater	11/8/2022 12:57:00 PM	11/8/2022	11/30/2022
N053481-020C	MW-30-030-Q422	Groundwater	11/8/2022 12:57:00 PM	11/8/2022	11/30/2022
N053481-020D	MW-30-030-Q422	Groundwater	11/8/2022 12:57:00 PM	11/8/2022	11/30/2022
N053481-021A	MW-30-030-EB-Q422	Groundwater	11/8/2022 1:07:00 PM	11/8/2022	11/30/2022
N053481-022A	MW-30-050-Q422	Groundwater	11/8/2022 12:20:00 PM	11/8/2022	11/30/2022
N053481-022B	MW-30-050-Q422	Groundwater	11/8/2022 12:20:00 PM	11/8/2022	11/30/2022
N053481-022C	MW-30-050-Q422	Groundwater	11/8/2022 12:20:00 PM	11/8/2022	11/30/2022
N053481-022D	MW-30-050-Q422	Groundwater	11/8/2022 12:20:00 PM	11/8/2022	11/30/2022
N053481-023A	EB-712-Q422	Groundwater	11/8/2022 1:30:00 PM	11/8/2022	11/30/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-001

Client Sample ID: MW-82-046-Q422
Collection Date: 11/8/2022 8:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A** QC Batch: **R167409**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/16/2022 02:34 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 05:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/16/2022 11:45 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 05:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A** QC Batch: **R167409**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/16/2022 03:42 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-004

Client Sample ID: MW-921-Q422
Collection Date: 11/8/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/16/2022 09:51 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 10:28:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221115A** QC Batch: **R167409**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.6	0.45	1.0		µg/L	5	11/16/2022 04:50 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	1.7	0.035	1.0		µg/L	1	11/13/2022 06:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-006

Client Sample ID: MW-81-043-Q422
Collection Date: 11/8/2022 11:19:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	14	0.45	1.0		µg/L	5	11/16/2022 10:36 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	15	0.035	1.0		µg/L	1	11/13/2022 06:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-007

Client Sample ID: MW-81-098-Q422
Collection Date: 11/8/2022 11:42:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.7	0.45	1.0		µg/L	5	11/17/2022 12:53 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	2.7	0.035	1.0		µg/L	1	11/13/2022 06:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 01:16 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-EB-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:05:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 02:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.0	0.45	1.0		µg/L	5	11/17/2022 02:47 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	11/13/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:44:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/17/2022 03:33 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-EB-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:27:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 04:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-711-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B**	QC Batch: **R167457**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 04:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 05:04 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 07:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-015

Client Sample ID: MW-39-050-Q422
Collection Date: 11/8/2022 9:49:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221117A** QC Batch: **R167571**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 04:29 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 07:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 10:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221116B** QC Batch: **R167457**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/17/2022 05:27 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221117A** QC Batch: **R167571**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/18/2022 04:00 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 08:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	23	0.45	1.0		µg/L	5	11/21/2022 02:23 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	21	0.035	1.0		µg/L	1	11/13/2022 08:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-019

Client Sample ID: MW-39-100-Q422
Collection Date: 11/8/2022 11:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	260	4.5	10		µg/L	50	11/21/2022 03:09 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221115B** QC Batch: **96641**				PrepDate: **11/11/2022**			Analyst: **DJ**
Chromium	300	0.18	5.0		µg/L	5	11/15/2022 07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:57:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/21/2022 03:32 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 08:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-EB-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 1:07:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/21/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/21/2022 04:40 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/13/2022 09:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-712-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-023		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/21/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96641**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **PBW**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96641**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **LCSW**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.120	1.0	10.00	0	101	85	115				

Sample ID: **N053481-002BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.095	1.0	10.00	0.6033	94.9	75	125				

Sample ID: **N053481-002BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.475	1.0	10.00	0.6033	88.7	75	125	10.09	6.34	20	

Sample ID: **N053481-015BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.021	1.0	10.00	0.2102	98.1	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053481-015BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.478	1.0	10.00	0.2102	103	75	125	10.02	4.46	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167409**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **LCSW**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4931363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.899	0.20	5.000	0	98.0	90	110				

Sample ID: **MB1-R167409**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **PBW**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4931364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053449-011A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4931375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.196	0.20						6.208	0.205	20	

Sample ID: **N053449-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4931376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.344	0.20	5.000	6.208	103	90	110				

Sample ID: **N053449-011A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4931377**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.339	0.20	5.000	6.208	103	90	110	11.34	0.0423	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053449-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1258.450	20	500.0	756.7	100	90	110				

Sample ID: **N053449-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.959	1.0	5.000	0	99.2	90	110				

Sample ID: **N053449-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931387**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.085	0.20	5.000	6.126	99.2	90	110				

Sample ID: **N053449-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931389**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.012	0.20	1.000	0	101	90	110				

Sample ID: **N053481-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.086	1.0	5.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053481-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.263	1.0	5.000	0	105	90	110				

Sample ID: **N053481-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167409**
Client ID: **ZZZZZZ**	Batch ID: **R167409**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.616	1.0	5.000	1.557	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167457**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **LCSW**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.793	0.20	5.000	0	95.9	90	110				

Sample ID: **MB1-R167457**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **PBW**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053630-009D-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.211	0.20						6.221	0.158	20	

Sample ID: **N053630-009D-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.159	0.20	5.000	6.221	98.8	90	110				

Sample ID: **N053630-009D-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.100	0.20	5.000	6.221	97.6	90	110	11.16	0.536	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053449-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.973	1.0	5.000	0.6780	106	90	110				

Sample ID: **N053481-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.081	1.0	5.000	0	102	90	110				

Sample ID: **N053481-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931531**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.402	1.0	25.00	14.38	100	90	110				

Sample ID: **N053481-002A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	1.0						0	0	20	

Sample ID: **N053481-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4931538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.833	1.0	5.000	0	96.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053481-002A-MSD** SampType: **MSD** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167457**
Client ID: **ZZZZZZ** Batch ID: **R167457** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4931539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.868	1.0	5.000	0	97.4	90	110	4.833	0.722	20	

Sample ID: **N053481-007A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167457**
Client ID: **ZZZZZZ** Batch ID: **R167457** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4931543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.994	1.0	5.000	1.746	105	90	110				

Sample ID: **N053481-008A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167457**
Client ID: **ZZZZZZ** Batch ID: **R167457** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4931545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.946	0.20	1.000	0	94.6	90	110				

Sample ID: **N053481-009A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167457**
Client ID: **ZZZZZZ** Batch ID: **R167457** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4931549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.6	90	110				

Sample ID: **N053481-010A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167457**
Client ID: **ZZZZZZ** Batch ID: **R167457** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4931553**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.085	1.0	5.000	1.008	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053481-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4931557**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.193	1.0	5.000	0	104	90	110				

Sample ID: **N053481-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4931561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

Sample ID: **N053481-013A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4931563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.042	0.20	1.000	0	104	90	110				

Sample ID: **N053481-014A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4931565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.080	0.20	1.000	0	108	90	110				

Sample ID: **N053481-016A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167457**
Client ID: **ZZZZZZ**	Batch ID: **R167457**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4931567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.050	0.20	1.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167571**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **LCSW**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4936149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.921	0.20	5.000	0	98.4	90	110				

Sample ID: **MB1-R167571**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **PBW**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4936150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053481-015A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **ZZZZZZ**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4936152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N053481-015A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **ZZZZZZ**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4936153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Sample ID: **N053481-015A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **ZZZZZZ**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4936154**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.002	0.20	1.000	0	100	90	110	1.007	0.508	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053481-017A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **ZZZZZZ**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/18/2022**	SeqNo: **4936160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N053481-017A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **ZZZZZZ**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/18/2022**	SeqNo: **4936161**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.940	0.20	1.000	0	94.0	90	110				

Sample ID: **N053481-017A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167571**
Client ID: **ZZZZZZ**	Batch ID: **R167571**	TestNo: **EPA 218.6**		Analysis Date: **11/18/2022**	SeqNo: **4936162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.927	0.20	1.000	0	92.7	90	110	0.9400	1.41	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167624**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **LCSW**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R167624**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **PBW**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053481-018A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.621	1.0						22.61	0.0420	20	

Sample ID: **N053481-018A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.399	1.0	25.00	22.61	99.2	90	110				

Sample ID: **N053481-018A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.475	1.0	25.00	22.61	99.5	90	110	47.40	0.161	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053481-019A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	501.270	10	250.0	259.7	96.6	90	110				

Sample ID: **N053481-020A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Sample ID: **N053481-021A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.054	0.20	1.000	0	105	90	110				

Sample ID: **N053481-022A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N053481-023A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053482-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	531.055	10	250.0	283.8	98.9	90	110				

Sample ID: **N053482-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	526.510	10	250.0	280.8	98.3	90	110				

Sample ID: **N053503-009A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1729.460	40						1727	0.128	20	

Sample ID: **N053503-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2758.580	40	1000	1727	103	90	110				

Sample ID: **N053503-009A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2749.260	40	1000	1727	102	90	110	2759	0.338	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053503-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID: **N053503-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1697.320	20	500.0	1193	101	90	110				

Sample ID: **N053503-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.270	1.0	25.00	9.860	97.6	90	110				

Sample ID: **N053503-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7030.300	200	5000	2264	95.3	90	110				

Sample ID: **N053503-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.762	1.0	5.000	0	95.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053503-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.935	0.20	1.000	0	93.5	90	110				

Sample ID: **N053503-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.217	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-001

Client Sample ID: MW-82-046-Q422
Collection Date: 11/8/2022 8:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	1600	12	100		mg/L	200	11/12/2022 01:51 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 03:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-002

Client Sample ID: MW-82-112-Q422
Collection Date: 11/8/2022 8:56:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	11/12/2022 12:19 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	1.8	0.095	0.50		mg/L	10	11/9/2022 02:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	540	6.1	50		mg/L	100	11/12/2022 02:06 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 03:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-004

Client Sample ID: MW-921-Q422
Collection Date: 11/8/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	520	6.1	50		mg/L	100	11/12/2022 02:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 04:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-005

Client Sample ID: MW-82-198-Q422
Collection Date: 11/8/2022 10:28:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	680	6.1	50		mg/L	100	11/12/2022 03:08 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 12:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-006

Client Sample ID: MW-81-043-Q422
Collection Date: 11/8/2022 11:19:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	290	3.0	25		mg/L	50	11/12/2022 03:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	11/9/2022 05:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-007

Client Sample ID: MW-81-098-Q422
Collection Date: 11/8/2022 11:42:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	730	6.1	50		mg/L	100	11/12/2022 03:38 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	11/9/2022 12:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A**	QC Batch: **R167215**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 05:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-010

Client Sample ID: MW-44-115-Q422
Collection Date: 11/8/2022 1:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	1100	12	100		mg/L	200	11/12/2022 03:53 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 05:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-011

Client Sample ID: MW-44-125-Q422
Collection Date: 11/8/2022 12:44:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	1200	12	100		mg/L	200	11/12/2022 04:09 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 06:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-014

Client Sample ID: MW-39-040-Q422
Collection Date: 11/8/2022 8:45:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	120	0.61	5.0		mg/L	10	11/12/2022 04:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/9/2022 06:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-015

Client Sample ID: MW-39-050-Q422
Collection Date: 11/8/2022 9:49:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	11/12/2022 01:05 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/9/2022 06:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 10:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	220	1.2	10		mg/L	20	11/12/2022 04:39 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 07:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-017

Client Sample ID: MW-39-070-Q422
Collection Date: 11/8/2022 8:16:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221112A** QC Batch: **R167315** PrepDate: Analyst: **RAB**							
Sulfate	300	3.0	25		mg/L	50	11/12/2022 04:55 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221109A** QC Batch: **R167215** PrepDate: Analyst: **RB**							
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 08:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	590	6.1	50		mg/L	100	11/12/2022 05:10 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 08:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-019

Client Sample ID: MW-39-100-Q422
Collection Date: 11/8/2022 11:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	11/12/2022 05:25 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/9/2022 08:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:57:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A**	QC Batch: **R167215**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/9/2022 08:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221112A** QC Batch: **R167315**				PrepDate:			Analyst: **RAB**
Sulfate	200	1.2	10		mg/L	20	11/12/2022 06:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221109A** QC Batch: **R167215**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/9/2022 09:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167315_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **PBW**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931126**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R167315_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **LCSW**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931127**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.063	0.50	4.000	0	102	90	110				

Sample ID: **N053459-001GDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **ZZZZZZ**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	244.430	25						250.2	2.33	20	

Sample ID: **N053481-002DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **ZZZZZZ**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1148.530	50	400.0	737.8	103	80	120				

Sample ID: **N053481-002DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **ZZZZZZ**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931134**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1141.680	50	400.0	737.8	101	80	120	1149	0.598	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053481-015DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **ZZZZZZ**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	271.454	10	80.00	192.1	99.2	80	120				

Sample ID: **N053481-015DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167315**
Client ID: **ZZZZZZ**	Batch ID: **R167315**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4931137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	272.088	10	80.00	192.1	100	80	120	271.5	0.233	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167215_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **PBW**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917875**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.025	0.050									

Sample ID: **LCS-R167215_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **LCSW**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.266	0.050	1.250	0	101	90	110				

Sample ID: **N053481-002DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **ZZZZZZ**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.315	0.50	12.50	1.800	116	80	120				

Sample ID: **N053481-002DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **ZZZZZZ**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.965	0.50	12.50	1.800	121	80	120	16.32	3.91	20	S

Sample ID: **N053481-001DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **ZZZZZZ**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917881**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.252	0.50						0.3400	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053481-015DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **ZZZZZZ**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.507	0.25	6.250	0.1075	102	80	120				

Sample ID: **N053481-015DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167215**
Client ID: **ZZZZZZ**	Batch ID: **R167215**	TestNo: **EPA 300.0**		Analysis Date: **11/9/2022**	SeqNo: **4917893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.359	0.25	6.250	0.1075	100	80	120	6.507	2.29	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.0	0.14	1.0		mg/L	1	11/11/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221110B**	QC Batch: **R167260**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	11/10/2022 04:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 09:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-921-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 09:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 10:28:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 04:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 05:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:42:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 06:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 06:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 06:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:44:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 06:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	3.1	0.14	1.0		mg/L	1	11/11/2022 07:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:49:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 12:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 10:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 07:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 07:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 07:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 08:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:57:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	3.2	0.14	1.0		mg/L	1	11/11/2022 09:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221111A**	QC Batch: **R167297**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/11/2022 09:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **LCS-R167260**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167260**
Client ID: **LCSW**	Batch ID: **R167260**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921485**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.132	1.0	5.000	0	103	85	115				

Sample ID: **MB-R167260**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167260**
Client ID: **PBW**	Batch ID: **R167260**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **N053481-002CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167260**
Client ID: **ZZZZZZ**	Batch ID: **R167260**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	81.938	20	100.0	0	81.9	75	125				

Sample ID: **N053481-002CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167260**
Client ID: **ZZZZZZ**	Batch ID: **R167260**	TestNo: **SM 5310C**		Analysis Date: **11/10/2022**	SeqNo: **4921499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	83.440	20	100.0	0	83.4	75	125	81.94	1.82	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167297**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167297**
Client ID: **PBW**	Batch ID: **R167297**	TestNo: **SM 5310C**		Analysis Date: **11/11/2022**	SeqNo: **4923235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167297**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167297**
Client ID: **LCSW**	Batch ID: **R167297**	TestNo: **SM 5310C**		Analysis Date: **11/11/2022**	SeqNo: **4923236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.117	1.0	5.000	0	102	85	115				

Sample ID: **N053481-015CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167297**
Client ID: **ZZZZZZ**	Batch ID: **R167297**	TestNo: **SM 5310C**		Analysis Date: **11/11/2022**	SeqNo: **4923238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.883	1.0	5.000	0.7464	82.7	75	125				

Sample ID: **N053481-015CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167297**
Client ID: **ZZZZZZ**	Batch ID: **R167297**	TestNo: **SM 5310C**		Analysis Date: **11/11/2022**	SeqNo: **4923241**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.045	1.0	5.000	0.7464	86.0	75	125	4.883	3.27	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *30-Nov-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	6300	13	20		µg/L	1	11/16/2022 02:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *30-Nov-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:56:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 02:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	43	13	20		µg/L	1	11/16/2022 03:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-921-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	42	13	20		µg/L	1	11/16/2022 03:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *30-Nov-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 10:28:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	56	13	20		µg/L	1	11/16/2022 03:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:42:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	27	13	20		µg/L	1	11/16/2022 03:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	890	13	20		µg/L	1	11/16/2022 03:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-010

Client Sample ID: MW-44-115-Q422
Collection Date: 11/8/2022 1:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 03:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:44:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	370	13	20		µg/L	1	11/16/2022 03:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	260	13	20		µg/L	1	11/16/2022 03:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

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ANALYTICAL RESULTS

Print Date: *30-Nov-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:49:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A** QC Batch: **96644**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	34	13	20		µg/L	1	11/16/2022 03:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-016

Client Sample ID: MW-39-060-Q422
Collection Date: 11/8/2022 10:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	41	13	20		µg/L	1	11/16/2022 04:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *30-Nov-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 04:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 04:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:57:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	570	13	20		µg/L	1	11/16/2022 04:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Iron	67	13	20		µg/L	1	11/16/2022 04:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96644**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID: **PBW**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96644**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID: **LCSW**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.717	20	100.0	0	98.7	85	115				

Sample ID: **N053481-002BMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929859**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.673	20	100.0	16.67	94.0	75	125				

Sample ID: **N053481-002BMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.761	20	100.0	16.67	86.1	75	125	110.7	7.41	20	

Sample ID: **N053481-015BMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	156.276	20	100.0	33.52	123	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053481-015BMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.936	20	100.0	33.52	71.4	75	125	156.3	39.3	20	SR

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053481-002B-PS**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date:	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	103.856	20	100.0	16.67	87.2	80	120				

Sample ID: **N053481-015B-PS**	SampType: **PS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date:	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	142.421	20	100.0	33.52	109	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-001

Client Sample ID: MW-82-046-Q422
Collection Date: 11/8/2022 8:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	20	0.050	0.10		µg/L	1	11/13/2022 05:24 PM
Barium	55	0.083	1.0		µg/L	1	11/13/2022 05:24 PM
Manganese	260	0.13	2.5		µg/L	5	11/15/2022 05:31 PM
Molybdenum	26	0.12	0.50		µg/L	1	11/13/2022 05:24 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 05:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-002

Client Sample ID: MW-82-112-Q422
Collection Date: 11/8/2022 8:56:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/13/2022 05:30 PM
Barium	59	0.083	1.0		µg/L	1	11/13/2022 05:30 PM
Manganese	190	0.13	2.5		µg/L	5	11/13/2022 05:36 PM
Molybdenum	23	0.12	0.50		µg/L	1	11/13/2022 05:30 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 05:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-003

Client Sample ID: MW-82-168-Q422
Collection Date: 11/8/2022 9:40:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	11/13/2022 06:00 PM
Barium	33	0.083	1.0		µg/L	1	11/13/2022 06:00 PM
Manganese	38	0.026	0.50		µg/L	1	11/13/2022 06:00 PM
Molybdenum	36	0.12	0.50		µg/L	1	11/13/2022 06:00 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-921-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	11/13/2022 06:23 PM
Barium	34	0.083	1.0		µg/L	1	11/13/2022 06:23 PM
Manganese	39	0.026	0.50		µg/L	1	11/13/2022 06:23 PM
Molybdenum	38	0.12	0.50		µg/L	1	11/13/2022 06:23 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-005

Client Sample ID: MW-82-198-Q422
Collection Date: 11/8/2022 10:28:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	0.96	0.050	0.10		µg/L	1	11/13/2022 06:29 PM
Barium	32	0.083	1.0		µg/L	1	11/13/2022 06:29 PM
Manganese	74	0.026	0.50		µg/L	1	11/13/2022 06:29 PM
Molybdenum	40	0.12	0.50		µg/L	1	11/13/2022 06:29 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 06:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 11:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B** QC Batch: **96641**				PrepDate:	**11/11/2022**		Analyst: **DJ**
Arsenic	4.6	0.050	0.10		µg/L	1	11/13/2022 06:35 PM
Barium	72	0.083	1.0		µg/L	1	11/13/2022 06:35 PM
Manganese	49	0.026	0.50		µg/L	1	11/13/2022 06:35 PM
Molybdenum	22	0.12	0.50		µg/L	1	11/13/2022 06:35 PM
Selenium	1.5	0.044	0.50		µg/L	1	11/13/2022 06:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-007

Client Sample ID: MW-81-098-Q422
Collection Date: 11/8/2022 11:42:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/13/2022 06:41 PM
Barium	58	0.083	1.0		µg/L	1	11/13/2022 06:41 PM
Manganese	140	0.026	0.50		µg/L	1	11/13/2022 06:41 PM
Molybdenum	25	0.12	0.50		µg/L	1	11/13/2022 06:41 PM
Selenium	0.65	0.044	0.50		µg/L	1	11/29/2022 08:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-008

Client Sample ID: MW-44-070-Q422
Collection Date: 11/8/2022 12:22:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	3.2	0.050	0.10		µg/L	1	11/13/2022 06:47 PM
Barium	38	0.083	1.0		µg/L	1	11/13/2022 06:47 PM
Manganese	320	0.13	2.5		µg/L	5	11/15/2022 06:01 PM
Molybdenum	11	0.12	0.50		µg/L	1	11/13/2022 06:47 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-010

Client Sample ID: MW-44-115-Q422
Collection Date: 11/8/2022 1:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	11/13/2022 06:53 PM
Barium	19	0.083	1.0		µg/L	1	11/13/2022 06:53 PM
Manganese	22	0.026	0.50		µg/L	1	11/13/2022 06:53 PM
Molybdenum	46	0.12	0.50		µg/L	1	11/13/2022 06:53 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-011

Client Sample ID: MW-44-125-Q422
Collection Date: 11/8/2022 12:44:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/13/2022 06:59 PM
Barium	44	0.083	1.0		µg/L	1	11/13/2022 06:59 PM
Manganese	530	0.13	2.5		µg/L	5	11/15/2022 06:07 PM
Molybdenum	120	0.12	0.50		µg/L	1	11/13/2022 06:59 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-014

Client Sample ID: MW-39-040-Q422
Collection Date: 11/8/2022 8:45:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	13	0.050	0.10		µg/L	1	11/13/2022 07:05 PM
Barium	63	0.083	1.0		µg/L	1	11/13/2022 07:05 PM
Manganese	87	0.026	0.50		µg/L	1	11/13/2022 07:05 PM
Molybdenum	8.9	0.12	0.50		µg/L	1	11/13/2022 07:05 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 07:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-015

Client Sample ID: MW-39-050-Q422
Collection Date: 11/8/2022 9:49:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	1.7	0.050	0.10		µg/L	1	11/13/2022 07:11 PM
Barium	46	0.083	1.0		µg/L	1	11/13/2022 07:11 PM
Manganese	270	0.13	2.5		µg/L	5	11/13/2022 07:46 PM
Molybdenum	4.9	0.12	0.50		µg/L	1	11/13/2022 07:11 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 07:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-016

Client Sample ID: MW-39-060-Q422
Collection Date: 11/8/2022 10:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	11/13/2022 08:10 PM
Barium	41	0.083	1.0		µg/L	1	11/13/2022 08:10 PM
Manganese	240	0.13	2.5		µg/L	5	11/18/2022 07:55 PM
Molybdenum	6.6	0.12	0.50		µg/L	1	11/13/2022 08:10 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 8:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	11/13/2022 08:16 PM
Barium	47	0.083	1.0		µg/L	1	11/13/2022 08:16 PM
Manganese	17	0.026	0.50		µg/L	1	11/13/2022 08:16 PM
Molybdenum	9.2	0.12	0.50		µg/L	1	11/13/2022 08:16 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 08:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 9:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Arsenic	0.69	0.050	0.10		µg/L	1	11/13/2022 08:22 PM
Barium	26	0.083	1.0		µg/L	1	11/13/2022 08:22 PM
Manganese	5.9	0.026	0.50		µg/L	1	11/13/2022 08:22 PM
Molybdenum	14	0.12	0.50		µg/L	1	11/13/2022 08:22 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 08:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-019

Client Sample ID: MW-39-100-Q422
Collection Date: 11/8/2022 11:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/13/2022 08:28 PM
Barium	30	0.083	1.0		µg/L	1	11/13/2022 08:28 PM
Manganese	13	0.026	0.50		µg/L	1	11/13/2022 08:28 PM
Molybdenum	9.1	0.12	0.50		µg/L	1	11/13/2022 08:28 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 08:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *30-Nov-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q422
Lab Order:	N053481	**Collection Date:**	11/8/2022 12:57:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053481-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96641**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Arsenic	0.64	0.050	0.10		µg/L	1	11/18/2022 08:01 PM
Barium	310	0.42	5.0		µg/L	5	11/13/2022 08:57 PM
Manganese	170	0.026	0.50		µg/L	1	11/13/2022 08:51 PM
Molybdenum	40	0.12	0.50		µg/L	1	11/13/2022 08:51 PM
Selenium	0.63	0.044	0.50		µg/L	1	11/20/2022 04:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053481-022

Client Sample ID: MW-30-050-Q422
Collection Date: 11/8/2022 12:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:		**11/11/2022**	Analyst: **DJ**
Arsenic	3.0	0.050	0.10		µg/L	1	11/13/2022 09:03 PM
Barium	19	0.083	1.0		µg/L	1	11/13/2022 09:03 PM
Manganese	420	0.13	2.5		µg/L	5	11/15/2022 07:06 PM
Molybdenum	5.6	0.12	0.50		µg/L	1	11/13/2022 09:03 PM
Selenium	ND	0.044	0.50		µg/L	1	11/13/2022 09:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96641**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **PBW**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96641**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **LCSW**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.559	0.10	10.00	0	95.6	85	115				
Barium	10.044	1.0	10.00	0	100	85	115				
Manganese	99.509	0.50	100.0	0	99.5	85	115				
Molybdenum	9.836	0.50	10.00	0	98.4	85	115				
Selenium	9.221	0.50	10.00	0	92.2	85	115				

Sample ID: **N053481-002BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925936**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.645	0.10	10.00	0.05676	95.9	75	125				
Barium	74.499	1.0	10.00	58.56	159	75	125				S
Molybdenum	36.507	0.50	10.00	22.76	137	75	125				S
Selenium	9.890	0.50	10.00	0.4935	94.0	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053481-002BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.615	0.10	10.00	0.05676	95.6	75	125	9.645	0.318	20	
Barium	69.856	1.0	10.00	58.56	113	75	125	74.50	6.43	20	
Molybdenum	34.247	0.50	10.00	22.76	115	75	125	36.51	6.39	20	
Selenium	9.668	0.50	10.00	0.4935	91.7	75	125	9.890	2.27	20	

Sample ID: **N053481-015BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.248	0.10	10.00	1.702	95.5	75	125				
Barium	50.538	1.0	10.00	45.59	49.5	75	125				S
Molybdenum	15.028	0.50	10.00	4.871	102	75	125				
Selenium	9.483	0.50	10.00	0	94.8	75	125				

Sample ID: **N053481-015BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167345**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4925957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.329	0.10	10.00	1.702	96.3	75	125	11.25	0.719	20	
Barium	51.283	1.0	10.00	45.59	57.0	75	125	50.54	1.46	20	S
Molybdenum	15.146	0.50	10.00	4.871	103	75	125	15.03	0.782	20	
Selenium	9.801	0.50	10.00	0	98.0	75	125	9.483	3.30	20	

Sample ID: **N053481-002BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167424**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4929711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	313.944	2.5	100.0	193.3	121	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053481-002BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167424**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4929712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	307.086	2.5	100.0	193.3	114	75	125	313.9	2.21	20	

Sample ID: **N053481-015BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167424**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4929719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	325.870	2.5	100.0	269.2	56.7	75	125				S

Sample ID: **N053481-015BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167424**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4929720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	332.956	2.5	100.0	269.2	63.8	75	125	325.9	2.15	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053481
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053481-002B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167345**
Client ID: **ZZZZZZ** Batch ID: **96641** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/13/2022** SeqNo: **4925935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.610	0.10	10.00	0.05676	95.5	80	120				
Barium	71.124	1.0	10.00	58.56	126	80	120				S
Molybdenum	34.568	0.50	10.00	22.76	118	80	120				
Selenium	9.826	0.50	10.00	0.4935	93.3	80	120				

Sample ID: **N053481-015B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167345**
Client ID: **ZZZZZZ** Batch ID: **96641** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/13/2022** SeqNo: **4925955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.210	0.10	10.00	1.702	95.1	80	120				
Barium	51.095	1.0	10.00	45.59	55.1	80	120				S
Molybdenum	14.991	0.50	10.00	4.871	101	80	120				
Selenium	9.635	0.50	10.00	0	96.4	80	120				

Sample ID: **N053481-002B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167424**
Client ID: **ZZZZZZ** Batch ID: **96641** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/15/2022** SeqNo: **4929710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	300.368	2.5	100.0	193.3	107	80	120				

Sample ID: **N053481-015B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167424**
Client ID: **ZZZZZZ** Batch ID: **96641** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/15/2022** SeqNo: **4929718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	324.837	2.5	100.0	269.2	55.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Sample Temp: 2.8°c / 3.1°c / 3.8°c
Submitted By: Rigga Top	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Sampled By: Rigga Top		
Signature: Date: 11/8/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 11/8/22		
Project Name: PG&E Topock - PCM			
Project Number: 30121866.4Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) 250 mL poly (NH4)2, SO4, NH4, OH	Nitrite, Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 500mL poly Arsenic, Iron, Barium, Manganese	Dissolved metals (SW6020) FF; HNO3 500mL poly Total Dissolved Chromium,	Dissolved metals (SW6020) FF; HNO3 500mL poly Molybdenum, Selenium	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 125mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Nitrate, (EPA 300.0) 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053481-001	MW-82-046-Q422	11/8/2022	8:20		X		X	X	X	X			X		E	6	P	BNS	
2	-002	MW-82-112-Q422	11/8/2022	8:56		X		X	X	X	X			X		E	9	P	BNS	MSMSD
3	-003	MW-82-168-Q422	11/8/2022	9:40		X		X	X	X	X			X		E	6	P	BNS	
4	-004	MW-921-Q422	11/8/2022	9:50		X		X	X	X	X			X		E	6	P	BNS	
5	-005	MW-82-198-Q422	11/8/2022	10:28		X		X	X	X	X			X		E	6	P	BNS	
6	-006	MW-81-043-Q422	11/8/2022	11:19		X		X	X	X	X			X		E	6	P	BNS	
7	-007	MW-81-098-Q422	11/8/2022	11:42		X		X	X	X	X			X		E	6	P	BNS	
8	-008	MW-44-070-Q422	11/8/2022	12:22		X	X	X	X	X	X	X			X	E	6	P	BNS	
9	-009	MW-44-070-EB-Q422	11/8/2022	12:05		X										E	1	P	BNS	
10	-010	MW-44-115-Q422	11/8/2022	13:06		X	X	X	X	X	X			X		E	6	P	BNS	
11	-011	MW-44-125-Q422	11/8/2022	12:44		X	X	X	X	X	X	X		X		E	6	P	BNS	
12	-012	MW-44-125-EB-Q422	11/8/2022	12:27		X										E	1	P	BNS	
13	-013	EB-711-Q422	11/8/2022	13:16		X														
14																				

Reliquished by (Signature and Printed Name): Rigga Top Date/Time: 11/8/22 1455
Reliquished by (Signature and Printed Name): Dante Ortiz Date/Time: 11/8/22 14:55
Reliquished by (Signature and Printed Name): Dante Ortiz Date/Time: 11/8/22 18:11
Reliquished by (Signature and Printed Name): Dante Ortiz Date/Time: 11/8/22 18:11
Reliquished by (Signature and Printed Name): Date/Time:
Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays= 20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
6. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

Courier: ASSET
Tracking No.:

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tap			Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 11/8/22	Sampled By: Riggie Tap	Global ID:			Regulatory		5. IR number 0
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this samples. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 11/8/22						Sample Temp: 2.8°C / 3.1°C / 3.8°C
Project Number: 30121866.4Q22GW							Courier: ASSET
							Tracking No.:

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrite, Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Nitrate (EPA 300.0) 1 L poly			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053481-014	MW-39-040-Q422	11/8/2022	8:45		X		X	X	X	X			X				E	6	P	BNS	
2	-015	MW-39-050-Q422	11/8/2022	9:49		X		X	X	X	X			X				E	9	P	BNS	MSMSD
3	-016	MW-39-060-Q422	11/8/2022	10:33		X		X	X	X	X			X				E	6	P	BNS	
4	-017	MW-39-070-Q422	11/8/2022	8:16		X		X	X	X	X			X				E	6	P	BNS	
5	-018	MW-39-080-Q422	11/8/2022	9:18		X		X	X	X	X			X				E	6	P	BNS	
6	-019	MW-39-100-Q422	11/8/2022	11:09		X		X	X	X	X			X				E	6	P	BNS	
7	-020	MW-30-030-Q422	11/8/2022	12:57		X		X	X	X	X				X			E	6	P	BNS	
8	-021	MW-30-030-EB-Q422	11/8/2022	13:07		X												E	1	P	BNS	
9	-022	MW-30-050-Q422	11/8/2022	12:20		X		X	X	X	X			X				E	6	P	BNS	
10	-023	EB-712-Q422	11/8/2022	13:30		X												E	1	P	BNS	
11																						
12																						
13																						
14																						

Relinquished by (Signature and Printed Name): Riggie Tap 11/8/22 14:55 Date/Time:
Relinquished by (Signature and Printed Name): Dante Ortiz 11/8/22 14:55 Date/Time:
Relinquished by (Signature and Printed Name): Dante Ortiz 11/8/22 18:11 Date/Time:
Relinquished by (Signature and Printed Name): Dante Ortiz 11/8/22 18:11 Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
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7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

Container Type:

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/8/2022 Workorder: N053481

Rep sample Temp (Deg C): 2.8/3.1/3.8 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: YR EFanegoF 11/9/2022

Reviewed By: for: MBC 11/19/2022

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-001A	MW-82-046-Q422	11/8/2022 8:20:00 AM	11/23/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-001B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-001C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-001D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-002A	MW-82-112-Q422	11/8/2022 8:56:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	INTRANSIT
N053481-002B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053481-002C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053481-002D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053481-003A	MW-82-168-Q422	11/8/2022 9:40:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-003B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-003B	MW-82-168-Q422	11/8/2022 9:40:00 AM	11/23/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-003C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-003D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-004A	MW-921-Q422	11/8/2022 9:50:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-004B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-004C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-004D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-005A	MW-82-198-Q422	11/8/2022 10:28:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-005B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-005C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-005D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-005D	MW-82-198-Q422	11/8/2022 10:28:00 AM	11/23/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-006A	MW-81-043-Q422	11/8/2022 11:19:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-006B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-006C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-006D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-007A	MW-81-098-Q422	11/8/2022 11:42:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-007B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-007C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-007D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-008A	MW-44-070-Q422	11/8/2022 12:22:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-008B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-008B	MW-44-070-Q422	11/8/2022 12:22:00 PM	11/23/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-008C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-008D			11/23/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053481-008E			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-009A	MW-44-070-EB-Q422	11/8/2022 12:05:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-010A	MW-44-115-Q422	11/8/2022 1:06:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-010B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-010C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-010D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-011A	MW-44-125-Q422	11/8/2022 12:44:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-011B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-011C	MW-44-125-Q422	11/8/2022 12:44:00 PM	11/23/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-011D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-011E			11/23/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053481-012A	MW-44-125-EB-Q422	11/8/2022 12:27:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-013A	EB-711-Q422	11/8/2022 1:16:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-014A	MW-39-040-Q422	11/8/2022 8:45:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-014B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-014C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-014D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-015A	MW-39-050-Q422	11/8/2022 9:49:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	INTRANSIT
N053481-015B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053481-015C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-015D	MW-39-050-Q422	11/8/2022 9:49:00 AM	11/23/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053481-016A	MW-39-060-Q422	11/8/2022 10:33:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-016B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-016C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-016D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-017A	MW-39-070-Q422	11/8/2022 8:16:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-017B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-017C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-017D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-018A	MW-39-080-Q422	11/8/2022 9:18:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-018B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-018B	MW-39-080-Q422	11/8/2022 9:18:00 AM	11/23/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-018C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-018D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-019A	MW-39-100-Q422	11/8/2022 11:09:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-019B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-019C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-019D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-020A	MW-30-030-Q422	11/8/2022 12:57:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-020B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053481

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053481-020C	MW-30-030-Q422	11/8/2022 12:57:00 PM	11/23/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-020D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-021A	MW-30-030-EB-Q422	11/8/2022 1:07:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-022A	MW-30-050-Q422	11/8/2022 12:20:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-022B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053481-022C			11/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053481-022D			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053481-023A	EB-712-Q422	11/8/2022 1:30:00 PM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053481-024A	FOLDER	11/23/2022	11/23/2022		Folder	Folder	☐	☐	☐	LAB
			11/23/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/23/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Reggie Tep

09-Nov-22

				Nitrate/Nitrite	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	~~SM4500-NO3F~~		
N053481-008D / MW-44-070-Q422	Groundwater	11/8/2022 12:22:00 PM	8OZP	1		
N053481-011E / MW-44-125-Q422	Groundwater	11/8/2022 12:44:00 PM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53481A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 558181164

		Date/Time		Date/Time
Relinquished by:	YRodriguez	11/9/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

November 28, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053482

RE: PG&E Topock-OMM TCS PWTF, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on November 08, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Iron in QC sample N053481-015BMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria for Iron; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053481-015BMS and N053481-015BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053541-001A-MS and N053541-001A-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *28-Nov-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053482
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053482-001A	Backwash Pre-filter-110822	Water	11/8/2022 8:00:00 AM	11/8/2022	11/28/2022
N053482-001B	Backwash Pre-filter-110822	Water	11/8/2022 8:00:00 AM	11/8/2022	11/28/2022
N053482-001C	Backwash Pre-filter-110822	Water	11/8/2022 8:00:00 AM	11/8/2022	11/28/2022
N053482-002A	Backwash Post-filter-110822	Water	11/8/2022 8:15:00 AM	11/8/2022	11/28/2022
N053482-002B	Backwash Post-filter-110822	Water	11/8/2022 8:15:00 AM	11/8/2022	11/28/2022
N053482-002C	Backwash Post-filter-110822	Water	11/8/2022 8:15:00 AM	11/8/2022	11/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-110822
Lab Order:	N053482	**Collection Date:**	11/8/2022 8:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053482-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	48	13	20		µg/L	1	11/16/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-110822
Lab Order:	N053482	**Collection Date:**	11/8/2022 8:15:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053482-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96644**				PrepDate:	**11/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 05:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96644	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167434
Client ID:	PBW	Batch ID:	96644	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4929853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96644	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167434
Client ID:	LCSW	Batch ID:	96644	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4929854

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.717	20	100.0	0	98.7	85	115				

Sample ID	N053481-002BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96644	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4929859

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.673	20	100.0	16.67	94.0	75	125				

Sample ID	N053481-002BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96644	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4929860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.761	20	100.0	16.67	86.1	75	125	110.7	7.41	20	

Sample ID	N053481-015BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96644	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4929877

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	156.276	20	100.0	33.52	123	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	N053481-015BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96644	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4929878

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.936	20	100.0	33.52	71.4	75	125	156.3	39.3	20	SR

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N053481-002B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **167434**
Client ID:	**ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	103.856	20	100.0	16.67	87.2	80	120				

Sample ID	**N053481-015B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **167434**
Client ID:	**ZZZZZZ**	Batch ID: **96644**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4929876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	142.421	20	100.0	33.52	109	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-110822
Lab Order:	N053482	**Collection Date:**	11/8/2022 8:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053482-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Manganese	41	0.026	0.50		µg/L	1	11/13/2022 09:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-110822
Lab Order:	N053482	**Collection Date:**	11/8/2022 8:15:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053482-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221113B**	QC Batch: **96641**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Manganese	40	0.026	0.50		µg/L	1	11/13/2022 09:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96641	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167345
Client ID:	PBW	Batch ID:	96641	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/13/2022	SeqNo:	4925930

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	LCS-96641	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167345
Client ID:	LCSW	Batch ID:	96641	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/13/2022	SeqNo:	4925931

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	99.509	0.50	100.0	0	99.5	85	115				

Sample ID	N053481-002BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167424
Client ID:	ZZZZZZ	Batch ID:	96641	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4929711

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	313.944	2.5	100.0	193.3	121	75	125				

Sample ID	N053481-002BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167424
Client ID:	ZZZZZZ	Batch ID:	96641	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4929712

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	307.086	2.5	100.0	193.3	114	75	125	313.9	2.21	20	

Sample ID	N053481-015BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167424
Client ID:	ZZZZZZ	Batch ID:	96641	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4929719

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	325.870	2.5	100.0	269.2	56.7	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053481-015BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/11/2022	RunNo:	167424
Client ID:	ZZZZZZ	Batch ID:	96641	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4929720

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	332.956	2.5	100.0	269.2	63.8	75	125	325.9	2.15	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053481-002B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167424**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4929710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	300.368	2.5	100.0	193.3	107	80	120				

Sample ID **N053481-015B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167424**
Client ID: **ZZZZZZ**	Batch ID: **96641**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4929718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	324.837	2.5	100.0	269.2	55.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-110822
Lab Order:	N053482	**Collection Date:**	11/8/2022 8:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053482-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	280	4.5	10		µg/L	50	11/21/2022 05:26 PM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221113A**	QC Batch: **96678**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	370	0.18	5.0		µg/L	5	11/13/2022 04:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-110822
Lab Order:	N053482	**Collection Date:**	11/8/2022 8:15:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053482-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	280	4.5	10		µg/L	50	11/21/2022 05:49 PM
TOTAL METALS BY ICPMS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221113A**	QC Batch: **96678**			PrepDate:	**11/11/2022**		Analyst: **DJ**
Chromium	340	0.18	5.0		µg/L	5	11/13/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID **MB-96678**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167326**
Client ID: **PBW**	Batch ID: **96678**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4924348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **LCS-96678**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167326**
Client ID: **LCSW**	Batch ID: **96678**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4924349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.745	1.0	10.00	0	107	85	115				

Sample ID **N053541-001A-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167326**
Client ID: **ZZZZZZ**	Batch ID: **96678**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4924353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.347	1.0	10.00	23.05	73.0	75	125				S

Sample ID **N053541-001A-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/11/2022**	RunNo: **167326**
Client ID: **ZZZZZZ**	Batch ID: **96678**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**	SeqNo: **4924354**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.036	1.0	10.00	23.05	69.9	75	125	30.35	1.03	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167624	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	LCSW	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID	MB1-R167624	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	PBW	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938740

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053481-018A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.621	1.0						22.61	0.0420	20	

Sample ID	N053481-018A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938743

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.399	1.0	25.00	22.61	99.2	90	110				

Sample ID	N053481-018A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938744

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.475	1.0	25.00	22.61	99.5	90	110	47.40	0.161	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053481-019A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938746

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	501.270	10	250.0	259.7	96.6	90	110				

Sample ID	N053481-020A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938748

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Sample ID	N053481-021A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.054	0.20	1.000	0	105	90	110				

Sample ID	N053481-022A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID	N053481-023A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938756

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053482-001A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	531.055	10	250.0	283.8	98.9	90	110				

Sample ID	N053482-002A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938760

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	526.510	10	250.0	280.8	98.3	90	110				

Sample ID	N053503-009A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938770

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1729.460	40						1727	0.128	20	

Sample ID	N053503-009A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938771

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2758.580	40	1000	1727	103	90	110				

Sample ID	N053503-009A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167624
Client ID:	ZZZZZZ	Batch ID:	R167624	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4938772

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2749.260	40	1000	1727	102	90	110	2759	0.338	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053503-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID **N053503-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1697.320	20	500.0	1193	101	90	110				

Sample ID **N053503-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.270	1.0	25.00	9.860	97.6	90	110				

Sample ID **N053503-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7030.300	200	5000	2264	95.3	90	110				

Sample ID **N053503-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.762	1.0	5.000	0	95.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053503-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.935	0.20	1.000	0	93.5	90	110				

Sample ID **N053503-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.217	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053482
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID **N053541-001A-PS**	SampType: **PS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date:				RunNo: **167326**			
Client ID: **ZZZZZZ**	Batch ID: **96678**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/13/2022**				SeqNo: **4924352**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.141	1.0	10.00	23.05	70.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200	Fax:
Title: otm operator	Phone: 916-786-3302 Fax:		Global ID:
Signature: Date: 11/8/22	Sampled By: Kevin Ashley		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - OMM TCS PWTF	Signature: Date: 11/8/22		
Project Number: 30106892			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact		
4. Seal Present		✓
5. IR number 3		
6. Method of Cooling: Ice		
Sample Temp: 1.8°C		

Courier: ASSET

Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053482-001	Backwash Pre-filter-110822	11/8/22	8Am		X	X	X	E	3	PV	BNS	
2	-002	Backwash Post-filter-110822	11/8/22	815 Am		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Kevin Ashley	11/8/22 1520	Dante Ortiz Dante Ortiz	11/8/22 15:24
Dante Ortiz Dante	11/8/22 18:11	Dante Ortiz Dante Ortiz	11/8/22 18:11

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% NextDay=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/8/2022	Workorder:	N053482
Rep sample Temp (Deg C):	1.8	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: YR EFanegoF 11/9/2022

Reviewed By: for: MBC 11/12/2022

ASSET Laboratories

WORK ORDER Summary

09-Nov-22

WorkOrder: N053482

Client ID: ARCUS02

Project: PG&E Topock-OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 11/8/2022 6:11 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053482-001A	Backwash Pre-filter-110822	11/8/2022 8:00:00 AM	11/23/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053482-001B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053482-001C			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053482-002A	Backwash Post-filter-110822	11/8/2022 8:15:00 AM	11/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053482-002B			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053482-002C			11/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/23/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053482-003A	FOLDER	11/23/2022	11/23/2022		Folder	Folder	☐	☐	☐	LAB
			11/23/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/23/2022		Folder	Folder	☐	☐	☐	LAB

December 01, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053503

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 09, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053503

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia and Nitrate/Nitrite were subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (5.5 ug/L) and hexavalent chromium (0 ug/L) for sample N053503-004 (MW-31-060-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (5.3 ug/L) and hexavalent chromium (0 ug/L) for sample N053503-005 (MW-915-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (1.5 ug/L) and hexavalent chromium (0 ug/L) for sample N053503-006 (MW-31-135-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (13 ug/L) and hexavalent chromium (9.9 ug/L) for sample N053503-011 (MW-78-070-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite as N in QC samples N053503-009DMS and N053503-009DMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Nitrate. However, samples results were either non-detect (ND) or greater than 5x the Method Blank detection therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (5.5 ug/L) and hexavalent chromium (0 ug/L) for sample N053503-004 (MW-31-060-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.6 and 0.25 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (5.3 ug/L) and hexavalent chromium (0 ug/L) for sample N053503-005 (MW-915-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.6 and 0.42 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (1.5 ug/L) and hexavalent chromium (0 ug/L) for sample N053503-006 (MW-31-135-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.5 and 0.9 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (13 ug/L) and hexavalent chromium (9.9 ug/L) for sample N053503-011 (MW-78-070-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 11 and 10 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Barium in QC samples N053503-009BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed

however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053503-009BMS and N053503-009BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053503-009CMS at 1x dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N053503-009C and MS/MSD were reported at 10x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053503
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053503-001A	MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	11/9/2022	12/1/2022
N053503-001B	MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	11/9/2022	12/1/2022
N053503-001C	MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	11/9/2022	12/1/2022
N053503-001D	MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	11/9/2022	12/1/2022
N053503-001E	MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	11/9/2022	12/1/2022
N053503-002A	MW-27-085-EB-Q422	Groundwater	11/9/2022 12:31:00 PM	11/9/2022	12/1/2022
N053503-003A	EB-713-Q422	Groundwater	11/9/2022 1:55:00 PM	11/9/2022	12/1/2022
N053503-004A	MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	11/9/2022	12/1/2022
N053503-004B	MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	11/9/2022	12/1/2022
N053503-004C	MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	11/9/2022	12/1/2022
N053503-004D	MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	11/9/2022	12/1/2022
N053503-004E	MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	11/9/2022	12/1/2022
N053503-005A	MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	11/9/2022	12/1/2022
N053503-005B	MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	11/9/2022	12/1/2022
N053503-005C	MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	11/9/2022	12/1/2022
N053503-005D	MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	11/9/2022	12/1/2022
N053503-005E	MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	11/9/2022	12/1/2022
N053503-006A	MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	12/1/2022
N053503-006B	MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	12/1/2022
N053503-006C	MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	12/1/2022
N053503-006D	MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	12/1/2022
N053503-006E	MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	12/1/2022
N053503-007A	MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	11/9/2022	12/1/2022
N053503-007B	MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	11/9/2022	12/1/2022
N053503-007C	MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	11/9/2022	12/1/2022
N053503-007D	MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	11/9/2022	12/1/2022
N053503-007E	MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	11/9/2022	12/1/2022
N053503-008A	MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	11/9/2022	12/1/2022
N053503-008B	MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	11/9/2022	12/1/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053503
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053503-008C	MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	11/9/2022	12/1/2022
N053503-008D	MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	11/9/2022	12/1/2022
N053503-008E	MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	11/9/2022	12/1/2022
N053503-009A	MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	11/9/2022	12/1/2022
N053503-009B	MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	11/9/2022	12/1/2022
N053503-009C	MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	11/9/2022	12/1/2022
N053503-009D	MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	11/9/2022	12/1/2022
N053503-009E	MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	11/9/2022	12/1/2022
N053503-010A	MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	11/9/2022	12/1/2022
N053503-010B	MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	11/9/2022	12/1/2022
N053503-010C	MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	11/9/2022	12/1/2022
N053503-010D	MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	11/9/2022	12/1/2022
N053503-010E	MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	11/9/2022	12/1/2022
N053503-011A	MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	11/9/2022	12/1/2022
N053503-011B	MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	11/9/2022	12/1/2022
N053503-011C	MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	11/9/2022	12/1/2022
N053503-011D	MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	11/9/2022	12/1/2022
N053503-011E	MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	11/9/2022	12/1/2022
N053503-012A	MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	11/9/2022	12/1/2022
N053503-012B	MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	11/9/2022	12/1/2022
N053503-012C	MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	11/9/2022	12/1/2022
N053503-012D	MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	11/9/2022	12/1/2022
N053503-012E	MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	11/9/2022	12/1/2022
N053503-013A	MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	11/9/2022	12/1/2022
N053503-013B	MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	11/9/2022	12/1/2022
N053503-013C	MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	11/9/2022	12/1/2022
N053503-013D	MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	11/9/2022	12/1/2022
N053503-013E	MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	11/9/2022	12/1/2022
N053503-014A	EB-714-Q422	Groundwater	11/9/2022 2:15:00 PM	11/9/2022	12/1/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/21/2022 06:57 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Dec-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-EB-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:31:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/21/2022 07:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-713-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:55:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/21/2022 08:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 8:17:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/21/2022 09:14 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	5.5	0.035	1.0		µg/L	1	11/15/2022 08:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-005

Client Sample ID: MW-915-Q422
Collection Date: 11/9/2022 8:27:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A** QC Batch: **R167665**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/22/2022 03:08 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	5.3	0.035	1.0		µg/L	1	11/15/2022 08:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A** QC Batch: **R167665**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/22/2022 11:07 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	11/15/2022 08:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:24:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1200	9.0	20		µg/L	100	11/21/2022 10:22 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221117B** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	1200	0.88	25		µg/L	25	11/17/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221122A** QC Batch: **R167665** PrepDate: Analyst: **AD**							
Hexavalent Chromium	1200	18	40		µg/L	200	11/22/2022 04:16 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221117B** QC Batch: **96694** PrepDate: **11/13/2022** Analyst: **DJ**							
Chromium	1300	0.88	25		µg/L	25	11/17/2022 01:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A**	QC Batch: **R167624**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1700	18	40		µg/L	200	11/21/2022 07:43 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	1900	0.88	25		µg/L	25	11/17/2022 01:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	3500	45	100		µg/L	500	11/22/2022 04:39 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	3600	0.88	25		µg/L	25	11/17/2022 02:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	9.9	0.45	1.0		µg/L	5	11/21/2022 11:53 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	13	0.035	1.0		µg/L	1	11/15/2022 09:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-012

Client Sample ID: MW-78-142-Q422
Collection Date: 11/9/2022 1:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121A** QC Batch: **R167624**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	2300	90	200		µg/L	1000	11/22/2022 12:16 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221117B** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	2600	0.88	25		µg/L	25	11/17/2022 02:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-919-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121B**	QC Batch: **R167637**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	2300	18	40		µg/L	200	11/22/2022 02:10 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	2500	0.88	25		µg/L	25	11/17/2022 02:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-714-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 2:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121B**	QC Batch: **R167637**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 02:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96694**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **PBW**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.044	1.0									

Sample ID: **LCS-96694**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **LCSW**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.642	1.0	10.00	0	106	85	115				

Sample ID: **N053503-009BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167500**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/17/2022**	SeqNo: **4932996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1982.780	25	10.00	1895	875	75	125				S

Sample ID: **N053503-009BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167500**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/17/2022**	SeqNo: **4932999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1845.705	25	10.00	1895	-496	75	125	1983	7.16	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167624**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **LCSW**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R167624**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **PBW**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053481-018A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.621	1.0						22.61	0.0420	20	

Sample ID: **N053481-018A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.399	1.0	25.00	22.61	99.2	90	110				

Sample ID: **N053481-018A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.475	1.0	25.00	22.61	99.5	90	110	47.40	0.161	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053481-019A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	501.270	10	250.0	259.7	96.6	90	110				

Sample ID: **N053481-020A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Sample ID: **N053481-021A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.054	0.20	1.000	0	105	90	110				

Sample ID: **N053481-022A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N053481-023A-MS** SampType: **MS** TestCode: **CA_218.6_WP** Units: **µg/L** Prep Date: RunNo: **167624**
Client ID: **ZZZZZZ** Batch ID: **R167624** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4938756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053482-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	531.055	10	250.0	283.8	98.9	90	110				

Sample ID: **N053482-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	526.510	10	250.0	280.8	98.3	90	110				

Sample ID: **N053503-009A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1729.460	40						1727	0.128	20	

Sample ID: **N053503-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2758.580	40	1000	1727	103	90	110				

Sample ID: **N053503-009A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2749.260	40	1000	1727	102	90	110	2759	0.338	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053503-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID: **N053503-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4938784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1697.320	20	500.0	1193	101	90	110				

Sample ID: **N053503-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.270	1.0	25.00	9.860	97.6	90	110				

Sample ID: **N053503-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7030.300	200	5000	2264	95.3	90	110				

Sample ID: **N053503-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.762	1.0	5.000	0	95.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053503-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.935	0.20	1.000	0	93.5	90	110				

Sample ID: **N053503-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167624**
Client ID: **ZZZZZZ**	Batch ID: **R167624**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4938805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.217	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167637**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **LCSW**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.854	0.20	5.000	0	97.1	90	110				

Sample ID: **MB1-R167637**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **PBW**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053504-003A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	120.064	4.0						119.7	0.275	20	

Sample ID: **N053504-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939287**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	221.610	4.0	100.0	119.7	102	90	110				

Sample ID: **N053504-003A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	221.482	4.0	100.0	119.7	102	90	110	221.6	0.0578	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053503-013A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3357.400	40	1000	2346	101	90	110				

Sample ID: **N053503-014A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.931	0.20	1.000	0	93.1	90	110				

Sample ID: **N053504-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	369.975	10	250.0	117.2	101	90	110				

Sample ID: **N053504-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	518.230	10	250.0	258.9	104	90	110				

Sample ID: **N053504-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.067	0.20	1.000	0	107	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R167665**	SampType: **LCS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **LCSW**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940984**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.831	0.20	5.000	0	96.6	90	110				

Sample ID: **MB1-R167665**	SampType: **MBLK**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **PBW**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940985**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053504-002A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	117.246	4.0						117.0	0.179	20	

Sample ID: **N053504-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	216.948	4.0	100.0	117.0	99.9	90	110				

Sample ID: **N053504-002A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	216.006	4.0	100.0	117.0	99.0	90	110	216.9	0.435	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053503-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.260	1.0	5.000	0	105	90	110				

Sample ID: **N053503-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2123.480	40	1000	1174	95.0	90	110				

Sample ID: **N053503-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4940999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6115.250	100	2500	3513	104	90	110				

Sample ID: **N053504-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941003**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.944	0.20	1.000	0	94.4	90	110				

Sample ID: **N053504-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.798	1.0	5.000	0	96.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053504-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID: **N053504-011A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941013**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N053504-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Sample ID: **N053504-011A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941015**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.963	0.20	1.000	0	96.3	90	110	0.9789	1.67	20	

Sample ID: **N053504-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.322	1.0	5.000	0	106	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053504-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941025**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.980	0.20	1.000	0	98.0	90	110				

Sample ID: **N053504-013A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.999	0.20	1.000	0	99.9	90	110				

Sample ID: **N053504-014A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Sample ID: **N053503-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **167665**
Client ID: **ZZZZZZ**	Batch ID: **R167665**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4941033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.218	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053503-009B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167500**
Client ID: **ZZZZZZ** Batch ID: **96694** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/17/2022** SeqNo: **4932995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1996.722	25	10.00	1895	1010	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A**	QC Batch: **R167239**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/10/2022 08:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-004

Client Sample ID: MW-31-060-Q422
Collection Date: 11/9/2022 8:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 10:05 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	420	3.0	25		mg/L	50	11/13/2022 11:07 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 10:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-005

Client Sample ID: MW-915-Q422
Collection Date: 11/9/2022 8:27:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 10:20 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	440	3.0	25		mg/L	50	11/13/2022 12:08 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 10:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 10:36 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	530	6.1	50		mg/L	100	11/13/2022 12:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 10:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:24:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.058	10		mg/L	20	11/10/2022 10:51 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	580	3.0	25		mg/L	50	11/13/2022 12:39 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	30	0.19	1.0		mg/L	20	11/10/2022 10:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-008

Client Sample ID: MW-913-Q422
Collection Date: 11/9/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 11:06 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	560	6.1	50		mg/L	100	11/13/2022 12:54 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	32	0.19	1.0		mg/L	20	11/10/2022 12:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-009

Client Sample ID: MW-20-100-Q422
Collection Date: 11/9/2022 11:18:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 08:33 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	600	6.1	50		mg/L	100	11/13/2022 09:35 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	8.5	0.095	0.50		mg/L	10	11/10/2022 08:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 09:19 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	11/13/2022 01:09 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	14	0.095	0.50		mg/L	10	11/10/2022 09:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 11:22 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	510	6.1	50		mg/L	100	11/13/2022 01:25 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 11:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-012

Client Sample ID: MW-78-142-Q422
Collection Date: 11/9/2022 1:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 11:37 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	710	6.1	50		mg/L	100	11/13/2022 01:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	4.4	0.095	0.50		mg/L	10	11/10/2022 11:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-013

Client Sample ID: MW-919-Q422
Collection Date: 11/9/2022 1:58:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 11:52 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	700	6.1	50		mg/L	100	11/13/2022 01:55 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110A** QC Batch: **R167239**				PrepDate:			Analyst: **RB**
Nitrate as N	4.5	0.095	0.50		mg/L	10	11/10/2022 11:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R167239_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **PBW**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R167239_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **LCSW**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.292	0.50	1.250	0	103	90	110				

Sample ID: **N053476-001EMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.504	1.0	2.500	0	100	80	120				

Sample ID: **N053476-001EMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	2.436	1.0	2.500	0	97.4	80	120	2.504	2.75	20	

Sample ID: **N053476-002EDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	1.0						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **N053503-009DMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	17.237	5.0	12.50	0	138	80	120				S

Sample ID: **N053503-009DMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	18.308	5.0	12.50	0	146	80	120	17.24	6.03	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167321_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **PBW**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R167321_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **LCSW**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.037	0.50	4.000	0	101	90	110				

Sample ID: **N053503-009DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1013.090	50	400.0	602.4	103	80	120				

Sample ID: **N053503-009DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1014.920	50	400.0	602.4	103	80	120	1013	0.180	20	

Sample ID: **N053504-003BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	585.750	25	200.0	367.4	109	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053504-003BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	584.755	25	200.0	367.4	109	80	120	585.8	0.170	20	

Sample ID: **N053503-004DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	425.115	25						424.5	0.135	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167239_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **PBW**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.030	0.050									

Sample ID: **LCS-R167239_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **LCSW**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.312	0.050	1.250	0	105	90	110				

Sample ID: **N053476-001EMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.672	0.10	2.500	0.2296	97.7	80	120				

Sample ID: **N053476-001EMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.551	0.10	2.500	0.2296	92.9	80	120	2.672	4.61	20	

Sample ID: **N053476-002EDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.554	0.10						0.5742	3.54	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053503-009DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	20.714	0.50	12.50	8.461	98.0	80	120				

Sample ID: **N053503-009DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **167239**
Client ID: **ZZZZZZ**	Batch ID: **R167239**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4918846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	21.412	0.50	12.50	8.461	104	80	120	20.71	3.31	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 01:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 8:17:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 04:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-915-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 8:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 05:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 05:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:24:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 05:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.4	10		mg/L	10	11/12/2022 02:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 06:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 06:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-919-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 07:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167327**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **PBW**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167327**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **LCSW**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.176	1.0	5.000	0	104	85	115				

Sample ID: **N053503-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **ZZZZZZ**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	47.454	10	50.00	1.934	91.0	75	125				

Sample ID: **N053503-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **ZZZZZZ**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	47.408	10	50.00	1.934	90.9	75	125	47.45	0.0970	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	290	13	20		µg/L	1	11/16/2022 08:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 8:17:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-915-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 8:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	60	13	20		µg/L	1	11/16/2022 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	530	13	20		µg/L	1	11/16/2022 08:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:24:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 09:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 09:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 09:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 09:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 09:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-919-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 1:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96696**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **PBW**	Batch ID: **96696**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96696**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **LCSW**	Batch ID: **96696**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.638	20	100.0	0	110	85	115				

Sample ID: **N053503-009BMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96696**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.678	20	100.0	0	101	75	125				

Sample ID: **N053503-009BMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96696**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.904	20	100.0	0	95.9	75	125	100.7	4.86	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-001

Client Sample ID: MW-27-085-Q422
Collection Date: 11/9/2022 12:50:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/15/2022 08:05 PM
Barium	50	0.083	1.0		µg/L	1	11/15/2022 08:05 PM
Manganese	300	0.13	2.5		µg/L	5	11/17/2022 12:41 PM
Molybdenum	25	0.12	0.50		µg/L	1	11/15/2022 08:05 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-004

Client Sample ID: MW-31-060-Q422
Collection Date: 11/9/2022 8:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	11/15/2022 08:11 PM
Barium	160	0.083	1.0		µg/L	1	11/15/2022 08:11 PM
Manganese	1700	0.66	12		µg/L	25	11/17/2022 12:46 PM
Molybdenum	1.2	0.12	0.50		µg/L	1	11/15/2022 08:11 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 08:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-915-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 8:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	11/15/2022 08:17 PM
Barium	160	0.083	1.0		µg/L	1	11/15/2022 08:17 PM
Manganese	1700	0.66	12		µg/L	25	11/17/2022 12:52 PM
Molybdenum	1.1	0.12	0.50		µg/L	1	11/15/2022 08:17 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 08:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/15/2022 08:23 PM
Barium	58	0.083	1.0		µg/L	1	11/15/2022 08:23 PM
Manganese	160	0.026	0.50		µg/L	1	11/15/2022 08:23 PM
Molybdenum	45	0.12	0.50		µg/L	1	11/15/2022 08:23 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 08:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 10:24:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	11/15/2022 08:29 PM
Barium	42	0.083	1.0		µg/L	1	11/15/2022 08:29 PM
Manganese	ND	0.026	0.50		µg/L	1	11/15/2022 08:29 PM
Molybdenum	18	0.12	0.50		µg/L	1	11/15/2022 08:29 PM
Selenium	28	0.044	0.50		µg/L	1	11/15/2022 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-008

Client Sample ID: MW-913-Q422
Collection Date: 11/9/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	11/15/2022 08:35 PM
Barium	39	0.083	1.0		µg/L	1	11/15/2022 08:35 PM
Manganese	ND	0.026	0.50		µg/L	1	11/15/2022 08:35 PM
Molybdenum	17	0.12	0.50		µg/L	1	11/15/2022 08:35 PM
Selenium	27	0.044	0.50		µg/L	1	11/15/2022 08:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 11:18:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	0.55	0.050	0.10		µg/L	1	11/17/2022 01:10 PM
Barium	45	0.083	1.0		µg/L	1	11/15/2022 08:41 PM
Manganese	ND	0.026	0.50		µg/L	1	11/15/2022 08:41 PM
Molybdenum	1.9	0.12	0.50		µg/L	1	11/15/2022 08:41 PM
Selenium	15	0.044	0.50		µg/L	1	11/15/2022 08:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q422
Lab Order:	N053503	**Collection Date:**	11/9/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053503-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	0.41	0.050	0.10		µg/L	1	11/17/2022 01:57 PM
Barium	54	0.083	1.0		µg/L	1	11/15/2022 09:41 PM
Manganese	7.8	0.026	0.50		µg/L	1	11/15/2022 09:41 PM
Molybdenum	18	0.12	0.50		µg/L	1	11/15/2022 09:41 PM
Selenium	44	0.044	0.50		µg/L	1	11/15/2022 09:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-011

Client Sample ID: MW-78-070-Q422
Collection Date: 11/9/2022 1:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/15/2022 09:47 PM
Barium	160	0.083	1.0		µg/L	1	11/15/2022 09:47 PM
Manganese	780	0.13	2.5		µg/L	5	11/17/2022 02:15 PM
Molybdenum	5.4	0.12	0.50		µg/L	1	11/15/2022 09:47 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 09:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-012

Client Sample ID: MW-78-142-Q422
Collection Date: 11/9/2022 1:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	2.7	0.050	0.10		µg/L	1	11/15/2022 09:53 PM
Barium	24	0.083	1.0		µg/L	1	11/15/2022 09:53 PM
Manganese	1.2	0.026	0.50		µg/L	1	11/15/2022 09:53 PM
Molybdenum	21	0.12	0.50		µg/L	1	11/15/2022 09:53 PM
Selenium	18	0.044	0.50		µg/L	1	11/15/2022 09:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053503-013

Client Sample ID: MW-919-Q422
Collection Date: 11/9/2022 1:58:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	2.8	0.050	0.10		µg/L	1	11/15/2022 09:59 PM
Barium	24	0.083	1.0		µg/L	1	11/15/2022 09:59 PM
Manganese	0.97	0.026	0.50		µg/L	1	11/15/2022 09:59 PM
Molybdenum	22	0.12	0.50		µg/L	1	11/15/2022 09:59 PM
Selenium	19	0.044	0.50		µg/L	1	11/15/2022 09:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96694**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **PBW**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	0.047	0.50									

Sample ID: **LCS-96694**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **LCSW**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.270	0.10	10.00	0	92.7	85	115				
Barium	9.806	1.0	10.00	0	98.1	85	115				
Manganese	103.050	0.50	100.0	0	103	85	115				
Molybdenum	9.542	0.50	10.00	0	95.4	85	115				
Selenium	9.422	0.50	10.00	0	94.2	85	115				

Sample ID: **N053503-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	52.819	1.0	10.00	45.15	76.7	75	125				
Manganese	109.856	0.50	100.0	0	110	75	125				
Molybdenum	12.231	0.50	10.00	1.941	103	75	125				
Selenium	23.947	0.50	10.00	14.79	91.6	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053503-009BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930384**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	50.922	1.0	10.00	45.15	57.7	75	125	52.82	3.66	20	S
Manganese	98.636	0.50	100.0	0	98.6	75	125	109.9	10.8	20	
Molybdenum	11.744	0.50	10.00	1.941	98.0	75	125	12.23	4.06	20	
Selenium	23.151	0.50	10.00	14.79	83.6	75	125	23.95	3.38	20	

Sample ID: **N053503-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4944081**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.238	0.10	10.00	0.5466	96.9	75	125				

Sample ID: **N053503-009BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4944082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.573	0.10	10.00	0.5466	90.3	75	125	10.24	6.71	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053503
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053503-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930382**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	52.863	1.0	10.00	45.15	77.1	80	120				S
Manganese	102.634	0.50	100.0	0	103	80	120				
Molybdenum	12.016	0.50	10.00	1.941	101	80	120				
Selenium	23.442	0.50	10.00	14.79	86.5	80	120				

Sample ID: **N053503-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4944080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.975	0.10	10.00	0.5466	94.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@crttigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#
Submitted By: Riggie Tap	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:
Title: Field Tech		
Signature: Date: 11/9/22	Sampled By: Riggie Tap	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
Project Name: PG&E Topock - PCM	Signature: Date: 11/9/22	
Project Number: 30121866.4Q22GW		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		✓
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number	3	E3
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 2.9°C, 2.4, 2°C, 2.8°C		

Matrix: Ground | X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053503-001	MW-27-085-Q422	11/9/2022	12:50		X		X	X	X	X	X			X	E	7	P	BNS	
2	-002	MW-27-085-EB-Q422	11/9/2022	12:31		X										E	1	P	BNS	
3	-003	EB-713-Q422	11/9/2022	13:55		X										E	1	P	BNS	
4	-004	MW-31-060-Q422	11/9/2022	8:17		X	X	X	X	X	X		X			E	7	P	BNS	
5	-005	MW-915-Q422	11/9/2022	8:27		X	X	X	X	X	X		X			E	7	P	BNS	
6	-006	MW-31-135-Q422	11/9/2022	9:19		X	X	X	X	X	X		X			E	7	P	BNS	
7	-007	MW-20-070-Q422	11/9/2022	10:24		X	X	X	X	X	X		X			E	7	P	BNS	
8	-008	MW-913-Q422	11/9/2022	10:34		X	X	X	X	X	X		X			E	7	P	BNS	
9	-009	MW-20-100-Q422	11/9/2022	11:18		X	X	X	X	X	X		X			E	7	P	BNS	
10	-010	MW-20-130-Q422	11/9/2022	12:03		X	X	X	X	X	X		X			E	10	P	BNS	MSMSD
11	-011	MW-78-070-Q422	11/9/2022	13:06		X	X	X	X	X	X		X			E	7	P	BNS	
12	-012	MW-78-142-Q422	11/9/2022	13:48		X	X	X	X	X	X		X			E	7	P	BNS	
13	-013	MW-919-Q422	11/9/2022	13:58		X	X	X	X	X	X		X			E	7	P	BNS	
14	-014	EB-714-Q422	11/9/2022	14:15		X							X			E	1	P	BNS	

Courier:

Tracking No.:

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tap	11/9/22 15:13	Dante Ortiz	11/9/22 15:13
Dante Ortiz	11/9/22 18:09	Dante Ortiz	11/9/22 18:09

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	10/9/2022	Workorder:	N053503
Rep sample Temp (Deg C):	2.9/3.1/4.3/2.8	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRodriguez 11/10/2022

Reviewed By: for: MBC 11/19/2022

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053503

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053503-001A	MW-27-085-Q422	11/9/2022 12:50:00 PM	11/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-001B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-001C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-001D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-001E			11/28/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053503-002A	MW-27-085-EB-Q422	11/9/2022 12:31:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-003A	EB-713-Q422	11/9/2022 1:55:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-004A	MW-31-060-Q422	11/9/2022 8:17:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-004B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-004C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-004D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053503

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053503-004E	MW-31-060-Q422	11/9/2022 8:17:00 AM	11/28/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-005A	MW-915-Q422	11/9/2022 8:27:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-005B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-005C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-005D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-005E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-006A	MW-31-135-Q422	11/9/2022 9:19:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-006B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-006C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-006D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053503

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053503-006D	MW-31-135-Q422	11/9/2022 9:19:00 AM	11/28/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-006E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-007A	MW-20-070-Q422	11/9/2022 10:24:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-007B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-007C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-007D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-007E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-008A	MW-913-Q422	11/9/2022 10:34:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-008B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-008C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-008D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053503

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053503-008D	MW-913-Q422	11/9/2022 10:34:00 AM	11/28/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-008E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-009A	MW-20-100-Q422	11/9/2022 11:18:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	INTRANSIT
N053503-009B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053503-009C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053503-009D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053503-009E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☑	☑	SUB
N053503-010A	MW-20-130-Q422	11/9/2022 12:03:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-010B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-010C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053503

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053503-010D	MW-20-130-Q422	11/9/2022 12:03:00 PM	11/28/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-010E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-011A	MW-78-070-Q422	11/9/2022 1:06:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-011B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-011C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-011D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-011E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-012A	MW-78-142-Q422	11/9/2022 1:48:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-012B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053503

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053503-012C	MW-78-142-Q422	11/9/2022 1:48:00 PM	11/28/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-012D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-012E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-013A	MW-919-Q422	11/9/2022 1:58:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-013B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053503-013C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053503-013D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053503-013E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053503-014A	EB-714-Q422	11/9/2022 2:15:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053503-015A	FOLDER	11/28/2022	11/28/2022		Folder	Folder	☐	☐	☐	LAB
			11/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/28/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

10-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D	~~SM4500-NO3F~~ Nitrate/Nitrite	
N053503-001E / MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	8OZP		1	
N053503-004E / MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	8OZP	1		
N053503-005E / MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	8OZP	1		
N053503-006E / MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	8OZP	1		
N053503-007E / MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	8OZP	1		
N053503-008E / MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	8OZP	1		
N053503-009E / MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	8OZP	1 (MS/MSD)		
N053503-010E / MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	8OZP	1		
N053503-011E / MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	8OZP	1		
N053503-012E / MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	8OZP	1		
N053503-013E / MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53503A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500 and Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 558193087

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/10/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2227727

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53503A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Case Narrative

Sample Receipt

Work Order: 2227727
COC Number: N53503A
Cooler 1 was received at 3 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2227727-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-05	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-06	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-07	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-08	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-09	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-10	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-11	SM-4500-NH3G	Ammonia as N (Distilled)

Holding Times

The sample holding time was exceeded.

Lab Number	Method	Analyte
2227727-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-05	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-06	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-07	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-08	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-09	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-10	SM-4500-NH3G	Ammonia as N (Distilled)
2227727-11	SM-4500-NH3G	Ammonia as N (Distilled)

Method Blanks

Lab Number	Method	Analyte		Concentration
B156251-BLK1	SM-4500-NH3G	Ammonia as N (Distilled)	J	0.092300 mg/L

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156251	SM-4500-NH3G	2227727-04	N053503-006E/ MW-31-135-Q422

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Discussion

The client requested sample was not used for QC.

Chain of Custody and Cooler Receipt Form for 2227727 Page 1 of 3

~~11-27727~~ 22-27727

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.a1-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308
TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

10-Nov-22

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D	~~SM4500-NO3F~~ Nitrate/Nitrite	
1	N053503-001E / MW-27-085-Q422	Groundwater	11/9/2022 12:50:00 PM	8OZP		1	
2	N053503-004E / MW-31-060-Q422	Groundwater	11/9/2022 8:17:00 AM	8OZP	1		
3	N053503-005E / MW-915-Q422	Groundwater	11/9/2022 8:27:00 AM	8OZP	1		
4	N053503-006E / MW-31-135-Q422	Groundwater	11/9/2022 9:19:00 AM	8OZP	1		
5	N053503-007E / MW-20-070-Q422	Groundwater	11/9/2022 10:24:00 AM	8OZP	1		
6	N053503-008E / MW-913-Q422	Groundwater	11/9/2022 10:34:00 AM	8OZP	1		
7	N053503-009E / MW-20-100-Q422	Groundwater	11/9/2022 11:18:00 AM	8OZP	1 (MS/MSD)		
8	N053503-010E / MW-20-130-Q422	Groundwater	11/9/2022 12:03:00 PM	8OZP	1		
9	N053503-011E / MW-78-070-Q422	Groundwater	11/9/2022 1:06:00 PM	8OZP	1		
10	N053503-012E / MW-78-142-Q422	Groundwater	11/9/2022 1:48:00 PM	8OZP	1		
11	N053503-013E / MW-919-Q422	Groundwater	11/9/2022 1:58:00 PM	8OZP	1		

Preserved with H2SO4

CHK BY TJC DISTRIBUTION SUB-OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53503A. Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500 and Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 558193087

	Date/Time		Date/Time
Relinquished by: YRodriguez	11/10/2022 1630	Received by:	11-11-22 1620
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2227727 Page 2 of 3

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 2

Submission #: 22-27727

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐ Pace Lab Field Service ☐ Other ☐ (Specify)____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)____	YES ☐ NO ☒ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 11-11-22

Temperature: (A) 3.1 °C / (C) 3.0 °C Analyst Init SMH 1020

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS 982	A	A	A	A	A	A	A	A	A	A
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: 361 Date/Time: 11/18/22 @ 1415

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\MP\Doc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 23]

Chain of Custody and Cooler Receipt Form for 2227727 Page 3 of 3

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 2 Of 2

Submission #: 22-27727

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐ Pace Lab Field Service ☐ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☐ NO ☒ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 11-11-22

Temperature: (A) 3.1 °C / (C) 3.0 °C Analyst Init SMH 1020

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS SDL	A									
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: TCI Date/Time: 11/18/22 @ 1415

A = Actual / C = Corrected

Rev 23 05/20/22

(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 23)

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2227727**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2227727
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053503-004E/ MW-31-060-Q422	2227727-02
N053503-005E/ MW-915-Q422	2227727-03
N053503-006E/ MW-31-135-Q422	2227727-04
N053503-007E/ MW-20-070-Q422	2227727-05
N053503-008E/ MW-913-Q422	2227727-06
N053503-009E/ MW-20-100-Q422	2227727-07
N053503-010E/ MW-20-130-Q422	2227727-08
N053503-011E/ MW-78-070-Q422	2227727-09
N053503-012E/ MW-78-142-Q422	2227727-10
N053503-013E/ MW-919-Q422	2227727-11

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-03-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-004E/ MW-31-060-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-02
File ID: 20221219003-NH3-038
Sampled: 11/09/22 08:17
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:14
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.74 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.75	2.19	D	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-005E/ MW-915-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-03
File ID: 20221219003-NH3-039
Sampled: 11/09/22 08:27
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:15
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.74 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.47	2.19	D	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-006E/ MW-31-135-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-04
File ID: 20221219003-NH3-025
Sampled: 11/09/22 09:19
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:03
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.76 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.40	2.17	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-007E/ MW-20-070-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-05
File ID: 20221219003-NH3-031
Sampled: 11/09/22 10:24
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:08
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.74 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.38	2.19	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-008E/ MW-913-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-06
File ID: 20221219003-NH3-032
Sampled: 11/09/22 10:34
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:08
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.73 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.40	2.2	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-009E/ MW-20-100-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-07
File ID: 20221219003-NH3-033
Sampled: 11/09/22 11:18
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:10
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.75 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.35	2.18	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-010E/ MW-20-130-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-08
File ID: 20221219003-NH3-034
Sampled: 11/09/22 12:03
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:10
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.74 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.39	2.19	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-011E/ MW-78-070-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-09
File ID: 20221219003-NH3-035
Sampled: 11/09/22 13:06
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:12
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.77 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.36	2.17	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053503-012E/ MW-78-142-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-10
File ID: 20221219003-NH3-036
Sampled: 11/09/22 13:48
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:12
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.73 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.38	2.2	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N053503-013E/ MW-919-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227727-11
File ID: 20221219003-NH3-037
Sampled: 11/09/22 13:58
Prepared: 12/19/22 08:45
Analyzed: 12/19/22 14:13
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.73 ml / 6 ml
Batch: B156251
Sequence: 2223430
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.35	2.2	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156251
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053503-004E/ MW-31-060-Q422	2227727-02	20221219003-NH3-038	12/19/22 08:45	
N053503-005E/ MW-915-Q422	2227727-03	20221219003-NH3-039	12/19/22 08:45	
N053503-006E/ MW-31-135-Q422	2227727-04	20221219003-NH3-025	12/19/22 08:45	
N053503-007E/ MW-20-070-Q422	2227727-05	20221219003-NH3-031	12/19/22 08:45	
N053503-008E/ MW-913-Q422	2227727-06	20221219003-NH3-032	12/19/22 08:45	
N053503-009E/ MW-20-100-Q422	2227727-07	20221219003-NH3-033	12/19/22 08:45	
N053503-010E/ MW-20-130-Q422	2227727-08	20221219003-NH3-034	12/19/22 08:45	
N053503-011E/ MW-78-070-Q422	2227727-09	20221219003-NH3-035	12/19/22 08:45	
N053503-012E/ MW-78-142-Q422	2227727-10	20221219003-NH3-036	12/19/22 08:45	
N053503-013E/ MW-919-Q422	2227727-11	20221219003-NH3-037	12/19/22 08:45	
Blank	B156251-BLK1	20221219003-NH3-024	12/19/22 08:45	
LCS	B156251-BS1	20221219003-NH3-023	12/19/22 08:45	
N053503-006E/ MW-31-135-Q422	B156251-DUP1	20221219003-NH3-026	12/19/22 08:45	
N053503-006E/ MW-31-135-Q422	B156251-MS1	20221219003-NH3-027	12/19/22 08:45	
N053503-006E/ MW-31-135-Q422	B156251-MSD1	20221219003-NH3-030	12/19/22 08:45	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2227727	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156251-BLK1	File ID:	20221219003-NH3-024
Prepared:	12/19/22 08:45	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	12/19/22 14:01	Instrument:	SC-1		
Batch:	B156251	Sequence:	2223430	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.092300	J

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

503-006E/ MW-31-135-

DUPLICATES
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156251
Preparation: No Prep
Source Sample Name: N053503-006E/ MW-31-135-Q422

SDG: 2227727
Project: Level IV + labSpec7
Laboratory ID: B156251-DUP1
Lab Source ID: 2227727-04
Initial/Final: 2.76 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	0.40196		0.41261		2.62		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

N053503-006E/ MW-31-135-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156251
Laboratory ID: B156251-MS1
Preparation: No Prep
Initial/Final: 2.48 ml / 6 ml
Source Sample Number: 2227727-04

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	4.8387	0.40196	5.2815	101	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	4.8387	5.2227	99.6	1.12	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156251
Laboratory ID: B156251-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	2.0643	103	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Sequence: 2223430
Instrument: SC-1
Matrix: Water
Calibration: UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	2223430-CCV2	20221219003-NH3-016	12/19/22 13:54
Calibration Blank	2223430-CCB2	20221219003-NH3-017	12/19/22 13:55
LCS	B156251-BS1	20221219003-NH3-023	12/19/22 14:01
Blank	B156251-BLK1	20221219003-NH3-024	12/19/22 14:01
N053503-006E/ MW-31-135-Q422	2227727-04	20221219003-NH3-025	12/19/22 14:03
N053503-006E/ MW-31-135-Q422	B156251-DUP1	20221219003-NH3-026	12/19/22 14:03
N053503-006E/ MW-31-135-Q422	B156251-MS1	20221219003-NH3-027	12/19/22 14:04
Calibration Check	2223430-CCV3	20221219003-NH3-028	12/19/22 14:05
Calibration Blank	2223430-CCB3	20221219003-NH3-029	12/19/22 14:06
N053503-006E/ MW-31-135-Q422	B156251-MSD1	20221219003-NH3-030	12/19/22 14:07
N053503-007E/ MW-20-070-Q422	2227727-05	20221219003-NH3-031	12/19/22 14:08
N053503-008E/ MW-913-Q422	2227727-06	20221219003-NH3-032	12/19/22 14:08
N053503-009E/ MW-20-100-Q422	2227727-07	20221219003-NH3-033	12/19/22 14:10
N053503-010E/ MW-20-130-Q422	2227727-08	20221219003-NH3-034	12/19/22 14:10
N053503-011E/ MW-78-070-Q422	2227727-09	20221219003-NH3-035	12/19/22 14:12
N053503-012E/ MW-78-142-Q422	2227727-10	20221219003-NH3-036	12/19/22 14:12
N053503-013E/ MW-919-Q422	2227727-11	20221219003-NH3-037	12/19/22 14:13
N053503-004E/ MW-31-060-Q422	2227727-02	20221219003-NH3-038	12/19/22 14:14
N053503-005E/ MW-915-Q422	2227727-03	20221219003-NH3-039	12/19/22 14:15
Calibration Check	2223430-CCV4	20221219003-NH3-040	12/19/22 14:16
Calibration Blank	2223430-CCB4	20221219003-NH3-041	12/19/22 14:17

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Sequence: 2223430

SDG: 2227727
Project: Level IV + labSpec7
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223430-CCB2	Ammonia as N (Distilled)	0.074700	0.20	mg/L		SM-4500-NH3G
2223430-CCB3	Ammonia as N (Distilled)	0.069800	0.20	mg/L		SM-4500-NH3G
2223430-CCB4	Ammonia as N (Distilled)	0.072800	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2227727
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223430

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223430-CCV2	Ammonia as N (Distilled)	2.0000	2.0679	103	mg/L	SM-4500-NH3G
2223430-CCV3	Ammonia as N (Distilled)	2.0000	2.1185	106	mg/L	SM-4500-NH3G
2223430-CCV4	Ammonia as N (Distilled)	2.0000	2.1361	107	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227727
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053503-004E/ MW-31-060-Q422	11/09/22 08:17	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:14	40.00	28.00	*
N053503-005E/ MW-915-Q422	11/09/22 08:27	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:15	40.00	28.00	*
N053503-006E/ MW-31-135-Q422	11/09/22 09:19	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:03	40.00	28.00	*
N053503-007E/ MW-20-070-Q422	11/09/22 10:24	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:08	40.00	28.00	*
N053503-008E/ MW-913-Q422	11/09/22 10:34	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:08	40.00	28.00	*
N053503-009E/ MW-20-100-Q422	11/09/22 11:18	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:10	40.00	28.00	*
N053503-010E/ MW-20-130-Q422	11/09/22 12:03	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:10	40.00	28.00	*
N053503-011E/ MW-78-070-Q422	11/09/22 13:06	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:12	40.00	28.00	*
N053503-012E/ MW-78-142-Q422	11/09/22 13:48	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:12	40.00	28.00	*
N053503-013E/ MW-919-Q422	11/09/22 13:58	11/11/22 10:20	12/19/22 08:45	40.00	28.00	12/19/22 14:13	40.00	28.00	*

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0589**	**0.00**	**1:41:29 PM**
DIL-1	**RBL**	**0.0000**	**0.0591**	**0.00**	**1:41:47 PM**
DIL-1	**RBL**	**0.0000**	**0.0588**	**0.00**	**1:43:17 PM**
ST-2	**^CCV (2 mg/L)**	**2.0698**	**0.3282**	**103.49**	**1:43:35 PM**
R-5	**~CCB (0 mg/L)**	**0.0668**	**-0.0008**	**0.00**	**1:45:05 PM**
3	**B156162-BS1**	**2.0625**	**0.3270**	**0.00**	**1:45:23 PM**
4	**B156162-BLK1**	**0.1149**	**0.0071**	**0.00**	**1:46:53 PM**
5	**2226883-01**	**0.4072**	**0.0552**	**0.00**	**1:47:11 PM**
6	**B156162-DUP1**	**0.4029**	**0.0545**	**0.00**	**1:48:41 PM**
7	**B156162-MS1**	**2.2031**	**0.3501**	**0.00**	**1:48:59 PM**
8	**B156162-MSD1**	**2.3085**	**0.3674**	**0.00**	**1:50:29 PM**
9	**2226883-02**	**0.4151**	**0.0565**	**0.00**	**1:50:47 PM**
10	**2226883-03**	**0.1380**	**0.0110**	**0.00**	**1:52:17 PM**
11	**2227718-01**	**0.1429**	**0.0118**	**0.00**	**1:52:35 PM**
12	**2227718-02**	**0.2032**	**0.0217**	**0.00**	**1:54:06 PM**
ST-2	**^CCV (2 mg/L)**	**2.0679**	**0.3279**	**103.40**	**1:54:23 PM**
R-5	**~CCB (0 mg/L)**	**0.0747**	**0.0005**	**0.00**	**1:55:54 PM**
13	**2227718-03**	**0.2032**	**0.0217**	**0.00**	**1:56:12 PM**
14	**2227718-04**	**0.1404**	**0.0114**	**0.00**	**1:57:42 PM**
15	**2227718-05**	**0.1301**	**0.0096**	**0.00**	**1:58:00 PM**
16	**2224647-02RE1**	**1.2902**	**0.2002**	**0.00**	**1:59:30 PM**
17	**2224647-05RE1**	**1.7781**	**0.2803**	**0.00**	**1:59:48 PM**
18	**B156251-BS1**	**2.0643**	**0.3273**	**0.00**	**2:01:18 PM**
19	**B156251-BLK1**	**0.0923**	**0.0034**	**0.00**	**2:01:36 PM**
20	**2227727-04**	**0.1849**	**0.0187**	**0.00**	**2:03:06 PM**
21	**B156251-DUP1**	**0.1898**	**0.0195**	**0.00**	**2:03:24 PM**
22	**B156251-MS1**	**2.1830**	**0.3468**	**0.00**	**2:04:54 PM**
ST-2	**^CCV (2 mg/L)**	**2.1185**	**0.3362**	**105.92**	**2:05:12 PM**
R-5	**~CCB (0 mg/L)**	**0.0698**	**-0.0003**	**0.00**	**2:06:42 PM**
23	**B156251-MSD1**	**2.1587**	**0.3428**	**0.00**	**2:07:00 PM**
24	**2227727-05**	**0.1721**	**0.0166**	**0.00**	**2:08:30 PM**
25	**2227727-06**	**0.1812**	**0.0181**	**0.00**	**2:08:48 PM**
26	**2227727-07**	**0.1611**	**0.0148**	**0.00**	**2:10:18 PM**
27	**2227727-08**	**0.1770**	**0.0174**	**0.00**	**2:10:36 PM**
28	**2227727-09**	**0.1678**	**0.0159**	**0.00**	**2:12:06 PM**
29	**2227727-10**	**0.1739**	**0.0169**	**0.00**	**2:12:24 PM**

Report Date :12/19/2022 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219003**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
30	**2227727-11**	**0.1599**	**0.0146**	**0.00**	**2:13:54 PM**
31	**2227727-02**	**0.3420**	**0.0445**	**0.00**	**2:14:12 PM**
32	**2227727-03**	**0.2141**	**0.0235**	**0.00**	**2:15:42 PM**
ST-2	**^CCV (2 mg/L)**	**2.1361**	**0.3391**	**106.81**	**2:16:00 PM**
R-5	**~CCB (0 mg/L)**	**0.0728**	**0.0002**	**0.00**	**2:17:30 PM**

Report Date :12/19/2022 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219003**

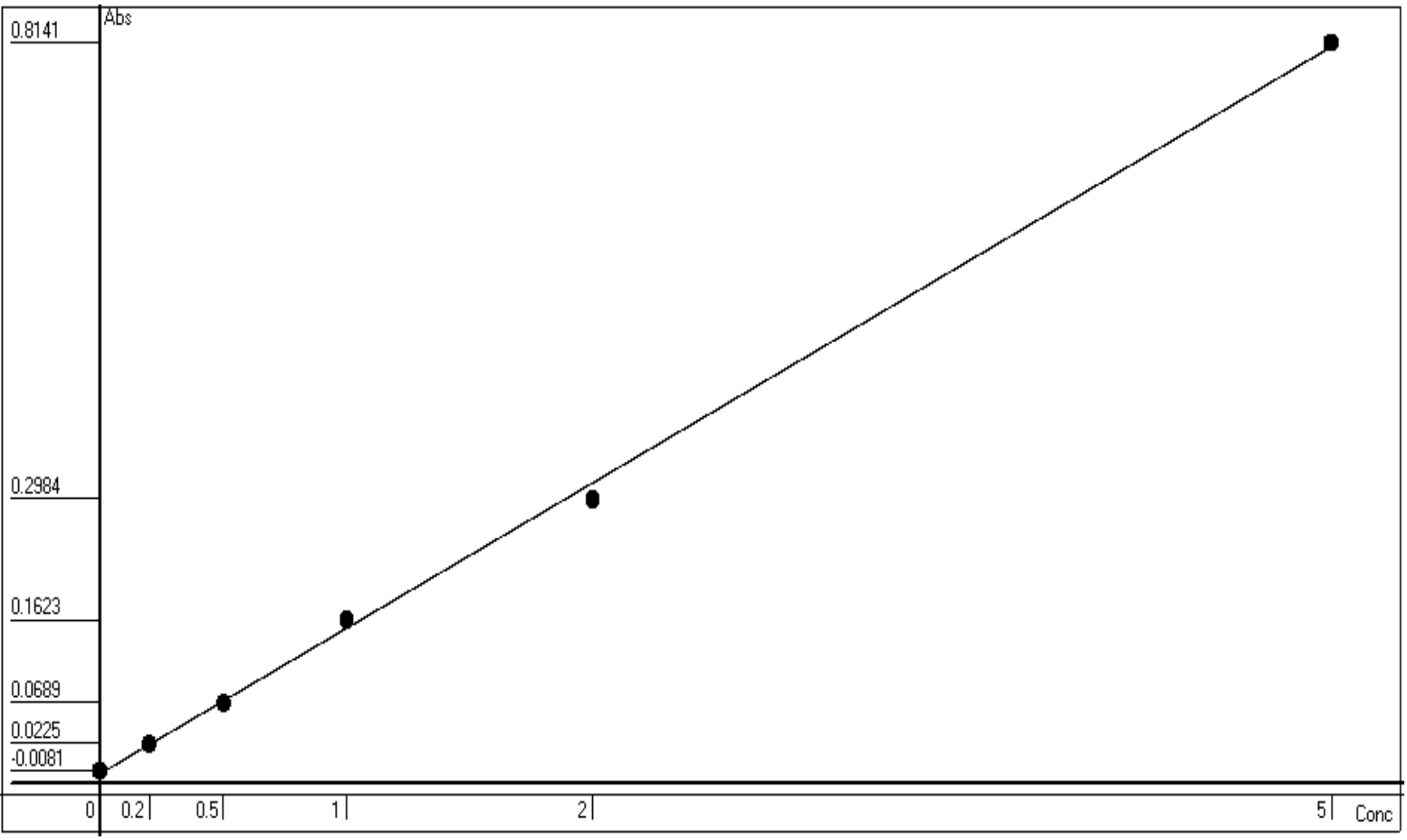
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221219003 Description : [NH3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0081	0	0.0220	2.20
2	0.0225	0.2	0.2083	4.15
3	0.0689	0.5	0.4909	-1.82
4	0.1623	1	1.0597	5.97
5	0.2984	2	1.8886	-5.57
6	0.8141	5	5.0292	0.58

Conc= +6.09*Abso +0.0713 R^2=0.9990

RBL

Report Date 12/19/2022 Run Date 12/19/2022

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156251

BC Laboratories

Printed: 1/3/2023 1:29:52PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2227727-02 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.74	6					
2227727-03 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.74	6					
2227727-04 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.76	6					
2227727-05 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.74	6					
2227727-06 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.73	6					
2227727-07 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.75	6					
2227727-08 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.74	6					
2227727-09 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.77	6					
2227727-10 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.73	6					
2227727-11 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 8:45AM	AKC	2.73	6					
B156251-BLK1	QC	12/19/2022 8:45AM	AKC	6	6					
B156251-BS1	QC	12/19/2022 8:45AM	AKC	6	6	2J06023		600		
B156251-DUP1	QC	12/19/2022 8:45AM	AKC	2.76	6		2227727-04			
B156251-MS1	QC	12/19/2022 8:45AM	AKC	2.48	6	2J06023	2227727-04	600		
B156251-MSD1	QC	12/19/2022 8:45AM	AKC	2.48	6	2J06023	2227727-04	600		

Spike Mixes	Description	Solvent	Prepared	Expires
2J06023	NH3-N STD 20 SPIKE WATER	DI	10/5/2022 1 by zzzManpreet Br	1/5/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223430

Instrument: SC-1
Calibration ID:
Sequence Date: 12/19/2022
Printed: 1/3/2023 1:29:52PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223430-CCV1	QC		1		2J06022		
2223430-CCB1	QC		2				
B156162-BS1	QC		3				
B156162-BLK1	QC		4				
2226883-01	i350.1w Ammonia as N	J	5				
2226883-01	im350.1w Ammonia as N	J	6				
2226883-01	iSM4500NH3Gw Dist NH3 as N	J	7				
B156162-DUP1	QC		8				
B156162-MS1	QC		9				
B156162-MSD1	QC		10				
2226883-02	im350.1w Ammonia as N	J	11				
2226883-03	im350.1w Ammonia as N	J	12				
2227718-01	iSM4500NH3Gw Dist NH3 as N	A	13				
2227718-02	iSM4500NH3Gw Dist NH3 as N	A	14				
2223430-CCV2	QC		15		2J06022		
2223430-CCB2	QC		16				
2227718-03	iSM4500NH3Gw Dist NH3 as N	A	17				
2227718-04	iSM4500NH3Gw Dist NH3 as N	A	18				
2227718-05	iSM4500NH3Gw Dist NH3 as N	A	19				
2224647-02RE1	i350.1w Ammonia as N	C	20				
2224647-05RE1	i350.1w Ammonia as N	C	21				
B156251-BS1	QC		22				
B156251-BLK1	QC		23				
2227727-04	iSM4500NH3Gw Dist NH3 as N	A	24				
B156251-DUP1	QC		25				
B156251-MS1	QC		26				
2223430-CCV3	QC		27		2J06022		
2223430-CCB3	QC		28				
B156251-MSD1	QC		29				
2227727-05	iSM4500NH3Gw Dist NH3 as N	A	30				
2227727-06	iSM4500NH3Gw Dist NH3 as N	A	31				
2227727-07	iSM4500NH3Gw Dist NH3 as N	A	32				
2227727-08	iSM4500NH3Gw Dist NH3 as N	A	33				
2227727-09	iSM4500NH3Gw Dist NH3 as N	A	34				
2227727-10	iSM4500NH3Gw Dist NH3 as N	A	35				
2227727-11	iSM4500NH3Gw Dist NH3 as N	A	36				
2227727-02	iSM4500NH3Gw Dist NH3 as N	A	37				
2227727-03	iSM4500NH3Gw Dist NH3 as N	A	38				
2223430-CCV4	QC		39		2J06022		

ANALYSIS SEQUENCE

2223430

Instrument: SC-1
Calibration ID:
Sequence Date: 12/19/2022
Printed: 1/3/2023 1:29:52PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223430-CCB4	QC		40				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:52PM
Project: Level IV + labSpec7
Project Number: N53503A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

November 29, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053504

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 09, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia and Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitite as N in QC samples N053504-003BMS and N053504-003BMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Barium in QC sample N053503-009BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053504-003C-MS, N053504-003C-MSD, N053503-009BMS, and N053503-009BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053503-009CMS possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N053503-009C and MS/MSD were reported at 10x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N053504-003DMS possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N053504-003D and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *29-Nov-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053504
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053504-001A	TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	11/9/2022	11/29/2022
N053504-001B	TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	11/9/2022	11/29/2022
N053504-001C	TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	11/9/2022	11/29/2022
N053504-001D	TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	11/9/2022	11/29/2022
N053504-001E	TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	11/9/2022	11/29/2022
N053504-002A	MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	11/9/2022	11/29/2022
N053504-002B	MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	11/9/2022	11/29/2022
N053504-002C	MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	11/9/2022	11/29/2022
N053504-002D	MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	11/9/2022	11/29/2022
N053504-002E	MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	11/9/2022	11/29/2022
N053504-003A	TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	11/9/2022	11/29/2022
N053504-003B	TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	11/9/2022	11/29/2022
N053504-003C	TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	11/9/2022	11/29/2022
N053504-003D	TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	11/9/2022	11/29/2022
N053504-003E	TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	11/9/2022	11/29/2022
N053504-004A	TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	11/9/2022	11/29/2022
N053504-004B	TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	11/9/2022	11/29/2022
N053504-004C	TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	11/9/2022	11/29/2022
N053504-004D	TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	11/9/2022	11/29/2022
N053504-004E	TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	11/9/2022	11/29/2022
N053504-005A	MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	11/29/2022
N053504-005B	MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	11/29/2022
N053504-005C	MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	11/29/2022
N053504-005D	MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	11/29/2022
N053504-005E	MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	11/9/2022	11/29/2022
N053504-006A	MW-34-055-EB-Q422	Groundwater	11/9/2022 9:02:00 AM	11/9/2022	11/29/2022
N053504-007A	MW-34-080-Q422	Groundwater	11/9/2022 8:55:00 AM	11/9/2022	11/29/2022
N053504-007B	MW-34-080-Q422	Groundwater	11/9/2022 8:55:00 AM	11/9/2022	11/29/2022
N053504-007C	MW-34-080-Q422	Groundwater	11/9/2022 8:55:00 AM	11/9/2022	11/29/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053504
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053504-007D	MW-34-080-Q422	Groundwater	11/9/2022 8:55:00 AM	11/9/2022	11/29/2022
N053504-008A	MW-34-080-EB-Q422	Groundwater	11/9/2022 8:38:00 AM	11/9/2022	11/29/2022
N053504-009A	MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	11/9/2022	11/29/2022
N053504-009B	MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	11/9/2022	11/29/2022
N053504-009C	MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	11/9/2022	11/29/2022
N053504-009D	MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	11/9/2022	11/29/2022
N053504-009E	MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	11/9/2022	11/29/2022
N053504-010A	MW-45-095a-Q422	Groundwater	11/9/2022 1:45:00 PM	11/9/2022	11/29/2022
N053504-010B	MW-45-095a-Q422	Groundwater	11/9/2022 1:45:00 PM	11/9/2022	11/29/2022
N053504-010C	MW-45-095a-Q422	Groundwater	11/9/2022 1:45:00 PM	11/9/2022	11/29/2022
N053504-010D	MW-45-095a-Q422	Groundwater	11/9/2022 1:45:00 PM	11/9/2022	11/29/2022
N053504-011A	MW-27-020-Q422	Groundwater	11/9/2022 1:15:00 PM	11/9/2022	11/29/2022
N053504-011B	MW-27-020-Q422	Groundwater	11/9/2022 1:15:00 PM	11/9/2022	11/29/2022
N053504-011C	MW-27-020-Q422	Groundwater	11/9/2022 1:15:00 PM	11/9/2022	11/29/2022
N053504-011D	MW-27-020-Q422	Groundwater	11/9/2022 1:15:00 PM	11/9/2022	11/29/2022
N053504-012A	MW-27-020-EB-Q422	Groundwater	11/9/2022 12:58:00 PM	11/9/2022	11/29/2022
N053504-013A	MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	11/9/2022	11/29/2022
N053504-013B	MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	11/9/2022	11/29/2022
N053504-013C	MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	11/9/2022	11/29/2022
N053504-013D	MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	11/9/2022	11/29/2022
N053504-013E	MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	11/9/2022	11/29/2022
N053504-014A	MW-27-060-EB-Q422	Groundwater	11/9/2022 12:10:00 PM	11/9/2022	11/29/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121B**	QC Batch: **R167637**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	120	4.5	10		µg/L	50	11/22/2022 02:56 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	130	0.035	1.0		µg/L	1	11/15/2022 10:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-922-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	120	1.8	4.0		µg/L	20	11/22/2022 02:22 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	130	0.035	1.0		µg/L	1	11/15/2022 10:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121B**	QC Batch: **R167637**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	120	1.8	4.0		µg/L	20	11/22/2022 01:25 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	130	0.035	1.0		µg/L	1	11/15/2022 11:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221121B**	QC Batch: **R167637**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	260	4.5	10		µg/L	50	11/22/2022 08:50 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	270	0.18	5.0		µg/L	5	11/17/2022 02:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221121B** QC Batch: **R167637**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 09:14 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 10:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-EB-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 9:02:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 05:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221122A** QC Batch: **R167665**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/22/2022 06:33 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 10:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-EB-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:38:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221123A**	QC Batch: **R167676**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/23/2022 03:47 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115C**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 10:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	11/22/2022 09:13 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115C**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 10:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A** QC Batch: **R167665**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 07:19 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 11:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-EB-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 09:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:28:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A** QC Batch: **R167665**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 09:59 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96694**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/15/2022 11:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-EB-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221122A**	QC Batch: **R167665**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	11/22/2022 10:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96694	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167438
Client ID:	PBW	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.044	1.0									

Sample ID	LCS-96694	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167438
Client ID:	LCSW	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930218

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.642	1.0	10.00	0	106	85	115				

Sample ID	N053503-009BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167500
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4932996

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1982.780	25	10.00	1895	875	75	125				S

Sample ID	N053503-009BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167500
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4932999

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1845.705	25	10.00	1895	-496	75	125	1983	7.16	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96695	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167438		
Client ID:	PBW	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930253		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	ND	1.0											

Sample ID	LCS-96695	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167438		
Client ID:	LCSW	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930254		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	10.653	1.0	10.00	0	107	85	115						

Sample ID	N053504-003CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167438		
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4930258		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	130.968	1.0	10.00	127.4	35.7	75	125				S		

Sample ID	N053504-003CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167438		
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4930259		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chromium	143.713	1.0	10.00	127.4	163	75	125	131.0	9.28	20	S		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167637	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167637
Client ID:	LCSW	Batch ID:	R167637	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4939281

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.854	0.20	5.000	0	97.1	90	110				

Sample ID	MB1-R167637	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167637
Client ID:	PBW	Batch ID:	R167637	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4939282

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053504-003A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167637
Client ID:	ZZZZZZ	Batch ID:	R167637	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4939286

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	120.064	4.0						119.7	0.275	20	

Sample ID	N053504-003A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167637
Client ID:	ZZZZZZ	Batch ID:	R167637	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4939287

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	221.610	4.0	100.0	119.7	102	90	110				

Sample ID	N053504-003A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167637
Client ID:	ZZZZZZ	Batch ID:	R167637	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4939288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	221.482	4.0	100.0	119.7	102	90	110	221.6	0.0578	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053503-013A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3357.400	40	1000	2346	101	90	110				

Sample ID **N053503-014A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.931	0.20	1.000	0	93.1	90	110				

Sample ID **N053504-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	369.975	10	250.0	117.2	101	90	110				

Sample ID **N053504-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	518.230	10	250.0	258.9	104	90	110				

Sample ID **N053504-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **167637**
Client ID: **ZZZZZZ**	Batch ID: **R167637**	TestNo: **EPA 218.6**		Analysis Date: **11/22/2022**	SeqNo: **4939303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.067	0.20	1.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167665	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	LCSW	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.831	0.20	5.000	0	96.6	90	110				

Sample ID	MB1-R167665	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	PBW	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940985

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053504-002A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	117.246	4.0						117.0	0.179	20	

Sample ID	N053504-002A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940988

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	216.948	4.0	100.0	117.0	99.9	90	110				

Sample ID	N053504-002A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940989

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	216.006	4.0	100.0	117.0	99.0	90	110	216.9	0.435	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053503-005A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940991

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.260	1.0	5.000	0	105	90	110				

Sample ID	N053503-008A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940997

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2123.480	40	1000	1174	95.0	90	110				

Sample ID	N053503-010A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4940999

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6115.250	100	2500	3513	104	90	110				

Sample ID	N053504-006A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941003

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.944	0.20	1.000	0	94.4	90	110				

Sample ID	N053504-007A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941009

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.798	1.0	5.000	0	96.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053504-008A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941011

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID	N053504-011A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941013

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID	N053504-011A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941014

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Sample ID	N053504-011A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941015

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.963	0.20	1.000	0	96.3	90	110	0.9789	1.67	20	

Sample ID	N053504-010A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941023

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.322	1.0	5.000	0	106	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053504-012A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941025

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.980	0.20	1.000	0	98.0	90	110				

Sample ID	N053504-013A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941027

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.999	0.20	1.000	0	99.9	90	110				

Sample ID	N053504-014A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941029

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Sample ID	N053503-006A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167665
Client ID:	ZZZZZZ	Batch ID:	R167665	TestNo:	EPA 218.6			Analysis Date:	11/22/2022	SeqNo:	4941033

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.218	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R167676	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167676		
Client ID:	LCSW	Batch ID:	R167676	TestNo:	EPA 218.6			Analysis Date:	11/23/2022	SeqNo:	4941551		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.887	0.20	5.000	0	97.7	90	110						

Sample ID	MB1-R167676	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167676		
Client ID:	PBW	Batch ID:	R167676	TestNo:	EPA 218.6			Analysis Date:	11/23/2022	SeqNo:	4941553		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053752-001B-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167676		
Client ID:	ZZZZZZ	Batch ID:	R167676	TestNo:	EPA 218.6			Analysis Date:	11/23/2022	SeqNo:	4941555		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	92.225	2.0						91.96	0.291	20			

Sample ID	N053752-001B-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167676		
Client ID:	ZZZZZZ	Batch ID:	R167676	TestNo:	EPA 218.6			Analysis Date:	11/23/2022	SeqNo:	4941558		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	142.497	2.0	50.00	91.96	101	90	110						

Sample ID	N053752-001B-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167676		
Client ID:	ZZZZZZ	Batch ID:	R167676	TestNo:	EPA 218.6			Analysis Date:	11/23/2022	SeqNo:	4941559		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	142.226	2.0	50.00	91.96	101	90	110	142.5	0.190	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053504-009A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	167676
Client ID:	ZZZZZZ	Batch ID:	R167676	TestNo:	EPA 218.6			Analysis Date:	11/23/2022	SeqNo:	4941563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.062	1.0	5.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N053503-009B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167500**
Client ID:	**ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/17/2022**	SeqNo: **4932995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1996.722	25	10.00	1895	1010	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N053504-003C-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167438
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4930257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	140.864	1.0	10.00	127.4	135	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053504-001

Client Sample ID: TW-02D-Q422
Collection Date: 11/9/2022 10:55:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 08:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	630	6.1	50		mg/L	100	11/13/2022 02:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 08:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053504-002

Client Sample ID: MW-922-Q422
Collection Date: 11/9/2022 11:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.015	2.5		mg/L	5	11/10/2022 09:06 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	630	6.1	50		mg/L	100	11/13/2022 02:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrate as N	0.29	0.048	0.25		mg/L	5	11/10/2022 09:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053504-003

Client Sample ID: TW-02S-Q422
Collection Date: 11/9/2022 10:16:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 07:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	370	3.0	25		mg/L	50	11/13/2022 10:21 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrate as N	1.3	0.095	0.50		mg/L	10	11/10/2022 07:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053504-004

Client Sample ID: TW-03D-Q422
Collection Date: 11/9/2022 11:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/10/2022 09:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	700	6.1	50		mg/L	100	11/13/2022 03:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C** QC Batch: **R167256**				PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 09:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C**	QC Batch: **R167256**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/10/2022 09:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A**	QC Batch: **R167321**			PrepDate:			Analyst: **RAB**
Sulfate	670	6.1	50		mg/L	100	11/13/2022 03:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C**	QC Batch: **R167256**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 10:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C**	QC Batch: **R167256**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/10/2022 10:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A**	QC Batch: **R167321**			PrepDate:			Analyst: **RAB**
Sulfate	400	3.0	25		mg/L	50	11/13/2022 03:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C**	QC Batch: **R167256**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/10/2022 11:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C**	QC Batch: **R167256**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/10/2022 11:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:28:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221110C**	QC Batch: **R167256**			PrepDate:			Analyst: **RB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/10/2022 11:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID **MB-R167256_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167256**
Client ID: **PBW**	Batch ID: **R167256**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4921309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID **LCS-R167256_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167256**
Client ID: **LCSW**	Batch ID: **R167256**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4921310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.347	0.50	1.250	0	108	90	110				

Sample ID **N053504-003BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167256**
Client ID: **ZZZZZZ**	Batch ID: **R167256**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4921312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	22.058	5.0	12.50	0	176	80	120				S

Sample ID **N053504-003BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167256**
Client ID: **ZZZZZZ**	Batch ID: **R167256**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4921313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	21.420	5.0	12.50	0	171	80	120	22.06	2.93	20	S

Sample ID **N053504-001BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167256**
Client ID: **ZZZZZZ**	Batch ID: **R167256**	TestNo: **EPA 300.0**		Analysis Date: **11/10/2022**	SeqNo: **4921315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R167321_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321		
Client ID:	PBW	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924033		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	ND	0.50											

Sample ID	LCS-R167321_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321		
Client ID:	LCSW	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924034		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	4.037	0.50	4.000	0	101	90	110						

Sample ID	N053503-009DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321		
Client ID:	ZZZZZZ	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924036		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1013.090	50	400.0	602.4	103	80	120						

Sample ID	N053503-009DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321		
Client ID:	ZZZZZZ	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924037		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1014.920	50	400.0	602.4	103	80	120	1013	0.180	20			

Sample ID	N053504-003BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321		
Client ID:	ZZZZZZ	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924039		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	585.750	25	200.0	367.4	109	80	120						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N053504-003BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321
Client ID:	ZZZZZZ	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924040

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	584.755	25	200.0	367.4	109	80	120	585.8	0.170	20	

Sample ID	N053503-004DDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167321
Client ID:	ZZZZZZ	Batch ID:	R167321	TestNo:	EPA 300.0			Analysis Date:	11/13/2022	SeqNo:	4924042

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	425.115	25						424.5	0.135	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167256_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167256
Client ID:	PBW	Batch ID:	R167256	TestNo:	EPA 300.0			Analysis Date:	11/10/2022	SeqNo:	4921326

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.025	0.050									

Sample ID	LCS-R167256_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167256
Client ID:	LCSW	Batch ID:	R167256	TestNo:	EPA 300.0			Analysis Date:	11/10/2022	SeqNo:	4921327

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.327	0.050	1.250	0	106	90	110				

Sample ID	N053504-003BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167256
Client ID:	ZZZZZZ	Batch ID:	R167256	TestNo:	EPA 300.0			Analysis Date:	11/10/2022	SeqNo:	4921329

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.259	0.50	12.50	1.327	95.5	80	120				

Sample ID	N053504-003BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167256
Client ID:	ZZZZZZ	Batch ID:	R167256	TestNo:	EPA 300.0			Analysis Date:	11/10/2022	SeqNo:	4921330

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.355	0.50	12.50	1.327	96.2	80	120	13.26	0.721	20	

Sample ID	N053504-001BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167256
Client ID:	ZZZZZZ	Batch ID:	R167256	TestNo:	EPA 300.0			Analysis Date:	11/10/2022	SeqNo:	4921332

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.397	0.50						0.3550	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053504-007DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167256
Client ID:	ZZZZZZ	Batch ID:	R167256	TestNo:	EPA 300.0			Analysis Date:	11/10/2022	SeqNo:	4921339

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.353	0.50	12.50	0	98.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 07:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-922-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 09:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	11/13/2022 11:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 10:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 10:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221112A**	QC Batch: **R167327**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/12/2022 10:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 11:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 11:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 02:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:28:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.2	0.14	1.0		mg/L	1	11/13/2022 02:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167327**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **PBW**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167327**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **LCSW**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.176	1.0	5.000	0	104	85	115				

Sample ID **N053503-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **ZZZZZZ**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	47.454	10	50.00	1.934	91.0	75	125				

Sample ID **N053503-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167327**
Client ID: **ZZZZZZ**	Batch ID: **R167327**	TestNo: **SM 5310C**		Analysis Date: **11/12/2022**	SeqNo: **4924270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	47.408	10	50.00	1.934	90.9	75	125	47.45	0.0970	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID	MB-R167336	SampType:	MBLK	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	167336		
Client ID:	PBW	Batch ID:	R167336	TestNo:	SM 5310C			Analysis Date:	11/13/2022	SeqNo:	4925121		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	ND	1.0											

Sample ID	LCS-R167336	SampType:	LCS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	167336		
Client ID:	LCSW	Batch ID:	R167336	TestNo:	SM 5310C			Analysis Date:	11/13/2022	SeqNo:	4925122		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	5.164	1.0	5.000	0	103	85	115						

Sample ID	N053504-003DMS	SampType:	MS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	167336		
Client ID:	ZZZZZZ	Batch ID:	R167336	TestNo:	SM 5310C			Analysis Date:	11/13/2022	SeqNo:	4925128		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	90.918	20	100.0	0	90.9	75	125						

Sample ID	N053504-003DMSD	SampType:	MSD	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	167336		
Client ID:	ZZZZZZ	Batch ID:	R167336	TestNo:	SM 5310C			Analysis Date:	11/13/2022	SeqNo:	4925129		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	91.342	20	100.0	0	91.3	75	125	90.92	0.465	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**				PrepDate:	**11/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-922-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	21	13	20		µg/L	1	11/16/2022 10:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 11:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	52	13	20		µg/L	1	11/16/2022 10:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**				PrepDate:	**11/13/2022**	Analyst: **DJ**
Iron	350	13	20		µg/L	1	11/16/2022 10:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/16/2022 10:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:28:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96696**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	380	13	20		µg/L	1	11/16/2022 11:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96696	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	PBW	Batch ID:	96696	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931294

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96696	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	LCSW	Batch ID:	96696	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931295

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.638	20	100.0	0	110	85	115				

Sample ID	N053503-009BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96696	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931307

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.678	20	100.0	0	101	75	125				

Sample ID	N053503-009BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96696	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931308

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.904	20	100.0	0	95.9	75	125	100.7	4.86	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96697	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	PBW	Batch ID:	96697	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931324

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96697	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	LCSW	Batch ID:	96697	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931325

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.561	20	100.0	0	99.6	85	115				

Sample ID	N053504-003CMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96697	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4931333

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.240	20	100.0	0	105	75	125				

Sample ID	N053504-003CMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167434
Client ID:	ZZZZZZ	Batch ID:	96697	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4931334

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.080	20	100.0	0	104	75	125	105.2	1.11	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	6.3	0.050	0.10		µg/L	1	11/15/2022 10:05 PM
Barium	15	0.083	1.0		µg/L	1	11/15/2022 10:05 PM
Manganese	27	0.026	0.50		µg/L	1	11/15/2022 10:05 PM
Molybdenum	110	0.12	0.50		µg/L	1	11/15/2022 10:05 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-922-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	6.3	0.050	0.10		µg/L	1	11/15/2022 10:29 PM
Barium	16	0.083	1.0		µg/L	1	11/15/2022 10:29 PM
Manganese	28	0.026	0.50		µg/L	1	11/15/2022 10:29 PM
Molybdenum	120	0.12	0.50		µg/L	1	11/15/2022 10:29 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**	Analyst: **DJ**	
Arsenic	0.62	0.050	0.10		µg/L	1	11/15/2022 11:57 PM
Barium	190	0.42	5.0		µg/L	5	11/17/2022 03:20 PM
Manganese	ND	0.026	0.50		µg/L	1	11/15/2022 11:57 PM
Molybdenum	5.3	0.12	0.50		µg/L	1	11/15/2022 11:57 PM
Selenium	1.1	0.044	0.50		µg/L	1	11/15/2022 11:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 11:33:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	4.1	0.050	0.10		µg/L	1	11/15/2022 10:35 PM
Barium	21	0.083	1.0		µg/L	1	11/15/2022 10:35 PM
Manganese	53	0.026	0.50		µg/L	1	11/15/2022 10:35 PM
Molybdenum	110	0.12	0.50		µg/L	1	11/15/2022 10:35 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**	Analyst: **DJ**	
Arsenic	3.7	0.050	0.10		µg/L	1	11/15/2022 10:41 PM
Barium	28	0.083	1.0		µg/L	1	11/15/2022 10:41 PM
Manganese	110	0.026	0.50		µg/L	1	11/15/2022 10:41 PM
Molybdenum	4.1	0.12	0.50		µg/L	1	11/15/2022 10:41 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221117B**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/17/2022 02:39 PM
Barium	39	0.083	1.0		µg/L	1	11/15/2022 10:47 PM
Manganese	200	0.13	2.5		µg/L	5	11/17/2022 02:45 PM
Molybdenum	16	0.12	0.50		µg/L	1	11/15/2022 10:47 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**				PrepDate: **11/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/15/2022 10:52 PM
Barium	20	0.083	1.0		µg/L	1	11/15/2022 10:52 PM
Manganese	85	0.026	0.50		µg/L	1	11/15/2022 10:52 PM
Molybdenum	47	0.12	0.50		µg/L	1	11/15/2022 10:52 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**	Analyst: **DJ**	
Arsenic	0.94	0.050	0.10		µg/L	1	11/15/2022 10:58 PM
Barium	34	0.083	1.0		µg/L	1	11/15/2022 10:58 PM
Manganese	410	0.13	2.5		µg/L	5	11/17/2022 03:03 PM
Molybdenum	20	0.12	0.50		µg/L	1	11/15/2022 10:58 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 10:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**	Analyst: **DJ**	
Arsenic	0.75	0.050	0.10		µg/L	1	11/15/2022 11:04 PM
Barium	63	0.083	1.0		µg/L	1	11/15/2022 11:04 PM
Manganese	75	0.026	0.50		µg/L	1	11/15/2022 11:04 PM
Molybdenum	5.1	0.12	0.50		µg/L	1	11/15/2022 11:04 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 11:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q422
Lab Order:	N053504	**Collection Date:**	11/9/2022 12:28:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053504-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96694**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	7.6	0.050	0.10		µg/L	1	11/15/2022 11:10 PM
Barium	66	0.083	1.0		µg/L	1	11/15/2022 11:10 PM
Manganese	240	0.13	2.5		µg/L	5	11/17/2022 03:08 PM
Molybdenum	4.0	0.12	0.50		µg/L	1	11/15/2022 11:10 PM
Selenium	ND	0.044	0.50		µg/L	1	11/15/2022 11:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96694**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **PBW**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930368**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	0.047	0.50									

Sample ID **LCS-96694**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **LCSW**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.270	0.10	10.00	0	92.7	85	115				
Barium	9.806	1.0	10.00	0	98.1	85	115				
Manganese	103.050	0.50	100.0	0	103	85	115				
Molybdenum	9.542	0.50	10.00	0	95.4	85	115				
Selenium	9.422	0.50	10.00	0	94.2	85	115				

Sample ID **N053503-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96694**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930383**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	52.819	1.0	10.00	45.15	76.7	75	125				
Manganese	109.856	0.50	100.0	0	110	75	125				
Molybdenum	12.231	0.50	10.00	1.941	103	75	125				
Selenium	23.947	0.50	10.00	14.79	91.6	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053503-009BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930384

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	50.922	1.0	10.00	45.15	57.7	75	125	52.82	3.66	20	S
Manganese	98.636	0.50	100.0	0	98.6	75	125	109.9	10.8	20	
Molybdenum	11.744	0.50	10.00	1.941	98.0	75	125	12.23	4.06	20	
Selenium	23.151	0.50	10.00	14.79	83.6	75	125	23.95	3.38	20	

Sample ID	N053503-009BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4944081

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.238	0.10	10.00	0.5466	96.9	75	125				

Sample ID	N053503-009BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4944082

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.573	0.10	10.00	0.5466	90.3	75	125	10.24	6.71	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96695	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	PBW	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930404

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-96695	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	LCSW	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930405

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.021	0.10	10.00	0	90.2	85	115				
Barium	10.083	1.0	10.00	0	101	85	115				
Manganese	104.406	0.50	100.0	0	104	85	115				
Molybdenum	9.602	0.50	10.00	0	96.0	85	115				
Selenium	9.732	0.50	10.00	0	97.3	85	115				

Sample ID	N053504-003CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4930409

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.929	0.10	10.00	0.6206	93.1	75	125				
Manganese	99.433	0.50	100.0	0	99.4	75	125				
Molybdenum	15.569	0.50	10.00	5.253	103	75	125				
Selenium	10.438	0.50	10.00	1.057	93.8	75	125				

Sample ID	N053504-003CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/13/2022	RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4930410

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053504-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.859	0.10	10.00	0.6206	92.4	75	125	9.929	0.706	20	
Manganese	98.425	0.50	100.0	0	98.4	75	125	99.43	1.02	20	
Molybdenum	15.866	0.50	10.00	5.253	106	75	125	15.57	1.89	20	
Selenium	10.463	0.50	10.00	1.057	94.1	75	125	10.44	0.235	20	

Sample ID **N053504-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167500**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/17/2022**	SeqNo: **4933105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	190.999	5.0	10.00	187.2	38.3	75	125				S

Sample ID **N053504-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167500**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/17/2022**	SeqNo: **4933106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	209.465	5.0	10.00	187.2	223	75	125	191.0	9.22	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053503-009B-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4930382

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	52.863	1.0	10.00	45.15	77.1	80	120				S
Manganese	102.634	0.50	100.0	0	103	80	120				
Molybdenum	12.016	0.50	10.00	1.941	101	80	120				
Selenium	23.442	0.50	10.00	14.79	86.5	80	120				

Sample ID	N053503-009B-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96694	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/15/2022	SeqNo:	4944080

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.975	0.10	10.00	0.5466	94.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053504
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053504-003C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167440
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/16/2022	SeqNo:	4930408

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.128	0.10	10.00	0.6206	95.1	80	120				
Manganese	100.109	0.50	100.0	0	100	80	120				
Molybdenum	15.517	0.50	10.00	5.253	103	80	120				
Selenium	10.457	0.50	10.00	1.057	94.0	80	120				

Sample ID	N053504-003C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167500
Client ID:	ZZZZZZ	Batch ID:	96695	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4933104

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	206.127	5.0	10.00	187.2	190	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tap			Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 11/9/22	Sampled By: Riggie Tap		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 11/9/22						Sample Temp: 2.9°C, 3.1°C, 4.3°C, 2.8°C
Project Number: 30121866.4Q22GW							Courier: Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrite, Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 125mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Nitrate, (EPA 300.0) 1 L poly			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053504-001	TW-02D-Q422	11/9/2022	10:55		X	X	X	X	X	X		X					E	7	P	BNS	
2	-002	MW-922-Q422	11/9/2022	~~11:50~~ 1105		X	X	X	X	X	X		X					E	7	P	BNS	
3	-003	TW-02S-Q422	11/9/2022	10:16		X	X	X	X	X	X		X					E	10	P	BNS	MSMSD
4	-004	TW-03D-Q422	11/9/2022	11:33		X	X	X	X	X	X		X					E	7	P	BNS	
5	-005	MW-34-055-Q422	11/9/2022	9:19		X		X	X	X	X	X			X			E	7	P	BNS	
6	-006	MW-34-055-EB-Q422	11/9/2022	9:02		X												E	1	P	BNS	
7	-007	MW-34-080-Q422	11/9/2022	8:55		X		X	X	X	X			X				E	6	P	BNS	
8	-008	MW-34-080-EB-Q422	11/9/2022	8:38		X												E	1	P	BNS	
9	-009	MW-34-100-Q422	11/9/2022	8:31		X		X	X	X	X	X			X			E	7	P	BNS	
10	-010	MW-45-095a-Q422	11/9/2022	13:45		X		X	X	X	X			X				E	6	P	BNS	
11	-011	MW-27-020-Q422	11/9/2022	13:15		X		X	X	X	X				X			E	6	P	BNS	
12	-012	MW-27-020-EB-Q422	11/9/2022	12:58		X												E	1	P	BNS	
13	-013	MW-27-060-Q422	11/9/2022	12:28		X		X	X	X	X	X			X			E	7	P	BNS	
14	-014	MW-27-060-EB-Q422	11/9/2022	12:10		X												E	1	P	BNS	

Reliquished by (Signature and Printed Name): Riggie Tap Date/Time: 11/9/22 1513
Reliquished by (Signature and Printed Name): Dante Ortiz Date/Time: 11/9/22 15:13
Reliquished by (Signature and Printed Name): Dante Ortiz Date/Time: 11/9/22 1809
Reliquished by (Signature and Printed Name): Dante Ortiz Date/Time: 11/9/22 18:09
Reliquished by (Signature and Printed Name): Date/Time:
Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

Container Type:

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/9/2022	Workorder:	N053504
Rep sample Temp (Deg C):	2.9/3.1/4.3/2.8	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

11/10/2022

Checklist Completed By: YR YRodriguez

Reviewed By: for: MBC 11/19/2022

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053504

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053504-001A	TW-02D-Q422	11/9/2022 10:55:00 AM	11/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-001B			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-001C			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-001D			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-001E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053504-002A	MW-922-Q422	11/9/2022 11:05:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-002B			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-002C			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-002D			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053504

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053504-002E	MW-922-Q422	11/9/2022 11:05:00 AM	11/28/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053504-003A	TW-02S-Q422	11/9/2022 10:16:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	INTRANSIT
N053504-003B			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053504-003C			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053504-003D			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053504-003E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☑	☑	SUB
N053504-004A	TW-03D-Q422	11/9/2022 11:33:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-004B			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-004C			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053504

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053504-004D	TW-03D-Q422	11/9/2022 11:33:00 AM	11/28/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-004E			11/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053504-005A	MW-34-055-Q422	11/9/2022 9:19:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-005B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-005C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-005D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-005E			11/28/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053504-006A	MW-34-055-EB-Q422	11/9/2022 9:02:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-007A	MW-34-080-Q422	11/9/2022 8:55:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-007B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-007C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-007D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053504

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053504-008A	MW-34-080-EB-Q422	11/9/2022 8:38:00 AM	11/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-009A	MW-34-100-Q422	11/9/2022 8:31:00 AM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-009B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-009C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-009D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-009E			11/28/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053504-010A	MW-45-095a-Q422	11/9/2022 1:45:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-010B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-010C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-010D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-011A	MW-27-020-Q422	11/9/2022 1:15:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-011B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053504

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/9/2022 6:09 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053504-011B	MW-27-020-Q422	11/9/2022 1:15:00 PM	11/28/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-011C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-011D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-012A	MW-27-020-EB-Q422	11/9/2022 12:58:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-013A	MW-27-060-Q422	11/9/2022 12:28:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-013B			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053504-013C			11/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053504-013D			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053504-013E			11/28/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053504-014A	MW-27-060-EB-Q422	11/9/2022 12:10:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	INTRANSIT
N053504-015A	FOLDER	11/28/2022	11/28/2022		Folder	Folder	☐	☐	☐	LAB
			11/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/28/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

10-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D	~~SM4500-NO3F~~ Nitrate/Nitrite	
N053504-001E / TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	16OZP	1		
N053504-002E / MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	16OZP	1		
N053504-003E / TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	16OZP	1 (MS/MSD)		
N053504-004E / TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	16OZP	1		
N053504-005E / MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	8OZP		1	
N053504-009E / MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	8OZP		1	
N053504-013E / MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	8OZP		1	

Presaerved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53504A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500 and Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 558193087

		Date/Time		Date/Time
Relinquished by:	YRodriguez	11/10/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

BC LABORATORIES, INC.

Work Order Number: 2227726

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53504A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Case Narrative

Sample Receipt

Work Order: 2227726
COC Number:
Default Cooler was received at 3 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2227726-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227726-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227726-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227726-04	SM-4500-NH3G	Ammonia as N (Distilled)

Holding Times

The sample holding time was exceeded.

Lab Number	Method	Analyte
2227726-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227726-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227726-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227726-04	SM-4500-NH3G	Ammonia as N (Distilled)

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156210	SM-4500-NH3G	2227726-03	N053504-003E/ TW-02S-Q422

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Chain of Custody and Cooler Receipt Form for 2227726 Page 1 of 2

11-27726

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.all-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

10-Nov-22

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D	SM4500-NO3F Nitrate/Nitrite	
1	N053504-001E / TW-02D-Q422	Groundwater	11/9/2022 10:55:00 AM	16OZP	1		
2	N053504-002E / MW-922-Q422	Groundwater	11/9/2022 11:05:00 AM	16OZP	1		
3	N053504-003E / TW-02S-Q422	Groundwater	11/9/2022 10:16:00 AM	16OZP	1 (MS/MSD)		
4	N053504-004E / TW-03D-Q422	Groundwater	11/9/2022 11:33:00 AM	16OZP	1		
5	N053504-005E / MW-34-055-Q422	Groundwater	11/9/2022 9:19:00 AM	8OZP		1	
6	N053504-009E / MW-34-100-Q422	Groundwater	11/9/2022 8:31:00 AM	8OZP		1	
7	N053504-013E / MW-27-060-Q422	Groundwater	11/9/2022 12:28:00 PM	8OZP		1	

Presaerved with H2SO4

CHK BY TJU

DISTRIBUTION

SUB-OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#N53504A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500 and Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 558193087

	Date/Time		Date/Time
Relinquished by: YRodriguez	11/10/2022 1630	Received by:	11/11/22 1020
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2227726 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 2227726

SHIPPING INFORMATION: Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐ Pace Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER: Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)

FREE LIQUID: YES ☐ NO ☒ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☐ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 11-11-22

Temperature: (A) 3.1 °C / (C) 3.0 °C Analyst Init SMH 1020

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS	A	A	A	A						
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE					A	A	A			
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
60ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: tel Date/Time: 11/18/22 1415

A = Actual / C = Corrected

Rev 23 05/20/22

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2227726**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2227726
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053504-001E/ TW-02D-Q422	2227726-01
N053504-002E/ MW-922-Q422	2227726-02
N053504-003E/ TW-02S-Q422	2227726-03
N053504-004E/ TW-03D-Q422	2227726-04

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-03-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053504-001E/ TW-02D-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227726-01
File ID: 20221219001-NH3-026
Sampled: 11/09/22 10:55
Prepared: 12/16/22 14:30
Analyzed: 12/19/22 12:19
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.79 ml / 6 ml
Batch: B156210
Sequence: 2223208
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.35	2.15	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053504-002E/ MW-922-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227726-02
File ID: 20221219001-NH3-027
Sampled: 11/09/22 11:05
Prepared: 12/16/22 14:30
Analyzed: 12/19/22 12:20
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.79 ml / 6 ml
Batch: B156210
Sequence: 2223208
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.21	2.15	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053504-003E/ TW-02S-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227726-03
File ID: 20221219001-NH3-022
Sampled: 11/09/22 10:16
Prepared: 12/16/22 14:30
Analyzed: 12/19/22 12:15
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.79 ml / 6 ml
Batch: B156210
Sequence: 2223208
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.19	2.15	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053504-004E/ TW-03D-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227726-04
File ID: 20221219001-NH3-030
Sampled: 11/09/22 11:33
Prepared: 12/16/22 14:30
Analyzed: 12/19/22 12:22
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.77 ml / 6 ml
Batch: B156210
Sequence: 2223208
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.41	2.17	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156210
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053504-001E/ TW-02D-Q422	2227726-01	20221219001-NH3-026	12/16/22 14:30	
N053504-002E/ MW-922-Q422	2227726-02	20221219001-NH3-027	12/16/22 14:30	
N053504-003E/ TW-02S-Q422	2227726-03	20221219001-NH3-022	12/16/22 14:30	
N053504-004E/ TW-03D-Q422	2227726-04	20221219001-NH3-030	12/16/22 14:30	
Blank	B156210-BLK1	20221219001-NH3-021	12/16/22 14:30	
LCS	B156210-BS1	20221219001-NH3-020	12/16/22 14:30	
N053504-003E/ TW-02S-Q422	B156210-DUP1	20221219001-NH3-023	12/16/22 14:30	
N053504-003E/ TW-02S-Q422	B156210-MS1	20221219001-NH3-024	12/16/22 14:30	
N053504-003E/ TW-02S-Q422	B156210-MSD1	20221219001-NH3-025	12/16/22 14:30	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2227726	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156210-BLK1	File ID:	20221219001-NH3-021
Prepared:	12/16/22 14:30	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	12/19/22 12:15	Instrument:	SC-1		
Batch:	B156210	Sequence:	2223208	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.067	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

53504-003E/ TW-02S-Q4

DUPLICATES

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156210
Preparation: No Prep
Source Sample Name: N053504-003E/ TW-02S-Q422

SDG: 2227726
Project: Level IV + labSpec7
Laboratory ID: B156210-DUP1
Lab Source ID: 2227726-03
Initial/Final: 2.79 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	0.19140		0.17032		11.7		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

N053504-003E/ TW-02S-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156210
Laboratory ID: B156210-MS1
Preparation: No Prep
Initial/Final: 2.51 ml / 6 ml
Source Sample Number: 2227726-03

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	4.7809	0.19140	4.9207	98.9	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	4.7809	4.9805	100	1.21	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156210
Laboratory ID: B156210-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	1.8679	93.4	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield	SDG:	2227726
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223208	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223208-ICV1	20221219001-NH3-018	12/19/22 12:12
Initial Cal Blank	2223208-ICB1	20221219001-NH3-019	12/19/22 12:13
LCS	B156210-BS1	20221219001-NH3-020	12/19/22 12:13
Blank	B156210-BLK1	20221219001-NH3-021	12/19/22 12:15
N053504-003E/ TW-02S-Q422	2227726-03	20221219001-NH3-022	12/19/22 12:15
N053504-003E/ TW-02S-Q422	B156210-DUP1	20221219001-NH3-023	12/19/22 12:17
N053504-003E/ TW-02S-Q422	B156210-MS1	20221219001-NH3-024	12/19/22 12:17
N053504-003E/ TW-02S-Q422	B156210-MSD1	20221219001-NH3-025	12/19/22 12:18
N053504-001E/ TW-02D-Q422	2227726-01	20221219001-NH3-026	12/19/22 12:19
N053504-002E/ MW-922-Q422	2227726-02	20221219001-NH3-027	12/19/22 12:20
Calibration Check	2223208-CCV1	20221219001-NH3-028	12/19/22 12:21
Calibration Blank	2223208-CCB1	20221219001-NH3-029	12/19/22 12:22
N053504-004E/ TW-03D-Q422	2227726-04	20221219001-NH3-030	12/19/22 12:22
Calibration Check	2223208-CCV2	20221219001-NH3-039	12/19/22 12:31
Calibration Blank	2223208-CCB2	20221219001-NH3-040	12/19/22 12:31

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Sequence: 2223208

SDG: 2227726
Project: Level IV + labSpec7
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223208-ICB1	Ammonia as N (Distilled)	0.022600	0.20	mg/L		SM-4500-NH3G
2223208-CCB1	Ammonia as N (Distilled)	0.026300	0.20	mg/L		SM-4500-NH3G
2223208-CCB2	Ammonia as N (Distilled)	0.026900	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2227726
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223208

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223208-ICV1	Ammonia as N (Distilled)	2.0000	1.9519	97.6	mg/L	SM-4500-NH3G
2223208-CCV1	Ammonia as N (Distilled)	2.0000	2.0189	101	mg/L	SM-4500-NH3G
2223208-CCV2	Ammonia as N (Distilled)	2.0000	1.9958	99.8	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227726
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053504-001E/ TW-02D-Q422	11/09/22 10:55	11/11/22 10:20	12/16/22 14:30	40.00	28.00	12/19/22 12:19	40.00	28.00	*
N053504-002E/ MW-922-Q422	11/09/22 11:05	11/11/22 10:20	12/16/22 14:30	40.00	28.00	12/19/22 12:20	40.00	28.00	*
N053504-003E/ TW-02S-Q422	11/09/22 10:16	11/11/22 10:20	12/16/22 14:30	40.00	28.00	12/19/22 12:15	40.00	28.00	*
N053504-004E/ TW-03D-Q422	11/09/22 11:33	11/11/22 10:20	12/16/22 14:30	40.00	28.00	12/19/22 12:22	40.00	28.00	*

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0937**	**0.00**	**11:57:20 AM**
DIL-1	**RBL**	**0.0000**	**0.0727**	**0.00**	**11:57:38 AM**
DIL-1	**RBL**	**0.0000**	**0.0569**	**0.00**	**11:59:08 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0082**	**0.00**	**11:59:26 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0079**	**0.00**	**12:00:56 PM**
SR5-1	**Std-2**	**0.2000**	**0.0227**	**0.00**	**12:01:14 PM**
SR5-1	**Std-2**	**0.2000**	**0.0223**	**0.00**	**12:02:44 PM**
SR5-2	**Std-3**	**0.5000**	**0.0679**	**0.00**	**12:03:02 PM**
SR5-2	**Std-3**	**0.5000**	**0.0699**	**0.00**	**12:04:33 PM**
SR5-3	**Std-4**	**1.0000**	**0.1778**	**0.00**	**12:04:50 PM**
SR5-3	**Std-4**	**1.0000**	**0.1469**	**0.00**	**12:06:21 PM**
SR5-4	**Std-5**	**2.0000**	**0.2976**	**0.00**	**12:06:39 PM**
SR5-4	**Std-5**	**2.0000**	**0.2993**	**0.00**	**12:08:09 PM**
SR5-5	**Std-6**	**5.0000**	**0.8065**	**0.00**	**12:08:27 PM**
SR5-5	**Std-6**	**5.0000**	**0.8218**	**0.00**	**12:09:57 PM**
ST-2	**^CCV (2 mg/L)**	**1.9160**	**0.3029**	**95.80**	**12:10:15 PM**
R-5	**~CCB (0 mg/L)**	**0.0214**	**-0.0082**	**0.00**	**12:11:45 PM**
1	**ICV1**	**1.9519**	**0.3088**	**0.00**	**12:12:03 PM**
2	**ICB1**	**0.0226**	**-0.0080**	**0.00**	**12:13:33 PM**
3	**B156210-BS1**	**1.8679**	**0.2950**	**0.00**	**12:13:51 PM**
4	**B156210-BLK1**	**0.0244**	**-0.0077**	**0.00**	**12:15:21 PM**
5	**2227726-03**	**0.0890**	**0.0029**	**0.00**	**12:15:39 PM**
6	**B156210-DUP1**	**0.0792**	**0.0013**	**0.00**	**12:17:09 PM**
7	**B156210-MS1**	**2.0585**	**0.3263**	**0.00**	**12:17:27 PM**
8	**B156210-MSD1**	**2.0835**	**0.3304**	**0.00**	**12:18:57 PM**
9	**2227726-01**	**0.1633**	**0.0151**	**0.00**	**12:19:15 PM**
10	**2227726-02**	**0.0963**	**0.0041**	**0.00**	**12:20:45 PM**
ST-2	**^CCV (2 mg/L)**	**2.0189**	**0.3198**	**100.95**	**12:21:03 PM**
R-5	**~CCB (0 mg/L)**	**0.0263**	**-0.0074**	**0.00**	**12:22:33 PM**
11	**2227726-04**	**0.1870**	**0.0190**	**0.00**	**12:22:51 PM**
12	**2228278-01**	**0.2157**	**0.0237**	**0.00**	**12:24:21 PM**
13	**2228789-01**	**0.1608**	**0.0147**	**0.00**	**12:24:39 PM**
14	**2228789-02**	**0.1481**	**0.0126**	**0.00**	**12:26:09 PM**
15	**2228799-01**	**0.3222**	**0.0412**	**0.00**	**12:26:27 PM**
16	**2228799-02**	**1.7497**	**0.2756**	**0.00**	**12:27:57 PM**
17	**2228799-03**	**1.8764**	**0.2964**	**0.00**	**12:28:15 PM**

Report Date :12/19/2022 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
18	**LOD**	**0.0750**	**0.0006**	**0.00**	**12:29:45 PM**
19	**LOQ**	**0.0805**	**0.0015**	**0.00**	**12:30:03 PM**
ST-2	**^CCV (2 mg/L)**	**1.9958**	**0.3160**	**99.79**	**12:31:33 PM**
R-5	**~CCB (0 mg/L)**	**0.0269**	**-0.0073**	**0.00**	**12:31:51 PM**

Report Date :12/19/2022 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219001**

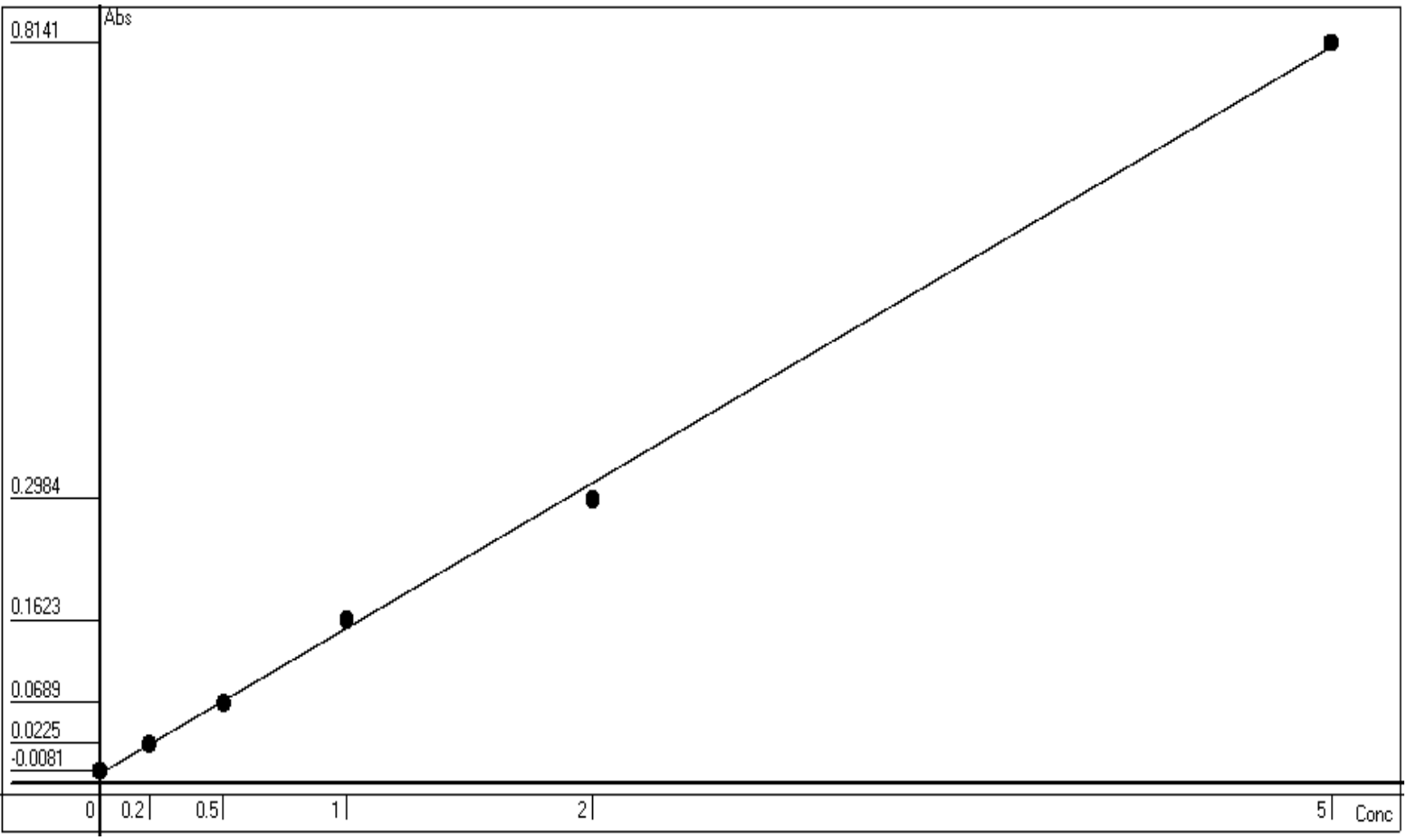
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221219001 Description : [NH3] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0081	0	0.0220	2.20
2	0.0225	0.2	0.2083	4.15
3	0.0689	0.5	0.4909	-1.82
4	0.1623	1	1.0597	5.97
5	0.2984	2	1.8886	-5.57
6	0.8141	5	5.0292	0.58

Conc= +6.09*Abso +0.0713 R^2=0.9990

RBL 0.0648 0

Report Date 12/19/2022 Run Date 12/19/2022

Replicate Report - BNH3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0082	-0.0079	/	/
2	0.0227	0.0223	/	/
3	0.0679	0.0699	/	/
4	0.1778	0.1469	/	/
5	0.2976	0.2993	/	/
6	0.8065	0.8218	/	/

Print Date:12/19/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156210

BC Laboratories

Printed: 1/3/2023 1:28:11PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2227726-01 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 2:30PM	AKC	2.79	6					
2227726-02 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 2:30PM	AKC	2.79	6					
2227726-03 A	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	2.79	6					
2227726-03 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 2:30PM	AKC	2.79	6					
2227726-04 A	iSM4500NH3Gw Dist NH3 as N	12/16/2022 2:30PM	AKC	2.77	6					
2228278-01 A	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	5.7	6					
2228789-01 D	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	5.7	6					
2228789-02 D	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	5.69	6					
2228799-01 D	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	5.69	6					
2228799-02 C	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	0.596	6					
2228799-03 C	i350.1w Dist NH3 as N	12/16/2022 2:30PM	AKC	0.596	6					
B156210-BLK1	QC	12/16/2022 2:30PM	AKC	6	6					
B156210-BS1	QC	12/16/2022 2:30PM	AKC	6	6	2J06023		600		
B156210-DUP1	QC	12/16/2022 2:30PM	AKC	2.79	6		2227726-03			
B156210-MS1	QC	12/16/2022 2:30PM	AKC	2.51	6	2J06023	2227726-03	600		
B156210-MSD1	QC	12/16/2022 2:30PM	AKC	2.51	6	2J06023	2227726-03	600		

Spike Mixes	Description	Solvent	Prepared	Expires
2J06023	NH3-N STD 20 SPIKE WATER	DI	10/5/2022 1 by zzzManpreet Br	1/5/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223208

Instrument: SC-1
Calibration ID:
Sequence Date: 12/19/2022
Printed: 1/3/2023 1:28:11PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223208-ICV1	QC		1		2J06021		
2223208-ICB1	QC		2				
B156210-BS1	QC		3				
B156210-BLK1	QC		4				
2227726-03	i350.1w Dist NH3 as N	A	5				
2227726-03	iSM4500NH3Gw Dist NH3 as N	A	6				
B156210-DUP1	QC		7				
B156210-MS1	QC		8				
B156210-MSD1	QC		9				
2227726-01	iSM4500NH3Gw Dist NH3 as N	A	10				
2227726-02	iSM4500NH3Gw Dist NH3 as N	A	11				
2223208-CCV1	QC		12		2J06022		
2223208-CCB1	QC		13				
2227726-04	iSM4500NH3Gw Dist NH3 as N	A	14				
2228278-01	i350.1w Dist NH3 as N	A	15				
2228789-01	i350.1w Dist NH3 as N	D	16				
2228789-02	i350.1w Dist NH3 as N	D	17				
2228799-01	i350.1w Dist NH3 as N	D	18				
2228799-02	i350.1w Dist NH3 as N	C	19				
2228799-03	i350.1w Dist NH3 as N	C	20				
2223208-CCV2	QC		21		2J06022		
2223208-CCB2	QC		22				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:11PM
Project: Level IV + labSpec7
Project Number: N53504A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 05, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053539

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 10, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N053539-001 due to matrix. Sample has dark pink color.

Because the results for total dissolved chromium (120 ug/L) and hexavalent chromium (0 ug/L) for sample N053539-001 (MW-67-185-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary for sample N053539-001 due to matrix. Sample has dark pink color.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary due to matrix. Samples are dark colored.

Because the results for total dissolved chromium (120 ug/L) and hexavalent chromium (0 ug/L) for sample N053539-001 (MW-67-185-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 193 and 132 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD)are outside recovery criteria for Chromium in QC samples N053504-003C-MS and N053504-003C-MSDsince the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *05-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053539
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053539-001A	MW-67-185-Q422	Groundwater	11/10/2022 12:33:00 PM	11/10/2022	12/5/2022
N053539-001B	MW-67-185-Q422	Groundwater	11/10/2022 12:33:00 PM	11/10/2022	12/5/2022
N053539-001C	MW-67-185-Q422	Groundwater	11/10/2022 12:33:00 PM	11/10/2022	12/5/2022
N053539-002A	MW-68-180-Q422	Groundwater	11/10/2022 1:25:00 PM	11/10/2022	12/5/2022
N053539-002B	MW-68-180-Q422	Groundwater	11/10/2022 1:25:00 PM	11/10/2022	12/5/2022
N053539-002C	MW-68-180-Q422	Groundwater	11/10/2022 1:25:00 PM	11/10/2022	12/5/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q422
Lab Order:	N053539	**Collection Date:**	11/10/2022 12:33:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053539-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	9.6	80		µg/L	400	11/14/2022 10:05 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	120	0.18	5.0		µg/L	5	11/16/2022 12:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q422
Lab Order:	N053539	**Collection Date:**	11/10/2022 1:25:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053539-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	19000	120	1000		µg/L	5000	11/14/2022 10:24 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221117B**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	19000	4.4	120		µg/L	125	11/17/2022 03:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167373**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **PBW**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927285**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167373**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **LCSW**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	0.20	5.000	0	103	90	110				

Sample ID: **N053537-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2151.160	40	1000	1128	102	90	110				

Sample ID: **N053539-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	464.800	80	400.0	79.04	96.4	90	110				

Sample ID: **N053539-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44131.000	1000	25000	18550	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID: **N053537-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1123.720	40						1128	0.339	20	

Sample ID: **N053542-003AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110	1.018	1.17	20	

Sample ID: **N053542-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N053542-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.924	0.20	1.000	0	92.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N053542-018AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.003	0.20	1.000	0	100	90	110				

Sample ID: **N053542-019AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1099.580	20	500.0	598.1	100	90	110				

Sample ID: **N053542-020AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.502	1.0	25.00	10.65	103	90	110				

Sample ID: **N053542-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927314**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927318**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N053542-015AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927320**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N053542-016AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.982	0.20	1.000	0	98.2	90	110				

Sample ID: **N053542-017AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID: **N053542-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.054	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-021AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.971	0.20	1.000	0	97.1	90	110				

Sample ID: **N053542-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.181	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96695**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **PBW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96695**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **LCSW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.653	1.0	10.00	0	107	85	115				

Sample ID: **N053504-003CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	130.968	1.0	10.00	127.4	35.7	75	125				S

Sample ID: **N053504-003CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	143.713	1.0	10.00	127.4	163	75	125	131.0	9.28	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053504-003C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167438**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/16/2022** SeqNo: **4930257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	140.864	1.0	10.00	127.4	135	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q422
Lab Order:	N053539	**Collection Date:**	11/10/2022 12:33:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053539-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	26	3.8	20		mg/L	400	11/11/2022 06:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q422
Lab Order:	N053539	**Collection Date:**	11/10/2022 1:25:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053539-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	25	0.19	1.0		mg/L	20	11/11/2022 06:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167295_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **PBW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.015	0.050									

Sample ID: **LCS-R167295_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **LCSW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.283	0.050	1.250	0	103	90	110				

Sample ID: **N053547-011BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.503	0.50	12.50	1.771	102	80	120				

Sample ID: **N053547-011BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.292	0.50	12.50	1.771	100	80	120	14.50	1.47	20	

Sample ID: **N053542-002BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923430**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.554	0.50						0.6100	9.62	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053542-002BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167295**
Client ID: **ZZZZZZ** Batch ID: **R167295** TestNo: **EPA 300.0** Analysis Date: **11/11/2022** SeqNo: **4923431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.842	0.50	12.50	0.6100	97.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q422
Lab Order:	N053539	**Collection Date:**	11/10/2022 12:33:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053539-001		

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221115D** QC Batch: **96695** PrepDate: **11/13/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.25	0.50		µg/L	5	11/16/2022 12:33 AM
Manganese	1200	0.66	12		µg/L	25	11/16/2022 12:57 AM
Molybdenum	23	0.60	2.5		µg/L	5	11/16/2022 12:33 AM
Selenium	140	0.22	2.5		µg/L	5	11/16/2022 12:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q422
Lab Order:	N053539	**Collection Date:**	11/10/2022 1:25:00 PM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053539-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	2.1	0.25	0.50		µg/L	5	11/16/2022 01:03 AM
Manganese	ND	0.13	2.5		µg/L	5	11/16/2022 01:03 AM
Molybdenum	56	0.60	2.5		µg/L	5	11/16/2022 01:03 AM
Selenium	20	0.22	2.5		µg/L	5	11/16/2022 01:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96695**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **PBW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96695**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **LCSW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.021	0.10	10.00	0	90.2	85	115				
Manganese	104.406	0.50	100.0	0	104	85	115				
Molybdenum	9.602	0.50	10.00	0	96.0	85	115				
Selenium	9.732	0.50	10.00	0	97.3	85	115				

Sample ID: **N053504-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.929	0.10	10.00	0.6206	93.1	75	125				
Manganese	99.433	0.50	100.0	0	99.4	75	125				
Molybdenum	15.569	0.50	10.00	5.253	103	75	125				
Selenium	10.438	0.50	10.00	1.057	93.8	75	125				

Sample ID: **N053504-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.859	0.10	10.00	0.6206	92.4	75	125	9.929	0.706	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053539
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053504-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.425	0.50	100.0	0	98.4	75	125	99.43	1.02	20	
Molybdenum	15.866	0.50	10.00	5.253	106	75	125	15.57	1.89	20	
Selenium	10.463	0.50	10.00	1.057	94.1	75	125	10.44	0.235	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

53039

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 11/10/22	Sampled By: Riggie Tap		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - RCM	Signature: Date: 11/10/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 3.6 °C		

Courier:

Tracking No.:

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Manganese, arsenic	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum	500mL poly: Dissolved metals (SW6020) FF; HNO3 Selenium	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053539-001	• MW-67-185-Q422	11/10/2022	12:33		X	X	X	X	X	X	E	3	P	BNS	
2	-002	• MW-68-180-Q422	11/10/2022	13:25		X	X	X	X	X	X	E	3	P	BNS	
3																
4																
5																
7																
8																
9																
10																
11																
12																
13																
14																

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tap	11/10/22 1509	Dante Ortiz Dante Ortiz	11/10/22 15:09
Dante Ortiz Dante Ortiz	11/10/22 18:14	Dante Ortiz Dante Ortiz	11/10/22 18:18

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/10/2022	Workorder:	N053539
Rep sample Temp (Deg C):	3.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/11/2022

Reviewed By: for: MBC 11/12/2022

ASSET Laboratories

WORK ORDER Summary

12-Nov-22

WorkOrder: N053539

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053539-001A	MW-67-185-Q422	11/10/2022 12:33:00 PM	11/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053539-001B			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053539-001C			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053539-002A	MW-68-180-Q422	11/10/2022 1:25:00 PM	11/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053539-002B			11/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053539-002C			11/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053539-003A	FOLDER	11/28/2022	11/28/2022		Folder	Folder	☐	☐	☐	LAB
			11/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/28/2022		Folder	Folder	☐	☐	☐	LAB

December 05, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053542

RE: PG&E Topock - PCM, 30121866.4Q22GW

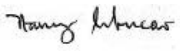
Attention: Dan Bush

Enclosed are the results for sample(s) received on November 10, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053542

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia and Nitrate/Nitrite were subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (780 ug/L) and hexavalent chromium (600 ug/L) for sample N053542-019 (MW-80-057-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite as N in QC samples N053547-011BMS, N053547-011BMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Sulfate in QC sample N053547-007BMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary for sample N053542-008 due to matrix. Digestate is turbid with sediments.

Because the results for total dissolved chromium (780 ug/L) and hexavalent chromium (600 ug/L) for sample N053542-019 (MW-80-057-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 827 and 780 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD)are outside recovery criteria for some analytes in QC samples N053504-003C-MS and N053504-003C-MSDsince the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053504-003DMS possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N053504-003D and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053542
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053542-001A	MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	11/10/2022	12/5/2022
N053542-001B	MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	11/10/2022	12/5/2022
N053542-001C	MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	11/10/2022	12/5/2022
N053542-001D	MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	11/10/2022	12/5/2022
N053542-001E	MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	11/10/2022	12/5/2022
N053542-001F	MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	11/10/2022	12/5/2022
N053542-002A	MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	11/10/2022	12/5/2022
N053542-002B	MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	11/10/2022	12/5/2022
N053542-002C	MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	11/10/2022	12/5/2022
N053542-002D	MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	11/10/2022	12/5/2022
N053542-002E	MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	11/10/2022	12/5/2022
N053542-002F	MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	11/10/2022	12/5/2022
N053542-003A	MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	11/10/2022	12/5/2022
N053542-003B	MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	11/10/2022	12/5/2022
N053542-003C	MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	11/10/2022	12/5/2022
N053542-003D	MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	11/10/2022	12/5/2022
N053542-003E	MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	11/10/2022	12/5/2022
N053542-004A	MW-42-055-Q422	Groundwater	11/10/2022 9:04:00 AM	11/10/2022	12/5/2022
N053542-004B	MW-42-055-Q422	Groundwater	11/10/2022 9:04:00 AM	11/10/2022	12/5/2022
N053542-004C	MW-42-055-Q422	Groundwater	11/10/2022 9:04:00 AM	11/10/2022	12/5/2022
N053542-004D	MW-42-055-Q422	Groundwater	11/10/2022 9:04:00 AM	11/10/2022	12/5/2022
N053542-005A	MW-42-055-EB-Q422	Groundwater	11/10/2022 8:46:00 AM	11/10/2022	12/5/2022
N053542-006A	MW-42-065-Q422	Groundwater	11/10/2022 9:30:00 AM	11/10/2022	12/5/2022
N053542-006B	MW-42-065-Q422	Groundwater	11/10/2022 9:30:00 AM	11/10/2022	12/5/2022
N053542-006C	MW-42-065-Q422	Groundwater	11/10/2022 9:30:00 AM	11/10/2022	12/5/2022
N053542-006D	MW-42-065-Q422	Groundwater	11/10/2022 9:30:00 AM	11/10/2022	12/5/2022
N053542-007A	MW-42-065-EB-Q422	Groundwater	11/10/2022 9:12:00 AM	11/10/2022	12/5/2022
N053542-008A	MW-32-020-Q422	Groundwater	11/10/2022 10:27:00 AM	11/10/2022	12/5/2022
N053542-008B	MW-32-020-Q422	Groundwater	11/10/2022 10:27:00 AM	11/10/2022	12/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053542
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053542-008C	MW-32-020-Q422	Groundwater	11/10/2022 10:27:00 AM	11/10/2022	12/5/2022
N053542-008D	MW-32-020-Q422	Groundwater	11/10/2022 10:27:00 AM	11/10/2022	12/5/2022
N053542-009A	MW-32-020-EB-Q422	Groundwater	11/10/2022 10:10:00 AM	11/10/2022	12/5/2022
N053542-010A	MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	11/10/2022	12/5/2022
N053542-010B	MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	11/10/2022	12/5/2022
N053542-010C	MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	11/10/2022	12/5/2022
N053542-010D	MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	11/10/2022	12/5/2022
N053542-010E	MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	11/10/2022	12/5/2022
N053542-011A	MW-32-035-EB-Q422	Groundwater	11/10/2022 9:46:00 AM	11/10/2022	12/5/2022
N053542-012A	EB-715-Q422	Groundwater	11/10/2022 1:35:00 PM	11/10/2022	12/5/2022
N053542-013A	MW-36-020-Q422	Groundwater	11/10/2022 7:57:00 AM	11/10/2022	12/5/2022
N053542-013B	MW-36-020-Q422	Groundwater	11/10/2022 7:57:00 AM	11/10/2022	12/5/2022
N053542-013C	MW-36-020-Q422	Groundwater	11/10/2022 7:57:00 AM	11/10/2022	12/5/2022
N053542-013D	MW-36-020-Q422	Groundwater	11/10/2022 7:57:00 AM	11/10/2022	12/5/2022
N053542-014A	MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	11/10/2022	12/5/2022
N053542-014B	MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	11/10/2022	12/5/2022
N053542-014C	MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	11/10/2022	12/5/2022
N053542-014D	MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	11/10/2022	12/5/2022
N053542-014E	MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	11/10/2022	12/5/2022
N053542-015A	MW-36-050-Q422	Groundwater	11/10/2022 10:41:00 AM	11/10/2022	12/5/2022
N053542-015B	MW-36-050-Q422	Groundwater	11/10/2022 10:41:00 AM	11/10/2022	12/5/2022
N053542-015C	MW-36-050-Q422	Groundwater	11/10/2022 10:41:00 AM	11/10/2022	12/5/2022
N053542-015D	MW-36-050-Q422	Groundwater	11/10/2022 10:41:00 AM	11/10/2022	12/5/2022
N053542-016A	MW-36-070-Q422	Groundwater	11/10/2022 8:31:00 AM	11/10/2022	12/5/2022
N053542-016B	MW-36-070-Q422	Groundwater	11/10/2022 8:31:00 AM	11/10/2022	12/5/2022
N053542-016C	MW-36-070-Q422	Groundwater	11/10/2022 8:31:00 AM	11/10/2022	12/5/2022
N053542-016D	MW-36-070-Q422	Groundwater	11/10/2022 8:31:00 AM	11/10/2022	12/5/2022
N053542-017A	MW-36-090-Q422	Groundwater	11/10/2022 9:07:00 AM	11/10/2022	12/5/2022
N053542-017B	MW-36-090-Q422	Groundwater	11/10/2022 9:07:00 AM	11/10/2022	12/5/2022
N053542-017C	MW-36-090-Q422	Groundwater	11/10/2022 9:07:00 AM	11/10/2022	12/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053542
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053542-017D	MW-36-090-Q422	Groundwater	11/10/2022 9:07:00 AM	11/10/2022	12/5/2022
N053542-018A	MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	11/10/2022	12/5/2022
N053542-018B	MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	11/10/2022	12/5/2022
N053542-018C	MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	11/10/2022	12/5/2022
N053542-018D	MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	11/10/2022	12/5/2022
N053542-018E	MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	11/10/2022	12/5/2022
N053542-019A	MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	11/10/2022	12/5/2022
N053542-019B	MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	11/10/2022	12/5/2022
N053542-019C	MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	11/10/2022	12/5/2022
N053542-019D	MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	11/10/2022	12/5/2022
N053542-019E	MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	11/10/2022	12/5/2022
N053542-020A	MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	11/10/2022	12/5/2022
N053542-020B	MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	11/10/2022	12/5/2022
N053542-020C	MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	11/10/2022	12/5/2022
N053542-020D	MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	11/10/2022	12/5/2022
N053542-020E	MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	11/10/2022	12/5/2022
N053542-021A	EB-716-Q422	Groundwater	11/10/2022 2:30:00 PM	11/10/2022	12/5/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/14/2022 06:17 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A** QC Batch: **R167420**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/15/2022 11:35 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 01:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 10:43 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 01:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:04:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221114A** QC Batch: **R167373** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 01:07 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221115C** QC Batch: **96695** PrepDate: **11/13/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 01:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-EB-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:46:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221111A**	QC Batch: **R167308**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/11/2022 03:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_221114A** QC Batch: **R167373**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 12:29 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 01:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-EB-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221111A**	QC Batch: **R167308**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/11/2022 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A** QC Batch: **R167373**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/14/2022 05:21 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	11/16/2022 01:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-EB-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:10:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221111A**	QC Batch: **R167308**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/11/2022 03:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 12:48 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-EB-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:46:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221111A**	QC Batch: **R167308**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/11/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-715-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221111A**	QC Batch: **R167308**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/11/2022 04:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 7:57:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A** QC Batch: **R167373**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 03:20 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 03:57 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 04:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A** QC Batch: **R167373**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 04:39 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A** QC Batch: **R167373**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 05:02 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 01:26 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/16/2022 02:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	600	2.4	20		µg/L	100	11/14/2022 02:42 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221117B**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	780	0.18	5.0		µg/L	5	11/17/2022 05:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 1:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A** QC Batch: **R167373**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	11	0.12	1.0		µg/L	5	11/14/2022 03:01 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221115C** QC Batch: **96695**				PrepDate:	**11/13/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	11/16/2022 02:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-716-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 2:30:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221114A**	QC Batch: **R167373**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/14/2022 05:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167308**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **PBW**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167308**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **LCSW**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.965	0.20	5.000	0	99.3	90	110				

Sample ID: **N053541-001BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **ZZZZZZ**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.205	1.0	25.00	20.81	102	90	110				

Sample ID: **N053541-001BMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **ZZZZZZ**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.540	1.0	25.00	20.81	103	90	110	46.20	0.722	20	

Sample ID: **N053541-002BDUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **ZZZZZZ**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	573.890	10						573.2	0.127	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053541-002BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167308**
Client ID: **ZZZZZZ** Batch ID: **R167308** TestNo: **EPA 218.6** Analysis Date: **11/11/2022** SeqNo: **4923576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	821.660	10	250.0	573.2	99.4	90	110				

Sample ID: **N053538-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167308**
Client ID: **ZZZZZZ** Batch ID: **R167308** TestNo: **EPA 218.6** Analysis Date: **11/11/2022** SeqNo: **4923577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Sample ID: **N053538-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167308**
Client ID: **ZZZZZZ** Batch ID: **R167308** TestNo: **EPA 218.6** Analysis Date: **11/11/2022** SeqNo: **4923578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Sample ID: **N053542-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167308**
Client ID: **ZZZZZZ** Batch ID: **R167308** TestNo: **EPA 218.6** Analysis Date: **11/11/2022** SeqNo: **4923593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Sample ID: **N053542-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167308**
Client ID: **ZZZZZZ** Batch ID: **R167308** TestNo: **EPA 218.6** Analysis Date: **11/11/2022** SeqNo: **4923595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.013	0.20	1.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **ZZZZZZ**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0	103	90	110				

Sample ID: **N053542-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **ZZZZZZ**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.052	0.20	1.000	0	105	90	110				

Sample ID: **N053542-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167308**
Client ID: **ZZZZZZ**	Batch ID: **R167308**	TestNo: **EPA 218.6**		Analysis Date: **11/11/2022**	SeqNo: **4923603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.034	0.20	1.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167373**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **PBW**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927285**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167373**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **LCSW**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	0.20	5.000	0	103	90	110				

Sample ID: **N053537-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2151.160	40	1000	1128	102	90	110				

Sample ID: **N053539-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	464.800	80	400.0	79.04	96.4	90	110				

Sample ID: **N053539-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44131.000	1000	25000	18550	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID: **N053537-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1123.720	40						1128	0.339	20	

Sample ID: **N053542-003AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110	1.018	1.17	20	

Sample ID: **N053542-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N053542-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.924	0.20	1.000	0	92.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N053542-018AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.003	0.20	1.000	0	100	90	110				

Sample ID: **N053542-019AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1099.580	20	500.0	598.1	100	90	110				

Sample ID: **N053542-020AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.502	1.0	25.00	10.65	103	90	110				

Sample ID: **N053542-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927314**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167373**
Client ID: **ZZZZZZ** Batch ID: **R167373** TestNo: **EPA 218.6** Analysis Date: **11/14/2022** SeqNo: **4927318**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N053542-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167373**
Client ID: **ZZZZZZ** Batch ID: **R167373** TestNo: **EPA 218.6** Analysis Date: **11/14/2022** SeqNo: **4927320**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N053542-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167373**
Client ID: **ZZZZZZ** Batch ID: **R167373** TestNo: **EPA 218.6** Analysis Date: **11/14/2022** SeqNo: **4927322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.982	0.20	1.000	0	98.2	90	110				

Sample ID: **N053542-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167373**
Client ID: **ZZZZZZ** Batch ID: **R167373** TestNo: **EPA 218.6** Analysis Date: **11/14/2022** SeqNo: **4927324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID: **N053542-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167373**
Client ID: **ZZZZZZ** Batch ID: **R167373** TestNo: **EPA 218.6** Analysis Date: **11/14/2022** SeqNo: **4927326**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.054	1.0	5.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-021AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.971	0.20	1.000	0	97.1	90	110				

Sample ID: **N053542-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167373**
Client ID: **ZZZZZZ**	Batch ID: **R167373**	TestNo: **EPA 218.6**		Analysis Date: **11/14/2022**	SeqNo: **4927332**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.181	1.0	5.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167420**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **PBW**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167420**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **LCSW**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.002	0.20	5.000	0	100	90	110				

Sample ID: **N053579-003BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.494	1.0	25.00	18.60	104	90	110				

Sample ID: **N053579-001BREP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.319	0.20						5.265	1.02	20	

Sample ID: **N053579-003BMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.825	1.0	25.00	18.60	101	90	110	44.49	1.52	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.791	1.0	5.000	0	95.8	90	110				

Sample ID: **N053547-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	69.737	1.0	25.00	44.77	99.9	90	110				

Sample ID: **N053547-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928927**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.579	1.0	25.00	18.86	98.9	90	110				

Sample ID: **N053547-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928928**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	454.180	10	250.0	200.7	101	90	110				

Sample ID: **N053547-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1591.760	40	1000	577.9	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053547-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID: **N053547-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Sample ID: **N053547-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.873	1.0	5.000	0	97.5	90	110				

Sample ID: **N053547-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.041	1.0	5.000	0	101	90	110				

Sample ID: **N053547-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.968	1.0	5.000	0	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053547-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.077	1.0	25.00	28.49	98.3	90	110				

Sample ID: **N053547-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	579.085	10	250.0	330.0	99.7	90	110				

Sample ID: **N053547-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	579.710	10	250.0	333.6	98.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96695**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **PBW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96695**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **LCSW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.653	1.0	10.00	0	107	85	115				

Sample ID: **N053504-003CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	130.968	1.0	10.00	127.4	35.7	75	125				S

Sample ID: **N053504-003CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167438**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	143.713	1.0	10.00	127.4	163	75	125	131.0	9.28	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053504-003C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167438**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/16/2022** SeqNo: **4930257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	140.864	1.0	10.00	127.4	135	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 03:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	11/13/2022 03:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-002

Client Sample ID: MW-916-Q422
Collection Date: 11/10/2022 11:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 03:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	11/13/2022 04:13 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.61	0.095	0.50		mg/L	10	11/11/2022 03:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 07:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:04:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 08:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 07:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 09:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 7:57:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 08:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 08:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 09:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C**	QC Batch: **R167295**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/11/2022 09:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	250	1.2	10		mg/L	20	11/13/2022 04:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111D** QC Batch: **R167296**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 11:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113A** QC Batch: **R167321**				PrepDate:			Analyst: **RAB**
Sulfate	390	1.2	10		mg/L	20	11/13/2022 04:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111D** QC Batch: **R167296**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 11:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-019

Client Sample ID: MW-80-057-Q422
Collection Date: 11/10/2022 2:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 02:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	530	3.0	25		mg/L	50	11/13/2022 07:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	7.5	0.095	0.50		mg/L	10	11/11/2022 02:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 1:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 02:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	520	3.0	25		mg/L	50	11/13/2022 07:32 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 02:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R167295_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **PBW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R167295_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **LCSW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.309	0.50	1.250	0	105	90	110				

Sample ID: **N053547-011BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.253	5.0	12.50	0	154	80	120				S

Sample ID: **N053547-011BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.158	5.0	12.50	0	153	80	120	19.25	0.495	20	S

Sample ID: **N053542-002BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167321_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **PBW**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R167321_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **LCSW**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.037	0.50	4.000	0	101	90	110				

Sample ID: **N053503-009DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1013.090	50	400.0	602.4	103	80	120				

Sample ID: **N053503-009DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1014.920	50	400.0	602.4	103	80	120	1013	0.180	20	

Sample ID: **N053504-003BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	585.750	25	200.0	367.4	109	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053504-003BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	584.755	25	200.0	367.4	109	80	120	585.8	0.170	20	

Sample ID: **N053503-004DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167321**
Client ID: **ZZZZZZ**	Batch ID: **R167321**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	425.115	25						424.5	0.135	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R167322_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **LCSW**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.117	0.50	4.000	0	103	90	110				

Sample ID: **MB-R167322_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **PBW**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **N053547-007BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **ZZZZZZ**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	807.715	25	200.0	543.8	132	80	120				S

Sample ID: **N053547-007BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **ZZZZZZ**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	755.650	25	200.0	543.8	106	80	120	807.7	6.66	20	

Sample ID: **N053547-010BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **ZZZZZZ**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	466.120	25						465.4	0.147	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167295_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **PBW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.015	0.050									

Sample ID: **LCS-R167295_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **LCSW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.283	0.050	1.250	0	103	90	110				

Sample ID: **N053547-011BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.503	0.50	12.50	1.771	102	80	120				

Sample ID: **N053547-011BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.292	0.50	12.50	1.771	100	80	120	14.50	1.47	20	

Sample ID: **N053542-002BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923430**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.554	0.50						0.6100	9.62	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053542-002BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.842	0.50	12.50	0.6100	97.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R167296_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167296**
Client ID: **LCSW**	Batch ID: **R167296**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.291	0.050	1.250	0	103	90	110				

Sample ID: **MB-R167296_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167296**
Client ID: **PBW**	Batch ID: **R167296**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.016	0.050									

Sample ID: **N053542-017DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167296**
Client ID: **ZZZZZZ**	Batch ID: **R167296**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4923554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.389	0.50	12.50	0	107	80	120				

Sample ID: **N053542-017DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167296**
Client ID: **ZZZZZZ**	Batch ID: **R167296**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4923555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.754	0.50	12.50	0	102	80	120	13.39	4.86	20	

Sample ID: **N053542-018EDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167296**
Client ID: **ZZZZZZ**	Batch ID: **R167296**	TestNo: **EPA 300.0**		Analysis Date: **11/12/2022**	SeqNo: **4923556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 02:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 02:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.0	0.14	1.0		mg/L	1	11/13/2022 03:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:04:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 03:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 04:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	3.7	0.14	1.0		mg/L	1	11/13/2022 04:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.14	1.0		mg/L	1	11/13/2022 04:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 7:57:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.7	0.14	1.0		mg/L	1	11/13/2022 05:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.3	0.14	1.0		mg/L	1	11/13/2022 05:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.2	0.14	1.0		mg/L	1	11/13/2022 05:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 05:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 06:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 07:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 1:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221113A**	QC Batch: **R167336**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/13/2022 07:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167336**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167336**
Client ID: **PBW**	Batch ID: **R167336**	TestNo: **SM 5310C**		Analysis Date: **11/13/2022**	SeqNo: **4925121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167336**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167336**
Client ID: **LCSW**	Batch ID: **R167336**	TestNo: **SM 5310C**		Analysis Date: **11/13/2022**	SeqNo: **4925122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.164	1.0	5.000	0	103	85	115				

Sample ID: **N053504-003DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167336**
Client ID: **ZZZZZZ**	Batch ID: **R167336**	TestNo: **SM 5310C**		Analysis Date: **11/13/2022**	SeqNo: **4925128**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	90.918	20	100.0	0	90.9	75	125				

Sample ID: **N053504-003DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167336**
Client ID: **ZZZZZZ**	Batch ID: **R167336**	TestNo: **SM 5310C**		Analysis Date: **11/13/2022**	SeqNo: **4925129**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	91.342	20	100.0	0	91.3	75	125	90.92	0.465	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	58	13	20		µg/L	1	11/17/2022 12:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	55	13	20		µg/L	1	11/17/2022 12:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	590	13	20		µg/L	1	11/17/2022 12:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-004

Client Sample ID: MW-42-055-Q422
Collection Date: 11/10/2022 9:04:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**				PrepDate:	**11/13/2022**	Analyst: **DJ**
Iron	210	13	20		µg/L	1	11/17/2022 12:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	810	13	20		µg/L	1	11/17/2022 12:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	5400	13	20		µg/L	1	11/17/2022 12:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	13000	13	20		µg/L	1	11/17/2022 12:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 7:57:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	3300	13	20		µg/L	1	11/17/2022 12:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	410	13	20		µg/L	1	11/17/2022 12:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	200	13	20		µg/L	1	11/17/2022 01:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	48	13	20		µg/L	1	11/17/2022 01:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	52	13	20		µg/L	1	11/17/2022 01:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**				PrepDate:	**11/13/2022**	Analyst: **DJ**
Iron	790	13	20		µg/L	1	11/17/2022 01:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/17/2022 01:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 1:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221116A**	QC Batch: **96697**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/17/2022 01:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96697**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **PBW**	Batch ID: **96697**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96697**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **LCSW**	Batch ID: **96697**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.561	20	100.0	0	99.6	85	115				

Sample ID: **N053504-003CMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96697**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4931333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.240	20	100.0	0	105	75	125				

Sample ID: **N053504-003CMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167434**
Client ID: **ZZZZZZ**	Batch ID: **96697**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/17/2022**	SeqNo: **4931334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.080	20	100.0	0	104	75	125	105.2	1.11	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**				PrepDate:	**11/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/16/2022 01:15 AM
Barium	43	0.083	1.0		µg/L	1	11/16/2022 01:15 AM
Manganese	350	0.13	2.5		µg/L	5	11/17/2022 04:01 PM
Molybdenum	16	0.12	0.50		µg/L	1	11/16/2022 01:15 AM
Selenium	1.5	0.044	0.50		µg/L	1	11/16/2022 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/16/2022 01:21 AM
Barium	42	0.083	1.0		µg/L	1	11/16/2022 01:21 AM
Manganese	320	0.13	2.5		µg/L	5	11/25/2022 01:57 PM
Molybdenum	16	0.12	0.50		µg/L	1	11/16/2022 01:21 AM
Selenium	1.6	0.044	0.50		µg/L	1	11/16/2022 01:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:41:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	11/16/2022 01:27 AM
Barium	130	0.083	1.0		µg/L	1	11/16/2022 01:27 AM
Manganese	110	0.026	0.50		µg/L	1	11/16/2022 01:27 AM
Molybdenum	6.3	0.12	0.50		µg/L	1	11/16/2022 01:27 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 01:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:04:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	12	0.050	0.10		µg/L	1	11/16/2022 01:33 AM
Barium	150	0.083	1.0		µg/L	1	11/16/2022 01:33 AM
Manganese	240	0.13	2.5		µg/L	5	11/25/2022 02:03 PM
Molybdenum	5.0	0.12	0.50		µg/L	1	11/16/2022 01:33 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 01:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-006

Client Sample ID: MW-42-065-Q422
Collection Date: 11/10/2022 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	4.0	0.050	0.10		µg/L	1	11/16/2022 01:38 AM
Barium	140	0.083	1.0		µg/L	1	11/16/2022 01:38 AM
Manganese	2700	0.66	12		µg/L	25	11/25/2022 02:09 PM
Molybdenum	11	0.12	0.50		µg/L	1	11/16/2022 01:38 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 01:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 10:27:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**				PrepDate: **11/13/2022**		Analyst: **DJ**
Arsenic	ND	0.25	0.50		µg/L	5	11/16/2022 01:44 AM
Barium	110	0.42	5.0		µg/L	5	11/16/2022 01:44 AM
Manganese	300	0.13	2.5		µg/L	5	11/16/2022 01:44 AM
Molybdenum	120	0.60	2.5		µg/L	5	11/16/2022 01:44 AM
Selenium	ND	0.22	2.5		µg/L	5	11/16/2022 01:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-010

Client Sample ID: MW-32-035-Q422
Collection Date: 11/10/2022 10:03:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	20	0.050	0.10		µg/L	1	11/16/2022 02:08 AM
Barium	380	0.42	5.0		µg/L	5	11/17/2022 04:54 PM
Manganese	830	0.66	12		µg/L	25	11/25/2022 02:15 PM
Molybdenum	13	0.12	0.50		µg/L	1	11/16/2022 02:08 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 7:57:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	0.56	0.050	0.10		µg/L	1	11/16/2022 02:14 AM
Barium	170	0.083	1.0		µg/L	1	11/16/2022 02:14 AM
Manganese	450	0.13	2.5		µg/L	5	11/25/2022 02:21 PM
Molybdenum	14	0.12	0.50		µg/L	1	11/16/2022 02:14 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	6.2	0.050	0.10		µg/L	1	11/16/2022 02:20 AM
Barium	49	0.083	1.0		µg/L	1	11/16/2022 02:20 AM
Manganese	150	0.026	0.50		µg/L	1	11/16/2022 02:20 AM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/16/2022 02:20 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-015

Client Sample ID: MW-36-050-Q422
Collection Date: 11/10/2022 10:41:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:		**11/13/2022**	Analyst: **DJ**
Arsenic	4.8	0.050	0.10		µg/L	1	11/16/2022 02:26 AM
Barium	26	0.083	1.0		µg/L	1	11/16/2022 02:26 AM
Manganese	230	0.13	2.5		µg/L	5	11/25/2022 02:27 PM
Molybdenum	4.2	0.12	0.50		µg/L	1	11/16/2022 02:26 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 8:31:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	11/16/2022 02:32 AM
Barium	39	0.083	1.0		µg/L	1	11/16/2022 02:32 AM
Manganese	320	0.13	2.5		µg/L	5	11/25/2022 02:32 PM
Molybdenum	5.2	0.12	0.50		µg/L	1	11/16/2022 02:32 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053542-017

Client Sample ID: MW-36-090-Q422
Collection Date: 11/10/2022 9:07:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	11/16/2022 02:38 AM
Barium	41	0.083	1.0		µg/L	1	11/16/2022 02:38 AM
Manganese	130	0.026	0.50		µg/L	1	11/16/2022 02:38 AM
Molybdenum	5.3	0.12	0.50		µg/L	1	11/16/2022 02:38 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**				PrepDate:	**11/13/2022**	Analyst: **DJ**
Arsenic	3.9	0.050	0.10		µg/L	1	11/16/2022 02:44 AM
Barium	54	0.083	1.0		µg/L	1	11/16/2022 02:44 AM
Manganese	510	0.13	2.5		µg/L	5	11/25/2022 02:38 PM
Molybdenum	13	0.12	0.50		µg/L	1	11/16/2022 02:44 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221115D**	QC Batch: **96695**			PrepDate:	**11/13/2022**		Analyst: **DJ**
Arsenic	0.71	0.050	0.10		µg/L	1	11/16/2022 02:50 AM
Barium	94	0.083	1.0		µg/L	1	11/16/2022 02:50 AM
Manganese	4.3	0.026	0.50		µg/L	1	11/16/2022 02:50 AM
Molybdenum	21	0.12	0.50		µg/L	1	11/16/2022 02:50 AM
Selenium	13	0.044	0.50		µg/L	1	11/16/2022 02:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q422
Lab Order:	N053542	**Collection Date:**	11/10/2022 1:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053542-020		

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221115D** QC Batch: **96695** PrepDate: **11/13/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	2.8	0.050	0.10		µg/L	1	11/16/2022 02:56 AM
Barium	46	0.083	1.0		µg/L	1	11/16/2022 02:56 AM
Manganese	14	0.026	0.50		µg/L	1	11/16/2022 02:56 AM
Molybdenum	61	0.12	0.50		µg/L	1	11/16/2022 02:56 AM
Selenium	ND	0.044	0.50		µg/L	1	11/16/2022 02:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96695**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **PBW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96695**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **LCSW**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/15/2022**	SeqNo: **4930405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.021	0.10	10.00	0	90.2	85	115				
Barium	10.083	1.0	10.00	0	101	85	115				
Manganese	104.406	0.50	100.0	0	104	85	115				
Molybdenum	9.602	0.50	10.00	0	96.0	85	115				
Selenium	9.732	0.50	10.00	0	97.3	85	115				

Sample ID: **N053504-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/13/2022**	RunNo: **167440**
Client ID: **ZZZZZZ**	Batch ID: **96695**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/16/2022**	SeqNo: **4930409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.929	0.10	10.00	0.6206	93.1	75	125				
Manganese	99.433	0.50	100.0	0	99.4	75	125				
Molybdenum	15.569	0.50	10.00	5.253	103	75	125				
Selenium	10.438	0.50	10.00	1.057	93.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053504-003CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/13/2022** RunNo: **167440**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/16/2022** SeqNo: **4930410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.859	0.10	10.00	0.6206	92.4	75	125	9.929	0.706	20	
Manganese	98.425	0.50	100.0	0	98.4	75	125	99.43	1.02	20	
Molybdenum	15.866	0.50	10.00	5.253	106	75	125	15.57	1.89	20	
Selenium	10.463	0.50	10.00	1.057	94.1	75	125	10.44	0.235	20	

Sample ID: **N053504-003CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/13/2022** RunNo: **167500**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/17/2022** SeqNo: **4933105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	190.999	5.0	10.00	187.2	38.3	75	125				S

Sample ID: **N053504-003CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **11/13/2022** RunNo: **167500**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/17/2022** SeqNo: **4933106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	209.465	5.0	10.00	187.2	223	75	125	191.0	9.22	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053542
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053504-003C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167440**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/16/2022** SeqNo: **4930408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.128	0.10	10.00	0.6206	95.1	80	120				
Manganese	100.109	0.50	100.0	0	100	80	120				
Molybdenum	15.517	0.50	10.00	5.253	103	80	120				
Selenium	10.457	0.50	10.00	1.057	94.0	80	120				

Sample ID: **N053504-003C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167500**
Client ID: **ZZZZZZ** Batch ID: **96695** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/17/2022** SeqNo: **4933104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	206.127	5.0	10.00	187.2	190	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

53542

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled Y
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tep			Others	✓	LEVEL III		3. Container Intact Y
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 11/10/22	Sampled By: Riggie Tep		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 11/10/22						Sample Temp: 0.7°C/2.2°F/30°C
Project Number: 30121866.4Q22GW							Courier: Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate, (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053542-001	MW-71-035-Q422	11/10/2022	11:20		X	X	X	X	X	X	X	X			E	8	P	BNS	
2	-002	MW-916-Q422	11/10/2022	11:30		X	X	X	X	X	X	X	X			E	8	P	BNS	
3																				
4																				
5	-003	MW-42-030-Q422	11/10/2022	8:41		X		X	X	X	X	X			X	E	7	P	BNS	
6	-004	MW-42-055-Q422	11/10/2022	9:04		X		X	X	X	X				X	E	6	P	BNS	
7	-005	MW-42-055-EB-Q422	11/10/2022	8:46		X										E	1	P	BNS	
8	-006	MW-42-065-Q422	11/10/2022	9:30		X		X	X	X	X				X	E	6	P	BNS	
9	-007	MW-42-065-EB-Q422	11/10/2022	9:12		X										E	1	P	BNS	
10	-008	MW-32-020-Q422	11/10/2022	10:27		X		X	X	X	X				X	E	6	P	BNS	
11	-009	MW-32-020-EB-Q422	11/10/2022	10:10		X										E	1	P	BNS	
12	-010	MW-32-035-Q422	11/10/2022	10:03		X		X	X	X	X	X			X	E	7	P	BNS	
13	-011	MW-32-035-EB-Q422	11/10/2022	9:46		X										E	1	P	BNS	
14	-012	EB-715-Q422	11/10/2022	13:35		X										E	1	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tep	11/10/22 1509	Dante Ortiz Dante Ortiz	11/10/22 15:09
Dante Ortiz Dante Ortiz	11/10/22 18:18	Dante Ortiz Dante Ortiz	11/10/22 18:18

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:

Nevada: 3151 W. Post Road, Las Vegas, NV 89118
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California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436

www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Global ID:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	
Submitted By: Maggie Tag	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech			
Signature: Date: 11/10/22	Sampled By: Maggie Tag		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 11/10/22		
Project Number: 30121866.4Q22GW			

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	2	
6. Method of Cooling: ICE		

Sample Temp: 2.1/3.2C/3.6C

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix: Ground	Matrix: Potable	Matrix: NPDES	Matrix: Surface	Matrix: Sediment	Matrix: Soil	Matrix: Other Solid	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrite, Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	125mL poly: Nitrate/Nitrite as Nitrogen (SM4500); H2SO4	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	1 L poly: Nitrate, sulfate (EPA 300.0)	1 L poly: Nitrate (EPA 300.0)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053542-013	MW-36-020-Q422	11/10/2022	7:57						X			X		X	X	X	X				X	E	6	P	BNS	
2	-014	MW-36-040-Q422	11/10/2022	9:50						X			X		X	X	X	X				X	E	7	P	BNS	
3	-015	MW-36-050-Q422	11/10/2022	10:41						X			X		X	X	X	X	X			X	E	6	P	BNS	
4	-016	MW-36-070-Q422	11/10/2022	8:31						X			X		X	X	X	X				X	E	6	P	BNS	
5	-017	MW-36-090-Q422	11/10/2022	9:07						X			X		X	X	X	X				X	E	6	P	BNS	
6	-018	MW-36-100-Q422	11/10/2022	11:40						X			X		X	X	X	X			X		E	6	P	BNS	
7	-019	MW-80-057-Q422	11/10/2022	14:00						X			X		X	X	X	X	X		X		E	7	P	BNS	
8	-020	MW-80-082-Q422	11/10/2022	13:20						X			X	X	X	X	X	X		X			E	7	P	BNS	
9	-021	EB-716-Q422	11/10/2022	14:30						X			X							X			E	7	P	BNS	
10																							E	1	P	BNS	
11																											
12																											
13																											
14																											

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Maggie Tag	11/10/22 1509	Dante Ortiz	11/10/22 15:09
Dante Ortiz	11/10/22 18:18	Dante Ortiz	11/10/22 18:18

Turn Around Time (TAT)

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- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level II Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/10/2022	Workorder:	N053542
Rep sample Temp (Deg C):	2.1/3.2/3.6	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/11/2022

Reviewed By: for: MBC 11/23/2022

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-001A	MW-71-035-Q422	11/10/2022 11:20:00 AM	11/29/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-001B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-001C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-001D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-001E			11/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053542-001F			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053542-002A	MW-916-Q422	11/10/2022 11:30:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-002B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-002C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-002D	MW-916-Q422	11/10/2022 11:30:00 AM	11/29/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-002E			11/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053542-002F			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053542-003A	MW-42-030-Q422	11/10/2022 8:41:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-003B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-003C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-003D			11/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053542-003E			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-004A	MW-42-055-Q422	11/10/2022 9:04:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-004B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-004C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-004D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-005A	MW-42-055-EB-Q422	11/10/2022 8:46:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-006A	MW-42-065-Q422	11/10/2022 9:30:00 AM	11/29/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-006B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-006C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-006D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-007A	MW-42-065-EB-Q422	11/10/2022 9:12:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-008A	MW-32-020-Q422	11/10/2022 10:27:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-008B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-008C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-008D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-009A	MW-32-020-EB-Q422	11/10/2022 10:10:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-010A	MW-32-035-Q422	11/10/2022 10:03:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-010B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-010B	MW-32-035-Q422	11/10/2022 10:03:00 AM	11/29/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-010C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-010D			11/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053542-010E			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-011A	MW-32-035-EB-Q422	11/10/2022 9:46:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-012A	EB-715-Q422	11/10/2022 1:35:00 PM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-013A	MW-36-020-Q422	11/10/2022 7:57:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-013B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-013C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-013D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-014A	MW-36-040-Q422	11/10/2022 9:50:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-014B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-014C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-014D	MW-36-040-Q422	11/10/2022 9:50:00 AM	11/29/2022	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053542-014E			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-015A	MW-36-050-Q422	11/10/2022 10:41:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-015B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-015C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-015D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-016A	MW-36-070-Q422	11/10/2022 8:31:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-016B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-016C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-016D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-017A	MW-36-090-Q422	11/10/2022 9:07:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-017B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-017B	MW-36-090-Q422	11/10/2022 9:07:00 AM	11/29/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-017C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-017D			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-018A	MW-36-100-Q422	11/10/2022 11:40:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-018B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-018C			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-018D			11/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053542-018E			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-019A	MW-80-057-Q422	11/10/2022 2:00:00 PM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-019B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-019C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053542

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/10/2022 6:18 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053542-019C	MW-80-057-Q422	11/10/2022 2:00:00 PM	11/29/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-019D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-019E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053542-020A	MW-80-082-Q422	11/10/2022 1:20:00 PM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-020B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053542-020C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053542-020D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053542-020E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053542-021A	EB-716-Q422	11/10/2022 2:30:00 PM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053542-022A	FOLDER	11/29/2022	11/29/2022		Folder	Folder	☐	☐	☐	LAB
			11/29/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/29/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler:

14-Nov-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**	**SM4500-NO3F** Nitrate/Nitrite	
N053542-001E / MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	8OZP		1	
N053542-001F / MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	16OZP	1		
N053542-002E / MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	8OZP		1	
N053542-002F / MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	16OZP	1		
N053542-003D / MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	8OZP		1	
N053542-010D / MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	8OZP		1	
N053542-014D / MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	8OZP		1	
N053542-018D / MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	8OZP		1	
N053542-019E / MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	8OZP	1		
N053542-020E / MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53542A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammnia by SM4500 and Nitrtrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558204273

		Date/Time		Date/Time
Relinquished by:	YRodriguez	11/14/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

BC LABORATORIES, INC.

Work Order Number: 2227728

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53542A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Case Narrative

Sample Receipt

Work Order: 2227728
COC Number: N53542A
Default Cooler was received at 3 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2227728-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227728-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227728-09	SM-4500-NH3G	Ammonia as N (Distilled)
2227728-10	SM-4500-NH3G	Ammonia as N (Distilled)

Holding Times

The sample holding time was exceeded.

Lab Number	Method	Analyte
2227728-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227728-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227728-09	SM-4500-NH3G	Ammonia as N (Distilled)
2227728-10	SM-4500-NH3G	Ammonia as N (Distilled)

Method Blanks

Lab Number	Method	Analyte	Concentration
B156271-BLK1	SM-4500-NH3G	Ammonia as N (Distilled)	JB 0.15840 mg/L

Analyte detected in the Method Blank at a level between the PQL and > 1/2 the PQL.

Lab Number	Method	Analyte
B156271-BLK1	SM-4500-NH3G	Ammonia as N (Distilled)

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156271	SM-4500-NH3G	2227358-01	<Not Client Sample>

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Discussion

The data package was revised to include the calibration summary in the Raw Data - Analytical Runs section.

Chain of Custody and Cooler Receipt Form for 2227728 Page 1 of 2

22-27728

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler:

14-Nov-22

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests SM4500-NH3D	SM4500-NO3F Nitrate/Nitrite	
1	N053542-001E / MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	8OZP		1	
2	N053542-001F / MW-71-035-Q422	Groundwater	11/10/2022 11:20:00 AM	16OZP	1		
3	N053542-002E / MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	8OZP		1	
4	N053542-002F / MW-916-Q422	Groundwater	11/10/2022 11:30:00 AM	16OZP	1		
5	N053542-003D / MW-42-030-Q422	Groundwater	11/10/2022 8:41:00 AM	8OZP		1	
6	N053542-010D / MW-32-035-Q422	Groundwater	11/10/2022 10:03:00 AM	8OZP		1	
7	N053542-014D / MW-36-040-Q422	Groundwater	11/10/2022 9:50:00 AM	8OZP		1	
8	N053542-018D / MW-36-100-Q422	Groundwater	11/10/2022 11:40:00 AM	8OZP		1	
9	N053542-019E / MW-80-057-Q422	Groundwater	11/10/2022 2:00:00 PM	8OZP	1		
10	N053542-020E / MW-80-082-Q422	Groundwater	11/10/2022 1:20:00 PM	8OZP	1		

Preserved with H2SO4

CHK BY TJV

DISTRIBUTION

SUB-OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53542A. Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammnia by SM4500 and Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558204273

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/14/2022 1630	Received by:	Jmenguez	11-15-22 1132
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2227728 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-24 Rec 11/15/22 | 22-27728

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐
Pace Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☒ (N) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337

Temperature: (A) 3.1 °C / (C) 3.0 °C

Date/Time 11-15-22

Analyst Init SMH 1132

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS		A		A						
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE $0.00	A		A		A	A	A	A	A	A
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: Rec Date/Time: 11/18/22 1415

A = Actual / C = Corrected

Rev 23 05/25/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2227728**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2227728
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053542-001F/ MW-71-035-Q422	2227728-02
N053542-002F/ MW-916-Q422	2227728-04
N053542-019E/ MW-80-057-Q422	2227728-09
N053542-020E/ MW-80-082-Q422	2227728-10

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron
Date: 01-10-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N053542-001F/ MW-71-035-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227728-02
File ID: 20221219006-NH3-012
Sampled: 11/10/22 11:20
Prepared: 12/19/22 11:45
Analyzed: 12/19/22 15:52
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.78 ml / 6 ml
Batch: B156271
Sequence: 2223257
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.34	2.16	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N053542-002F/ MW-916-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227728-04
File ID: 20221219006-NH3-013
Sampled: 11/10/22 11:30
Prepared: 12/19/22 11:45
Analyzed: 12/19/22 15:54
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.79 ml / 6 ml
Batch: B156271
Sequence: 2223257
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.37	2.15	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

SM-4500-NH3G

N053542-019E/ MW-80-057-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227728-09
File ID: 20221219006-NH3-014
Sampled: 11/10/22 14:00
Prepared: 12/19/22 11:45
Analyzed: 12/19/22 15:54
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.76 ml / 6 ml
Batch: B156271
Sequence: 2223257
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.41	2.17	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053542-020E/ MW-80-082-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227728-10
File ID: 20221219006-NH3-015
Sampled: 11/10/22 13:20
Prepared: 12/19/22 11:45
Analyzed: 12/19/22 15:55
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.76 ml / 6 ml
Batch: B156271
Sequence: 2223257
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.34	2.17	JBD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156271
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053542-001F/ MW-71-035-Q422	2227728-02	20221219006-NH3-012	12/19/22 11:45	
N053542-002F/ MW-916-Q422	2227728-04	20221219006-NH3-013	12/19/22 11:45	
N053542-019E/ MW-80-057-Q422	2227728-09	20221219006-NH3-014	12/19/22 11:45	
N053542-020E/ MW-80-082-Q422	2227728-10	20221219006-NH3-015	12/19/22 11:45	
Blank	B156271-BLK1	20221219006-NH3-007	12/19/22 11:45	
LCS	B156271-BS1	20221219006-NH3-006	12/19/22 11:45	
Duplicate	B156271-DUP1	20221219006-NH3-009	12/19/22 11:45	
Matrix Spike	B156271-MS1	20221219006-NH3-010	12/19/22 11:45	
Matrix Spike Dup	B156271-MSD1	20221219006-NH3-011	12/19/22 11:45	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2227728	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156271-BLK1	File ID:	20221219006-NH3-007
Prepared:	12/19/22 11:45	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	12/19/22 15:46	Instrument:	SC-1		
Batch:	B156271	Sequence:	2223257	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.15840	J

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

Duplicate

DUPLICATES
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156271
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2227728
Project: Level IV + labSpec7
Laboratory ID: B156271-DUP1
Lab Source ID: 2227358-01
Initial/Final: 5.66 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	1.7135		1.7115		0.118		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156271
Laboratory ID: B156271-MS1
Preparation: No Prep
Initial/Final: 5.09 ml / 6 ml
Source Sample Number: 2227358-01

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.3576	1.7135	4.1020	101	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	2.3576	4.1508	103	1.18	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156271
Laboratory ID: B156271-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	2.1066	105	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield	SDG:	2227728
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223257	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223257-ICV1	20221219001-NH3-018	12/19/22 12:12
Initial Cal Blank	2223257-ICB1	20221219001-NH3-019	12/19/22 12:13
Calibration Check	2223257-CCV1	20221219006-NH3-004	12/19/22 15:43
Calibration Blank	2223257-CCB1	20221219006-NH3-005	12/19/22 15:45
LCS	B156271-BS1	20221219006-NH3-006	12/19/22 15:45
Blank	B156271-BLK1	20221219006-NH3-007	12/19/22 15:46
Duplicate	B156271-DUP1	20221219006-NH3-009	12/19/22 15:48
Matrix Spike	B156271-MS1	20221219006-NH3-010	12/19/22 15:49
Matrix Spike Dup	B156271-MSD1	20221219006-NH3-011	12/19/22 15:52
N053542-001F/ MW-71-035-Q422	2227728-02	20221219006-NH3-012	12/19/22 15:52
N053542-002F/ MW-916-Q422	2227728-04	20221219006-NH3-013	12/19/22 15:54
N053542-019E/ MW-80-057-Q422	2227728-09	20221219006-NH3-014	12/19/22 15:54
N053542-020E/ MW-80-082-Q422	2227728-10	20221219006-NH3-015	12/19/22 15:55
Calibration Check	2223257-CCV2	20221219006-NH3-016	12/19/22 15:56
Calibration Blank	2223257-CCB2	20221219006-NH3-017	12/19/22 15:57

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Sequence: 2223257

SDG: 2227728
Project: Level IV + labSpec7
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223257-ICB1	Ammonia as N (Distilled)	0.022600	0.20	mg/L		SM-4500-NH3G
2223257-CCB1	Ammonia as N (Distilled)	0.073100	0.20	mg/L		SM-4500-NH3G
2223257-CCB2	Ammonia as N (Distilled)	0.074400	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2227728
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223257

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223257-ICV1	Ammonia as N (Distilled)	2.0000	1.9519	97.6	mg/L	SM-4500-NH3G
2223257-CCV1	Ammonia as N (Distilled)	2.0000	2.0883	104	mg/L	SM-4500-NH3G
2223257-CCV2	Ammonia as N (Distilled)	2.0000	2.1864	109	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227728
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053542-001F/ MW-71-035-Q422	11/10/22 11:20	11/15/22 11:32	12/19/22 11:45	39.00	28.00	12/19/22 15:52	39.00	28.00	*
N053542-002F/ MW-916-Q422	11/10/22 11:30	11/15/22 11:32	12/19/22 11:45	39.00	28.00	12/19/22 15:54	39.00	28.00	*
N053542-019E/ MW-80-057-Q422	11/10/22 14:00	11/15/22 11:32	12/19/22 11:45	39.00	28.00	12/19/22 15:54	39.00	28.00	*
N053542-020E/ MW-80-082-Q422	11/10/22 13:20	11/15/22 11:32	12/19/22 11:45	39.00	28.00	12/19/22 15:55	39.00	28.00	*

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0937**	**0.00**	**11:57:20 AM**
DIL-1	**RBL**	**0.0000**	**0.0727**	**0.00**	**11:57:38 AM**
DIL-1	**RBL**	**0.0000**	**0.0569**	**0.00**	**11:59:08 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0082**	**0.00**	**11:59:26 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0079**	**0.00**	**12:00:56 PM**
SR5-1	**Std-2**	**0.2000**	**0.0227**	**0.00**	**12:01:14 PM**
SR5-1	**Std-2**	**0.2000**	**0.0223**	**0.00**	**12:02:44 PM**
SR5-2	**Std-3**	**0.5000**	**0.0679**	**0.00**	**12:03:02 PM**
SR5-2	**Std-3**	**0.5000**	**0.0699**	**0.00**	**12:04:33 PM**
SR5-3	**Std-4**	**1.0000**	**0.1778**	**0.00**	**12:04:50 PM**
SR5-3	**Std-4**	**1.0000**	**0.1469**	**0.00**	**12:06:21 PM**
SR5-4	**Std-5**	**2.0000**	**0.2976**	**0.00**	**12:06:39 PM**
SR5-4	**Std-5**	**2.0000**	**0.2993**	**0.00**	**12:08:09 PM**
SR5-5	**Std-6**	**5.0000**	**0.8065**	**0.00**	**12:08:27 PM**
SR5-5	**Std-6**	**5.0000**	**0.8218**	**0.00**	**12:09:57 PM**
ST-2	**^CCV (2 mg/L)**	**1.9160**	**0.3029**	**95.80**	**12:10:15 PM**
R-5	**~CCB (0 mg/L)**	**0.0214**	**-0.0082**	**0.00**	**12:11:45 PM**
1	**ICV1**	**1.9519**	**0.3088**	**0.00**	**12:12:03 PM**
2	**ICB1**	**0.0226**	**-0.0080**	**0.00**	**12:13:33 PM**
3	**B156210-BS1**	**1.8679**	**0.2950**	**0.00**	**12:13:51 PM**
4	**B156210-BLK1**	**0.0244**	**-0.0077**	**0.00**	**12:15:21 PM**
5	**2227726-03**	**0.0890**	**0.0029**	**0.00**	**12:15:39 PM**
6	**B156210-DUP1**	**0.0792**	**0.0013**	**0.00**	**12:17:09 PM**
7	**B156210-MS1**	**2.0585**	**0.3263**	**0.00**	**12:17:27 PM**
8	**B156210-MSD1**	**2.0835**	**0.3304**	**0.00**	**12:18:57 PM**
9	**2227726-01**	**0.1633**	**0.0151**	**0.00**	**12:19:15 PM**
10	**2227726-02**	**0.0963**	**0.0041**	**0.00**	**12:20:45 PM**
ST-2	**^CCV (2 mg/L)**	**2.0189**	**0.3198**	**100.95**	**12:21:03 PM**
R-5	**~CCB (0 mg/L)**	**0.0263**	**-0.0074**	**0.00**	**12:22:33 PM**
11	**2227726-04**	**0.1870**	**0.0190**	**0.00**	**12:22:51 PM**
12	**2228278-01**	**0.2157**	**0.0237**	**0.00**	**12:24:21 PM**
13	**2228789-01**	**0.1608**	**0.0147**	**0.00**	**12:24:39 PM**
14	**2228789-02**	**0.1481**	**0.0126**	**0.00**	**12:26:09 PM**
15	**2228799-01**	**0.3222**	**0.0412**	**0.00**	**12:26:27 PM**
16	**2228799-02**	**1.7497**	**0.2756**	**0.00**	**12:27:57 PM**
17	**2228799-03**	**1.8764**	**0.2964**	**0.00**	**12:28:15 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
18	**LOD**	**0.0750**	**0.0006**	**0.00**	**12:29:45 PM**
19	**LOQ**	**0.0805**	**0.0015**	**0.00**	**12:30:03 PM**
ST-2	**^CCV (2 mg/L)**	**1.9958**	**0.3160**	**99.79**	**12:31:33 PM**
R-5	**~CCB (0 mg/L)**	**0.0269**	**-0.0073**	**0.00**	**12:31:51 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219001**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0595**	**0.00**	**3:41:32 PM**
DIL-1	**RBL**	**0.0000**	**0.0602**	**0.00**	**3:41:50 PM**
DIL-1	**RBL**	**0.0000**	**0.0591**	**0.00**	**3:43:20 PM**
ST-2	**^CCV (2 mg/L)**	**2.0883**	**0.3312**	**104.42**	**3:43:38 PM**
R-5	**~CCB (0 mg/L)**	**0.0731**	**0.0003**	**0.00**	**3:45:08 PM**
3	**B156271-BS1**	**2.1066**	**0.3342**	**0.00**	**3:45:26 PM**
4	**B156271-BLK1**	**0.1584**	**0.0143**	**0.00**	**3:46:56 PM**
5	**2227358-01**	**1.6164**	**0.2537**	**0.00**	**3:47:14 PM**
6	**B156271-DUP1**	**1.6145**	**0.2534**	**0.00**	**3:48:44 PM**
7	**B156271-MS1**	**3.4799**	**0.5597**	**0.00**	**3:49:02 PM**
8	**B156271-MSD1**	**3.5213**	**0.5665**	**0.00**	**3:52:20 PM**
9	**2227728-02**	**0.1596**	**0.0145**	**0.00**	**3:52:38 PM**
10	**2227728-04**	**0.1712**	**0.0164**	**0.00**	**3:54:08 PM**
11	**2227728-09**	**0.1895**	**0.0194**	**0.00**	**3:54:26 PM**
12	**2227728-10**	**0.1560**	**0.0139**	**0.00**	**3:55:56 PM**
ST-2	**^CCV (2 mg/L)**	**2.1864**	**0.3473**	**109.32**	**3:56:14 PM**
R-5	**~CCB (0 mg/L)**	**0.0744**	**0.0005**	**0.00**	**3:57:44 PM**
13	**2228800-03**	**0.7467**	**0.1109**	**0.00**	**3:58:02 PM**
14	**2228801-02**	**0.6675**	**0.0979**	**0.00**	**3:59:32 PM**
15	**2228801-04**	**1.0926**	**0.1677**	**0.00**	**3:59:50 PM**
16	**2228804-01**	**3.8563**	**0.6215**	**0.00**	**4:01:20 PM**
17	**2228817-02**	**1.1827**	**0.1825**	**0.00**	**4:01:38 PM**
ST-2	**^CCV (2 mg/L)**	**2.1480**	**0.3410**	**107.40**	**4:03:09 PM**
R-5	**~CCB (0 mg/L)**	**0.0792**	**0.0013**	**0.00**	**4:03:26 PM**

Report Date :01/09/2023 **Run Date :12/19/2022** **Operator : WESTCO** **Plan # :20221219006**

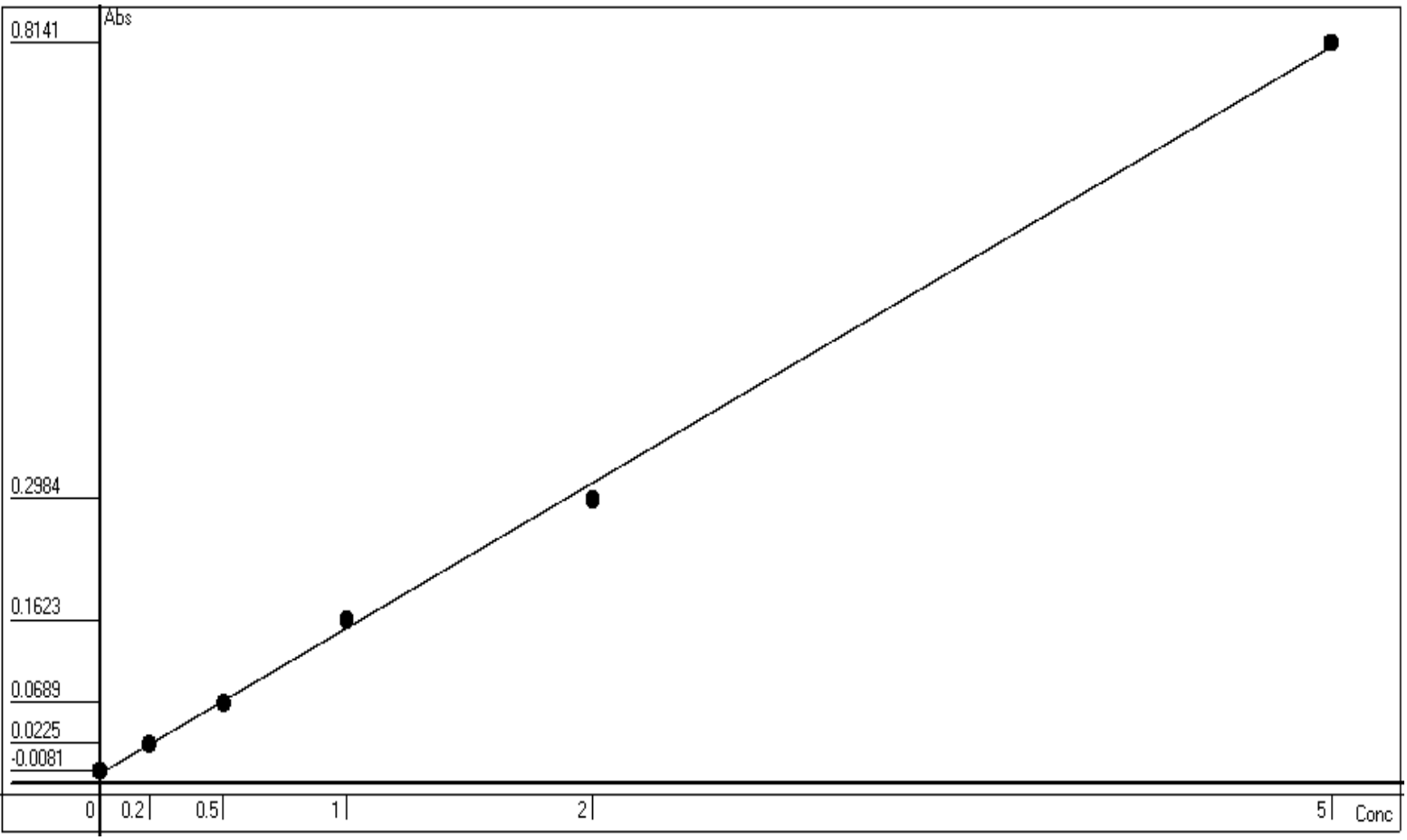
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221219001 Description : [NH3] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0081	0	0.0220	2.20
2	0.0225	0.2	0.2083	4.15
3	0.0689	0.5	0.4909	-1.82
4	0.1623	1	1.0597	5.97
5	0.2984	2	1.8886	-5.57
6	0.8141	5	5.0292	0.58

Conc= +6.09*Abso +0.0713 R^2=0.9990

RBL 0.0648 0

Report Date 12/19/2022 Run Date 12/19/2022

Replicate Report - BNH3 -

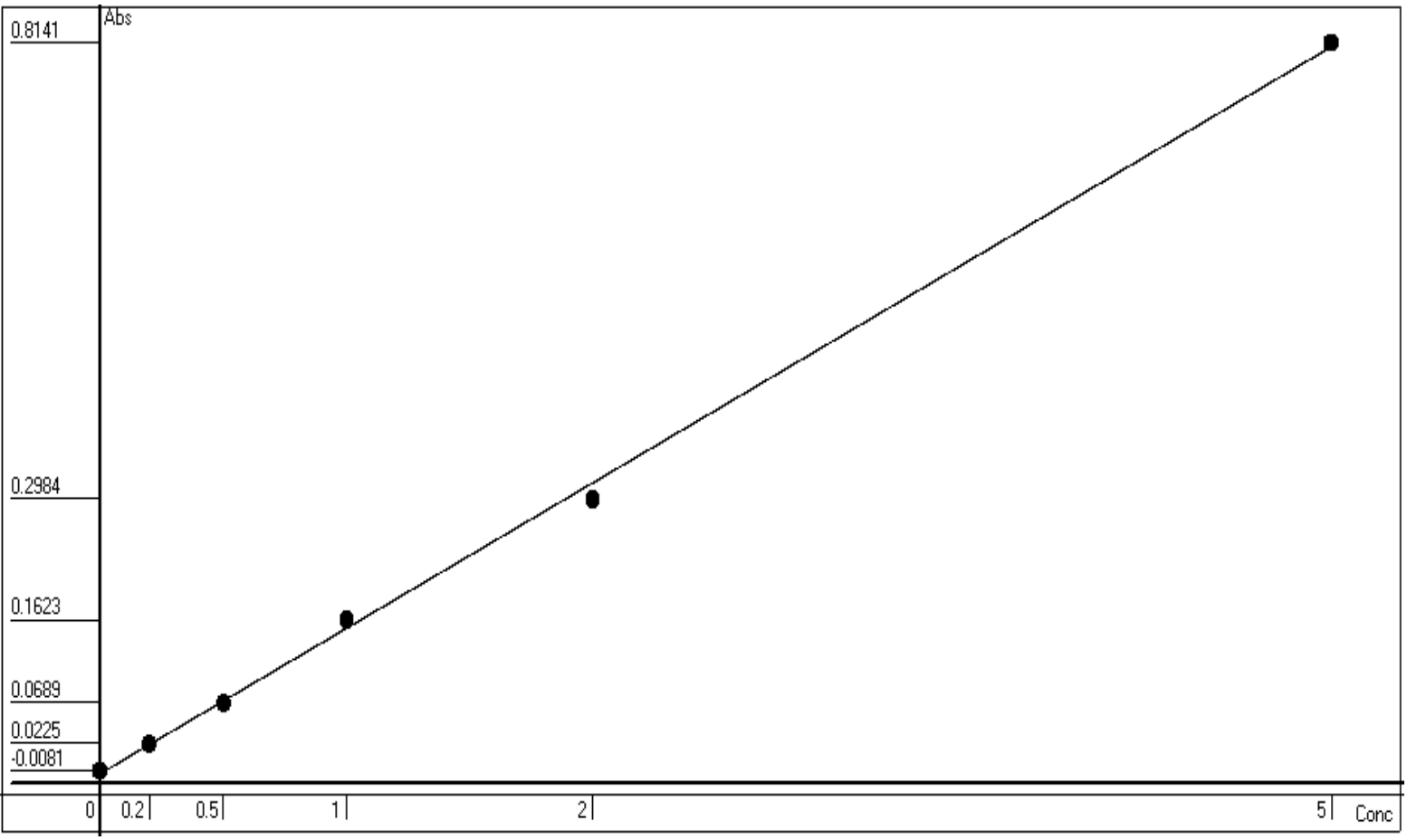
Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0082	-0.0079	/	/
2	0.0227	0.0223	/	/
3	0.0679	0.0699	/	/
4	0.1778	0.1469	/	/
5	0.2976	0.2993	/	/
6	0.8065	0.8218	/	/

Print Date:12/19/2022 [WESTCO]

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221219006 Description : [NH3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0081	0	0.0220	2.20
2	0.0225	0.2	0.2083	4.15
3	0.0689	0.5	0.4909	-1.82
4	0.1623	1	1.0597	5.97
5	0.2984	2	1.8886	-5.57
6	0.8141	5	5.0292	0.58

Conc= +6.09*Abso +0.0713 R^2=0.9990

RBL

Report Date 1/9/2023 Run Date 12/19/2022

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156271

BC Laboratories

Printed: 1/10/2023 1:54:45PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2227358-01 G	i350.1w Ammonia as NH3	12/19/2022 11:45AM	AKC	5.66	6					
2227358-01 G	iSM4500NH3Gw Dist NH3 as N	12/19/2022 11:45AM	AKC	5.66	6					
2227358-01 G	i350.1w Ammonia as N	12/19/2022 11:45AM	AKC	5.66	6					
2227728-02 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 11:45AM	AKC	2.78	6					
2227728-04 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 11:45AM	AKC	2.79	6					
2227728-09 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 11:45AM	AKC	2.76	6					
2227728-10 A	iSM4500NH3Gw Dist NH3 as N	12/19/2022 11:45AM	AKC	2.76	6					
2228800-03 F	i350.1w Ammonia as NH3	12/19/2022 11:45AM	AKC	5.67	6					
2228801-02 C	i350.1w Ammonia as NH3	12/19/2022 11:45AM	AKC	1.18	6					
2228801-04 C	i350.1w Ammonia as NH3	12/19/2022 11:45AM	AKC	2.9	6					
2228804-01 D	i350.1w Ammonia as N	12/19/2022 11:45AM	AKC	2.83	6					
2228817-02 B	i350.1w Ammonia as N	12/19/2022 11:45AM	AKC	1.18	6					
B156271-BLK1	QC	12/19/2022 11:45AM	AKC	6	6					
B156271-BS1	QC	12/19/2022 11:45AM	AKC	6	6	2J06023		600		
B156271-DUP1	QC	12/19/2022 11:45AM	AKC	5.66	6		2227358-01			
B156271-MS1	QC	12/19/2022 11:45AM	AKC	5.09	6	2J06023	2227358-01	600		
B156271-MSD1	QC	12/19/2022 11:45AM	AKC	5.09	6	2J06023	2227358-01	600		

Spike Mixes	Description	Solvent	Prepared	Expires
2J06023	NH3-N STD 20 SPIKE WATER	DI	10/5/2022 1 by zzzManpreet Br	1/5/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223257

Instrument: SC-1
Calibration ID:
Sequence Date: 12/19/2022
Printed: 1/10/2023 1:54:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223257-ICV1	QC		1		2J06021		
2223257-ICB1	QC		2				
2223257-CCV1	QC		3		2J06022		
2223257-CCB1	QC		4				
B156271-BS1	QC		5				
B156271-BLK1	QC		6				
2227358-01	i350.1w Ammonia as N	G	7				
2227358-01	i350.1w Ammonia as NH3	G	8				
2227358-01	iSM4500NH3Gw Dist NH3 as N	G	9				
B156271-DUP1	QC		10				
B156271-MS1	QC		11				
B156271-MSD1	QC		12				
2227728-02	iSM4500NH3Gw Dist NH3 as N	A	13				
2227728-04	iSM4500NH3Gw Dist NH3 as N	A	14				
2227728-09	iSM4500NH3Gw Dist NH3 as N	A	15				
2227728-10	iSM4500NH3Gw Dist NH3 as N	A	16				
2223257-CCV2	QC		17		2J06022		
2223257-CCB2	QC		18				
2228800-03	i350.1w Ammonia as NH3	F	19				
2228801-02	i350.1w Ammonia as NH3	C	20				
2228801-04	i350.1w Ammonia as NH3	C	21				
2228804-01	i350.1w Ammonia as N	D	22				
2228817-02	i350.1w Ammonia as N	B	23				
2223257-CCV3	QC		24		2J06022		
2223257-CCB3	QC		25				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:54:45PM
Project: Level IV + labSpec7
Project Number: N53542A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 08, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053547

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 11, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (740 ug/L) and hexavalent chromium (580 ug/L) for sample N053547-011 (MW-51-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite as N in QC samples N053547-011BMS, N053547-011BMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Sulfate in QC sample N053547-007BMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (740 ug/L) and hexavalent chromium (580 ug/L) for sample N053547-011 (MW-51-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 870 and 620 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike Duplicate (MSD) is outside recovery criteria for some analytes in QC sample N053547-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053547-007DMS and N053925-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053547-007D, N053925-001 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053547
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053547-001A	MW-75-033-Q422	Groundwater	11/11/2022 8:17:00 AM	11/11/2022	12/8/2022
N053547-001B	MW-75-033-Q422	Groundwater	11/11/2022 8:17:00 AM	11/11/2022	12/8/2022
N053547-002A	MW-75-117-Q422	Groundwater	11/11/2022 8:36:00 AM	11/11/2022	12/8/2022
N053547-002B	MW-75-117-Q422	Groundwater	11/11/2022 8:36:00 AM	11/11/2022	12/8/2022
N053547-003A	MW-75-202-Q422	Groundwater	11/11/2022 7:32:00 AM	11/11/2022	12/8/2022
N053547-003B	MW-75-202-Q422	Groundwater	11/11/2022 7:32:00 AM	11/11/2022	12/8/2022
N053547-004A	MW-75-267-Q422	Groundwater	11/11/2022 7:51:00 AM	11/11/2022	12/8/2022
N053547-004B	MW-75-267-Q422	Groundwater	11/11/2022 7:51:00 AM	11/11/2022	12/8/2022
N053547-005A	MW-75-337-Q422	Groundwater	11/11/2022 8:59:00 AM	11/11/2022	12/8/2022
N053547-005B	MW-75-337-Q422	Groundwater	11/11/2022 8:59:00 AM	11/11/2022	12/8/2022
N053547-006A	EB-717-Q422	Groundwater	11/11/2022 9:05:00 AM	11/11/2022	12/8/2022
N053547-007A	MW-79-058-Q422	Groundwater	11/11/2022 9:44:00 AM	11/11/2022	12/8/2022
N053547-007B	MW-79-058-Q422	Groundwater	11/11/2022 9:44:00 AM	11/11/2022	12/8/2022
N053547-007C	MW-79-058-Q422	Groundwater	11/11/2022 9:44:00 AM	11/11/2022	12/8/2022
N053547-007D	MW-79-058-Q422	Groundwater	11/11/2022 9:44:00 AM	11/11/2022	12/8/2022
N053547-007E	MW-79-058-Q422	Groundwater	11/11/2022 9:44:00 AM	11/11/2022	12/8/2022
N053547-008A	MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	11/11/2022	12/8/2022
N053547-008B	MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	11/11/2022	12/8/2022
N053547-008C	MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	11/11/2022	12/8/2022
N053547-008D	MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	11/11/2022	12/8/2022
N053547-008E	MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	11/11/2022	12/8/2022
N053547-009A	MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	11/11/2022	12/8/2022
N053547-009B	MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	11/11/2022	12/8/2022
N053547-009C	MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	11/11/2022	12/8/2022
N053547-009D	MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	11/11/2022	12/8/2022
N053547-009E	MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	11/11/2022	12/8/2022
N053547-010A	MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	11/11/2022	12/8/2022
N053547-010B	MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	11/11/2022	12/8/2022
N053547-010C	MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	11/11/2022	12/8/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053547
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053547-010D	MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	11/11/2022	12/8/2022
N053547-010E	MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	11/11/2022	12/8/2022
N053547-011A	MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	11/11/2022	12/8/2022
N053547-011B	MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	11/11/2022	12/8/2022
N053547-011C	MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	11/11/2022	12/8/2022
N053547-011D	MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	11/11/2022	12/8/2022
N053547-011E	MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	11/11/2022	12/8/2022
N053547-012A	EB-718-Q422	Groundwater	11/11/2022 10:00:00 AM	11/11/2022	12/8/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-75-033-Q422
Lab Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 8:17:00 AM
Lab ID: N053547-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A** QC Batch: **R167420**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	45	0.12	1.0		µg/L	5	11/15/2022 11:56 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	40	0.035	1.0		µg/L	1	11/18/2022 09:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-117-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 8:36:00 AM
Lab ID:	N053547-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A** QC Batch: **R167420**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	19	0.12	1.0		µg/L	5	11/15/2022 12:06 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	18	0.035	1.0		µg/L	1	11/18/2022 09:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-75-202-Q422
Lab Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 7:32:00 AM
Lab ID: N053547-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A** QC Batch: **R167420**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/15/2022 04:40 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/18/2022 09:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-267-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 7:51:00 AM
Lab ID:	N053547-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A** QC Batch: **R167420**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/15/2022 04:59 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/18/2022 10:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-337-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 8:59:00 AM
Lab ID:	N053547-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A**	QC Batch: **R167420**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/15/2022 05:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/18/2022 10:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-717-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:05:00 AM
Lab ID:	N053547-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A**	QC Batch: **R167420**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/15/2022 03:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:44:00 AM
Lab ID:	N053547-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221115A** QC Batch: **R167420** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	200	1.2	10		µg/L	50	11/15/2022 12:44 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221118C** QC Batch: **96761** PrepDate: **11/16/2022** Analyst: **DJ**							
Chromium	170	0.035	1.0		µg/L	1	11/18/2022 10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:05:00 AM
Lab ID:	N053547-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A**	QC Batch: **R167420**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	330	1.2	10		µg/L	50	11/15/2022 06:15 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221120B**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	330	0.18	5.0		µg/L	5	11/20/2022 05:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-920-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:15:00 AM
Lab ID:	N053547-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A**	QC Batch: **R167420**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	330	1.2	10		µg/L	50	11/15/2022 06:34 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221120B**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	360	0.18	5.0		µg/L	5	11/20/2022 06:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 7:37:00 AM
Lab ID:	N053547-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A** QC Batch: **R167420**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	28	0.12	1.0		µg/L	5	11/15/2022 05:37 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	28	0.035	1.0		µg/L	1	11/18/2022 10:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 8:20:00 AM
Lab ID:	N053547-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A**	QC Batch: **R167420**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	580	4.8	40		µg/L	200	11/15/2022 01:12 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221123C**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	740	0.88	25		µg/L	25	11/23/2022 12:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-718-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 10:00:00 AM
Lab ID:	N053547-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221115A**	QC Batch: **R167420**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/15/2022 04:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167420**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **PBW**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167420**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **LCSW**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.002	0.20	5.000	0	100	90	110				

Sample ID: **N053579-003BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.494	1.0	25.00	18.60	104	90	110				

Sample ID: **N053579-001BREP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.319	0.20						5.265	1.02	20	

Sample ID: **N053579-003BMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.825	1.0	25.00	18.60	101	90	110	44.49	1.52	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053542-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.791	1.0	5.000	0	95.8	90	110				

Sample ID: **N053547-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	69.737	1.0	25.00	44.77	99.9	90	110				

Sample ID: **N053547-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928927**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.579	1.0	25.00	18.86	98.9	90	110				

Sample ID: **N053547-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928928**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	454.180	10	250.0	200.7	101	90	110				

Sample ID: **N053547-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1591.760	40	1000	577.9	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053547-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167420**
Client ID: **ZZZZZZ** Batch ID: **R167420** TestNo: **EPA 218.6** Analysis Date: **11/15/2022** SeqNo: **4928933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID: **N053547-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167420**
Client ID: **ZZZZZZ** Batch ID: **R167420** TestNo: **EPA 218.6** Analysis Date: **11/15/2022** SeqNo: **4928937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Sample ID: **N053547-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167420**
Client ID: **ZZZZZZ** Batch ID: **R167420** TestNo: **EPA 218.6** Analysis Date: **11/15/2022** SeqNo: **4928939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.873	1.0	5.000	0	97.5	90	110				

Sample ID: **N053547-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167420**
Client ID: **ZZZZZZ** Batch ID: **R167420** TestNo: **EPA 218.6** Analysis Date: **11/15/2022** SeqNo: **4928941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.041	1.0	5.000	0	101	90	110				

Sample ID: **N053547-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167420**
Client ID: **ZZZZZZ** Batch ID: **R167420** TestNo: **EPA 218.6** Analysis Date: **11/15/2022** SeqNo: **4928943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.968	1.0	5.000	0	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053547-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	53.077	1.0	25.00	28.49	98.3	90	110				

Sample ID: **N053547-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	579.085	10	250.0	330.0	99.7	90	110				

Sample ID: **N053547-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167420**
Client ID: **ZZZZZZ**	Batch ID: **R167420**	TestNo: **EPA 218.6**		Analysis Date: **11/15/2022**	SeqNo: **4928951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	579.710	10	250.0	333.6	98.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96761**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **PBW**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96761**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **LCSW**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.604	1.0	10.00	0	96.0	85	115				

Sample ID: **N053547-001B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	49.477	1.0	10.00	39.82	96.5	75	125				

Sample ID: **N053547-001B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	54.822	1.0	10.00	39.82	150	75	125	49.48	10.3	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053547-001B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	53.212	1.0	10.00	39.82	134	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-79-058-Q422
Lab Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW
Collection Date: 11/11/2022 9:44:00 AM
Lab ID: N053547-007
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 03:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	540	3.0	25		mg/L	50	11/13/2022 05:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.54	0.095	0.50		mg/L	10	11/11/2022 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-79-102-Q422
Lab Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 9:05:00 AM
Lab ID: N053547-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 03:57 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	580	3.0	25		mg/L	50	11/13/2022 07:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.53	0.095	0.50		mg/L	10	11/11/2022 03:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-920-Q422
Lab Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 9:15:00 AM
Lab ID: N053547-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 05:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	580	3.0	25		mg/L	50	11/13/2022 08:03 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 05:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 7:37:00 AM
Lab ID:	N053547-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 04:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	470	3.0	25		mg/L	50	11/13/2022 06:46 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/11/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-51-Q422
Lab Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 8:20:00 AM
Lab ID: N053547-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/11/2022 04:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221113B** QC Batch: **R167322**				PrepDate:			Analyst: **RAB**
Sulfate	390	3.0	25		mg/L	50	11/13/2022 08:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221111C** QC Batch: **R167295**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.095	0.50		mg/L	10	11/11/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R167295_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **PBW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R167295_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **LCSW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.309	0.50	1.250	0	105	90	110				

Sample ID: **N053547-011BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.253	5.0	12.50	0	154	80	120				S

Sample ID: **N053547-011BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.158	5.0	12.50	0	153	80	120	19.25	0.495	20	S

Sample ID: **N053542-002BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R167322_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **LCSW**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.117	0.50	4.000	0	103	90	110				

Sample ID: **MB-R167322_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **PBW**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **N053547-007BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **ZZZZZZ**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	807.715	25	200.0	543.8	132	80	120				S

Sample ID: **N053547-007BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **ZZZZZZ**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	755.650	25	200.0	543.8	106	80	120	807.7	6.66	20	

Sample ID: **N053547-010BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167322**
Client ID: **ZZZZZZ**	Batch ID: **R167322**	TestNo: **EPA 300.0**		Analysis Date: **11/13/2022**	SeqNo: **4924504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	466.120	25						465.4	0.147	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167295_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **PBW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.015	0.050									

Sample ID: **LCS-R167295_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **LCSW**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923416**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.283	0.050	1.250	0	103	90	110				

Sample ID: **N053547-011BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.503	0.50	12.50	1.771	102	80	120				

Sample ID: **N053547-011BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.292	0.50	12.50	1.771	100	80	120	14.50	1.47	20	

Sample ID: **N053542-002BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167295**
Client ID: **ZZZZZZ**	Batch ID: **R167295**	TestNo: **EPA 300.0**		Analysis Date: **11/11/2022**	SeqNo: **4923430**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.554	0.50						0.6100	9.62	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053542-002BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167295**
Client ID: **ZZZZZZ** Batch ID: **R167295** TestNo: **EPA 300.0** Analysis Date: **11/11/2022** SeqNo: **4923431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.842	0.50	12.50	0.6100	97.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:44:00 AM
Lab ID:	N053547-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221114B**	QC Batch: **R167365**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	11/14/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:05:00 AM
Lab ID:	N053547-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221114B**	QC Batch: **R167365**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/14/2022 04:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-920-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:15:00 AM
Lab ID:	N053547-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221114B**	QC Batch: **R167365**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/14/2022 10:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 7:37:00 AM
Lab ID:	N053547-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221114B**	QC Batch: **R167365**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/14/2022 10:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 8:20:00 AM
Lab ID:	N053547-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 11:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167365**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167365**
Client ID: **PBW**	Batch ID: **R167365**	TestNo: **SM 5310C**		Analysis Date: **11/14/2022**	SeqNo: **4926628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167365**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167365**
Client ID: **LCSW**	Batch ID: **R167365**	TestNo: **SM 5310C**		Analysis Date: **11/14/2022**	SeqNo: **4926629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.222	1.0	5.000	0	104	85	115				

Sample ID: **N053547-007DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167365**
Client ID: **ZZZZZZ**	Batch ID: **R167365**	TestNo: **SM 5310C**		Analysis Date: **11/14/2022**	SeqNo: **4926646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	88.776	20	100.0	0	88.8	75	125				

Sample ID: **N053547-007DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167365**
Client ID: **ZZZZZZ**	Batch ID: **R167365**	TestNo: **SM 5310C**		Analysis Date: **11/14/2022**	SeqNo: **4926647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	89.382	20	100.0	0	89.4	75	125	88.78	0.680	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167970**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **PBW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167970**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **LCSW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.955	1.0	5.000	0	99.1	85	115				

Sample ID: **N053925-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.060	20	100.0	9.514	87.5	75	125				

Sample ID: **N053925-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.514	20	100.0	9.514	88.0	75	125	97.06	0.467	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:44:00 AM
Lab ID:	N053547-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 09:15 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:05:00 AM
Lab ID:	N053547-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 09:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-920-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:15:00 AM
Lab ID:	N053547-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 09:53 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 7:37:00 AM
Lab ID:	N053547-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 09:58 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 8:20:00 AM
Lab ID:	N053547-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Iron	23	13	20		µg/L	1	11/21/2022 10:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96759**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **PBW**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96759**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **LCSW**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.888	20	100.0	0	99.9	85	115				

Sample ID: **N053547-007C-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **ZZZZZZ**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.248	20	100.0	0	104	75	125				

Sample ID: **N053547-007C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **ZZZZZZ**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937900**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.675	20	100.0	0	106	75	125	104.2	1.36	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:44:00 AM
Lab ID:	N053547-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/18/2022 10:17 PM
Barium	290	0.42	5.0		µg/L	5	11/23/2022 12:11 PM
Manganese	ND	0.026	0.50		µg/L	1	11/20/2022 05:21 PM
Molybdenum	4.9	0.12	0.50		µg/L	1	11/18/2022 10:17 PM
Selenium	0.75	0.044	0.50		µg/L	1	11/18/2022 10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-Q422
Lab Order:	N053547		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/11/2022 9:05:00 AM
Lab ID:	N053547-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	11/18/2022 10:23 PM
Barium	43	0.083	1.0		µg/L	1	11/18/2022 10:23 PM
Manganese	6.9	0.026	0.50		µg/L	1	11/20/2022 05:27 PM
Molybdenum	28	0.12	0.50		µg/L	1	11/18/2022 10:23 PM
Selenium	2.6	0.044	0.50		µg/L	1	11/18/2022 10:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-920-Q422

Lab Order: N053547

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 9:15:00 AM

Lab ID: N053547-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**			PrepDate:		**11/16/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	11/18/2022 10:29 PM
Barium	44	0.083	1.0		µg/L	1	11/18/2022 10:29 PM
Manganese	7.4	0.026	0.50		µg/L	1	11/20/2022 05:56 PM
Molybdenum	29	0.12	0.50		µg/L	1	11/18/2022 10:29 PM
Selenium	3.0	0.044	0.50		µg/L	1	11/18/2022 10:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-26-Q422

Lab Order: N053547

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 7:37:00 AM

Lab ID: N053547-010 **Matrix:** GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221120C** QC Batch: **96761** PrepDate: **11/16/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	11/20/2022 06:08 PM
Barium	81	0.083	1.0		µg/L	1	11/18/2022 10:35 PM
Manganese	140	0.026	0.50		µg/L	1	11/20/2022 06:08 PM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/18/2022 10:35 PM
Selenium	ND	0.044	0.50		µg/L	1	11/18/2022 10:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-51-Q422

Lab Order: N053547

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/11/2022 8:20:00 AM

Lab ID: N053547-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**			PrepDate:		**11/16/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	11/18/2022 10:41 PM
Barium	150	0.083	1.0		µg/L	1	11/18/2022 10:41 PM
Manganese	110	0.026	0.50		µg/L	1	11/20/2022 06:14 PM
Molybdenum	33	0.12	0.50		µg/L	1	11/18/2022 10:41 PM
Selenium	10	0.044	0.50		µg/L	1	11/18/2022 10:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96761**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **PBW**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96761**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **LCSW**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.861	0.10	10.00	0	98.6	85	115				
Barium	10.072	1.0	10.00	0	101	85	115				
Molybdenum	9.745	0.50	10.00	0	97.5	85	115				
Selenium	9.384	0.50	10.00	0	93.8	85	115				

Sample ID: **N053547-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.756	0.10	10.00	1.287	94.7	75	125				
Barium	54.077	1.0	10.00	42.52	116	75	125				
Molybdenum	19.834	0.50	10.00	9.064	108	75	125				
Selenium	11.037	0.50	10.00	1.718	93.2	75	125				

Sample ID: **N053547-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.981	0.10	10.00	1.287	96.9	75	125	10.76	2.07	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053547-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**	SeqNo: **4934845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	60.385	1.0	10.00	42.52	179	75	125	54.08	11.0	20	S
Molybdenum	20.894	0.50	10.00	9.064	118	75	125	19.83	5.20	20	
Selenium	11.393	0.50	10.00	1.718	96.8	75	125	11.04	3.18	20	

Sample ID: **MB-96761**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **PBW**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937579**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-96761**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **LCSW**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.729	0.50	100.0	0	93.7	85	115				

Sample ID: **N053547-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	127.065	0.50	100.0	37.50	89.6	75	125				

Sample ID: **N053547-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937585**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	132.313	0.50	100.0	37.50	94.8	75	125	127.1	4.05	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053547
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053547-001B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167535**
Client ID: **ZZZZZZ** Batch ID: **96761** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/18/2022** SeqNo: **4934843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.316	0.10	10.00	1.287	100	80	120				
Barium	56.474	1.0	10.00	42.52	140	80	120				S
Molybdenum	20.523	0.50	10.00	9.064	115	80	120				
Selenium	11.162	0.50	10.00	1.718	94.4	80	120				

Sample ID: **N053547-001B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167609**
Client ID: **ZZZZZZ** Batch ID: **96761** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/20/2022** SeqNo: **4937583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	129.144	0.50	100.0	37.50	91.6	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 2.6°C		

Signature: Date: 11/11/22 14:10 PST

I hereby authorize ASSET Labs to perform the tests indicated below.

Sampled By: Riggie Tep

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Signature: Date: 11/11/22 14:10 PST

Project Name: PG&E Topock - PCM

Project Number: 30121866.4Q22GW

Courier:

Tracking No.:

Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate, (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053547-001	MW-75-033-Q422	11/11/2022	8:17		X			X							E	2	P	BNS	
2	-002	MW-75-117-Q422	11/11/2022	8:36		X			X							E	2	P	BNS	
3	-003	MW-75-202-Q422	11/11/2022	7:32		X			X							E	2	P	BNS	
4	-004	MW-75-267-Q422	11/11/2022	7:51		X			X							E	2	P	BNS	
5	-005	MW-75-337-Q422	11/11/2022	8:59		X			X							E	2	P	BNS	
6	-006	EB-717-Q422	11/11/2022	9:05		X										E	1	P	BNS	
7	-007	MW-79-058-Q422	11/11/2022	9:44		X	X	X	X	X	X		X			E	7	P	BNS	
8	-008	MW-79-102-Q422	11/11/2022	9:05		X	X	X	X	X	X		X			E	7	P	BNS	
9	-009	MW-920-Q422	11/11/2022	9:15		X	X	X	X	X	X		X			E	7	P	BNS	
10	-010	MW-26-Q422	11/11/2022	7:37		X	X	X	X	X	X		X			E	7	P	BNS	
11	-011	MW-51-Q422	11/11/2022	8:20		X	X	X	X	X	X		X			E	7	P	BNS	
12	-012	EB-718-Q422	11/11/2022	10:00		X										E	1	P	BNS	
13																				
14																				

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Riggie Tep	11/11/22 1055	Dante Ortiz	11/11/22 10:55
Dante Ortiz	11/11/22 17:29	Dante Ortiz	11/11/22 13:29

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs,=200% Next Day=100% 2 Workdays=60% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives				Container Type		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/11/2022 Workorder: N053547

Rep sample Temp (Deg C): 2.6 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/11/2022

Reviewed By: for: MBC 11/23/2022

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053547

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/11/2022 1:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053547-001A	MW-75-033-Q422	11/11/2022 8:17:00 AM	11/29/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-001B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-002A	MW-75-117-Q422	11/11/2022 8:36:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-002B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-003A	MW-75-202-Q422	11/11/2022 7:32:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-003B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-004A	MW-75-267-Q422	11/11/2022 7:51:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-004B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-005A	MW-75-337-Q422	11/11/2022 8:59:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-005B			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-006A	EB-717-Q422	11/11/2022 9:05:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-007A	MW-79-058-Q422	11/11/2022 9:44:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-007B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053547-007C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053547

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/11/2022 1:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053547-007C	MW-79-058-Q422	11/11/2022 9:44:00 AM	11/29/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-007D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053547-007E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053547-008A	MW-79-102-Q422	11/11/2022 9:05:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-008B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053547-008C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-008D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053547-008E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053547-009A	MW-920-Q422	11/11/2022 9:15:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-009B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053547-009C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053547

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/11/2022 1:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053547-009C	MW-920-Q422	11/11/2022 9:15:00 AM	11/29/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-009D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053547-009E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053547-010A	MW-26-Q422	11/11/2022 7:37:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-010B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053547-010C			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-010D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053547-010E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053547-011A	MW-51-Q422	11/11/2022 8:20:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-011B			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			11/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053547

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/11/2022 1:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053547-011C	MW-51-Q422	11/11/2022 8:20:00 AM	11/29/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			11/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			11/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053547-011D			11/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053547-011E			11/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053547-012A	EB-718-Q422	11/11/2022 10:00:00 AM	11/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053547-013A	FOLDER	11/29/2022	11/29/2022		Folder	Folder	☐	☐	☐	LAB
			11/29/2022		Folder	Level IV Report	☐	☐	☐	LAB
			11/29/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Reggie Tep

14-Nov-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N053547-007E / MW-79-058-Q422	Groundwater	11/11/2022 9:44:00 AM	8OZP	1		
N053547-008E / MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	8OZP	1		
N053547-009E / MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	8OZP	1		
N053547-010E / MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	8OZP	1		
N053547-011E / MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	8OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53547A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammnia by SM4500. EDD requirement Labspec7 edata.

GLS #: 558204273

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/14/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2227729

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53547A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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SM-4500-NH3G

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Case Narrative

Sample Receipt

Work Order: 2227729
COC Number: N53547A
Default Cooler was received at 3 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2227729-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-05	SM-4500-NH3G	Ammonia as N (Distilled)

Holding Times

The sample holding time was exceeded.

Lab Number	Method	Analyte
2227729-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-02	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-03	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-04	SM-4500-NH3G	Ammonia as N (Distilled)
2227729-05	SM-4500-NH3G	Ammonia as N (Distilled)

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156449	SM-4500-NH3G	2227729-01	N053547-007E/ MW-79-058-Q422

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Chain of Custody and Cooler Receipt Form for 2227729 Page 1 of 2

22-27729

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Reggie Tep

14-Nov-22

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests SM4500-NH3D		
1	N053547-007E / MW-79-068-Q422	Groundwater	11/11/2022 9:44:00 AM	8OZP	1		
2	N053547-008E / MW-79-102-Q422	Groundwater	11/11/2022 9:05:00 AM	8OZP	1		
3	N053547-009E / MW-920-Q422	Groundwater	11/11/2022 9:15:00 AM	8OZP	1		
4	N053547-010E / MW-26-Q422	Groundwater	11/11/2022 7:37:00 AM	8OZP	1		
5	N053547-011E / MW-51-Q422	Groundwater	11/11/2022 8:20:00 AM	8OZP	1		

CHK BY TJL

DISTRIBUTION AR

SUB-OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#N53547A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2669. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammnia by SM4500. EDD requirement Labspec7 edata.

GLS #: 558204273

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/14/2022 1630	Received by:		11-15-22 1132
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2227729 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-27729

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☐ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(N) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337

Temperature: (A) 3.1 °C / (C) 3.0 °C

Date/Time 11-15-22

Analyst Init SMH 1132

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
~~2oz NITRATE / NITRITE~~ 802 NF	A	A	A	A	A					
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8051A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: BEJ Date/Time: 11/18/22 1415

A = Actual / C = Corrected

Rev 23 05/20/22

R:\WP\Doc\Word Perfect\LAB_DOCS\FORMS\SAMREC.rev 23)

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2227729**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2227729
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053547-007E/ MW-79-058-Q422	2227729-01
N053547-008E/ MW-79-102-Q422	2227729-02
N053547-009E/ MW-920-Q422	2227729-03
N053547-010E/ MW-26-Q422	2227729-04
N053547-011E/ MW-51-Q422	2227729-05

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-03-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053547-007E/ MW-79-058-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227729-01
File ID: 20221221002-NH3-022
Sampled: 11/11/22 09:44
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:32
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.75 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.35	2.18	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053547-008E/ MW-79-102-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227729-02
File ID: 20221221002-NH3-026
Sampled: 11/11/22 09:05
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:35
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.75 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.34	2.18	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053547-009E/ MW-920-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227729-03
File ID: 20221221002-NH3-027
Sampled: 11/11/22 09:15
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:37
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.74 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.38	2.19	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053547-010E/ MW-26-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227729-04
File ID: 20221221002-NH3-030
Sampled: 11/11/22 07:37
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:39
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.71 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.63	2.21	D	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053547-011E/ MW-51-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227729-05
File ID: 20221221002-NH3-031
Sampled: 11/11/22 08:20
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:40
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.73 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.57	2.2	D	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156449
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053547-007E/ MW-79-058-Q422	2227729-01	20221221002-NH3-022	12/20/22 14:15	
N053547-008E/ MW-79-102-Q422	2227729-02	20221221002-NH3-026	12/20/22 14:15	
N053547-009E/ MW-920-Q422	2227729-03	20221221002-NH3-027	12/20/22 14:15	
N053547-010E/ MW-26-Q422	2227729-04	20221221002-NH3-030	12/20/22 14:15	
N053547-011E/ MW-51-Q422	2227729-05	20221221002-NH3-031	12/20/22 14:15	
Blank	B156449-BLK1	20221221002-NH3-021	12/20/22 14:15	
LCS	B156449-BS1	20221221002-NH3-020	12/20/22 14:15	
N053547-007E/ MW-79-058-Q422	B156449-DUP1	20221221002-NH3-023	12/20/22 14:15	
N053547-007E/ MW-79-058-Q422	B156449-MS1	20221221002-NH3-024	12/20/22 14:15	
N053547-007E/ MW-79-058-Q422	B156449-MSD1	20221221002-NH3-025	12/20/22 14:15	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2227729	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156449-BLK1	File ID:	20221221002-NH3-021
Prepared:	12/20/22 14:15	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	12/21/22 14:31	Instrument:	SC-1		
Batch:	B156449	Sequence:	2223567	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.067	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

DUPLICATES

SM-4500-NH3G

547-007E/ MW-79-058-

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156449
Preparation: No Prep
Source Sample Name: N053547-007E/ MW-79-058-Q422

SDG: 2227729
Project: Level IV + labSpec7
Laboratory ID: B156449-DUP1
Lab Source ID: 2227729-01
Initial/Final: 2.75 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	0.34516		0.36873		6.60		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

N053547-007E/ MW-79-058-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156449
Laboratory ID: B156449-MS1
Preparation: No Prep
Initial/Final: 2.47 ml / 6 ml
Source Sample Number: 2227729-01

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	4.8583	0.34516	4.8945	93.6	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	4.8583	4.9062	93.9	0.238	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156449
Laboratory ID: B156449-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	1.8820	94.1	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield	SDG:	2227729
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223567	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223567-ICV1	20221221002-NH3-018	12/21/22 14:28
Initial Cal Blank	2223567-ICB1	20221221002-NH3-019	12/21/22 14:30
LCS	B156449-BS1	20221221002-NH3-020	12/21/22 14:30
Blank	B156449-BLK1	20221221002-NH3-021	12/21/22 14:31
N053547-007E/ MW-79-058-Q422	2227729-01	20221221002-NH3-022	12/21/22 14:32
N053547-007E/ MW-79-058-Q422	B156449-DUP1	20221221002-NH3-023	12/21/22 14:33
N053547-007E/ MW-79-058-Q422	B156449-MS1	20221221002-NH3-024	12/21/22 14:33
N053547-007E/ MW-79-058-Q422	B156449-MSD1	20221221002-NH3-025	12/21/22 14:35
N053547-008E/ MW-79-102-Q422	2227729-02	20221221002-NH3-026	12/21/22 14:35
N053547-009E/ MW-920-Q422	2227729-03	20221221002-NH3-027	12/21/22 14:37
Calibration Check	2223567-CCV1	20221221002-NH3-028	12/21/22 14:37
Calibration Blank	2223567-CCB1	20221221002-NH3-029	12/21/22 14:39
N053547-010E/ MW-26-Q422	2227729-04	20221221002-NH3-030	12/21/22 14:39
N053547-011E/ MW-51-Q422	2227729-05	20221221002-NH3-031	12/21/22 14:40
Calibration Check	2223567-CCV2	20221221002-NH3-040	12/21/22 14:48
Calibration Blank	2223567-CCB2	20221221002-NH3-041	12/21/22 14:49

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Project: Level IV + labSpec7
Sequence: 2223567
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223567-ICB1	Ammonia as N (Distilled)	0.055400	0.20	mg/L		SM-4500-NH3G
2223567-CCB1	Ammonia as N (Distilled)	0.035000	0.20	mg/L		SM-4500-NH3G
2223567-CCB2	Ammonia as N (Distilled)	0.033200	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2227729
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223567

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223567-ICV1	Ammonia as N (Distilled)	2.0000	1.8778	93.9	mg/L	SM-4500-NH3G
2223567-CCV1	Ammonia as N (Distilled)	2.0000	1.9066	95.3	mg/L	SM-4500-NH3G
2223567-CCV2	Ammonia as N (Distilled)	2.0000	1.9307	96.5	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227729
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053547-007E/ MW-79-058-Q422	11/11/22 09:44	11/15/22 11:32	12/20/22 14:15	40.00	28.00	12/21/22 14:32	40.00	28.00	*
N053547-008E/ MW-79-102-Q422	11/11/22 09:05	11/15/22 11:32	12/20/22 14:15	40.00	28.00	12/21/22 14:35	40.00	28.00	*
N053547-009E/ MW-920-Q422	11/11/22 09:15	11/15/22 11:32	12/20/22 14:15	40.00	28.00	12/21/22 14:37	40.00	28.00	*
N053547-010E/ MW-26-Q422	11/11/22 07:37	11/15/22 11:32	12/20/22 14:15	40.00	28.00	12/21/22 14:39	40.00	28.00	*
N053547-011E/ MW-51-Q422	11/11/22 08:20	11/15/22 11:32	12/20/22 14:15	40.00	28.00	12/21/22 14:40	40.00	28.00	*

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0553**	**0.00**	**2:13:49 PM**
DIL-1	**RBL**	**0.0000**	**0.0565**	**0.00**	**2:14:07 PM**
DIL-1	**RBL**	**0.0000**	**0.0516**	**0.00**	**2:15:37 PM**
DIL-1	**Std-1**	**0.0000**	**-0.0006**	**0.00**	**2:15:55 PM**
DIL-1	**Std-1**	**0.0000**	**-0.0010**	**0.00**	**2:17:25 PM**
SR5-1	**Std-2**	**0.2000**	**0.0333**	**0.00**	**2:17:43 PM**
SR5-1	**Std-2**	**0.2000**	**0.0335**	**0.00**	**2:19:13 PM**
SR5-2	**Std-3**	**0.5000**	**0.0780**	**0.00**	**2:19:31 PM**
SR5-2	**Std-3**	**0.5000**	**0.0784**	**0.00**	**2:21:01 PM**
SR5-3	**Std-4**	**1.0000**	**0.1547**	**0.00**	**2:21:19 PM**
SR5-3	**Std-4**	**1.0000**	**0.1542**	**0.00**	**2:22:49 PM**
SR5-4	**Std-5**	**2.0000**	**0.3182**	**0.00**	**2:23:07 PM**
SR5-4	**Std-5**	**2.0000**	**0.3183**	**0.00**	**2:24:38 PM**
SR5-5	**Std-6**	**5.0000**	**0.8060**	**0.00**	**2:24:55 PM**
SR5-5	**Std-6**	**5.0000**	**0.8304**	**0.00**	**2:26:26 PM**
ST-2	**^CCV (2 mg/L)**	**1.8964**	**0.3099**	**94.82**	**2:26:43 PM**
R-5	**~CCB (0 mg/L)**	**0.0320**	**-0.0002**	**0.00**	**2:28:14 PM**
1	**ICV1**	**1.8778**	**0.3068**	**0.00**	**2:28:32 PM**
2	**ICB1**	**0.0554**	**0.0037**	**0.00**	**2:30:02 PM**
3	**B156449-BS1**	**1.8820**	**0.3075**	**0.00**	**2:30:20 PM**
4	**B156449-BLK1**	**0.0584**	**0.0042**	**0.00**	**2:31:50 PM**
5	**2227729-01**	**0.1582**	**0.0208**	**0.00**	**2:32:08 PM**
6	**B156449-DUP1**	**0.1690**	**0.0226**	**0.00**	**2:33:38 PM**
7	**B156449-MS1**	**2.0149**	**0.3296**	**0.00**	**2:33:56 PM**
8	**B156449-MSD1**	**2.0197**	**0.3304**	**0.00**	**2:35:26 PM**
9	**2227729-02**	**0.1564**	**0.0205**	**0.00**	**2:35:44 PM**
10	**2227729-03**	**0.1757**	**0.0237**	**0.00**	**2:37:14 PM**
ST-2	**^CCV (2 mg/L)**	**1.9066**	**0.3116**	**95.33**	**2:37:32 PM**
R-5	**~CCB (0 mg/L)**	**0.0350**	**0.0003**	**0.00**	**2:39:02 PM**
11	**2227729-04**	**0.2839**	**0.0417**	**0.00**	**2:39:20 PM**
12	**2227729-05**	**0.2574**	**0.0373**	**0.00**	**2:40:50 PM**
13	**2227794-01**	**0.2208**	**0.0312**	**0.00**	**2:41:08 PM**
14	**2227794-02**	**0.1949**	**0.0269**	**0.00**	**2:42:38 PM**
15	**2228227-02**	**0.2105**	**0.0295**	**0.00**	**2:42:56 PM**
16	**2226860-02**	**0.3705**	**0.0561**	**0.00**	**2:44:26 PM**
17	**2228006-02**	**1.3896**	**0.2256**	**0.00**	**2:44:44 PM**

Report Date :12/21/2022 **Run Date :12/21/2022** **Operator : WESTCO** **Plan # :20221221002**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
18	**LOD1**	**0.2262**	**0.0321**	**0.00**	**2:46:14 PM**
19	**LOD2**	**0.1895**	**0.0260**	**0.00**	**2:46:32 PM**
20	**LOQ1**	**0.1865**	**0.0255**	**0.00**	**2:48:02 PM**
ST-2	**^CCV (2 mg/L)**	**1.9307**	**0.3156**	**96.53**	**2:48:20 PM**
R-5	**~CCB (0 mg/L)**	**0.0332**	**0.0000**	**0.00**	**2:49:50 PM**
21	**LOQ2**	**0.2208**	**0.0312**	**0.00**	**2:50:08 PM**
ST-2	**^CCV (2 mg/L)**	**1.9193**	**0.3137**	**95.96**	**2:51:38 PM**
R-5	**~CCB (0 mg/L)**	**0.0368**	**0.0006**	**0.00**	**2:51:56 PM**

Report Date :12/21/2022 **Run Date :12/21/2022** **Operator : WESTCO** **Plan # :20221221002**

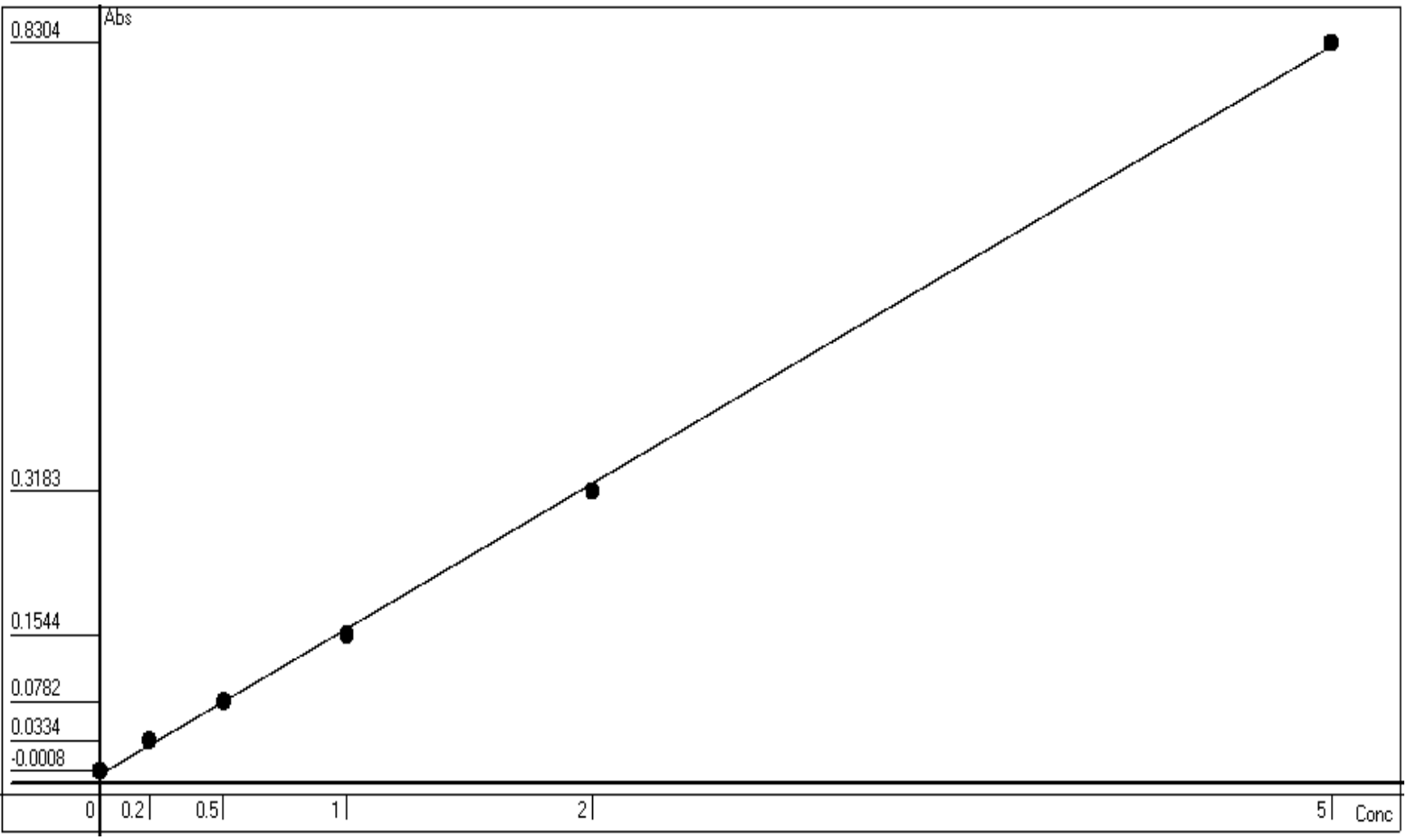
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221221002 Description : [NH3] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0008	0	0.0284	2.84
2	0.0334	0.2	0.2340	17.00
3	0.0782	0.5	0.5034	0.68
4	0.1544	1	0.9615	-3.85
5	0.3183	2	1.9470	-2.65
6	0.8304	5	5.0260	0.52

Conc= +6.0125*Abso +0.0332 R^2=0.9996

RBL
0.0559
0

Report Date 12/21/2022 Run Date 12/21/2022

Replicate Report - BNH3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0006	-0.001	/	/
2	0.0333	0.0335	/	/
3	0.078	0.0784	/	/
4	0.1547	0.1542	/	/
5	0.3182	0.3183	/	/
6	0.806	0.8304	/	/

Print Date:12/21/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156449

BC Laboratories

Printed: 1/3/2023 1:28:45PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2226860-02 C	i350.1w Ammonia as N	12/20/2022 2:15PM	AKC	5.82	6					
2227729-01 A	i350.1w Ammonia as N	12/20/2022 2:15PM	AKC	2.75	6					
2227729-01 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.75	6					
2227729-02 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.75	6					
2227729-03 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.74	6					
2227729-04 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.71	6					
2227729-05 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.73	6					
2227794-01 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.76	6					
2227794-02 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.76	6					
2228006-02 D	i350.1w Ammonia as N	12/20/2022 2:15PM	AKC	5.83	6					
2228227-02 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.78	6					
B156449-BLK1	QC	12/20/2022 2:15PM	AKC	6	6					
B156449-BS1	QC	12/20/2022 2:15PM	AKC	6	6	2J06023		600		
B156449-DUP1	QC	12/20/2022 2:15PM	AKC	2.75	6		2227729-01			
B156449-MS1	QC	12/20/2022 2:15PM	AKC	2.47	6	2J06023	2227729-01	600		
B156449-MSD1	QC	12/20/2022 2:15PM	AKC	2.47	6	2J06023	2227729-01	600		

Spike Mixes	Description	Solvent	Prepared	Expires
2J06023	NH3-N STD 20 SPIKE WATER	DI	10/5/2022 1 by zzzManpreet Br	1/5/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223567

Instrument: SC-1
Calibration ID:
Sequence Date: 12/21/2022
Printed: 1/3/2023 1:28:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223567-ICV1	QC		1		2J06021		
2223567-ICB1	QC		2				
B156449-BS1	QC		3				
B156449-BLK1	QC		4				
2227729-01	i350.1w Ammonia as N	A	5				
2227729-01	iSM4500NH3Gw Dist NH3 as N	A	6				
B156449-DUP1	QC		7				
B156449-MS1	QC		8				
B156449-MSD1	QC		9				
2227729-02	iSM4500NH3Gw Dist NH3 as N	A	10				
2227729-03	iSM4500NH3Gw Dist NH3 as N	A	11				
2223567-CCV1	QC		12		2J06022		
2223567-CCB1	QC		13				
2227729-04	iSM4500NH3Gw Dist NH3 as N	A	14				
2227729-05	iSM4500NH3Gw Dist NH3 as N	A	15				
2227794-01	iSM4500NH3Gw Dist NH3 as N	A	16				
2227794-02	iSM4500NH3Gw Dist NH3 as N	A	17				
2228227-02	iSM4500NH3Gw Dist NH3 as N	A	18				
2226860-02	i350.1w Ammonia as N	C	19				
2228006-02	i350.1w Ammonia as N	D	20				
2223567-CCV2	QC		21		2J06022		
2223567-CCB2	QC		22				
2223567-CCV3	QC		23		2J06022		
2223567-CCB3	QC		24				
B156537-BS1	QC		25				
B156537-BLK1	QC		26				
2226991-01	i350.1w Ammonia as N	B	27				
B156537-DUP1	QC		28				
B156537-MS1	QC		29				
B156537-MSD1	QC		30				
2227527-01	i350.1w Ammonia as N	C	31				
2227527-02	i350.1w Ammonia as N	C	32				
2227527-03	i350.1w Ammonia as N	C	33				
2223567-CCV4	QC		34		2J06022		
2223567-CCB4	QC		35				
2227527-04	i350.1w Ammonia as N	C	36				
2227527-05	i350.1w Ammonia as N	C	37				
2227527-06	i350.1w Ammonia as N	C	38				
2227527-07	i350.1w Ammonia as N	C	39				

ANALYSIS SEQUENCE

2223567

Instrument: SC-1
Calibration ID:
Sequence Date: 12/21/2022
Printed: 1/3/2023 1:28:45PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223567-CCV5	QC		40		2J06022		
2223567-CCB5	QC		41				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:28:45PM
Project: Level IV + labSpec7
Project Number: N53547A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 01, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053578

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 14, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053578

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC sample N053547-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *01-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053578
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053578-001A	MW-47-055-Q422	Groundwater	11/14/2022 12:47:00 PM	11/14/2022	12/1/2022
N053578-001B	MW-47-055-Q422	Groundwater	11/14/2022 12:47:00 PM	11/14/2022	12/1/2022
N053578-002A	MW-47-115-Q422	Groundwater	11/14/2022 1:19:00 PM	11/14/2022	12/1/2022
N053578-002B	MW-47-115-Q422	Groundwater	11/14/2022 1:19:00 PM	11/14/2022	12/1/2022
N053578-003A	MW-97-042-Q422	Groundwater	11/14/2022 11:39:00 AM	11/14/2022	12/1/2022
N053578-003B	MW-97-042-Q422	Groundwater	11/14/2022 11:39:00 AM	11/14/2022	12/1/2022
N053578-004A	MW-97-202-Q422	Groundwater	11/14/2022 12:10:00 PM	11/14/2022	12/1/2022
N053578-004B	MW-97-202-Q422	Groundwater	11/14/2022 12:10:00 PM	11/14/2022	12/1/2022
N053578-005A	TW-04-Q422	Groundwater	11/14/2022 2:13:00 PM	11/14/2022	12/1/2022
N053578-005B	TW-04-Q422	Groundwater	11/14/2022 2:13:00 PM	11/14/2022	12/1/2022
N053578-006A	EB-719-Q422	Groundwater	11/14/2022 2:20:00 PM	11/14/2022	12/1/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q422
Lab Order:	N053578	**Collection Date:**	11/14/2022 12:47:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053578-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A** QC Batch: **R167469**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	17	0.12	1.0		µg/L	5	11/16/2022 11:40 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	16	0.035	1.0		µg/L	1	11/18/2022 11:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-115-Q422
Lab Order:	N053578	**Collection Date:**	11/14/2022 1:19:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053578-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A** QC Batch: **R167469**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	18	0.12	1.0		µg/L	5	11/16/2022 11:49 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	17	0.035	1.0		µg/L	1	11/18/2022 11:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-97-042-Q422
Lab Order:	N053578	**Collection Date:**	11/14/2022 11:39:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053578-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	140	0.48	4.0		µg/L	20	11/16/2022 05:54 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	130	0.035	1.0		µg/L	1	11/18/2022 11:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-97-202-Q422
Lab Order:	N053578	**Collection Date:**	11/14/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053578-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B**	QC Batch: **R167507**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	230	1.2	10		µg/L	50	11/18/2022 03:02 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221120B**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	240	0.18	5.0		µg/L	5	11/20/2022 07:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q422
Lab Order:	N053578	**Collection Date:**	11/14/2022 2:13:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053578-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A** QC Batch: **R167469**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	13	0.12	1.0		µg/L	5	11/16/2022 12:31 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	13	0.035	1.0		µg/L	1	11/18/2022 11:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-719-Q422
Lab Order:	N053578	**Collection Date:**	11/14/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053578-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/16/2022 12:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167469	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	PBW	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931937

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R167469	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	LCSW	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931938

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.988	0.20	5.000	0	99.8	90	110				

Sample ID	N053616-001BREP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931943

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.465	2.0						51.84	2.69	20	

Sample ID	N053616-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931949

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	101.473	2.0	50.00	51.84	99.3	90	110				

Sample ID	N053616-001BMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931953

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	101.982	2.0	50.00	51.84	100	90	110	101.5	0.500	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053578-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931962

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID	N053578-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931963

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.905	1.0	25.00	17.37	102	90	110				

Sample ID	N053578-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931964

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.892	1.0	25.00	17.54	101	90	110				

Sample ID	N053578-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931965

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.745	1.0	25.00	13.28	102	90	110				

Sample ID	N053614-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931966

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	536.335	10	250.0	275.9	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053617-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931970

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.962	0.20	1.000	0	96.2	90	110				

Sample ID	N053617-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931972

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID	N053617-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931974

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.482	1.0	25.00	17.14	101	90	110				

Sample ID	N053617-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931976

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	659.360	10	250.0	414.7	97.9	90	110				

Sample ID	N053617-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.934	1.0	25.00	32.04	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053617-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931982

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1148.140	20	500.0	657.2	98.2	90	110				

Sample ID	N053617-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID	N053617-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Sample ID	N053614-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	535.255	10	250.0	281.5	101	90	110				

Sample ID	N053578-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931991

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	241.244	4.0	100.0	139.1	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	LCS-R167507	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507		
Client ID:	LCSW	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933569		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.042	0.20	5.000	0	101	90	110						

Sample ID	MB-R167507	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507		
Client ID:	PBW	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933570		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053615-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507		
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933572		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1.046	0.20	1.000	0	105	90	110						

Sample ID	N053615-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507		
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933575		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110	1.046	3.81	20			

Sample ID	N053615-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507		
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933577		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20						0	0	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053615-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID	N053615-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID	N053615-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0	108	90	110				

Sample ID	N053615-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID	N053615-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933588

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053615-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933590

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID	N053615-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID	N053615-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933594

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID	N053615-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0	104	90	110				

Sample ID	N053615-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053615-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933602

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID	N053615-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID	N053615-015AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Sample ID	N053615-016AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID	N053578-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	493.335	10	250.0	227.2	106	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96761	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	PBW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934741

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96761	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	LCSW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.604	1.0	10.00	0	96.0	85	115				

Sample ID	N053547-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934746

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	49.477	1.0	10.00	39.82	96.5	75	125				

Sample ID	N053547-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934747

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	54.822	1.0	10.00	39.82	150	75	125	49.48	10.3	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053578
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N053547-001B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	53.212	1.0	10.00	39.82	134	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P O.#
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 11/14/22	Sampled By: Riggie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - PCM	Signature: Date: 11/14/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number	3	
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 12 °C		

Matrix: Ground X Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate, (EPA 300.0) (1 L poly)			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053578-001	MW-47-055-Q422	11/14/2022	12:47		X			X									E	2	P	BNS	
2	-002	MW-47-115-Q422	11/14/2022	13:19		X			X									E	2	P	BNS	
3	-003	MW-97-042-Q422	11/14/2022	11:39		X			X									E	2	P	BNS	
4	-004	MW-97-202-Q422	11/14/2022	12:10		X			X									E	2	P	BNS	
5	-005	TW-04-Q422	11/14/2022	14:13		X			X									E	2	P	BNS	
6	-006	EB-719-Q422	11/14/2022	14:20		X												E	1	P	BNS	
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						

Courier:

Tracking No.:

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	11/14/22 1451	Dante Ortiz	11/14/22 14:51
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Dante Ortiz	11/14/22 18:23	Dante Ortiz	11/14/22 18:23
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/14/2022 Workorder: N053578

Rep sample Temp (Deg C): 1.2 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/15/2022

Reviewed By: for: MBC 11/19/2022

ASSET Laboratories

WORK ORDER Summary

20-Nov-22

WorkOrder: N053578

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/14/2022 6:23 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053578-001A	MW-47-055-Q422	11/14/2022 12:47:00 PM	12/1/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053578-001B			12/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053578-002A	MW-47-115-Q422	11/14/2022 1:19:00 PM	12/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053578-002B			12/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053578-003A	MW-97-042-Q422	11/14/2022 11:39:00 AM	12/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053578-003B			12/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053578-004A	MW-97-202-Q422	11/14/2022 12:10:00 PM	12/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053578-004B			12/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053578-005A	TW-04-Q422	11/14/2022 2:13:00 PM	12/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053578-005B			12/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053578-006A	EB-719-Q422	11/14/2022 2:20:00 PM	12/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053578-007A	FOLDER	12/1/2022	12/1/2022		Folder	Folder	☐	☐	☐	LAB
			12/1/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/1/2022		Folder	Folder	☐	☐	☐	LAB

December 02, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053614

RE: PG&E Topock-OMM TCS PWTF, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on November 15, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock-OMM TCS PWTF, 30106892
Lab Order: N053614
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053614-001A	Backwash Pre-filter-111522	Water	11/15/2022 7:45:00 AM	11/15/2022	12/2/2022
N053614-001B	Backwash Pre-filter-111522	Water	11/15/2022 7:45:00 AM	11/15/2022	12/2/2022
N053614-001C	Backwash Pre-filter-111522	Water	11/15/2022 7:45:00 AM	11/15/2022	12/2/2022
N053614-002A	Backwash Post-filter-111522	Water	11/15/2022 8:00:00 AM	11/15/2022	12/2/2022
N053614-002B	Backwash Post-filter-111522	Water	11/15/2022 8:00:00 AM	11/15/2022	12/2/2022
N053614-002C	Backwash Post-filter-111522	Water	11/15/2022 8:00:00 AM	11/15/2022	12/2/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-111522
Lab Order:	N053614	**Collection Date:**	11/15/2022 7:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053614-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	280	1.2	10		µg/L	50	11/16/2022 11:21 AM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221117A**	QC Batch: **96784**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	330	0.18	5.0		µg/L	5	11/17/2022 06:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-111522
Lab Order:	N053614	**Collection Date:**	11/15/2022 8:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053614-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	280	1.2	10		µg/L	50	11/16/2022 11:30 AM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221117A**	QC Batch: **96784**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	380	0.18	5.0		µg/L	5	11/17/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167469	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469		
Client ID:	PBW	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931937		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R167469	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469		
Client ID:	LCSW	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931938		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.988	0.20	5.000	0	99.8	90	110						

Sample ID	N053616-001BREP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469		
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931943		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	50.465	2.0						51.84	2.69	20			

Sample ID	N053616-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469		
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931949		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	101.473	2.0	50.00	51.84	99.3	90	110						

Sample ID	N053616-001BMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469		
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931953		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	101.982	2.0	50.00	51.84	100	90	110	101.5	0.500	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053578-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931962

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID	N053578-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931963

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.905	1.0	25.00	17.37	102	90	110				

Sample ID	N053578-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931964

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.892	1.0	25.00	17.54	101	90	110				

Sample ID	N053578-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931965

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.745	1.0	25.00	13.28	102	90	110				

Sample ID	N053614-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931966

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	536.335	10	250.0	275.9	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053617-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931970

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.962	0.20	1.000	0	96.2	90	110				

Sample ID	N053617-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931972

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID	N053617-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931974

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.482	1.0	25.00	17.14	101	90	110				

Sample ID	N053617-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931976

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	659.360	10	250.0	414.7	97.9	90	110				

Sample ID	N053617-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.934	1.0	25.00	32.04	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053617-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931982

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1148.140	20	500.0	657.2	98.2	90	110				

Sample ID	N053617-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931984

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID	N053617-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Sample ID	N053614-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	535.255	10	250.0	281.5	101	90	110				

Sample ID	N053578-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167469
Client ID:	ZZZZZZ	Batch ID:	R167469	TestNo:	EPA 218.6			Analysis Date:	11/16/2022	SeqNo:	4931991

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	241.244	4.0	100.0	139.1	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	MB-96784	SampType:	MBLK	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167498
Client ID:	PBW	Batch ID:	96784	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4932841

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96784	SampType:	LCS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167498
Client ID:	LCSW	Batch ID:	96784	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4932842

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.618	1.0	10.00	0	106	85	115				

Sample ID	N053636-001A-MS	SampType:	MS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167498
Client ID:	ZZZZZZ	Batch ID:	96784	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4932866

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1195.633	25	250.0	974.8	88.3	75	125				

Sample ID	N053636-001A-MSD	SampType:	MSD	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167498
Client ID:	ZZZZZZ	Batch ID:	96784	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/17/2022	SeqNo:	4932867

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1207.742	25	250.0	974.8	93.2	75	125	1196	1.01	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-111522
Lab Order:	N053614	**Collection Date:**	11/15/2022 7:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053614-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	22	13	20		µg/L	1	11/21/2022 10:08 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-111522
Lab Order:	N053614	**Collection Date:**	11/15/2022 8:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053614-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 10:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**MB-96759**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID:	**PBW**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	**LCS-96759**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID:	**LCSW**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.888	20	100.0	0	99.9	85	115				

Sample ID	**N053547-007C-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID:	**ZZZZZZ**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.248	20	100.0	0	104	75	125				

Sample ID	**N053547-007C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID:	**ZZZZZZ**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937900**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.675	20	100.0	0	106	75	125	104.2	1.36	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-111522
Lab Order:	N053614	**Collection Date:**	11/15/2022 7:45:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053614-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221120C**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Manganese	49	0.026	0.50		µg/L	1	11/20/2022 07:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-111522
Lab Order:	N053614	**Collection Date:**	11/15/2022 8:00:00 AM
Project:	PG&E Topock-OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N053614-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221120C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Manganese	45	0.026	0.50		µg/L	1	11/20/2022 07:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053614
Project: PG&E Topock-OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96761	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	PBW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	LCS-96761	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	LCSW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.729	0.50	100.0	0	93.7	85	115				

Sample ID	N053547-001B-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	127.065	0.50	100.0	37.50	89.6	75	125				

Sample ID	N053547-001B-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937585

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	132.313	0.50	100.0	37.50	94.8	75	125	127.1	4.05	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com, daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200	Fax:
Title: OHM	Phone: 916-786-3302 Fax:		
Signature: [signature] Date: 11-15-22	Sampled By: Kevin Ashley		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - OMM TCS PWTF	Signature: [signature] Date: 11-15-22		
Project Number: 30106892			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		✓
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 4.1°C 5.1°C		

Courier:

Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053614-001	Backwash Pre-filter-111522	11/15/22	7:45A		X	X	X	E	3	PV	BNS	
2	-002	Backwash Post-filter-111522	11/15/22	8AM		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
[signature] Kevin Ashley	11/15/22 15:28	Dante Ortiz Dante Ortiz	11/15/22 15:28
Dante Ortiz Dante Ortiz	11/15/22 18:58	Dante Ortiz Dante Ortiz	11/15/22 18:58

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs =200% NextDay=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Yellow=Customer's Copy

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/15/2022	Workorder:	N053614
Rep sample Temp (Deg C):	4.1/5.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/17/2022

Reviewed By: for: MBC 11/18/2022

ASSET Laboratories

WORK ORDER Summary

18-Nov-22

WorkOrder: N053614

Client ID: ARCUS02

Project: PG&E Topock-OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053614-001A	Backwash Pre-filter-111522	11/15/2022 7:45:00 AM	12/2/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053614-001B			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053614-001C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053614-002A	Backwash Post-filter-111522	11/15/2022 8:00:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053614-002B			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053614-002C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053614-003A	FOLDER	12/2/2022	12/2/2022		Folder	Folder	☐	☐	☐	LAB
			12/2/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/2/2022		Folder	Folder	☐	☐	☐	LAB

December 02, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053615

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 15, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053615

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Sample N053615-007 (AmbientBlank-1-Q422) was on hold as per COC.

Analytical Comments for EPA 300.0:

Matrix Spike (MS) is outside recovery criteria for Nitrate as N in QC sample N053615-001BMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC sample N053547-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *02-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053615
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053615-001A	MW-941-Q422	Groundwater	11/15/2022 8:24:00 AM	11/15/2022	12/2/2022
N053615-001B	MW-941-Q422	Groundwater	11/15/2022 8:24:00 AM	11/15/2022	12/2/2022
N053615-001C	MW-941-Q422	Groundwater	11/15/2022 8:24:00 AM	11/15/2022	12/2/2022
N053615-002A	C-R22A-D-Q422	Groundwater	11/15/2022 9:23:00 AM	11/15/2022	12/2/2022
N053615-002B	C-R22A-D-Q422	Groundwater	11/15/2022 9:23:00 AM	11/15/2022	12/2/2022
N053615-002C	C-R22A-D-Q422	Groundwater	11/15/2022 9:23:00 AM	11/15/2022	12/2/2022
N053615-003A	C-R22A-S-Q422	Groundwater	11/15/2022 9:30:00 AM	11/15/2022	12/2/2022
N053615-003B	C-R22A-S-Q422	Groundwater	11/15/2022 9:30:00 AM	11/15/2022	12/2/2022
N053615-003C	C-R22A-S-Q422	Groundwater	11/15/2022 9:30:00 AM	11/15/2022	12/2/2022
N053615-004A	C-R27-D-Q422	Groundwater	11/15/2022 10:01:00 AM	11/15/2022	12/2/2022
N053615-004B	C-R27-D-Q422	Groundwater	11/15/2022 10:01:00 AM	11/15/2022	12/2/2022
N053615-004C	C-R27-D-Q422	Groundwater	11/15/2022 10:01:00 AM	11/15/2022	12/2/2022
N053615-005A	C-R27-S-Q422	Groundwater	11/15/2022 10:09:00 AM	11/15/2022	12/2/2022
N053615-005B	C-R27-S-Q422	Groundwater	11/15/2022 10:09:00 AM	11/15/2022	12/2/2022
N053615-005C	C-R27-S-Q422	Groundwater	11/15/2022 10:09:00 AM	11/15/2022	12/2/2022
N053615-006A	C-TAZ-D-Q422	Groundwater	11/15/2022 8:00:00 AM	11/15/2022	12/2/2022
N053615-006B	C-TAZ-D-Q422	Groundwater	11/15/2022 8:00:00 AM	11/15/2022	12/2/2022
N053615-006C	C-TAZ-D-Q422	Groundwater	11/15/2022 8:00:00 AM	11/15/2022	12/2/2022
N053615-007A	AmbientBlank-1-Q422	Groundwater	11/15/2022 10:30:00 AM	11/15/2022	12/2/2022
N053615-008A	C-TAZ-S-Q422	Groundwater	11/15/2022 8:14:00 AM	11/15/2022	12/2/2022
N053615-008B	C-TAZ-S-Q422	Groundwater	11/15/2022 8:14:00 AM	11/15/2022	12/2/2022
N053615-008C	C-TAZ-S-Q422	Groundwater	11/15/2022 8:14:00 AM	11/15/2022	12/2/2022
N053615-009A	R-28-Q422	Groundwater	11/15/2022 10:20:00 AM	11/15/2022	12/2/2022
N053615-009B	R-28-Q422	Groundwater	11/15/2022 10:20:00 AM	11/15/2022	12/2/2022
N053615-009C	R-28-Q422	Groundwater	11/15/2022 10:20:00 AM	11/15/2022	12/2/2022
N053615-010A	R63-Q422	Groundwater	11/15/2022 9:04:00 AM	11/15/2022	12/2/2022
N053615-010B	R63-Q422	Groundwater	11/15/2022 9:04:00 AM	11/15/2022	12/2/2022
N053615-010C	R63-Q422	Groundwater	11/15/2022 9:04:00 AM	11/15/2022	12/2/2022
N053615-011A	C-BNS-Q422	Groundwater	11/15/2022 9:44:00 AM	11/15/2022	12/2/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053615
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053615-011B	C-BNS-Q422	Groundwater	11/15/2022 9:44:00 AM	11/15/2022	12/2/2022
N053615-011C	C-BNS-Q422	Groundwater	11/15/2022 9:44:00 AM	11/15/2022	12/2/2022
N053615-012A	C-I-3-D-Q422	Groundwater	11/15/2022 8:35:00 AM	11/15/2022	12/2/2022
N053615-012B	C-I-3-D-Q422	Groundwater	11/15/2022 8:35:00 AM	11/15/2022	12/2/2022
N053615-012C	C-I-3-D-Q422	Groundwater	11/15/2022 8:35:00 AM	11/15/2022	12/2/2022
N053615-013A	C-I-3-S-Q422	Groundwater	11/15/2022 8:45:00 AM	11/15/2022	12/2/2022
N053615-013B	C-I-3-S-Q422	Groundwater	11/15/2022 8:45:00 AM	11/15/2022	12/2/2022
N053615-013C	C-I-3-S-Q422	Groundwater	11/15/2022 8:45:00 AM	11/15/2022	12/2/2022
N053615-014A	SW1-Q422	Groundwater	11/15/2022 11:00:00 AM	11/15/2022	12/2/2022
N053615-014B	SW1-Q422	Groundwater	11/15/2022 11:00:00 AM	11/15/2022	12/2/2022
N053615-014C	SW1-Q422	Groundwater	11/15/2022 11:00:00 AM	11/15/2022	12/2/2022
N053615-015A	MW-942-Q422	Groundwater	11/15/2022 11:10:00 AM	11/15/2022	12/2/2022
N053615-015B	MW-942-Q422	Groundwater	11/15/2022 11:10:00 AM	11/15/2022	12/2/2022
N053615-015C	MW-942-Q422	Groundwater	11/15/2022 11:10:00 AM	11/15/2022	12/2/2022
N053615-016A	SW2-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/2/2022
N053615-016B	SW2-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/2/2022
N053615-016C	SW2-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/2/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-941-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:24:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 08:40 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/18/2022 11:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:23:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 09:31 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 12:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:30:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 09:59 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96761**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 12:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:01:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 10:18 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 12:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:09:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 10:37 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A					**EPA 6020**
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 01:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:00:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B**	QC Batch: **R167507**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 11:15 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 01:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:14:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 11:34 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 01:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:20:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 11:53 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 01:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:04:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 12:12 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:44:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B**	QC Batch: **R167507**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 12:31 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:35:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 01:08 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:45:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 01:27 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:00:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 01:46 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-942-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:10:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 02:05 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW2-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:30:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117B** QC Batch: **R167507**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 02:24 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 02:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	LCS-R167507	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	LCSW	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933569

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	0.20	5.000	0	101	90	110				

Sample ID	MB-R167507	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	PBW	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933570

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053615-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933572

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.046	0.20	1.000	0	105	90	110				

Sample ID	N053615-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110	1.046	3.81	20	

Sample ID	N053615-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053615-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID **N053615-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID **N053615-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0	108	90	110				

Sample ID **N053615-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID **N053615-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053615-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933590

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID	N053615-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID	N053615-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933594

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID	N053615-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0	104	90	110				

Sample ID	N053615-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167507
Client ID:	ZZZZZZ	Batch ID:	R167507	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4933600

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053615-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4933602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID **N053615-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4933604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID **N053615-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4933606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Sample ID **N053615-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4933608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID **N053578-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167507**
Client ID: **ZZZZZZ** Batch ID: **R167507** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4933612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	493.335	10	250.0	227.2	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96761	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	PBW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934741

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96761	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	LCSW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.604	1.0	10.00	0	96.0	85	115				

Sample ID	N053547-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934746

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	49.477	1.0	10.00	39.82	96.5	75	125				

Sample ID	N053547-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934747

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	54.822	1.0	10.00	39.82	150	75	125	49.48	10.3	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96762	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	PBW	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934775

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96762	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	LCSW	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934776

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.199	1.0	10.00	0	92.0	85	115				

Sample ID	N053615-004C-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934780

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.243	1.0	10.00	0.03841	92.0	75	125				

Sample ID	N053615-004C-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934781

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.362	1.0	10.00	0.03841	93.2	75	125	9.243	1.28	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **N053547-001B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:					RunNo: **167535**		
Client ID: **ZZZZZZ**	Batch ID: **96761**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/18/2022**					SeqNo: **4934745**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	53.212	1.0	10.00	39.82	134	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **N053615-004C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167535**
Client ID: **ZZZZZZ** Batch ID: **96762** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/19/2022** SeqNo: **4934779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.605	1.0	10.00	0.03841	95.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-941-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:24:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.27	0.0095	0.050		mg/L	1	11/16/2022 11:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:23:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.0095	0.050		mg/L	1	11/16/2022 11:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:30:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.0095	0.050		mg/L	1	11/16/2022 12:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:01:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.27	0.0095	0.050		mg/L	1	11/16/2022 12:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:09:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.26	0.0095	0.050		mg/L	1	11/16/2022 12:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:00:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.0095	0.050		mg/L	1	11/16/2022 12:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:14:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.26	0.0095	0.050		mg/L	1	11/16/2022 01:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:20:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.26	0.0095	0.050		mg/L	1	11/16/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:04:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.0095	0.050		mg/L	1	11/16/2022 04:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:44:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.27	0.0095	0.050		mg/L	1	11/16/2022 05:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:35:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.26	0.0095	0.050		mg/L	1	11/16/2022 05:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:45:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.27	0.0095	0.050		mg/L	1	11/16/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:00:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.0095	0.050		mg/L	1	11/16/2022 06:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-942-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:10:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.0095	0.050		mg/L	1	11/16/2022 06:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW2-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:30:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116B**	QC Batch: **R167432**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.0095	0.050		mg/L	1	11/16/2022 06:49 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167431_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167431
Client ID:	PBW	Batch ID:	R167431	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4929929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167431_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167431
Client ID:	LCSW	Batch ID:	R167431	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4929930

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.257	0.050	1.250	0	101	90	110				

Sample ID	N053617-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167431
Client ID:	ZZZZZZ	Batch ID:	R167431	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4929933

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.150	0.50						0.1840	0	20	

Sample ID	N053617-001BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167431
Client ID:	ZZZZZZ	Batch ID:	R167431	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4929934

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.376	0.50	12.50	0.2010	97.4	80	120				

Sample ID	N053617-001BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167431
Client ID:	ZZZZZZ	Batch ID:	R167431	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4929935

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.621	0.50	12.50	0.2010	99.4	80	120	12.38	1.96	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053615-001BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167431
Client ID:	ZZZZZZ	Batch ID:	R167431	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4929950

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.786	0.050	1.250	0.2730	121	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	LCS-R167432_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167432
Client ID:	LCSW	Batch ID:	R167432	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4930936

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.335	0.050	1.250	0	107	90	110				

Sample ID	MB-R167432_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167432
Client ID:	PBW	Batch ID:	R167432	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4930937

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	N053615-010BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167432
Client ID:	ZZZZZZ	Batch ID:	R167432	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4930947

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.634	0.050	1.250	0.2768	109	80	120				

Sample ID	N053615-010BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167432
Client ID:	ZZZZZZ	Batch ID:	R167432	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4930948

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.690	0.050	1.250	0.2768	113	80	120	1.634	3.37	20	

Sample ID	N053615-011BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167432
Client ID:	ZZZZZZ	Batch ID:	R167432	TestNo:	EPA 300.0			Analysis Date:	11/16/2022	SeqNo:	4930949

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.255	0.050						0.2663	4.34	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-941-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:24:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/18/2022 11:58 PM
Manganese	0.52	0.026	0.50		µg/L	1	11/20/2022 07:55 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/18/2022 11:58 PM
Selenium	1.3	0.044	0.50		µg/L	1	11/18/2022 11:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:23:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-002		

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221118C** QC Batch: **96761** PrepDate: **11/16/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	2.6	0.050	0.10		µg/L	1	11/19/2022 12:04 AM
Manganese	0.97	0.026	0.50		µg/L	1	11/20/2022 08:01 PM
Molybdenum	4.9	0.12	0.50		µg/L	1	11/19/2022 12:04 AM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 12:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab ID: N053615-003

Client Sample ID: C-R22A-S-Q422
Collection Date: 11/15/2022 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96761**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 12:27 AM
Manganese	1.2	0.026	0.50		µg/L	1	11/20/2022 08:07 PM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/19/2022 12:27 AM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 12:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:01:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.7	0.050	0.10		µg/L	1	11/19/2022 12:51 AM
Manganese	2.1	0.026	0.50		µg/L	1	11/20/2022 08:42 PM
Molybdenum	5.3	0.12	0.50		µg/L	1	11/19/2022 12:51 AM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 12:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab ID: N053615-005

Client Sample ID: C-R27-S-Q422
Collection Date: 11/15/2022 10:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.7	0.050	0.10		µg/L	1	11/19/2022 01:38 AM
Manganese	0.60	0.026	0.50		µg/L	1	11/20/2022 09:12 PM
Molybdenum	4.8	0.12	0.50		µg/L	1	11/19/2022 01:38 AM
Selenium	1.7	0.044	0.50		µg/L	1	11/19/2022 01:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab ID: N053615-006

Client Sample ID: C-TAZ-D-Q422
Collection Date: 11/15/2022 8:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 01:44 AM
Manganese	0.62	0.026	0.50		µg/L	1	11/20/2022 09:18 PM
Molybdenum	4.6	0.12	0.50		µg/L	1	11/19/2022 01:44 AM
Selenium	1.7	0.044	0.50		µg/L	1	11/19/2022 01:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:14:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.7	0.050	0.10		µg/L	1	11/19/2022 01:50 AM
Manganese	0.61	0.026	0.50		µg/L	1	11/20/2022 09:41 PM
Molybdenum	4.9	0.12	0.50		µg/L	1	11/19/2022 01:50 AM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 01:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 10:20:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.4	0.050	0.10		µg/L	1	11/19/2022 01:56 AM
Manganese	1.0	0.026	0.50		µg/L	1	11/20/2022 09:47 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/19/2022 01:56 AM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 01:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab ID: N053615-010

Client Sample ID: R63-Q422
Collection Date: 11/15/2022 9:04:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.6	0.050	0.10		µg/L	1	11/19/2022 02:02 AM
Manganese	3.0	0.026	0.50		µg/L	1	11/20/2022 09:53 PM
Molybdenum	4.8	0.12	0.50		µg/L	1	11/19/2022 02:02 AM
Selenium	1.6	0.044	0.50		µg/L	1	11/19/2022 02:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 9:44:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 02:07 AM
Manganese	0.67	0.026	0.50		µg/L	1	11/20/2022 09:59 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/19/2022 02:07 AM
Selenium	1.2	0.044	0.50		µg/L	1	11/19/2022 02:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:35:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.6	0.050	0.10		µg/L	1	11/19/2022 02:13 AM
Manganese	ND	0.026	0.50		µg/L	1	11/20/2022 10:05 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/19/2022 02:13 AM
Selenium	1.6	0.044	0.50		µg/L	1	11/19/2022 02:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 8:45:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 02:19 AM
Manganese	ND	0.026	0.50		µg/L	1	11/20/2022 10:11 PM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/19/2022 02:19 AM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 02:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:00:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	11/19/2022 02:25 AM
Manganese	1.0	0.026	0.50		µg/L	1	11/20/2022 10:17 PM
Molybdenum	9.0	0.12	0.50		µg/L	1	11/19/2022 02:25 AM
Selenium	0.97	0.044	0.50		µg/L	1	11/19/2022 02:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: MW-942-Q422
Lab Order: N053615
Collection Date: 11/15/2022 11:10:00 AM
Project: PG&E Topock - RCM, 30121866.4Q22GW
Matrix: GROUNDWATER
Lab ID: N053615-015

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	1.8	0.050	0.10		µg/L	1	11/19/2022 02:49 AM
Manganese	0.72	0.026	0.50		µg/L	1	11/20/2022 10:23 PM
Molybdenum	8.5	0.12	0.50		µg/L	1	11/19/2022 02:49 AM
Selenium	0.89	0.044	0.50		µg/L	1	11/23/2022 12:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW2-Q422
Lab Order:	N053615	**Collection Date:**	11/15/2022 11:30:00 AM
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053615-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221123C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	11/23/2022 12:23 PM
Manganese	8.3	0.026	0.50		µg/L	1	11/20/2022 10:29 PM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/19/2022 02:55 AM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 02:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96761	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	PBW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-96761	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	LCSW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934840

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.861	0.10	10.00	0	98.6	85	115				
Molybdenum	9.745	0.50	10.00	0	97.5	85	115				
Selenium	9.384	0.50	10.00	0	93.8	85	115				

Sample ID	N053547-001B-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.756	0.10	10.00	1.287	94.7	75	125				
Molybdenum	19.834	0.50	10.00	9.064	108	75	125				
Selenium	11.037	0.50	10.00	1.718	93.2	75	125				

Sample ID	N053547-001B-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/18/2022	SeqNo:	4934845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.981	0.10	10.00	1.287	96.9	75	125	10.76	2.07	20	
Molybdenum	20.894	0.50	10.00	9.064	118	75	125	19.83	5.20	20	
Selenium	11.393	0.50	10.00	1.718	96.8	75	125	11.04	3.18	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96761	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	PBW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937579

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	LCS-96761	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	LCSW	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.729	0.50	100.0	0	93.7	85	115				

Sample ID	N053547-001B-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	127.065	0.50	100.0	37.50	89.6	75	125				

Sample ID	N053547-001B-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96761	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937585

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	132.313	0.50	100.0	37.50	94.8	75	125	127.1	4.05	20	

Qualifiers:

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- E Value above quantitation range
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- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96762	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	PBW	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934873

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-96762	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	LCSW	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934874

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.131	0.10	10.00	0	101	85	115				
Molybdenum	10.175	0.50	10.00	0	102	85	115				
Selenium	9.173	0.50	10.00	0	91.7	85	115				

Sample ID	N053615-004C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934878

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.470	0.10	10.00	2.719	97.5	75	125				
Molybdenum	15.761	0.50	10.00	5.259	105	75	125				
Selenium	10.804	0.50	10.00	1.475	93.3	75	125				

Sample ID	N053615-004C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167535
Client ID:	ZZZZZZ	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4934879

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.645	0.10	10.00	2.719	99.3	75	125	12.47	1.39	20	
Molybdenum	15.825	0.50	10.00	5.259	106	75	125	15.76	0.407	20	
Selenium	10.416	0.50	10.00	1.475	89.4	75	125	10.80	3.66	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053615
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96762	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	PBW	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	LCS-96762	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	LCSW	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.966	0.50	100.0	0	92.0	85	115				

Sample ID	N053615-004C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.553	0.50	100.0	2.122	87.4	75	125				

Sample ID	N053615-004C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/16/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96762	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/20/2022	SeqNo:	4937631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	90.406	0.50	100.0	2.122	88.3	75	125	89.55	0.948	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 11/30/202 12:00 AM
FOLDER R: 11/15/202
N053615-017A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: [redacted]@arcadis.com daniel.moore@arcadis.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace ✓
Submitted By: Nara Tey		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Project Manager	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 11/15/22	Sampled By: Nara Tey		Global ID:	Regulatory	5. IR number 35
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - RCM	Signature: Date: 11/15/22				Sample Temp: 4.4°C 2.9°C
Project Number: 30121866.4Q22GW					Courier:
					Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface	X		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, Molybdenum, Selenium 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053615-001	MW-941-Q422	11/15/2022	8:24		X	X	X	X	E	3	P	BN	
2	-002	C-R22A-D-Q422	11/15/2022	9:23		X	X	X	X	E	3	P	BN	
3	-003	C-R22A-S-Q422	11/15/2022	9:30		X	X	X	X	E	3	P	BN	
4	-004	C-R27-D-Q422	11/15/2022	10:01		X	X	X	X	E	3	P	BN	
5	-005	C-R27-S-Q422	11/15/2022	10:09		X	X	X	X	E	3	P	BN	
	-006	C-TAZ-D-Q422	11/15/2022	8:00		X	X	X	X	E	3	P	BN	
7	-007	AmbientBlank-1-Q422	11/15/2022	10:30		X	~~X~~	~~X~~	~~X~~	E	1	P	BN	Hold
8	-008	C-TAZ-S-Q422	11/15/2022	8:14		X	X	X	X	E	3	P	BN	
9										E	2	P	BN	Hold
10	-009	R-28-Q422	11/15/2022	10:20		X	X	X	X	E	3	P	BN	
11	-010	R63-Q422	11/15/2022	9:04		X	X	X	X	E	3	P	BN	
12	-011	C-BNS-Q422	11/15/2022	9:44		X	X	X	X	E	3	P	BN	
13	-012	C-I-3-D-Q422	11/15/2022	8:35		X	X	X	X	E	3	P	BN	
14	-013	C-I-3-S-Q422	11/15/2022	8:45		X	X	X	X	E	3	P	BN	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nara Tey	11/15/22 16:70	Dante Ortiz Dante Ortiz	11/15/22 16:30
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Dante Ortiz Dante O.	11/15/22 18:5	Dante Ortiz Dante Ortiz	11/15/22 18:58
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ Specify: RWQCB; Global ID:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:		
Address: Roseville, CA 95661	Email: [illegible]	Address:		
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#		
Submitted By: Nara Tay		Phone: 949-727-1400, ext 200 Fax:		
Title: Project Manager	Phone: 916-786-3302 Fax:			
Signature: Date: 11/15/22	Sampled By: Nara Tay			
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			
Project Name: PG&E Topock - RCM	Signature: Date: 11/15/22			
Project Number: 30121866.3Q22GW				

Sample Receipt Condition

	Y	N
1. Chilled		
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number		3
6. Method of Cooling: ICE		

Sample Temp: 4.9°C 2.9°C

Courier:

Tracking No.:

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, Molybdenum, Selenium (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053615-014	SW1-Q422	11/15/2022	11:00		X	X	X	X	E	3	P	BN	
2	-015	MW-942-Q422	11/15/2022	11:10		X	X	X	X	E	3	P	BN	
3	-016	SW2-Q422	11/15/2022	11:30		X	X	X	X	E	3	P	BN	
4														
5														
7														
8														
9														
10														
11														
12														
13														
14														

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Nara Tay	11/15/22 16:20	Dante Ortiz Dante Ortiz	11/15/22 16:20
Dante Ortiz Dante C.	11/15/22 18:58	Dante Ortiz Dante Ortiz	11/15/22 18:58

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=38 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level II Data Packages. 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/15/2022	Workorder:	N053615
Rep sample Temp (Deg C):	4.9/2.9	IR Gun ID:	3
Temp Blank:	☐ Yes ☑ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/17/2022

Reviewed By: for: MBC 11/23/2022

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053615

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053615-001A	MW-941-Q422	11/15/2022 8:24:00 AM	12/2/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-001B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-001C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-002A	C-R22A-D-Q422	11/15/2022 9:23:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-002B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-002C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-003A	C-R22A-S-Q422	11/15/2022 9:30:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-003B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-003C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-004A	C-R27-D-Q422	11/15/2022 10:01:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-004B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-004C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-005A	C-R27-S-Q422	11/15/2022 10:09:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-005B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053615

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053615-005C	C-R27-S-Q422	11/15/2022 10:09:00 AM	12/2/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-006A	C-TAZ-D-Q422	11/15/2022 8:00:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-006B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-006C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-007A	AmbientBlank-1-Q422	11/15/2022 10:30:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N053615-008A	C-TAZ-S-Q422	11/15/2022 8:14:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-008B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-008C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-009A	R-28-Q422	11/15/2022 10:20:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-009B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-009C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-010A	R63-Q422	11/15/2022 9:04:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-010B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-010C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053615

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053615-010C	R63-Q422	11/15/2022 9:04:00 AM	12/2/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-011A	C-BNS-Q422	11/15/2022 9:44:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-011B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-011C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-012A	C-I-3-D-Q422	11/15/2022 8:35:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-012B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-012C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-013A	C-I-3-S-Q422	11/15/2022 8:45:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-013B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-013C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-014A	SW1-Q422	11/15/2022 11:00:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-014B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-014C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Nov-22

WorkOrder: N053615

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053615-015A	MW-942-Q422	11/15/2022 11:10:00 AM	12/2/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-015B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-015C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-016A	SW2-Q422	11/15/2022 11:30:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053615-016B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053615-016C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053615-017A	FOLDER	12/2/2022	12/2/2022		Folder	Folder	☐	☐	☐	LAB
			12/2/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/2/2022		Folder	Folder	☐	☐	☐	LAB

December 06, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053617

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 15, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (2.2 ug/L) and hexavalent chromium (0 ug/L) for sample N053617-001 (MW-21-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.3 ug/L) and hexavalent chromium (0 ug/L) for sample N053617-002 (MW-914-Q422() are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite as N in QC samples N053617-001BMS and N053617-001BMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Nitrate as N in QC sample N053615-001BMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.2 ug/L) and hexavalent chromium (0 ug/L) for sample N053617-001 (MW-21-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.3 and 1.0 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.3 ug/L) and hexavalent chromium (0 ug/L) for sample N053617-002 (MW-914-Q422() are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.4 and 0.92 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Barium in QC samples N053615-004C-MS and N053615-004C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053617-001DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N053617-001 and MS/MSD were reported at 10x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053617
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053617-001A	MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	11/15/2022	12/6/2022
N053617-001B	MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	11/15/2022	12/6/2022
N053617-001C	MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	11/15/2022	12/6/2022
N053617-001D	MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	11/15/2022	12/6/2022
N053617-001E	MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	11/15/2022	12/6/2022
N053617-002A	MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	11/15/2022	12/6/2022
N053617-002B	MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	11/15/2022	12/6/2022
N053617-002C	MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	11/15/2022	12/6/2022
N053617-002D	MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	11/15/2022	12/6/2022
N053617-002E	MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	11/15/2022	12/6/2022
N053617-003A	MW-21-EB-Q422	Groundwater	11/15/2022 2:40:00 PM	11/15/2022	12/6/2022
N053617-004A	EB-721-Q422	Groundwater	11/15/2022 3:30:00 PM	11/15/2022	12/6/2022
N053617-005A	IRZ-09-100-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/6/2022
N053617-005B	IRZ-09-100-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/6/2022
N053617-005C	IRZ-09-100-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/6/2022
N053617-005D	IRZ-09-100-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/6/2022
N053617-005E	IRZ-09-100-Q422	Groundwater	11/15/2022 11:30:00 AM	11/15/2022	12/6/2022
N053617-006A	IRZ-13D-210-Q422	Groundwater	11/15/2022 10:00:00 AM	11/15/2022	12/6/2022
N053617-006B	IRZ-13D-210-Q422	Groundwater	11/15/2022 10:00:00 AM	11/15/2022	12/6/2022
N053617-006C	IRZ-13D-210-Q422	Groundwater	11/15/2022 10:00:00 AM	11/15/2022	12/6/2022
N053617-006D	IRZ-13D-210-Q422	Groundwater	11/15/2022 10:00:00 AM	11/15/2022	12/6/2022
N053617-006E	IRZ-13D-210-Q422	Groundwater	11/15/2022 10:00:00 AM	11/15/2022	12/6/2022
N053617-007A	IRZ-13S-095-Q422	Groundwater	11/15/2022 9:45:00 AM	11/15/2022	12/6/2022
N053617-007B	IRZ-13S-095-Q422	Groundwater	11/15/2022 9:45:00 AM	11/15/2022	12/6/2022
N053617-007C	IRZ-13S-095-Q422	Groundwater	11/15/2022 9:45:00 AM	11/15/2022	12/6/2022
N053617-007D	IRZ-13S-095-Q422	Groundwater	11/15/2022 9:45:00 AM	11/15/2022	12/6/2022
N053617-007E	IRZ-13S-095-Q422	Groundwater	11/15/2022 9:45:00 AM	11/15/2022	12/6/2022
N053617-008A	IRZ-23-143-Q422	Groundwater	11/15/2022 7:15:00 AM	11/15/2022	12/6/2022
N053617-008B	IRZ-23-143-Q422	Groundwater	11/15/2022 7:15:00 AM	11/15/2022	12/6/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053617
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053617-008C	IRZ-23-143-Q422	Groundwater	11/15/2022 7:15:00 AM	11/15/2022	12/6/2022
N053617-008D	IRZ-23-143-Q422	Groundwater	11/15/2022 7:15:00 AM	11/15/2022	12/6/2022
N053617-008E	IRZ-23-143-Q422	Groundwater	11/15/2022 7:15:00 AM	11/15/2022	12/6/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:10:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A** QC Batch: **R167469**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/16/2022 02:24 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	2.2	0.035	1.0		µg/L	1	11/19/2022 03:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A** QC Batch: **R167469**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/16/2022 02:43 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221118C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Chromium	2.3	0.035	1.0		µg/L	1	11/19/2022 03:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-EB-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/16/2022 04:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-721-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:30:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/16/2022 05:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	17	0.12	1.0		µg/L	5	11/16/2022 03:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.2	10		µg/L	50	11/16/2022 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	32	0.12	1.0		µg/L	5	11/16/2022 03:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 7:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221116A**	QC Batch: **R167469**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	660	2.4	20		µg/L	100	11/16/2022 04:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167469**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **167469**			
Client ID: **PBW**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**			SeqNo: **4931937**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167469**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **167469**			
Client ID: **LCSW**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**			SeqNo: **4931938**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.988	0.20	5.000	0	99.8	90	110				

Sample ID: **N053616-001BREP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **167469**			
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**			SeqNo: **4931943**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.465	2.0						51.84	2.69	20	

Sample ID: **N053616-001BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **167469**			
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**			SeqNo: **4931949**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	101.473	2.0	50.00	51.84	99.3	90	110				

Sample ID: **N053616-001BMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **167469**			
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**			SeqNo: **4931953**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	101.982	2.0	50.00	51.84	100	90	110	101.5	0.500	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053578-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID: **N053578-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.905	1.0	25.00	17.37	102	90	110				

Sample ID: **N053578-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.892	1.0	25.00	17.54	101	90	110				

Sample ID: **N053578-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.745	1.0	25.00	13.28	102	90	110				

Sample ID: **N053614-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	536.335	10	250.0	275.9	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053617-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167469**
Client ID: **ZZZZZZ** Batch ID: **R167469** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.962	0.20	1.000	0	96.2	90	110				

Sample ID: **N053617-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167469**
Client ID: **ZZZZZZ** Batch ID: **R167469** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Sample ID: **N053617-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167469**
Client ID: **ZZZZZZ** Batch ID: **R167469** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931974**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.482	1.0	25.00	17.14	101	90	110				

Sample ID: **N053617-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167469**
Client ID: **ZZZZZZ** Batch ID: **R167469** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	659.360	10	250.0	414.7	97.9	90	110				

Sample ID: **N053617-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167469**
Client ID: **ZZZZZZ** Batch ID: **R167469** TestNo: **EPA 218.6** Analysis Date: **11/16/2022** SeqNo: **4931978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	57.934	1.0	25.00	32.04	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053617-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1148.140	20	500.0	657.2	98.2	90	110				

Sample ID: **N053617-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931984**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N053617-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.006	0.20	1.000	0	101	90	110				

Sample ID: **N053614-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	535.255	10	250.0	281.5	101	90	110				

Sample ID: **N053578-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167469**
Client ID: **ZZZZZZ**	Batch ID: **R167469**	TestNo: **EPA 218.6**		Analysis Date: **11/16/2022**	SeqNo: **4931991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	241.244	4.0	100.0	139.1	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96762**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **PBW**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96762**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **LCSW**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.199	1.0	10.00	0	92.0	85	115				

Sample ID: **N053615-004C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.243	1.0	10.00	0.03841	92.0	75	125				

Sample ID: **N053615-004C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.362	1.0	10.00	0.03841	93.2	75	125	9.243	1.28	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053617-001

Client Sample ID: MW-21-Q422
Collection Date: 11/15/2022 3:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A** QC Batch: **R167431**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/16/2022 08:52 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A** QC Batch: **R167538**				PrepDate:			Analyst: **RAB**
Sulfate	1300	12	100		mg/L	200	11/19/2022 03:54 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A** QC Batch: **R167431**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/16/2022 08:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A** QC Batch: **R167431**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	11/16/2022 09:08 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A** QC Batch: **R167538**				PrepDate:			Analyst: **RAB**
Sulfate	1300	12	100		mg/L	200	11/19/2022 05:10 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A** QC Batch: **R167431**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/16/2022 09:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053617-005

Client Sample ID: IRZ-09-100-Q422
Collection Date: 11/15/2022 11:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A** QC Batch: **R167538**				PrepDate:			Analyst: **RAB**
Sulfate	430	6.1	50		mg/L	100	11/19/2022 05:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A** QC Batch: **R167431**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	11/16/2022 10:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Sulfate	860	6.1	50		mg/L	100	11/19/2022 05:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.095	0.50		mg/L	10	11/16/2022 10:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Sulfate	410	6.1	50		mg/L	100	11/19/2022 06:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.095	0.50		mg/L	10	11/16/2022 10:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 7:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Sulfate	440	6.1	50		mg/L	100	11/19/2022 06:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221116A**	QC Batch: **R167431**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.1	0.095	0.50		mg/L	10	11/16/2022 11:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R167431_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **PBW**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R167431_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **LCSW**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.262	0.50	1.250	0	101	90	110				

Sample ID: **N053617-002BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Sample ID: **N053617-001BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	18.987	5.0	12.50	0	152	80	120				S

Sample ID: **N053617-001BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.587	5.0	12.50	0	157	80	120	18.99	3.11	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167538_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167538**
Client ID: **PBW**	Batch ID: **R167538**	TestNo: **EPA 300.0**		Analysis Date: **11/19/2022**	SeqNo: **4935548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.239	0.50									

Sample ID: **LCS-R167538_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167538**
Client ID: **LCSW**	Batch ID: **R167538**	TestNo: **EPA 300.0**		Analysis Date: **11/19/2022**	SeqNo: **4935549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.148	0.50	4.000	0	104	90	110				

Sample ID: **N053617-001BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167538**
Client ID: **ZZZZZZ**	Batch ID: **R167538**	TestNo: **EPA 300.0**		Analysis Date: **11/19/2022**	SeqNo: **4935555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2067.340	100	800.0	1285	97.9	80	120				

Sample ID: **N053617-001BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167538**
Client ID: **ZZZZZZ**	Batch ID: **R167538**	TestNo: **EPA 300.0**		Analysis Date: **11/19/2022**	SeqNo: **4935556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2065.120	100	800.0	1285	97.6	80	120	2067	0.107	20	

Sample ID: **N053617-002BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167538**
Client ID: **ZZZZZZ**	Batch ID: **R167538**	TestNo: **EPA 300.0**		Analysis Date: **11/19/2022**	SeqNo: **4935558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1291.260	100						1297	0.465	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167431_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **PBW**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929929**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167431_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **LCSW**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.257	0.050	1.250	0	101	90	110				

Sample ID: **N053617-002BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.150	0.50						0.1840	0	20	

Sample ID: **N053617-001BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.376	0.50	12.50	0.2010	97.4	80	120				

Sample ID: **N053617-001BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929935**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.621	0.50	12.50	0.2010	99.4	80	120	12.38	1.96	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053615-001BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167431**
Client ID: **ZZZZZZ**	Batch ID: **R167431**	TestNo: **EPA 300.0**		Analysis Date: **11/16/2022**	SeqNo: **4929950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.786	0.050	1.250	0.2730	121	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:10:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221116A**	QC Batch: **R167442**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.4	10		mg/L	10	11/16/2022 03:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221116A**	QC Batch: **R167442**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/16/2022 09:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221116A**	QC Batch: **R167442**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/16/2022 09:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221116A**	QC Batch: **R167442**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/16/2022 07:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221116A**	QC Batch: **R167442**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/16/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 7:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221116A**	QC Batch: **R167442**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/16/2022 09:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167442**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167442**
Client ID: **PBW**	Batch ID: **R167442**	TestNo: **SM 5310C**		Analysis Date: **11/16/2022**	SeqNo: **4930956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167442**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167442**
Client ID: **LCSW**	Batch ID: **R167442**	TestNo: **SM 5310C**		Analysis Date: **11/16/2022**	SeqNo: **4930957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.910	1.0	5.000	0	98.2	85	115				

Sample ID: **N053617-001DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167442**
Client ID: **ZZZZZZ**	Batch ID: **R167442**	TestNo: **SM 5310C**		Analysis Date: **11/16/2022**	SeqNo: **4930974**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	42.941	10	50.00	1.955	82.0	75	125				

Sample ID: **N053617-001DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167442**
Client ID: **ZZZZZZ**	Batch ID: **R167442**	TestNo: **SM 5310C**		Analysis Date: **11/16/2022**	SeqNo: **4930975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	43.131	10	50.00	1.955	82.4	75	125	42.94	0.441	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:10:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	120	13	20		µg/L	1	11/21/2022 10:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053617-002

Client Sample ID: MW-914-Q422
Collection Date: 11/15/2022 3:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**				PrepDate:	**11/16/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	11/21/2022 10:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053617-005

Client Sample ID: IRZ-09-100-Q422
Collection Date: 11/15/2022 11:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 10:28 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221126B**	QC Batch: **96916**			PrepDate:	**11/26/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 06:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053617-006

Client Sample ID: IRZ-13D-210-Q422
Collection Date: 11/15/2022 10:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**			PrepDate:		**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 10:33 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221126B**	QC Batch: **96916**			PrepDate:		**11/26/2022**	Analyst: **DJ**
Iron	35	13	20		µg/L	1	11/26/2022 06:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**			PrepDate:		**11/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 10:38 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221126B**	QC Batch: **96916**			PrepDate:		**11/26/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 06:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab ID: N053617-008

Client Sample ID: IRZ-23-143-Q422
Collection Date: 11/15/2022 7:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221121E**	QC Batch: **96759**			PrepDate:		**11/16/2022**	Analyst: **DJ**
Iron	25	13	20		µg/L	1	11/21/2022 10:51 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221126B**	QC Batch: **96916**			PrepDate:		**11/26/2022**	Analyst: **DJ**
Iron	44	13	20		µg/L	1	11/26/2022 07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96759**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **PBW**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96759**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **LCSW**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.888	20	100.0	0	99.9	85	115				

Sample ID: **N053547-007C-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **ZZZZZZ**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.248	20	100.0	0	104	75	125				

Sample ID: **N053547-007C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167612**
Client ID: **ZZZZZZ**	Batch ID: **96759**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937900**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.675	20	100.0	0	106	75	125	104.2	1.36	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **MB-96916**	SampType: **MBLK**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **11/26/2022**	RunNo: **167703**
Client ID: **PBW**	Batch ID: **96916**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/26/2022**	SeqNo: **4942803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-96916**	SampType: **LCS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **11/26/2022**	RunNo: **167703**
Client ID: **LCSW**	Batch ID: **96916**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/26/2022**	SeqNo: **4942804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.403	20	100.0	0	95.4	85	115				

Sample ID: **N053617-005E-MS**	SampType: **MS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **11/26/2022**	RunNo: **167703**
Client ID: **ZZZZZZ**	Batch ID: **96916**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/26/2022**	SeqNo: **4942808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.154	20	100.0	0	100	75	125				

Sample ID: **N053617-005E-MSD**	SampType: **MSD**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **11/26/2022**	RunNo: **167703**
Client ID: **ZZZZZZ**	Batch ID: **96916**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **11/26/2022**	SeqNo: **4942815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.021	20	100.0	0	102	75	125	100.2	1.85	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:10:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-001		

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221118C** QC Batch: **96762** PrepDate: **11/16/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	14	0.050	0.10		µg/L	1	11/19/2022 03:01 AM
Barium	22	0.083	1.0		µg/L	1	11/19/2022 03:01 AM
Manganese	170	0.026	0.50		µg/L	1	11/20/2022 11:04 PM
Molybdenum	100	0.12	0.50		µg/L	1	11/19/2022 03:01 AM
Selenium	5.9	0.044	0.50		µg/L	1	11/19/2022 03:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221118C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Arsenic	14	0.050	0.10		µg/L	1	11/19/2022 03:06 AM
Barium	23	0.083	1.0		µg/L	1	11/19/2022 03:06 AM
Manganese	170	0.026	0.50		µg/L	1	11/20/2022 11:16 PM
Molybdenum	100	0.12	0.50		µg/L	1	11/19/2022 03:06 AM
Selenium	5.8	0.044	0.50		µg/L	1	11/19/2022 03:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221120C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Manganese	1.7	0.026	0.50		µg/L	1	11/20/2022 11:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221120C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Manganese	0.99	0.026	0.50		µg/L	1	11/20/2022 11:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221120C**	QC Batch: **96762**			PrepDate:	**11/16/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	11/20/2022 11:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q422
Lab Order:	N053617	**Collection Date:**	11/15/2022 7:15:00 AM
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N053617-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221120C** QC Batch: **96762**				PrepDate:	**11/16/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	11/20/2022 11:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96762**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **PBW**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96762**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **LCSW**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.131	0.10	10.00	0	101	85	115				
Barium	10.664	1.0	10.00	0	107	85	115				
Molybdenum	10.175	0.50	10.00	0	102	85	115				
Selenium	9.173	0.50	10.00	0	91.7	85	115				

Sample ID: **N053615-004C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.470	0.10	10.00	2.719	97.5	75	125				
Barium	126.529	1.0	10.00	129.5	-29.8	75	125				S
Molybdenum	15.761	0.50	10.00	5.259	105	75	125				
Selenium	10.804	0.50	10.00	1.475	93.3	75	125				

Sample ID: **N053615-004C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.645	0.10	10.00	2.719	99.3	75	125	12.47	1.39	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053615-004C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	131.254	1.0	10.00	129.5	17.5	75	125	126.5	3.67	20	S
Molybdenum	15.825	0.50	10.00	5.259	106	75	125	15.76	0.407	20	
Selenium	10.416	0.50	10.00	1.475	89.4	75	125	10.80	3.66	20	

Sample ID: **MB-96762**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **PBW**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-96762**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **LCSW**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.966	0.50	100.0	0	92.0	85	115				

Sample ID: **N053615-004C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.553	0.50	100.0	2.122	87.4	75	125				

Sample ID: **N053615-004C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/16/2022**	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	90.406	0.50	100.0	2.122	88.3	75	125	89.55	0.948	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053617
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053615-004C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167535**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4934877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.296	0.10	10.00	2.719	95.8	80	120				
Barium	132.416	1.0	10.00	129.5	29.1	80	120				S
Molybdenum	15.925	0.50	10.00	5.259	107	80	120				
Selenium	10.548	0.50	10.00	1.475	90.7	80	120				

Sample ID: **N053615-004C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96762**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/20/2022**	SeqNo: **4937629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.656	0.50	100.0	2.122	87.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (RWQCB)
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: daniel.moore@arcadis.com	Address:	Specify State:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Global ID:
Submitted By: Nara Tay		Phone: 949-727-1400, ext 200 Fax:	
Title: Project Manager	Phone: 916-786-3302 Fax:		
Signature: 11/15/22 Date:	Sampled By: Nara Tay		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 11/15/22		
Project Number: 30121866.4Q22GW			

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace	✓	
3. Container Intact	✓	
4. Seal Present		
5. IR number	B	
6. Method of Cooling:	ICE	

Sample Temp: 4.1°C 5.1°C 19°C

Courier:

Tracking No.:

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate, (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053617-001	MW-21-Q422	11/15/2022	15:10		X	X	X	X	X	X		X			E	7	P	BNS	
2	-002	MW-914-Q422	11/15/2022	15:20		X	X	X	X	X	X		X			E	7	P	BNS	
3	-003	MW-21-EB-Q422	11/15/2022	14:40		X										E	1	P	BNS	
4	-004	EB-721-Q422	11/15/2022	15:30		X										E	1	P	BNS	
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Nara Tay	11/15/22 16:20	Dante Ortiz	11/15/22 16:30
Dante Ortiz Dante O.	11/16/22 18:58	Dante Ortiz Dante Ortiz	11/16/22 18:58

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

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www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@citizen.com	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Kevin A.			Others	✓	LEVEL III		3. Container Intact ✓
Title: QAM	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 11-15-22	Sampled By: Kevin A.		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 11-15-22						Sample Temp: 4.1°C 5.1°C 2.9°C
Project Number: 30121868.4Q22GW							Courier: Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) Field Filtered (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) No filter (1 L poly)	Dissolved metals (SW6020) Field Filtered; HNO3 Iron, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); No filter; H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053617-005	IRZ-09-100-Q422	11/15/22	11:30		X	X	X			X	X		E	7	P	BNS	
2	-006	IRZ-13D-210-Q422	11/15/22	10:40		X	X	X			X	X		E	7	P	BNS	
3	-007	IRZ-13S-095-Q422	11/15/22	9:45		X	X	X			X	X		E	7	P	BNS	
4	-008	IRZ-23-143-Q422	11/15/22	8:15		X	X	X			X	X		E	7	P	BNS	
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Kevin Ashley 11/15/22	Date/Time: 15:18	Relinquished by (Signature and Printed Name): Dante Ortiz Dante Ortiz 11/15/22
Relinquished by (Signature and Printed Name): Dante Ortiz Dante O. 11/15/22	Date/Time: 18:38	Relinquished by (Signature and Printed Name): Dante Ortiz Dante Ortiz 11/15/22
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):

Date/Time: 15:28
Date/Time: 18:58
Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 6 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/15/2022	Workorder:	N053617
Rep sample Temp (Deg C):	4.1/5.1/2.9	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/17/2022

Reviewed By: for: MBC 11/28/2022

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053617

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053617-001A	MW-21-Q422	11/15/2022 3:10:00 PM	12/2/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-001B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053617-001C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053617-001D			12/2/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053617-001E			12/2/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053617-002A	MW-914-Q422	11/15/2022 3:20:00 PM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-002B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053617-002C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053617-002D			12/2/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053617

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053617-002E	MW-914-Q422	11/15/2022 3:20:00 PM	12/2/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N053617-003A	MW-21-EB-Q422	11/15/2022 2:40:00 PM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-004A	EB-721-Q422	11/15/2022 3:30:00 PM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-005A	IRZ-09-100-Q422	11/15/2022 11:30:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-005B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053617-005C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053617-005D			12/2/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053617-005E			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053617-006A	IRZ-13D-210-Q422	11/15/2022 10:00:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-006B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053617-006C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053617-006D			12/2/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053617-006E			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053617

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053617-006E	IRZ-13D-210-Q422	11/15/2022 10:00:00 AM	12/2/2022	Groundwater	EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053617-007A	IRZ-13S-095-Q422	11/15/2022 9:45:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-007B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053617-007C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053617-007D			12/2/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053617-007E			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053617-008A	IRZ-23-143-Q422	11/15/2022 7:15:00 AM	12/2/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053617-008B			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/2/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053617-008C			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/2/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053617-008D			12/2/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053617-008E			12/2/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/2/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053617-009A	FOLDER	12/2/2022	12/2/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053617

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/15/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053617-009A	FOLDER	12/2/2022	12/2/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/2/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Nara Tep

17-Nov-22

				Ammonia	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N053617-001E / MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	16OZP	1		
N053617-002E / MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53617A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500. EDD requirement Labspec7 edata.

GLS #: 558238339

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/17/2022 1600	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2227794

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53617A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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SM-4500-NH3G

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Case Narrative

Sample Receipt

Work Order: 2227794
COC Number: N53617A
Default Cooler was received at 1.7 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
SM-4500-NH3G	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2227794-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227794-02	SM-4500-NH3G	Ammonia as N (Distilled)

Holding Times

The sample holding time was exceeded.

Lab Number	Method	Analyte
2227794-01	SM-4500-NH3G	Ammonia as N (Distilled)
2227794-02	SM-4500-NH3G	Ammonia as N (Distilled)

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156449	SM-4500-NH3G	2227729-01	N053547-007E/ MW-79-058-Q422

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Chain of Custody and Cooler Receipt Form for 2227794 Page 1 of 2

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

22-27794

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Nara Tep

17-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Ammonia SM4500-NH3D	Requested Tests	
N053617-001E / MW-21-Q422	Groundwater	11/15/2022 3:10:00 PM	16OZP	1		
N053617-002E / MW-914-Q422	Groundwater	11/15/2022 3:20:00 PM	16OZP	1		

CHK BY PR6 DISTRIBUTION SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53617A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500. EDD requirement Labspec7 edsla.

GLS #: 558238339

	Date/Time		Date/Time
Relinquished by: YRodriguez	11/17/2022 1600	Received by:	11-18-22 0735
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2227794 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-27794

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☐ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☐ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.98 Container: DE Thermometer ID: 337 Date/Time: 11-18-22

Temperature: (A) 1.8 °C / (C) 1.7 °C Analyst Init: RMG 0035

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS	A	A								
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/808IA										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: TODD L Date/Time: 11-18-22 22a

A = Actual / C = Corrected

Rev 23 05/2022

[S:\WPDocs\Word Perfect\LAB_DOCS\FORMS\SAMPLEC~1.DOC]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2227794**
Class: **WET**
Method: **SM-4500-NH3G**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
SDG: 2227794
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053617-001E / MW-21-Q422	2227794-01
N053617-002E / MW-914-Q422	2227794-02

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-03-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Ammonia as N (Distilled)	0.067	0.2	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053617-001E / MW-21-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227794-01
File ID: 20221221002-NH3-032
Sampled: 11/15/22 15:10
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:41
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.76 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.48	2.17	D	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
SM-4500-NH3G

N053617-002E / MW-914-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2227794-02
File ID: 20221221002-NH3-033
Sampled: 11/15/22 15:20
Prepared: 12/20/22 14:15
Analyzed: 12/21/22 14:42
Solids: 0.00
Preparation: No Prep
Initial/Final: 2.76 ml / 6 ml
Batch: B156449
Sequence: 2223567
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
7664-41-7	Ammonia as N (Distilled)	0.42	2.17	JD	SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156449
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053617-001E / MW-21-Q422	2227794-01	20221221002-NH3-032	12/20/22 14:15	
N053617-002E / MW-914-Q422	2227794-02	20221221002-NH3-033	12/20/22 14:15	
Blank	B156449-BLK1	20221221002-NH3-021	12/20/22 14:15	
LCS	B156449-BS1	20221221002-NH3-020	12/20/22 14:15	
Duplicate	B156449-DUP1	20221221002-NH3-023	12/20/22 14:15	
Matrix Spike	B156449-MS1	20221221002-NH3-024	12/20/22 14:15	
Matrix Spike Dup	B156449-MSD1	20221221002-NH3-025	12/20/22 14:15	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield		SDG:	2227794	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156449-BLK1	File ID:	20221221002-NH3-021
Prepared:	12/20/22 14:15	Preparation:	No Prep	Initial/Final:	6 ml / 6 ml
Analyzed:	12/21/22 14:31	Instrument:	SC-1		
Batch:	B156449	Sequence:	2223567	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
7664-41-7	Ammonia as N (Distilled)	0.067	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

Duplicate

DUPLICATES
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156449
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2227794
Project: Level IV + labSpec7
Laboratory ID: B156449-DUP1
Lab Source ID: 2227729-01
Initial/Final: 2.75 ml / 6 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Ammonia as N (Distilled)	20	0.34516		0.36873		6.60		SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

SM-4500-NH3G

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156449
Preparation: No Prep
Source Sample Number: 2227729-01

SDG: 2227794
Project: Level IV + labSpec7
Laboratory ID: B156449-MS1
Initial/Final: 2.47 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	4.8583	0.34516	4.8945	93.6	80 - 120

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Ammonia as N (Distilled)	4.8583	4.9062	93.9	0.238	20	80 - 120

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

LCS RECOVERY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156449
Laboratory ID: B156449-BS1
Preparation: No Prep
Initial/Final: 6 ml / 6 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Ammonia as N (Distilled)	2.0000	1.8820	94.1	85 - 115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

SM-4500-NH3G

Laboratory:	Pace Analytical - Bakersfield	SDG:	2227794
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223567	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223567-ICV1	20221221002-NH3-018	12/21/22 14:28
Initial Cal Blank	2223567-ICB1	20221221002-NH3-019	12/21/22 14:30
LCS	B156449-BS1	20221221002-NH3-020	12/21/22 14:30
Blank	B156449-BLK1	20221221002-NH3-021	12/21/22 14:31
Duplicate	B156449-DUP1	20221221002-NH3-023	12/21/22 14:33
Matrix Spike	B156449-MS1	20221221002-NH3-024	12/21/22 14:33
Matrix Spike Dup	B156449-MSD1	20221221002-NH3-025	12/21/22 14:35
Calibration Check	2223567-CCV1	20221221002-NH3-028	12/21/22 14:37
Calibration Blank	2223567-CCB1	20221221002-NH3-029	12/21/22 14:39
N053617-001E / MW-21-Q422	2227794-01	20221221002-NH3-032	12/21/22 14:41
N053617-002E / MW-914-Q422	2227794-02	20221221002-NH3-033	12/21/22 14:42
Calibration Check	2223567-CCV2	20221221002-NH3-040	12/21/22 14:48
Calibration Blank	2223567-CCB2	20221221002-NH3-041	12/21/22 14:49

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

BLANKS
SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Project: Level IV + labSpec7
Sequence: 2223567
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223567-ICB1	Ammonia as N (Distilled)	0.055400	0.20	mg/L		SM-4500-NH3G
2223567-CCB1	Ammonia as N (Distilled)	0.035000	0.20	mg/L		SM-4500-NH3G
2223567-CCB2	Ammonia as N (Distilled)	0.033200	0.20	mg/L		SM-4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2227794
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223567

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223567-ICV1	Ammonia as N (Distilled)	2.0000	1.8778	93.9	mg/L	SM-4500-NH3G
2223567-CCV1	Ammonia as N (Distilled)	2.0000	1.9066	95.3	mg/L	SM-4500-NH3G
2223567-CCV2	Ammonia as N (Distilled)	2.0000	1.9307	96.5	mg/L	SM-4500-NH3G

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

SM-4500-NH3G

Laboratory: Pace Analytical - Bakersfield
SDG: 2227794
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053617-001E / MW-21-Q422	11/15/22 15:10	11/18/22 10:35	12/20/22 14:15	36.00	28.00	12/21/22 14:41	36.00	28.00	*
N053617-002E / MW-914-Q422	11/15/22 15:20	11/18/22 10:35	12/20/22 14:15	36.00	28.00	12/21/22 14:42	36.00	28.00	*

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0553**	**0.00**	**2:13:49 PM**
DIL-1	**RBL**	**0.0000**	**0.0565**	**0.00**	**2:14:07 PM**
DIL-1	**RBL**	**0.0000**	**0.0516**	**0.00**	**2:15:37 PM**
DIL-1	**Std-1**	**0.0000**	**-0.0006**	**0.00**	**2:15:55 PM**
DIL-1	**Std-1**	**0.0000**	**-0.0010**	**0.00**	**2:17:25 PM**
SR5-1	**Std-2**	**0.2000**	**0.0333**	**0.00**	**2:17:43 PM**
SR5-1	**Std-2**	**0.2000**	**0.0335**	**0.00**	**2:19:13 PM**
SR5-2	**Std-3**	**0.5000**	**0.0780**	**0.00**	**2:19:31 PM**
SR5-2	**Std-3**	**0.5000**	**0.0784**	**0.00**	**2:21:01 PM**
SR5-3	**Std-4**	**1.0000**	**0.1547**	**0.00**	**2:21:19 PM**
SR5-3	**Std-4**	**1.0000**	**0.1542**	**0.00**	**2:22:49 PM**
SR5-4	**Std-5**	**2.0000**	**0.3182**	**0.00**	**2:23:07 PM**
SR5-4	**Std-5**	**2.0000**	**0.3183**	**0.00**	**2:24:38 PM**
SR5-5	**Std-6**	**5.0000**	**0.8060**	**0.00**	**2:24:55 PM**
SR5-5	**Std-6**	**5.0000**	**0.8304**	**0.00**	**2:26:26 PM**
ST-2	**^CCV (2 mg/L)**	**1.8964**	**0.3099**	**94.82**	**2:26:43 PM**
R-5	**~CCB (0 mg/L)**	**0.0320**	**-0.0002**	**0.00**	**2:28:14 PM**
1	**ICV1**	**1.8778**	**0.3068**	**0.00**	**2:28:32 PM**
2	**ICB1**	**0.0554**	**0.0037**	**0.00**	**2:30:02 PM**
3	**B156449-BS1**	**1.8820**	**0.3075**	**0.00**	**2:30:20 PM**
4	**B156449-BLK1**	**0.0584**	**0.0042**	**0.00**	**2:31:50 PM**
5	**2227729-01**	**0.1582**	**0.0208**	**0.00**	**2:32:08 PM**
6	**B156449-DUP1**	**0.1690**	**0.0226**	**0.00**	**2:33:38 PM**
7	**B156449-MS1**	**2.0149**	**0.3296**	**0.00**	**2:33:56 PM**
8	**B156449-MSD1**	**2.0197**	**0.3304**	**0.00**	**2:35:26 PM**
9	**2227729-02**	**0.1564**	**0.0205**	**0.00**	**2:35:44 PM**
10	**2227729-03**	**0.1757**	**0.0237**	**0.00**	**2:37:14 PM**
ST-2	**^CCV (2 mg/L)**	**1.9066**	**0.3116**	**95.33**	**2:37:32 PM**
R-5	**~CCB (0 mg/L)**	**0.0350**	**0.0003**	**0.00**	**2:39:02 PM**
11	**2227729-04**	**0.2839**	**0.0417**	**0.00**	**2:39:20 PM**
12	**2227729-05**	**0.2574**	**0.0373**	**0.00**	**2:40:50 PM**
13	**2227794-01**	**0.2208**	**0.0312**	**0.00**	**2:41:08 PM**
14	**2227794-02**	**0.1949**	**0.0269**	**0.00**	**2:42:38 PM**
15	**2228227-02**	**0.2105**	**0.0295**	**0.00**	**2:42:56 PM**
16	**2226860-02**	**0.3705**	**0.0561**	**0.00**	**2:44:26 PM**
17	**2228006-02**	**1.3896**	**0.2256**	**0.00**	**2:44:44 PM**

Report Date :12/21/2022 **Run Date :12/21/2022** **Operator : WESTCO** **Plan # :20221221002**

Plan Description : NH3

Pace Analyical

SC-1

Bakersfield

California

Method : BNH3 -Unit [mg/L] - Standard Methods 4500 Ammonia

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
18	**LOD1**	**0.2262**	**0.0321**	**0.00**	**2:46:14 PM**
19	**LOD2**	**0.1895**	**0.0260**	**0.00**	**2:46:32 PM**
20	**LOQ1**	**0.1865**	**0.0255**	**0.00**	**2:48:02 PM**
ST-2	**^CCV (2 mg/L)**	**1.9307**	**0.3156**	**96.53**	**2:48:20 PM**
R-5	**~CCB (0 mg/L)**	**0.0332**	**0.0000**	**0.00**	**2:49:50 PM**
21	**LOQ2**	**0.2208**	**0.0312**	**0.00**	**2:50:08 PM**
ST-2	**^CCV (2 mg/L)**	**1.9193**	**0.3137**	**95.96**	**2:51:38 PM**
R-5	**~CCB (0 mg/L)**	**0.0368**	**0.0006**	**0.00**	**2:51:56 PM**

Report Date :12/21/2022 **Run Date :12/21/2022** **Operator : WESTCO** **Plan # :20221221002**

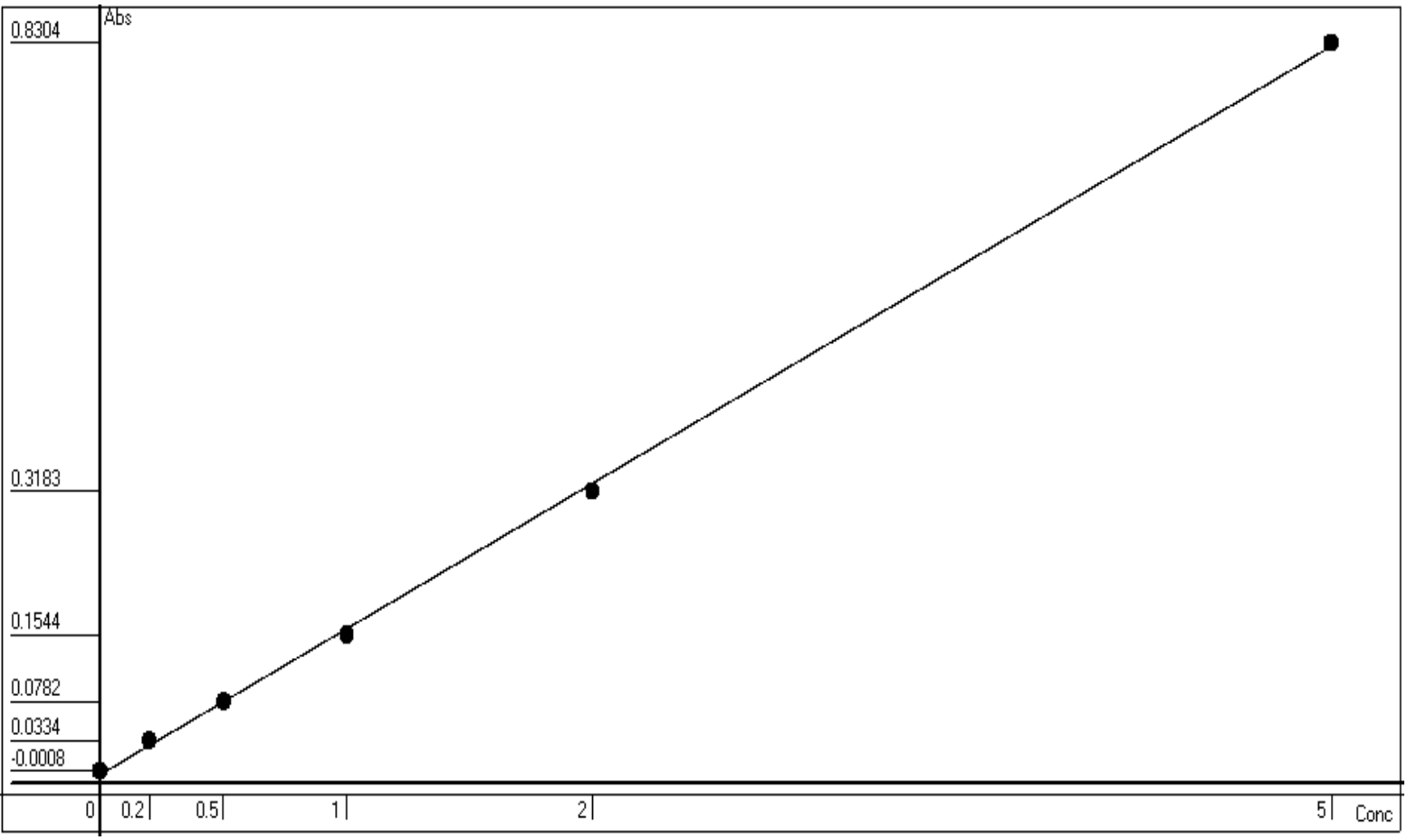
Plan Description : NH3

Raw Data - Calibration Summary

Calibrant Report - BNH3 -

Calib Lot #:999999 Exp Date:1/1/2025 User:SC1

Plan # : 20221221002 Description : [NH3] Unit



Point	OD	Conc	Recalc Conc	% Error
1	-0.0008	0	0.0284	2.84
2	0.0334	0.2	0.2340	17.00
3	0.0782	0.5	0.5034	0.68
4	0.1544	1	0.9615	-3.85
5	0.3183	2	1.9470	-2.65
6	0.8304	5	5.0260	0.52

Conc= +6.0125*Abso +0.0332 R^2=0.9996

RBL 0.0559 0

Report Date 12/21/2022 Run Date 12/21/2022

Replicate Report - BNH3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0006	-0.001	/	/
2	0.0333	0.0335	/	/
3	0.078	0.0784	/	/
4	0.1547	0.1542	/	/
5	0.3182	0.3183	/	/
6	0.806	0.8304	/	/

Print Date:12/21/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156449

BC Laboratories

Printed: 1/3/2023 1:29:16PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2226860-02 C	i350.1w Ammonia as N	12/20/2022 2:15PM	AKC	5.82	6					
2227729-01 A	i350.1w Ammonia as N	12/20/2022 2:15PM	AKC	2.75	6					
2227729-01 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.75	6					
2227729-02 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.75	6					
2227729-03 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.74	6					
2227729-04 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.71	6					
2227729-05 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.73	6					
2227794-01 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.76	6					
2227794-02 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.76	6					
2228006-02 D	i350.1w Ammonia as N	12/20/2022 2:15PM	AKC	5.83	6					
2228227-02 A	iSM4500NH3Gw Dist NH3 as N	12/20/2022 2:15PM	AKC	2.78	6					
B156449-BLK1	QC	12/20/2022 2:15PM	AKC	6	6					
B156449-BS1	QC	12/20/2022 2:15PM	AKC	6	6	2J06023		600		
B156449-DUP1	QC	12/20/2022 2:15PM	AKC	2.75	6		2227729-01			
B156449-MS1	QC	12/20/2022 2:15PM	AKC	2.47	6	2J06023	2227729-01	600		
B156449-MSD1	QC	12/20/2022 2:15PM	AKC	2.47	6	2J06023	2227729-01	600		

Spike Mixes	Description	Solvent	Prepared	Expires
2J06023	NH3-N STD 20 SPIKE WATER	DI	10/5/2022 1 by zzzManpreet Br	1/5/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223567

Instrument: SC-1
Calibration ID:
Sequence Date: 12/21/2022
Printed: 1/3/2023 1:29:16PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223567-ICV1	QC		1		2J06021		
2223567-ICB1	QC		2				
B156449-BS1	QC		3				
B156449-BLK1	QC		4				
2227729-01	i350.1w Ammonia as N	A	5				
2227729-01	iSM4500NH3Gw Dist NH3 as N	A	6				
B156449-DUP1	QC		7				
B156449-MS1	QC		8				
B156449-MSD1	QC		9				
2227729-02	iSM4500NH3Gw Dist NH3 as N	A	10				
2227729-03	iSM4500NH3Gw Dist NH3 as N	A	11				
2223567-CCV1	QC		12		2J06022		
2223567-CCB1	QC		13				
2227729-04	iSM4500NH3Gw Dist NH3 as N	A	14				
2227729-05	iSM4500NH3Gw Dist NH3 as N	A	15				
2227794-01	iSM4500NH3Gw Dist NH3 as N	A	16				
2227794-02	iSM4500NH3Gw Dist NH3 as N	A	17				
2228227-02	iSM4500NH3Gw Dist NH3 as N	A	18				
2226860-02	i350.1w Ammonia as N	C	19				
2228006-02	i350.1w Ammonia as N	D	20				
2223567-CCV2	QC		21		2J06022		
2223567-CCB2	QC		22				
2223567-CCV3	QC		23		2J06022		
2223567-CCB3	QC		24				
B156537-BS1	QC		25				
B156537-BLK1	QC		26				
2226991-01	i350.1w Ammonia as N	B	27				
B156537-DUP1	QC		28				
B156537-MS1	QC		29				
B156537-MSD1	QC		30				
2227527-01	i350.1w Ammonia as N	C	31				
2227527-02	i350.1w Ammonia as N	C	32				
2227527-03	i350.1w Ammonia as N	C	33				
2223567-CCV4	QC		34		2J06022		
2223567-CCB4	QC		35				
2227527-04	i350.1w Ammonia as N	C	36				
2227527-05	i350.1w Ammonia as N	C	37				
2227527-06	i350.1w Ammonia as N	C	38				
2227527-07	i350.1w Ammonia as N	C	39				

ANALYSIS SEQUENCE

2223567

Instrument: SC-1
Calibration ID:
Sequence Date: 12/21/2022
Printed: 1/3/2023 1:29:16PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223567-CCV5	QC		40		2J06022		
2223567-CCB5	QC		41				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/3/2023 1:29:16PM
Project: Level IV + labSpec7
Project Number: N53617A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 07, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053633

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053633

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Sample N053633-014 (AmbientBlank-3-Q422) was on hold as per COC.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) is outside recovery criteria for Nitrate as N in QC sample N053634-004DMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053633
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053633-001A	C-CON-D-Q422	Surface Water	11/16/2022 8:00:00 AM	11/16/2022	12/7/2022
N053633-001B	C-CON-D-Q422	Surface Water	11/16/2022 8:00:00 AM	11/16/2022	12/7/2022
N053633-001C	C-CON-D-Q422	Surface Water	11/16/2022 8:00:00 AM	11/16/2022	12/7/2022
N053633-002A	C-CON-S-Q422	Surface Water	11/16/2022 8:09:00 AM	11/16/2022	12/7/2022
N053633-002B	C-CON-S-Q422	Surface Water	11/16/2022 8:09:00 AM	11/16/2022	12/7/2022
N053633-002C	C-CON-S-Q422	Surface Water	11/16/2022 8:09:00 AM	11/16/2022	12/7/2022
N053633-003A	C-NR1-D-Q422	Surface Water	11/16/2022 8:24:00 AM	11/16/2022	12/7/2022
N053633-003B	C-NR1-D-Q422	Surface Water	11/16/2022 8:24:00 AM	11/16/2022	12/7/2022
N053633-003C	C-NR1-D-Q422	Surface Water	11/16/2022 8:24:00 AM	11/16/2022	12/7/2022
N053633-004A	C-NR1-S-Q422	Surface Water	11/16/2022 8:32:00 AM	11/16/2022	12/7/2022
N053633-004B	C-NR1-S-Q422	Surface Water	11/16/2022 8:32:00 AM	11/16/2022	12/7/2022
N053633-004C	C-NR1-S-Q422	Surface Water	11/16/2022 8:32:00 AM	11/16/2022	12/7/2022
N053633-005A	C-NR3-D-Q422	Surface Water	11/16/2022 8:50:00 AM	11/16/2022	12/7/2022
N053633-005B	C-NR3-D-Q422	Surface Water	11/16/2022 8:50:00 AM	11/16/2022	12/7/2022
N053633-005C	C-NR3-D-Q422	Surface Water	11/16/2022 8:50:00 AM	11/16/2022	12/7/2022
N053633-006A	MW-940-Q422	Surface Water	11/16/2022 9:31:00 AM	11/16/2022	12/7/2022
N053633-006B	MW-940-Q422	Surface Water	11/16/2022 9:31:00 AM	11/16/2022	12/7/2022
N053633-006C	MW-940-Q422	Surface Water	11/16/2022 9:31:00 AM	11/16/2022	12/7/2022
N053633-007A	C-NR3-S-Q422	Surface Water	11/16/2022 8:56:00 AM	11/16/2022	12/7/2022
N053633-007B	C-NR3-S-Q422	Surface Water	11/16/2022 8:56:00 AM	11/16/2022	12/7/2022
N053633-007C	C-NR3-S-Q422	Surface Water	11/16/2022 8:56:00 AM	11/16/2022	12/7/2022
N053633-008A	C-NR4-D-Q422	Surface Water	11/16/2022 9:15:00 AM	11/16/2022	12/7/2022
N053633-008B	C-NR4-D-Q422	Surface Water	11/16/2022 9:15:00 AM	11/16/2022	12/7/2022
N053633-008C	C-NR4-D-Q422	Surface Water	11/16/2022 9:15:00 AM	11/16/2022	12/7/2022
N053633-009A	C-NR4-S-Q422	Surface Water	11/16/2022 9:21:00 AM	11/16/2022	12/7/2022
N053633-009B	C-NR4-S-Q422	Surface Water	11/16/2022 9:21:00 AM	11/16/2022	12/7/2022
N053633-009C	C-NR4-S-Q422	Surface Water	11/16/2022 9:21:00 AM	11/16/2022	12/7/2022
N053633-010A	R-19-Q422	Surface Water	11/16/2022 10:02:00 AM	11/16/2022	12/7/2022
N053633-010B	R-19-Q422	Surface Water	11/16/2022 10:02:00 AM	11/16/2022	12/7/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053633
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053633-010C	R-19-Q422	Surface Water	11/16/2022 10:02:00 AM	11/16/2022	12/7/2022
N053633-011A	C-MAR-D-Q422	Surface Water	11/16/2022 9:41:00 AM	11/16/2022	12/7/2022
N053633-011B	C-MAR-D-Q422	Surface Water	11/16/2022 9:41:00 AM	11/16/2022	12/7/2022
N053633-011C	C-MAR-D-Q422	Surface Water	11/16/2022 9:41:00 AM	11/16/2022	12/7/2022
N053633-012A	C-MAR-S-Q422	Surface Water	11/16/2022 9:48:00 AM	11/16/2022	12/7/2022
N053633-012B	C-MAR-S-Q422	Surface Water	11/16/2022 9:48:00 AM	11/16/2022	12/7/2022
N053633-012C	C-MAR-S-Q422	Surface Water	11/16/2022 9:48:00 AM	11/16/2022	12/7/2022
N053633-013A	RRB-Q422	Surface Water	11/16/2022 10:19:00 AM	11/16/2022	12/7/2022
N053633-013B	RRB-Q422	Surface Water	11/16/2022 10:19:00 AM	11/16/2022	12/7/2022
N053633-013C	RRB-Q422	Surface Water	11/16/2022 10:19:00 AM	11/16/2022	12/7/2022
N053633-014A	AmbientBlank-3-Q422	Surface Water	11/16/2022 10:11:00 AM	11/16/2022	12/7/2022
N053633-015A	AmbientBlank-2-Q422	Surface Water	11/16/2022 9:42:00 AM	11/16/2022	12/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:00:00 AM
Lab ID:	N053633-001	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 01:22 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 03:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:09:00 AM
Lab ID:	N053633-002	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 01:50 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 03:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:24:00 AM
Lab ID:	N053633-003	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 02:09 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:32:00 AM
Lab ID:	N053633-004	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 02:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:50:00 AM
Lab ID:	N053633-005	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 03:06 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-940-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:31:00 AM
Lab ID:	N053633-006	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 03:25 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:56:00 AM
Lab ID:	N053633-007	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 03:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:15:00 AM
Lab ID:	N053633-008	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 04:03 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:21:00 AM
Lab ID:	N053633-009	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 04:41 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 04:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:02:00 AM
Lab ID:	N053633-010	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 05:00 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:41:00 AM
Lab ID:	N053633-011	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 05:19 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 05:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:48:00 AM
Lab ID:	N053633-012	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 10:53 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 05:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:19:00 AM
Lab ID:	N053633-013	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 05:38 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	AmbientBlank-2-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:42:00 AM
Lab ID:	N053633-015	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 06:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167563	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563		
Client ID:	PBW	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935890		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R167563	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563		
Client ID:	LCSW	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935891		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.940	0.20	5.000	0	98.8	90	110						

Sample ID	N053633-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563		
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935894		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110						

Sample ID	N053633-012AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563		
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935895		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110	1.020	1.92	20			

Sample ID	N053635-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563		
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935896		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053633-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935906

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID	N053633-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935907

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID	N053633-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935909

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID	N053633-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935911

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID	N053633-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935915

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053633-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935917

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID	N053633-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935919

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Sample ID	N053633-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935921

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.952	0.20	1.000	0	95.2	90	110				

Sample ID	N053633-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935923

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.951	0.20	1.000	0	95.1	90	110				

Sample ID	N053633-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935927

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053633-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID	N053633-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935931

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Sample ID	N053633-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935933

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID	N053633-015AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167563
Client ID:	ZZZZZZ	Batch ID:	R167563	TestNo:	EPA 218.6			Analysis Date:	11/19/2022	SeqNo:	4935939

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	LCS-96788	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	LCSW	Batch ID:	96788	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936459

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.927	1.0	10.00	0	99.3	85	115				

Sample ID	MB-96788	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	PBW	Batch ID:	96788	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936467

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	N053633-012CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	ZZZZZZ	Batch ID:	96788	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936477

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.815	1.0	10.00	0	98.1	75	125				

Sample ID	N053633-012CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	ZZZZZZ	Batch ID:	96788	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936478

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.661	1.0	10.00	0	96.6	75	125	9.815	1.58	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:00:00 AM
Lab ID:	N053633-001	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.019	0.10		mg/L	2	11/18/2022 12:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:09:00 AM
Lab ID:	N053633-002	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.29	0.0095	0.050		mg/L	1	11/17/2022 08:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:24:00 AM
Lab ID:	N053633-003	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.26	0.019	0.10		mg/L	2	11/18/2022 12:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:32:00 AM
Lab ID:	N053633-004	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.26	0.019	0.10		mg/L	2	11/18/2022 12:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:50:00 AM
Lab ID:	N053633-005	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.019	0.10		mg/L	2	11/18/2022 01:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-940-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:31:00 AM
Lab ID:	N053633-006	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.019	0.10		mg/L	2	11/17/2022 01:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:56:00 AM
Lab ID:	N053633-007	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.28	0.019	0.10		mg/L	2	11/18/2022 01:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:15:00 AM
Lab ID:	N053633-008	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.32	0.019	0.10		mg/L	2	11/17/2022 12:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:21:00 AM
Lab ID:	N053633-009	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.30	0.019	0.10		mg/L	2	11/17/2022 01:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:02:00 AM
Lab ID:	N053633-010	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.30	0.019	0.10		mg/L	2	11/17/2022 01:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:41:00 AM
Lab ID:	N053633-011	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.25	0.019	0.10		mg/L	2	11/17/2022 01:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:48:00 AM
Lab ID:	N053633-012	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117A**	QC Batch: **R167465**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.23	0.019	0.10		mg/L	2	11/17/2022 12:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:19:00 AM
Lab ID:	N053633-013	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.20	0.019	0.10		mg/L	2	11/18/2022 01:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167465_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167465
Client ID:	PBW	Batch ID:	R167465	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4932424

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.013	0.050									

Sample ID	LCS-R167465_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167465
Client ID:	LCSW	Batch ID:	R167465	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4932425

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.268	0.050	1.250	0	101	90	110				

Sample ID	N053631-002EDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167465
Client ID:	ZZZZZZ	Batch ID:	R167465	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4932433

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050						0	0	20	

Sample ID	N053631-001EMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167465
Client ID:	ZZZZZZ	Batch ID:	R167465	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4932436

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.264	0.050	1.250	0.02620	99.1	80	120				

Sample ID	N053631-001EMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167465
Client ID:	ZZZZZZ	Batch ID:	R167465	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4932437

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.221	0.050	1.250	0.02620	95.6	80	120	1.264	3.46	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID **N053633-012BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167465**
Client ID: **ZZZZZZ**	Batch ID: **R167465**	TestNo: **EPA 300.0**		Analysis Date: **11/17/2022**	SeqNo: **4932439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	3.199	0.10	2.500	0.2346	119	80	120				

Sample ID **N053633-012BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167465**
Client ID: **ZZZZZZ**	Batch ID: **R167465**	TestNo: **EPA 300.0**		Analysis Date: **11/17/2022**	SeqNo: **4932440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	3.232	0.10	2.500	0.2346	120	80	120	3.199	1.01	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID **LCS-R167466_NO3** SampType: **LCS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167466**
Client ID: **LCSW** Batch ID: **R167466** TestNo: **EPA 300.0** Analysis Date: **11/17/2022** SeqNo: **4933495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.326	0.050	1.250	0	106	90	110				

Sample ID **MB-R167466_NO3** SampType: **MBLK** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167466**
Client ID: **PBW** Batch ID: **R167466** TestNo: **EPA 300.0** Analysis Date: **11/17/2022** SeqNo: **4933496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID **N053634-001DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167466**
Client ID: **ZZZZZZ** Batch ID: **R167466** TestNo: **EPA 300.0** Analysis Date: **11/17/2022** SeqNo: **4933498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.297	0.50	12.50	0.2380	104	80	120				

Sample ID **N053634-001DMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167466**
Client ID: **ZZZZZZ** Batch ID: **R167466** TestNo: **EPA 300.0** Analysis Date: **11/17/2022** SeqNo: **4933499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.112	0.50	12.50	0.2380	103	80	120	13.30	1.40	20	

Sample ID **N053634-004DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167466**
Client ID: **ZZZZZZ** Batch ID: **R167466** TestNo: **EPA 300.0** Analysis Date: **11/17/2022** SeqNo: **4933504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.046	0.50	12.50	1.019	120	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID **N053634-004DDUP** SampType: **DUP** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167466**
Client ID: **ZZZZZZ** Batch ID: **R167466** TestNo: **EPA 300.0** Analysis Date: **11/18/2022** SeqNo: **4933517**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.059	0.50						1.019	3.85	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:00:00 AM
Lab ID:	N053633-001	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.6	0.050	0.10		µg/L	1	11/19/2022 03:52 PM
Manganese	0.87	0.026	0.50		µg/L	1	11/19/2022 03:52 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/19/2022 03:52 PM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 03:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:09:00 AM
Lab ID:	N053633-002	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.6	0.050	0.10		µg/L	1	11/19/2022 03:58 PM
Manganese	0.86	0.026	0.50		µg/L	1	11/19/2022 03:58 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/19/2022 03:58 PM
Selenium	1.6	0.044	0.50		µg/L	1	11/19/2022 03:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:24:00 AM
Lab ID:	N053633-003	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	11/19/2022 04:04 PM
Manganese	0.67	0.026	0.50		µg/L	1	11/19/2022 04:04 PM
Molybdenum	4.3	0.12	0.50		µg/L	1	11/19/2022 04:04 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/23/2022 11:42 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:32:00 AM
Lab ID:	N053633-004	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	2.6	0.050	0.10		µg/L	1	11/19/2022 04:10 PM
Manganese	0.70	0.026	0.50		µg/L	1	11/19/2022 04:10 PM
Molybdenum	4.8	0.12	0.50		µg/L	1	11/19/2022 04:10 PM
Selenium	1.6	0.044	0.50		µg/L	1	11/19/2022 04:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:50:00 AM
Lab ID:	N053633-005	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.4	0.050	0.10		µg/L	1	11/19/2022 04:16 PM
Manganese	0.61	0.026	0.50		µg/L	1	11/19/2022 04:16 PM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/19/2022 04:16 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/23/2022 11:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-940-Q422

Lab Order: N053633

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/16/2022 9:31:00 AM

Lab ID: N053633-006 **Matrix:** SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:		**11/17/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 04:22 PM
Manganese	0.71	0.026	0.50		µg/L	1	11/19/2022 04:22 PM
Molybdenum	4.8	0.12	0.50		µg/L	1	11/19/2022 04:22 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 04:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 8:56:00 AM
Lab ID:	N053633-007	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	11/19/2022 04:28 PM
Manganese	0.64	0.026	0.50		µg/L	1	11/19/2022 04:28 PM
Molybdenum	4.4	0.12	0.50		µg/L	1	11/19/2022 04:28 PM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:15:00 AM
Lab ID:	N053633-008	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	11/19/2022 04:51 PM
Manganese	0.74	0.026	0.50		µg/L	1	11/19/2022 04:51 PM
Molybdenum	4.3	0.12	0.50		µg/L	1	11/19/2022 04:51 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 04:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:21:00 AM
Lab ID:	N053633-009	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	11/19/2022 04:57 PM
Manganese	0.70	0.026	0.50		µg/L	1	11/19/2022 04:57 PM
Molybdenum	4.4	0.12	0.50		µg/L	1	11/19/2022 04:57 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 04:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:02:00 AM
Lab ID:	N053633-010	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 05:03 PM
Manganese	0.98	0.026	0.50		µg/L	1	11/19/2022 05:03 PM
Molybdenum	4.6	0.12	0.50		µg/L	1	11/19/2022 05:03 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:41:00 AM
Lab ID:	N053633-011	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	2.4	0.050	0.10		µg/L	1	11/19/2022 05:09 PM
Manganese	52	0.026	0.50		µg/L	1	11/19/2022 05:09 PM
Molybdenum	4.8	0.12	0.50		µg/L	1	11/19/2022 05:09 PM
Selenium	1.2	0.044	0.50		µg/L	1	11/19/2022 05:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:48:00 AM
Lab ID:	N053633-012	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	11/19/2022 05:15 PM
Manganese	47	0.026	0.50		µg/L	1	11/19/2022 05:15 PM
Molybdenum	4.7	0.12	0.50		µg/L	1	11/19/2022 05:15 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 05:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-Q422
Lab Order:	N053633		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:19:00 AM
Lab ID:	N053633-013	**Matrix:**	SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96788**				PrepDate: **11/17/2022**		Analyst: **DJ**
Arsenic	2.7	0.050	0.10		µg/L	1	11/19/2022 06:14 PM
Manganese	7.7	0.026	0.50		µg/L	1	11/19/2022 06:14 PM
Molybdenum	5.2	0.12	0.50		µg/L	1	11/19/2022 06:14 PM
Selenium	1.5	0.044	0.50		µg/L	1	11/19/2022 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **LCS-96788**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **LCSW**	Batch ID: **96788**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.947	0.10	10.00	0	99.5	85	115				
Manganese	94.703	0.50	100.0	0	94.7	85	115				
Molybdenum	10.001	0.50	10.00	0	100	85	115				
Selenium	8.741	0.50	10.00	0	87.4	85	115				

Sample ID **MB-96788**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **PBW**	Batch ID: **96788**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **N053633-012CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96788**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.422	0.10	10.00	2.337	101	75	125				
Manganese	141.517	0.50	100.0	47.29	94.2	75	125				
Molybdenum	15.696	0.50	10.00	4.739	110	75	125				
Selenium	10.826	0.50	10.00	1.397	94.3	75	125				

Sample ID **N053633-012CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96788**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.490	0.10	10.00	2.337	102	75	125	12.42	0.548	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053633
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053633-012CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167582
Client ID:	ZZZZZZ	Batch ID:	96788	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936570

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	143.408	0.50	100.0	47.29	96.1	75	125	141.5	1.33	20	
Molybdenum	15.918	0.50	10.00	4.739	112	75	125	15.70	1.40	20	
Selenium	10.749	0.50	10.00	1.397	93.5	75	125	10.83	0.720	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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Page 1 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Others ✓, Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RWQCB ✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Global ID:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Specify State:
Submitted By: Riggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech			
Signature: Date: 11/16/22	Sampled By: Riggie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: Date: 11/16/22		
Project Number: 30121866.4Q22GW			

Sample Receipt Condition

	Y	N
1. Chilled		
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number		
6. Method of Cooling: ICE		

Sample Temp: 1.6°C / 12.8°C / 26°C

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, molybdenum, selenium	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053633-001	C-CON-D-Q422	11/16/2022	8:00		Surface: X	X	X	X	X	E	3	P	BN	
2				~~8:00~~											
3	-002	C-CON-S-Q422	11/16/2022	8:09		Surface: X	X	X	X	X	E	3	P	BN	
4	-003	C-NR1-D-Q422	11/16/2022	8:24		Surface: X	X	X	X	X	E	3	P	BN	
5	-004	C-NR1-S-Q422	11/16/2022	8:32		Surface: X	X	X	X	X	E	3	P	BN	
	-005	C-NR3-D-Q422	11/16/2022	8:50		Surface: X	X	X	X	X	E	3	P	BN	
7	-006	MW-940-Q422	11/16/2022	9:31		Surface: X	X	X	X	X	E	3	P	BN	
8	-007	C-NR3-S-Q422	11/16/2022	8:56		Surface: X	X	X	X	X	E	3	P	BN	
9	-008	C-NR4-D-Q422	11/16/2022	9:15		Surface: X	X	X	X	X	E	3	P	BN	
10	-009	C-NR4-S-Q422	11/16/2022	9:21		Surface: X	X	X	X	X	E	3	P	BN	
11	-010	R-19-Q422	11/16/2022	10:02		Surface: X	X	X	X	X	E	3	P	BN	
12	-011	C-MAR-D-Q422	11/16/2022	9:41		Surface: X	X	X	X	X	E	3	P	BN	
13	-012	C-MAR-S-Q422	11/16/2022	9:48		Surface: X	X	X	X	X	E	3	P	BN	
14	-013	RRB-Q422	11/16/2022	10:19		Surface: X	X	X	X	X	E	3	P	BN	MS/MSD

Relinquished by (Signature and Printed Name): Riggie Tep 11/16/22 1605 Date/Time:

Relinquished by (Signature and Printed Name): Dante Ortiz Dante Ortiz 11/16/22 16:00 Date/Time:

Relinquished by (Signature and Printed Name): Dante Ortiz Dante Ortiz 11/16/22 19:09 Date/Time:

Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)2	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report. Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project value.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 2 of 2

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 11/16/22	Sampled By: Riggie Tap		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - RCM	Signature: Date: 11/16/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 1-6 °C/2.8°C/2.6 °C		

Courier:

Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface	X		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, molybdenum, selenium	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053633-014	AmbientBlank-3-Q422	11/16/2022	10:11		X	X	X	X	E	1	P	BN	Hold
2	-015	AmbientBlank-2-Q422	11/16/2022	9:42		X	X	X	X	E	1	P	BN	
3										E	2	P	BN	
4														
5														
7														
8														
9														
10														
11														
12														
13														
14														

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tap	11/16/22 1605	Dante Ortiz	11/16/22 16:05
Dante Ortiz	11/16/22 19:04	Dante Ortiz	11/16/22 19:04

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 6 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/16/2022 Workorder: N053633

Rep sample Temp (Deg C): 1.6/2.8/2.6 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/17/2022

Reviewed By: for: MBC 11/28/2022

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053633

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053633-001A	C-CON-D-Q422	11/16/2022 8:00:00 AM	12/5/2022	Surface Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-001B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-001C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-002A	C-CON-S-Q422	11/16/2022 8:09:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-002B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-002C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-003A	C-NR1-D-Q422	11/16/2022 8:24:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-003B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-003C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-004A	C-NR1-S-Q422	11/16/2022 8:32:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-004B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-004C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-005A	C-NR3-D-Q422	11/16/2022 8:50:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-005B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053633

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053633-005C	C-NR3-D-Q422	11/16/2022 8:50:00 AM	12/5/2022	Surface Water	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-006A	MW-940-Q422	11/16/2022 9:31:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-006B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-006C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-007A	C-NR3-S-Q422	11/16/2022 8:56:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-007B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-007C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-008A	C-NR4-D-Q422	11/16/2022 9:15:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-008B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-008C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-009A	C-NR4-S-Q422	11/16/2022 9:21:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-009B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-009C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053633

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053633-009C	C-NR4-S-Q422	11/16/2022 9:21:00 AM	12/5/2022	Surface Water	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-010A	R-19-Q422	11/16/2022 10:02:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-010B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-010C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-011A	C-MAR-D-Q422	11/16/2022 9:41:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-011B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-011C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-012A	C-MAR-S-Q422	11/16/2022 9:48:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053633-012B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053633-012C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053633-013A	RRB-Q422	11/16/2022 10:19:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-013B			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053633-013C			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053633-014A	AmbientBlank-3-Q422	11/16/2022 10:11:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053633

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053633-015A	AmbientBlank-2-Q422	11/16/2022 9:42:00 AM	12/5/2022	Surface Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053633-016A	FOLDER	12/5/2022	12/5/2022		Folder	Folder	☐	☐	☐	LAB
			12/5/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/5/2022		Folder	Folder	☐	☐	☐	LAB

December 08, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053634

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053634

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) is outside recovery criteria for Nitrate as N in QC sample N053634-004DMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053634-001B-MS and N053634-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was

acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053634-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053634-001C and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053634
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053634-001A	MW-86-120-Q422	Groundwater	11/16/2022 2:10:00 PM	11/16/2022	12/8/2022
N053634-001B	MW-86-120-Q422	Groundwater	11/16/2022 2:10:00 PM	11/16/2022	12/8/2022
N053634-001C	MW-86-120-Q422	Groundwater	11/16/2022 2:10:00 PM	11/16/2022	12/8/2022
N053634-001D	MW-86-120-Q422	Groundwater	11/16/2022 2:10:00 PM	11/16/2022	12/8/2022
N053634-002A	MW-86-140-Q422	Groundwater	11/16/2022 1:42:00 PM	11/16/2022	12/8/2022
N053634-002B	MW-86-140-Q422	Groundwater	11/16/2022 1:42:00 PM	11/16/2022	12/8/2022
N053634-002C	MW-86-140-Q422	Groundwater	11/16/2022 1:42:00 PM	11/16/2022	12/8/2022
N053634-002D	MW-86-140-Q422	Groundwater	11/16/2022 1:42:00 PM	11/16/2022	12/8/2022
N053634-003A	EB-722-Q422	Groundwater	11/16/2022 3:20:00 PM	11/16/2022	12/8/2022
N053634-004A	PT5D-Q422	Groundwater	11/16/2022 1:36:00 PM	11/16/2022	12/8/2022
N053634-004B	PT5D-Q422	Groundwater	11/16/2022 1:36:00 PM	11/16/2022	12/8/2022
N053634-004C	PT5D-Q422	Groundwater	11/16/2022 1:36:00 PM	11/16/2022	12/8/2022
N053634-004D	PT5D-Q422	Groundwater	11/16/2022 1:36:00 PM	11/16/2022	12/8/2022
N053634-005A	PT5M-Q422	Groundwater	11/16/2022 1:11:00 PM	11/16/2022	12/8/2022
N053634-005B	PT5M-Q422	Groundwater	11/16/2022 1:11:00 PM	11/16/2022	12/8/2022
N053634-005C	PT5M-Q422	Groundwater	11/16/2022 1:11:00 PM	11/16/2022	12/8/2022
N053634-005D	PT5M-Q422	Groundwater	11/16/2022 1:11:00 PM	11/16/2022	12/8/2022
N053634-006A	PT5S-Q422	Groundwater	11/16/2022 12:47:00 PM	11/16/2022	12/8/2022
N053634-006B	PT5S-Q422	Groundwater	11/16/2022 12:47:00 PM	11/16/2022	12/8/2022
N053634-006C	PT5S-Q422	Groundwater	11/16/2022 12:47:00 PM	11/16/2022	12/8/2022
N053634-006D	PT5S-Q422	Groundwater	11/16/2022 12:47:00 PM	11/16/2022	12/8/2022
N053634-007A	MW-90-031-Q422	Groundwater	11/16/2022 12:13:00 PM	11/16/2022	12/8/2022
N053634-007B	MW-90-031-Q422	Groundwater	11/16/2022 12:13:00 PM	11/16/2022	12/8/2022
N053634-007C	MW-90-031-Q422	Groundwater	11/16/2022 12:13:00 PM	11/16/2022	12/8/2022
N053634-007D	MW-90-031-Q422	Groundwater	11/16/2022 12:13:00 PM	11/16/2022	12/8/2022
N053634-007E	MW-90-031-Q422	Groundwater	11/16/2022 12:13:00 PM	11/16/2022	12/8/2022
N053634-008A	MW-22-Q422	Groundwater	11/16/2022 11:41:00 AM	11/16/2022	12/8/2022
N053634-008B	MW-22-Q422	Groundwater	11/16/2022 11:41:00 AM	11/16/2022	12/8/2022
N053634-008C	MW-22-Q422	Groundwater	11/16/2022 11:41:00 AM	11/16/2022	12/8/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053634
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053634-008D	MW-22-Q422	Groundwater	11/16/2022 11:41:00 AM	11/16/2022	12/8/2022
N053634-008E	MW-22-Q422	Groundwater	11/16/2022 11:41:00 AM	11/16/2022	12/8/2022
N053634-009A	EB-723-Q422	Groundwater	11/16/2022 1:46:00 PM	11/16/2022	12/8/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:10:00 PM
Lab ID:	N053634-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/17/2022 02:09 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 06:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:42:00 PM
Lab ID:	N053634-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/17/2022 02:28 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 07:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-722-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 3:20:00 PM
Lab ID:	N053634-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 01:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:36:00 PM
Lab ID:	N053634-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A** QC Batch: **R167471**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	40	0.12	1.0		µg/L	5	11/17/2022 12:49 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A** QC Batch: **96789**				PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	39	0.035	1.0		µg/L	1	11/19/2022 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:11:00 PM
Lab ID:	N053634-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 10:20 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 07:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:47:00 PM
Lab ID:	N053634-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 10:43 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 07:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:13:00 PM
Lab ID:	N053634-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/17/2022 12:11 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 07:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:41:00 AM
Lab ID:	N053634-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/17/2022 02:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 07:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-723-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:46:00 PM
Lab ID:	N053634-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 01:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167471	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	PBW	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932026

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R167471	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	LCSW	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932027

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.985	0.20	5.000	0	99.7	90	110				

Sample ID	N053636-001BDUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932029

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	920.900	40						935.2	1.54	20	

Sample ID	N053636-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932030

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1926.460	40	1000	935.2	99.1	90	110				

Sample ID	N053634-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932032

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053634-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932034

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID	N053634-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932035

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.965	0.20	1.000	0	96.5	90	110	1.008	4.41	20	

Sample ID	N053634-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932039

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.164	1.0	5.000	0	103	90	110				

Sample ID	N053634-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932041

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.934	1.0	25.00	40.00	104	90	110				

Sample ID	N053634-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932045

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.022	0.20	1.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053634-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Sample ID	N053634-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932049

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.055	1.0	5.000	0	101	90	110				

Sample ID	N053634-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932051

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	1.0	5.000	0	98.1	90	110				

Sample ID	N053634-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4932053

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.004	1.0	5.000	0	100	90	110				

Sample ID	N053635-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053635-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933540

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.057	0.20	1.000	0	106	90	110				

Sample ID	N053635-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933544

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.022	0.20	1.000	0	102	90	110				

Sample ID	N053635-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Sample ID	N053635-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Sample ID	N053635-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933550

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053635-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933552

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	100	90	110				

Sample ID	N053635-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933556

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.819	1.0	5.000	2.831	99.8	90	110				

Sample ID	N053635-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933558

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.009	1.0	5.000	0	100	90	110				

Sample ID	N053635-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167471
Client ID:	ZZZZZZ	Batch ID:	R167471	TestNo:	EPA 218.6			Analysis Date:	11/17/2022	SeqNo:	4933560

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.067	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96789	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	PBW	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936484

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96789	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	LCSW	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936485

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.842	1.0	10.00	0	98.4	85	115				

Sample ID	N053634-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	ZZZZZZ	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936489

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.957	1.0	10.00	0	89.6	75	125				

Sample ID	N053634-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167577
Client ID:	ZZZZZZ	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936490

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.974	1.0	10.00	0	89.7	75	125	8.957	0.198	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:10:00 PM
Lab ID:	N053634-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/17/2022 06:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:42:00 PM
Lab ID:	N053634-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/17/2022 09:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:36:00 PM
Lab ID:	N053634-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.0	0.095	0.50		mg/L	10	11/17/2022 11:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:11:00 PM
Lab ID:	N053634-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/17/2022 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:47:00 PM
Lab ID:	N053634-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/17/2022 09:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:13:00 PM
Lab ID:	N053634-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/17/2022 09:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:41:00 AM
Lab ID:	N053634-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/17/2022 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	LCS-R167466_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	LCSW	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933495

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.326	0.050	1.250	0	106	90	110				

Sample ID	MB-R167466_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	PBW	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933496

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	N053634-001DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933498

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.297	0.50	12.50	0.2380	104	80	120				

Sample ID	N053634-001DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933499

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.112	0.50	12.50	0.2380	103	80	120	13.30	1.40	20	

Sample ID	N053634-004DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933504

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.046	0.50	12.50	1.019	120	80	120				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID **N053634-004DDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:			RunNo: **167466**		
Client ID: **ZZZZZZ**	Batch ID: **R167466**	TestNo: **EPA 300.0**		Analysis Date: **11/18/2022**			SeqNo: **4933517**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.059	0.50						1.019	3.85	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:10:00 PM
Lab ID:	N053634-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	11/17/2022 12:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:42:00 PM
Lab ID:	N053634-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/17/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:36:00 PM
Lab ID:	N053634-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/17/2022 05:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:11:00 PM
Lab ID:	N053634-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/17/2022 05:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:47:00 PM
Lab ID:	N053634-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.5	0.14	1.0		mg/L	1	11/17/2022 06:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:13:00 PM
Lab ID:	N053634-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.1	0.14	1.0		mg/L	1	11/17/2022 06:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:41:00 AM
Lab ID:	N053634-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.3	0.14	1.0		mg/L	1	11/17/2022 06:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167485**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **PBW**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167485**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **LCSW**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.161	1.0	5.000	0	103	85	115				

Sample ID **N053634-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **ZZZZZZ**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.006	20	100.0	3.834	81.2	75	125				

Sample ID **N053634-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **ZZZZZZ**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.198	20	100.0	3.834	81.4	75	125	85.01	0.226	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:10:00 PM
Lab ID:	N053634-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/21/2022 11:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:42:00 PM
Lab ID:	N053634-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	180	13	20		µg/L	1	11/21/2022 11:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:36:00 PM
Lab ID:	N053634-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Iron	22	13	20		µg/L	1	11/21/2022 11:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:11:00 PM
Lab ID:	N053634-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	35	13	20		µg/L	1	11/22/2022 12:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:47:00 PM
Lab ID:	N053634-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	970	13	20		µg/L	1	11/22/2022 12:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:13:00 PM
Lab ID:	N053634-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	7700	13	20		µg/L	1	11/22/2022 12:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:41:00 AM
Lab ID:	N053634-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	17000	13	20		µg/L	1	11/22/2022 12:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96790	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	PBW	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937917

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96790	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	LCSW	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937918

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	106.024	20	100.0	0	106	85	115				

Sample ID	N053634-001B-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	ZZZZZZ	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937922

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	93.928	20	100.0	0	93.9	75	125				

Sample ID	N053634-001B-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	ZZZZZZ	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937923

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.662	20	100.0	0	94.7	75	125	93.93	0.779	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:10:00 PM
Lab ID:	N053634-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/19/2022 06:31 PM
Barium	40	0.083	1.0		µg/L	1	11/19/2022 06:31 PM
Manganese	490	0.13	2.5		µg/L	5	11/21/2022 12:21 AM
Molybdenum	36	0.12	0.50		µg/L	1	11/19/2022 06:31 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 06:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:42:00 PM
Lab ID:	N053634-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/19/2022 07:01 PM
Barium	70	0.083	1.0		µg/L	1	11/19/2022 07:01 PM
Manganese	960	0.66	12		µg/L	25	11/23/2022 12:00 PM
Molybdenum	1.6	0.12	0.50		µg/L	1	11/19/2022 07:01 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 07:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:36:00 PM
Lab ID:	N053634-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	11/19/2022 07:24 PM
Barium	34	0.083	1.0		µg/L	1	11/19/2022 07:24 PM
Manganese	22	0.026	0.50		µg/L	1	11/19/2022 07:24 PM
Molybdenum	130	0.12	0.50		µg/L	1	11/19/2022 07:24 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:11:00 PM
Lab ID:	N053634-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	0.95	0.050	0.10		µg/L	1	11/19/2022 07:30 PM
Barium	52	0.083	1.0		µg/L	1	11/19/2022 07:30 PM
Manganese	640	0.13	2.5		µg/L	5	11/21/2022 12:57 AM
Molybdenum	7.3	0.12	0.50		µg/L	1	11/19/2022 07:30 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 07:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:47:00 PM
Lab ID:	N053634-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Arsenic	13	0.050	0.10		µg/L	1	11/19/2022 07:36 PM
Barium	92	0.083	1.0		µg/L	1	11/19/2022 07:36 PM
Manganese	220	0.13	2.5		µg/L	5	11/21/2022 01:03 AM
Molybdenum	7.1	0.12	0.50		µg/L	1	11/19/2022 07:36 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 07:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:13:00 PM
Lab ID:	N053634-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221123C**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	11/23/2022 03:56 PM
Barium	140	0.083	1.0		µg/L	1	11/19/2022 07:42 PM
Manganese	420	0.13	2.5		µg/L	5	11/21/2022 01:26 AM
Molybdenum	15	0.12	0.50		µg/L	1	11/19/2022 07:42 PM
Selenium	ND	0.044	0.50		µg/L	1	11/23/2022 11:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q422
Lab Order:	N053634		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:41:00 AM
Lab ID:	N053634-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**				PrepDate: **11/17/2022**		Analyst: **DJ**
Arsenic	16	0.050	0.10		µg/L	1	11/19/2022 07:48 PM
Barium	130	0.083	1.0		µg/L	1	11/19/2022 07:48 PM
Manganese	3800	0.66	12		µg/L	25	11/21/2022 01:32 AM
Molybdenum	36	0.12	0.50		µg/L	1	11/19/2022 07:48 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 07:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96789**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **PBW**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	0.094	1.0									
Manganese	0.240	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-96789**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **LCSW**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.826	0.10	10.00	0	98.3	85	115				
Barium	10.017	1.0	10.00	0	100	85	115				
Manganese	96.355	0.50	100.0	0	96.4	85	115				
Molybdenum	9.977	0.50	10.00	0	99.8	85	115				
Selenium	9.233	0.50	10.00	0	92.3	85	115				

Sample ID **N053634-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.118	0.10	10.00	0	91.2	75	125				
Barium	49.222	1.0	10.00	39.57	96.6	75	125				
Molybdenum	45.922	0.50	10.00	36.26	96.6	75	125				
Selenium	9.668	0.50	10.00	0.1913	94.8	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053634-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.827	0.10	10.00	0	88.3	75	125	9.118	3.24	20	
Barium	48.496	1.0	10.00	39.57	89.3	75	125	49.22	1.49	20	
Molybdenum	46.016	0.50	10.00	36.26	97.6	75	125	45.92	0.204	20	
Selenium	9.538	0.50	10.00	0.1913	93.5	75	125	9.668	1.35	20	

Sample ID **N053634-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	483.600	2.5	100.0	491.6	-7.99	75	125				S

Sample ID **N053634-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	485.776	2.5	100.0	491.6	-5.82	75	125	483.6	0.449	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053634
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053634-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.429	0.10	10.00	0	94.3	80	120				
Barium	49.237	1.0	10.00	39.57	96.7	80	120				
Molybdenum	48.442	0.50	10.00	36.26	122	80	120				S
Selenium	9.242	0.50	10.00	0.1913	90.5	80	120				

Sample ID **N053634-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	487.044	2.5	100.0	491.6	-4.55	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us: 53654
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (Specify: RWQCB)
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	6. Method of Cooling: ICE
Submitted By: Riggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Global ID: Specify State:
Title: Field Tech			Sample Temp: 2.8°C / 4.2°C
Signature: Date: 11/16/22	Sampled By: Riggie Tep		Courier:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Tracking No.:
Project Name: PG&E Topock - PCM	Signature: Date: 11/16/22		
Project Number: 30121866.4Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate (EPA 300.0) (1 L poly)			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053634-001	MW-86-120-Q422	11/16/2022	14:10		X		X	X	X	X				X			E	6	P	BNS	
2	-002	MW-86-140-Q422	11/16/2022	13:42		X		X	X	X	X				X			E	6	P	BNS	
3	-003	EB-722-Q422	11/16/2022	15:20		X												E	1	P	BNS	
4	-004	PT5D-Q422	11/16/2022	13:36		X		X	X	X	X				X			E	6	P	BNS	
5	-005	PT5M-Q422	11/16/2022	13:11		X		X	X	X	X				X			E	6	P	BNS	
6	-006	PT5S-Q422	11/16/2022	12:47		X		X	X	X	X				X			E	6	P	BNS	
7	-007	MW-90-031-Q422	11/16/2022	12:13		X		X	X	X	X	X			X			E	7	P	BNS	
8	-008	MW-22-Q422	11/16/2022	11:41		X		X	X	X	X	X			X			E	7	P	BNS	
9	-009	EB-723-Q422	11/16/2022	13:46		X												E	1	P	BNS	
10																						
11																						
12																						
13																						
14																						

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	11/16/22 1605	Dante Ortiz Dante Ortiz	11/16/22 16:05
Dante Ortiz Dante O.	11/16/22 19:04	Dante Ortiz Dante Ortiz	11/16/22 19:04

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/16/2022	Workorder:	N053634
Rep sample Temp (Deg C):	2.8/4.2	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/17/2022

Reviewed By: for: MBC 11/28/2022

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053634

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053634-001A	MW-86-120-Q422	11/16/2022 2:10:00 PM	12/5/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-001B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-001C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-001D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-002A	MW-86-140-Q422	11/16/2022 1:42:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-002B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-002C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-002D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-003A	EB-722-Q422	11/16/2022 3:20:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-004A	PT5D-Q422	11/16/2022 1:36:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-004B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053634

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053634-004B	PT5D-Q422	11/16/2022 1:36:00 PM	12/5/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-004C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-004D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-005A	PT5M-Q422	11/16/2022 1:11:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-005B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-005C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-005D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-006A	PT5S-Q422	11/16/2022 12:47:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-006B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-006C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-006D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-007A	MW-90-031-Q422	11/16/2022 12:13:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-007B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053634

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053634-007B	MW-90-031-Q422	11/16/2022 12:13:00 PM	12/5/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-007C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-007D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-007E			12/5/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053634-008A	MW-22-Q422	11/16/2022 11:41:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-008B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053634-008C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053634-008D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053634-008E			12/5/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053634-009A	EB-723-Q422	11/16/2022 1:46:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053634-010A	FOLDER	12/5/2022	12/5/2022		Folder	Folder	☐	☐	☐	LAB
			12/5/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/5/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

17-Nov-22

				Nitrate/Nitrate	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	~~SM4500-NO3F~~		
N053634-007E / MW-90-031-Q422	Groundwater	11/16/2022 12:13:00 PM	16OZP	1		
N053634-008E / MW-22-Q422	Groundwater	11/16/2022 11:41:00 AM	16OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53634A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558238339

		Date/Time		Date/Time
Relinquished by:	YRodriguez	11/17/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

December 07, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053635

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053635

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) is outside recovery criteria for Nitrate as N in QC sample N053634-004DMS possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053634-001B-MS and N053634-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053634-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053634-001C and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *07-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053635
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053635-001A	MW-49-135-Q422	Groundwater	11/16/2022 11:20:00 AM	11/16/2022	12/7/2022
N053635-001B	MW-49-135-Q422	Groundwater	11/16/2022 11:20:00 AM	11/16/2022	12/7/2022
N053635-002A	MW-49-135-EB-Q422	Groundwater	11/16/2022 10:55:00 AM	11/16/2022	12/7/2022
N053635-003A	MW-49-275-Q422	Groundwater	11/16/2022 10:46:00 AM	11/16/2022	12/7/2022
N053635-003B	MW-49-275-Q422	Groundwater	11/16/2022 10:46:00 AM	11/16/2022	12/7/2022
N053635-004A	MW-49-275-EB-Q422	Groundwater	11/16/2022 10:15:00 AM	11/16/2022	12/7/2022
N053635-005A	MW-49-365-Q422	Groundwater	11/16/2022 10:04:00 AM	11/16/2022	12/7/2022
N053635-005B	MW-49-365-Q422	Groundwater	11/16/2022 10:04:00 AM	11/16/2022	12/7/2022
N053635-006A	MW-49-365-EB-Q422	Groundwater	11/16/2022 9:30:00 AM	11/16/2022	12/7/2022
N053635-007A	MW-28-025-Q422	Groundwater	11/16/2022 1:04:00 PM	11/16/2022	12/7/2022
N053635-007B	MW-28-025-Q422	Groundwater	11/16/2022 1:04:00 PM	11/16/2022	12/7/2022
N053635-007C	MW-28-025-Q422	Groundwater	11/16/2022 1:04:00 PM	11/16/2022	12/7/2022
N053635-007D	MW-28-025-Q422	Groundwater	11/16/2022 1:04:00 PM	11/16/2022	12/7/2022
N053635-008A	MW-28-025-EB-Q422	Groundwater	11/16/2022 12:35:00 PM	11/16/2022	12/7/2022
N053635-009A	MW-28-090-Q422	Groundwater	11/16/2022 12:30:00 PM	11/16/2022	12/7/2022
N053635-009B	MW-28-090-Q422	Groundwater	11/16/2022 12:30:00 PM	11/16/2022	12/7/2022
N053635-009C	MW-28-090-Q422	Groundwater	11/16/2022 12:30:00 PM	11/16/2022	12/7/2022
N053635-009D	MW-28-090-Q422	Groundwater	11/16/2022 12:30:00 PM	11/16/2022	12/7/2022
N053635-010A	MW-28-090-EB-Q422	Groundwater	11/16/2022 12:05:00 PM	11/16/2022	12/7/2022
N053635-011A	MW-29-Q422	Groundwater	11/16/2022 11:54:00 AM	11/16/2022	12/7/2022
N053635-011B	MW-29-Q422	Groundwater	11/16/2022 11:54:00 AM	11/16/2022	12/7/2022
N053635-012A	MW-29-EB-Q422	Groundwater	11/16/2022 11:25:00 AM	11/16/2022	12/7/2022
N053635-013A	MW-86-030-Q422	Groundwater	11/16/2022 3:10:00 PM	11/16/2022	12/7/2022
N053635-013B	MW-86-030-Q422	Groundwater	11/16/2022 3:10:00 PM	11/16/2022	12/7/2022
N053635-013C	MW-86-030-Q422	Groundwater	11/16/2022 3:10:00 PM	11/16/2022	12/7/2022
N053635-013D	MW-86-030-Q422	Groundwater	11/16/2022 3:10:00 PM	11/16/2022	12/7/2022
N053635-014A	MW-86-066-Q422	Groundwater	11/16/2022 2:40:00 PM	11/16/2022	12/7/2022
N053635-014B	MW-86-066-Q422	Groundwater	11/16/2022 2:40:00 PM	11/16/2022	12/7/2022
N053635-014C	MW-86-066-Q422	Groundwater	11/16/2022 2:40:00 PM	11/16/2022	12/7/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053635
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053635-014D	MW-86-066-Q422	Groundwater	11/16/2022 2:40:00 PM	11/16/2022	12/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-135-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:20:00 AM
Lab ID:	N053635-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2.8	0.12	1.0		µg/L	5	11/17/2022 07:12 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	2.9	0.035	1.0		µg/L	1	11/19/2022 07:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-135-EB-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:55:00 AM
Lab ID:	N053635-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-275-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:46:00 AM
Lab ID:	N053635-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/17/2022 07:31 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 08:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-275-EB-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:15:00 AM
Lab ID:	N053635-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 05:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-365-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 10:04:00 AM
Lab ID:	N053635-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/17/2022 07:50 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 08:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-365-EB-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 9:30:00 AM
Lab ID:	N053635-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 05:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:04:00 PM
Lab ID:	N053635-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 04:22 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-EB-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:35:00 PM
Lab ID:	N053635-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 06:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:30:00 PM
Lab ID:	N053635-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 04:40 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-EB-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:05:00 PM
Lab ID:	N053635-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221117A**	QC Batch: **R167471**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/17/2022 06:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:54:00 AM
Lab ID:	N053635-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 10:39 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-EB-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 11:25:00 AM
Lab ID:	N053635-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 01:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 3:10:00 PM
Lab ID:	N053635-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 11:48 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 08:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:40:00 PM
Lab ID:	N053635-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221119A**	QC Batch: **R167563**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/19/2022 12:10 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221119A**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/19/2022 09:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167471**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167471**
Client ID: **PBW**	Batch ID: **R167471**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4932026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167471**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167471**
Client ID: **LCSW**	Batch ID: **R167471**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4932027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.985	0.20	5.000	0	99.7	90	110				

Sample ID: **N053636-001BDUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167471**
Client ID: **ZZZZZZ**	Batch ID: **R167471**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4932029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	920.900	40						935.2	1.54	20	

Sample ID: **N053636-001BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167471**
Client ID: **ZZZZZZ**	Batch ID: **R167471**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4932030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1926.460	40	1000	935.2	99.1	90	110				

Sample ID: **N053634-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167471**
Client ID: **ZZZZZZ**	Batch ID: **R167471**	TestNo: **EPA 218.6**		Analysis Date: **11/17/2022**	SeqNo: **4932032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053634-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N053634-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932035**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.965	0.20	1.000	0	96.5	90	110	1.008	4.41	20	

Sample ID: **N053634-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.164	1.0	5.000	0	103	90	110				

Sample ID: **N053634-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.934	1.0	25.00	40.00	104	90	110				

Sample ID: **N053634-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.022	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053634-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Sample ID: **N053634-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932049**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.055	1.0	5.000	0	101	90	110				

Sample ID: **N053634-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	1.0	5.000	0	98.1	90	110				

Sample ID: **N053634-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4932053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.004	1.0	5.000	0	100	90	110				

Sample ID: **N053635-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053635-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.057	0.20	1.000	0	106	90	110				

Sample ID: **N053635-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.022	0.20	1.000	0	102	90	110				

Sample ID: **N053635-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Sample ID: **N053635-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Sample ID: **N053635-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053635-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	100	90	110				

Sample ID: **N053635-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.819	1.0	5.000	2.831	99.8	90	110				

Sample ID: **N053635-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.009	1.0	5.000	0	100	90	110				

Sample ID: **N053635-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167471**
Client ID: **ZZZZZZ** Batch ID: **R167471** TestNo: **EPA 218.6** Analysis Date: **11/17/2022** SeqNo: **4933560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.067	1.0	5.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R167563**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **PBW**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R167563**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **LCSW**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.940	0.20	5.000	0	98.8	90	110				

Sample ID: **N053633-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID: **N053633-012AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935895**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110	1.020	1.92	20	

Sample ID: **N053635-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053635-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935898**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Sample ID: **N053635-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID: **N053635-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935904**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N053633-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N053633-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053633-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N053633-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID: **N053633-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID: **N053633-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID: **N053633-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935919**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053633-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935921**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.952	0.20	1.000	0	95.2	90	110				

Sample ID: **N053633-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.951	0.20	1.000	0	95.1	90	110				

Sample ID: **N053633-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935927**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N053633-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935929**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID: **N053633-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167563**
Client ID: **ZZZZZZ** Batch ID: **R167563** TestNo: **EPA 218.6** Analysis Date: **11/19/2022** SeqNo: **4935931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053633-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935933**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID: **N053633-015AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167563**
Client ID: **ZZZZZZ**	Batch ID: **R167563**	TestNo: **EPA 218.6**		Analysis Date: **11/19/2022**	SeqNo: **4935939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96789**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167577**
Client ID: **PBW**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96789**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167577**
Client ID: **LCSW**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936485**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.842	1.0	10.00	0	98.4	85	115				

Sample ID: **N053634-001B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167577**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.957	1.0	10.00	0	89.6	75	125				

Sample ID: **N053634-001B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167577**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.974	1.0	10.00	0	89.7	75	125	8.957	0.198	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:04:00 PM
Lab ID:	N053635-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/17/2022 10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:30:00 PM
Lab ID:	N053635-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/17/2022 10:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 3:10:00 PM
Lab ID:	N053635-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/17/2022 10:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:40:00 PM
Lab ID:	N053635-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221117B**	QC Batch: **R167466**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.76	0.095	0.50		mg/L	10	11/17/2022 11:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	LCS-R167466_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	LCSW	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933495

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.326	0.050	1.250	0	106	90	110				

Sample ID	MB-R167466_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	PBW	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933496

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	N053634-001DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933498

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.297	0.50	12.50	0.2380	104	80	120				

Sample ID	N053634-001DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933499

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.112	0.50	12.50	0.2380	103	80	120	13.30	1.40	20	

Sample ID	N053634-004DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/17/2022	SeqNo:	4933504

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	16.046	0.50	12.50	1.019	120	80	120				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053634-004DDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167466
Client ID:	ZZZZZZ	Batch ID:	R167466	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4933517

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.059	0.50						1.019	3.85	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:04:00 PM
Lab ID:	N053635-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/17/2022 06:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:30:00 PM
Lab ID:	N053635-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/17/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 3:10:00 PM
Lab ID:	N053635-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.5	0.14	1.0		mg/L	1	11/17/2022 08:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:40:00 PM
Lab ID:	N053635-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221117A**	QC Batch: **R167485**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/17/2022 08:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167485**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **PBW**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167485**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **LCSW**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.161	1.0	5.000	0	103	85	115				

Sample ID **N053634-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **ZZZZZZ**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.006	20	100.0	3.834	81.2	75	125				

Sample ID **N053634-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167485**
Client ID: **ZZZZZZ**	Batch ID: **R167485**	TestNo: **SM 5310C**		Analysis Date: **11/17/2022**	SeqNo: **4932495**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.198	20	100.0	3.834	81.4	75	125	85.01	0.226	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:04:00 PM
Lab ID:	N053635-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/22/2022 12:21 AM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:30:00 PM
Lab ID:	N053635-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	1300	13	20		µg/L	1	11/22/2022 12:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 3:10:00 PM
Lab ID:	N053635-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	120	13	20		µg/L	1	11/22/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:40:00 PM
Lab ID:	N053635-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221121E**	QC Batch: **96790**				PrepDate:	**11/17/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/22/2022 12:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96790	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	PBW	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937917

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96790	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	LCSW	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937918

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	106.024	20	100.0	0	106	85	115				

Sample ID	N053634-001B-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	ZZZZZZ	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937922

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	93.928	20	100.0	0	93.9	75	125				

Sample ID	N053634-001B-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167612
Client ID:	ZZZZZZ	Batch ID:	96790	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937923

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.662	20	100.0	0	94.7	75	125	93.93	0.779	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 1:04:00 PM
Lab ID:	N053635-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	0.54	0.050	0.10		µg/L	1	11/19/2022 08:12 PM
Barium	69	0.083	1.0		µg/L	1	11/19/2022 08:12 PM
Manganese	12	0.026	0.50		µg/L	1	11/19/2022 08:12 PM
Molybdenum	5.1	0.12	0.50		µg/L	1	11/19/2022 08:12 PM
Selenium	1.4	0.044	0.50		µg/L	1	11/19/2022 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 12:30:00 PM
Lab ID:	N053635-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	0.69	0.050	0.10		µg/L	1	11/19/2022 08:47 PM
Barium	32	0.083	1.0		µg/L	1	11/19/2022 08:47 PM
Manganese	440	0.13	2.5		µg/L	5	11/21/2022 02:02 AM
Molybdenum	23	0.12	0.50		µg/L	1	11/19/2022 08:47 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 3:10:00 PM
Lab ID:	N053635-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	5.0	0.050	0.10		µg/L	1	11/19/2022 08:59 PM
Barium	90	0.083	1.0		µg/L	1	11/19/2022 08:59 PM
Manganese	260	0.13	2.5		µg/L	5	11/21/2022 02:14 AM
Molybdenum	7.0	0.12	0.50		µg/L	1	11/19/2022 08:59 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 08:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q422
Lab Order:	N053635		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/16/2022 2:40:00 PM
Lab ID:	N053635-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221119B**	QC Batch: **96789**			PrepDate:	**11/17/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/19/2022 09:05 PM
Barium	80	0.083	1.0		µg/L	1	11/19/2022 09:05 PM
Manganese	560	0.13	2.5		µg/L	5	11/21/2022 02:20 AM
Molybdenum	14	0.12	0.50		µg/L	1	11/19/2022 09:05 PM
Selenium	ND	0.044	0.50		µg/L	1	11/19/2022 09:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96789**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **PBW**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	0.094	1.0									
Manganese	0.240	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-96789**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **LCSW**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.826	0.10	10.00	0	98.3	85	115				
Barium	10.017	1.0	10.00	0	100	85	115				
Manganese	96.355	0.50	100.0	0	96.4	85	115				
Molybdenum	9.977	0.50	10.00	0	99.8	85	115				
Selenium	9.233	0.50	10.00	0	92.3	85	115				

Sample ID **N053634-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/17/2022**	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.118	0.10	10.00	0	91.2	75	125				
Barium	49.222	1.0	10.00	39.57	96.6	75	125				
Molybdenum	45.922	0.50	10.00	36.26	96.6	75	125				
Selenium	9.668	0.50	10.00	0.1913	94.8	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053634-001B-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167582
Client ID:	ZZZZZZ	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/19/2022	SeqNo:	4936582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.827	0.10	10.00	0	88.3	75	125	9.118	3.24	20	
Barium	48.496	1.0	10.00	39.57	89.3	75	125	49.22	1.49	20	
Molybdenum	46.016	0.50	10.00	36.26	97.6	75	125	45.92	0.204	20	
Selenium	9.538	0.50	10.00	0.1913	93.5	75	125	9.668	1.35	20	

Sample ID	N053634-001B-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937664

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	483.600	2.5	100.0	491.6	-7.99	75	125				S

Sample ID	N053634-001B-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/17/2022	RunNo:	167609
Client ID:	ZZZZZZ	Batch ID:	96789	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/21/2022	SeqNo:	4937665

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	485.776	2.5	100.0	491.6	-5.82	75	125	483.6	0.449	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053635
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053634-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167582**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/19/2022**	SeqNo: **4936580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.429	0.10	10.00	0	94.3	80	120				
Barium	49.237	1.0	10.00	39.57	96.7	80	120				
Molybdenum	48.442	0.50	10.00	36.26	122	80	120				S
Selenium	9.242	0.50	10.00	0.1913	90.5	80	120				

Sample ID **N053634-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167609**
Client ID: **ZZZZZZ**	Batch ID: **96789**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/21/2022**	SeqNo: **4937663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	487.044	2.5	100.0	491.6	-4.55	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y N
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD	RTNE	1. Chilled	✓
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	2. Headspace	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	3. Container Intact	✓
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present	
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	5. IR number	3
Signature: Date: 11/16/22	Sampled By: Riggie Tep		Global ID:	Regulatory	6. Method of Cooling: ICE	
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*			Specify State:	Sample Temp: 2.8°C / 4.2°C	
Project Name: PG&E Topock - PCM	Signature: Date: 11/16/22				Courier:	
Project Number: 30121866.4Q22GW					Tracking No.:	

Matrix: Ground X | Sediment; Potable | Soil; NPDES | Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly Nitrite, Nitrate, sulfate (EPA 300.0)	500mL poly Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA Total Organic Carbon (SM5310C); H2SO4	125mL poly Nitrate/Nitrite as Nitrogen (SM4500); H2SO4	1 L poly Ammonia as Nitrogen (SM4500NH3); H2SO4	1 L poly Nitrate, sulfate (EPA 300.0)	1 L poly Nitrate, (EPA 300.0)			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N503635-001	MW-49-135-Q422	11/16/2022	11:20		X			X									E	2	P	BNS	
2	-002	MW-49-135-EB-Q422	11/16/2022	10:55		X												E	1	P	BNS	
3	-003	MW-49-275-Q422	11/16/2022	10:46		X			X									E	2	P	BNS	
4	-004	MW-49-275-EB-Q422	11/16/2022	10:15		X												E	1	P	BNS	
5	-005	MW-49-365-Q422	11/16/2022	10:04		X			X									E	2	P	BNS	
6	-006	MW-49-365-EB-Q422	11/16/2022	9:30		X												E	1	P	BNS	
7	-007	MW-28-025-Q422	11/16/2022	13:04		X		X	X	X	X				X			E	6	P	BNS	
8	-008	MW-28-025-EB-Q422	11/16/2022	12:35		X												E	1	P	BNS	
9	-009	MW-28-090-Q422	11/16/2022	12:30		X		X	X	X	X				X			E	6	P	BNS	
10	-010	MW-28-090-EB-Q422	11/16/2022	12:05		X												E	1	P	BNS	
11	-011	MW-29-Q422	11/16/2022	11:54		X			X									E	2	P	BNS	
12	-012	MW-29-EB-Q422	11/16/2022	11:25		X												E	1	P	BNS	
13	-013	MW-86-030-Q422	11/16/2022	15:10		X		X	X	X	X				X			E	6	P	BNS	
14	-014	MW-86-066-Q422	11/16/2022	14:40		X		X	X	X	X				X			E	6	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tep	11/16/22 1605	Dante Ortiz	11/16/22 16:05
Dante Ortiz	11/16/22 19:09	Dante Ortiz	11/16/22 19:09

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives: H=HCl; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/16/2022	Workorder:	N053635
Rep sample Temp (Deg C):	2.8/4.2	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/17/2022

Reviewed By: for: MBC 11/28/2022

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053635

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053635-001A	MW-49-135-Q422	11/16/2022 11:20:00 AM	12/5/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-001B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-002A	MW-49-135-EB-Q422	11/16/2022 10:55:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-003A	MW-49-275-Q422	11/16/2022 10:46:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-003B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-004A	MW-49-275-EB-Q422	11/16/2022 10:15:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-005A	MW-49-365-Q422	11/16/2022 10:04:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-005B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-006A	MW-49-365-EB-Q422	11/16/2022 9:30:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-007A	MW-28-025-Q422	11/16/2022 1:04:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-007B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-007C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053635-007D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053635-008A	MW-28-025-EB-Q422	11/16/2022 12:35:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-009A	MW-28-090-Q422	11/16/2022 12:30:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053635

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053635-009B	MW-28-090-Q422	11/16/2022 12:30:00 PM	12/5/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-009C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053635-009D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053635-010A	MW-28-090-EB-Q422	11/16/2022 12:05:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-011A	MW-29-Q422	11/16/2022 11:54:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-011B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-012A	MW-29-EB-Q422	11/16/2022 11:25:00 AM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-013A	MW-86-030-Q422	11/16/2022 3:10:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-013B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-013C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053635-013D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053635-014A	MW-86-066-Q422	11/16/2022 2:40:00 PM	12/5/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053635-014B			12/5/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

27-Nov-22

WorkOrder: N053635

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/16/2022 7:04 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053635-014B	MW-86-066-Q422	11/16/2022 2:40:00 PM	12/5/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/5/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/5/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053635-014C			12/5/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053635-014D			12/5/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053635-015A	FOLDER	12/5/2022	12/5/2022		Folder	Folder	☐	☐	☐	LAB
			12/5/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/5/2022		Folder	Folder	☐	☐	☐	LAB

December 08, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053664

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 17, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053664

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (6.9 ug/L) and hexavalent chromium (5.2 ug/L) for sample N053664-004 (MW-33-150-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.6ug/L) and hexavalent chromium (0.51ug/L) for sample N053664-011 (MW-35-135-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (6.9 ug/L) and hexavalent chromium (5.2 ug/L) for sample N053664-004 (MW-33-150-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 6.9 and 6.4 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.6ug/L) and hexavalent chromium (0.51ug/L) for sample N053664-011 (MW-35-135-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 3.0 and 0.32 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053665-009BMS and N053665-009BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053665-009BMS and N053665-009BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053665-009CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053665-009 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *08-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053664
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053664-001A	MW-33-040-Q422	Groundwater	11/17/2022 8:48:00 AM	11/17/2022	12/8/2022
N053664-001B	MW-33-040-Q422	Groundwater	11/17/2022 8:48:00 AM	11/17/2022	12/8/2022
N053664-001C	MW-33-040-Q422	Groundwater	11/17/2022 8:48:00 AM	11/17/2022	12/8/2022
N053664-001D	MW-33-040-Q422	Groundwater	11/17/2022 8:48:00 AM	11/17/2022	12/8/2022
N053664-002A	MW-33-040-EB-Q422	Groundwater	11/17/2022 8:15:00 AM	11/17/2022	12/8/2022
N053664-003A	MW-33-090-Q422	Groundwater	11/17/2022 9:30:00 AM	11/17/2022	12/8/2022
N053664-003B	MW-33-090-Q422	Groundwater	11/17/2022 9:30:00 AM	11/17/2022	12/8/2022
N053664-003C	MW-33-090-Q422	Groundwater	11/17/2022 9:30:00 AM	11/17/2022	12/8/2022
N053664-003D	MW-33-090-Q422	Groundwater	11/17/2022 9:30:00 AM	11/17/2022	12/8/2022
N053664-004A	MW-33-150-Q422	Groundwater	11/17/2022 11:02:00 AM	11/17/2022	12/8/2022
N053664-004B	MW-33-150-Q422	Groundwater	11/17/2022 11:02:00 AM	11/17/2022	12/8/2022
N053664-004C	MW-33-150-Q422	Groundwater	11/17/2022 11:02:00 AM	11/17/2022	12/8/2022
N053664-004D	MW-33-150-Q422	Groundwater	11/17/2022 11:02:00 AM	11/17/2022	12/8/2022
N053664-005A	MW-33-210-Q422	Groundwater	11/17/2022 10:18:00 AM	11/17/2022	12/8/2022
N053664-005B	MW-33-210-Q422	Groundwater	11/17/2022 10:18:00 AM	11/17/2022	12/8/2022
N053664-006A	MW-96-045-Q422	Groundwater	11/17/2022 12:50:00 PM	11/17/2022	12/8/2022
N053664-006B	MW-96-045-Q422	Groundwater	11/17/2022 12:50:00 PM	11/17/2022	12/8/2022
N053664-007A	MW-96-217-Q422	Groundwater	11/17/2022 12:06:00 PM	11/17/2022	12/8/2022
N053664-007B	MW-96-217-Q422	Groundwater	11/17/2022 12:06:00 PM	11/17/2022	12/8/2022
N053664-008A	MW-46-175-Q422	Groundwater	11/17/2022 2:38:00 PM	11/17/2022	12/8/2022
N053664-008B	MW-46-175-Q422	Groundwater	11/17/2022 2:38:00 PM	11/17/2022	12/8/2022
N053664-008C	MW-46-175-Q422	Groundwater	11/17/2022 2:38:00 PM	11/17/2022	12/8/2022
N053664-008D	MW-46-175-Q422	Groundwater	11/17/2022 2:38:00 PM	11/17/2022	12/8/2022
N053664-008E	MW-46-175-Q422	Groundwater	11/17/2022 2:38:00 PM	11/17/2022	12/8/2022
N053664-009A	MW-46-205-Q422	Groundwater	11/17/2022 1:55:00 PM	11/17/2022	12/8/2022
N053664-009B	MW-46-205-Q422	Groundwater	11/17/2022 1:55:00 PM	11/17/2022	12/8/2022
N053664-009C	MW-46-205-Q422	Groundwater	11/17/2022 1:55:00 PM	11/17/2022	12/8/2022
N053664-009D	MW-46-205-Q422	Groundwater	11/17/2022 1:55:00 PM	11/17/2022	12/8/2022
N053664-010A	MW-35-060-Q422	Groundwater	11/17/2022 8:40:00 AM	11/17/2022	12/8/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053664
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053664-010B	MW-35-060-Q422	Groundwater	11/17/2022 8:40:00 AM	11/17/2022	12/8/2022
N053664-010C	MW-35-060-Q422	Groundwater	11/17/2022 8:40:00 AM	11/17/2022	12/8/2022
N053664-010D	MW-35-060-Q422	Groundwater	11/17/2022 8:40:00 AM	11/17/2022	12/8/2022
N053664-011A	MW-35-135-Q422	Groundwater	11/17/2022 9:24:00 AM	11/17/2022	12/8/2022
N053664-011B	MW-35-135-Q422	Groundwater	11/17/2022 9:24:00 AM	11/17/2022	12/8/2022
N053664-011C	MW-35-135-Q422	Groundwater	11/17/2022 9:24:00 AM	11/17/2022	12/8/2022
N053664-011D	MW-35-135-Q422	Groundwater	11/17/2022 9:24:00 AM	11/17/2022	12/8/2022
N053664-012A	EB-724-Q422	Groundwater	11/17/2022 2:50:00 PM	11/17/2022	12/8/2022
N053664-013A	MW-43-025-Q422	Groundwater	11/17/2022 11:06:00 AM	11/17/2022	12/8/2022
N053664-013B	MW-43-025-Q422	Groundwater	11/17/2022 11:06:00 AM	11/17/2022	12/8/2022
N053664-013C	MW-43-025-Q422	Groundwater	11/17/2022 11:06:00 AM	11/17/2022	12/8/2022
N053664-013D	MW-43-025-Q422	Groundwater	11/17/2022 11:06:00 AM	11/17/2022	12/8/2022
N053664-014A	MW-43-025-EB-Q422	Groundwater	11/17/2022 10:46:00 AM	11/17/2022	12/8/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:48:00 AM
Lab ID:	N053664-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 06:21 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 09:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-EB-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:15:00 AM
Lab ID:	N053664-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 02:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:30:00 AM
Lab ID:	N053664-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5.4	0.024	0.20		µg/L	1	11/18/2022 09:55 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	5.0	0.035	1.0		µg/L	1	11/29/2022 09:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:02:00 AM
Lab ID:	N053664-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5.2	0.12	1.0		µg/L	5	11/18/2022 07:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	6.9	0.035	1.0		µg/L	1	11/29/2022 09:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-210-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:18:00 AM
Lab ID:	N053664-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A** QC Batch: **R167532**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	12	0.12	1.0		µg/L	5	11/18/2022 10:33 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C** QC Batch: **96873**				PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	11	0.035	1.0		µg/L	1	11/29/2022 10:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-96-045-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:50:00 PM
Lab ID:	N053664-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 07:36 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 10:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-96-217-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:06:00 PM
Lab ID:	N053664-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 07:55 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 10:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:38:00 PM
Lab ID:	N053664-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.7	0.12	1.0		µg/L	5	11/18/2022 08:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	8.1	0.035	1.0		µg/L	1	11/29/2022 10:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:55:00 PM
Lab ID:	N053664-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 08:33 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 10:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:40:00 AM
Lab ID:	N053664-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A** QC Batch: **R167532**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	20	0.12	1.0		µg/L	5	11/18/2022 09:11 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C** QC Batch: **96873**				PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	19	0.035	1.0		µg/L	1	11/29/2022 10:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:24:00 AM
Lab ID:	N053664-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.51	0.024	0.20		µg/L	1	11/21/2022 10:41 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	2.6	0.035	1.0		µg/L	1	11/29/2022 10:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-724-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:50:00 PM
Lab ID:	N053664-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 03:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:06:00 AM
Lab ID:	N053664-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 02:10 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-EB-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:46:00 AM
Lab ID:	N053664-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 03:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167532	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	PBW	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934543		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R167532	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	LCSW	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934544		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.956	0.20	5.000	0	99.1	90	110						

Sample ID	N053664-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934546		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	16.540	1.0	5.000	11.87	93.4	90	110						

Sample ID	N053665-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934550		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.932	1.0	5.000	0	98.6	90	110						

Sample ID	N053665-009AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934551		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.194	1.0	5.000	0	104	90	110	4.932	5.18	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053664-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934557

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.982	0.20	1.000	0	98.2	90	110				

Sample ID	N053664-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934561

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID	N053664-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Sample ID	N053664-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110				

Sample ID	N053664-005ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934566

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.793	1.0						11.87	0.647	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053665-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934568

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID	N053665-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934572

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID	N053664-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934574

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.417	1.0	5.000	0	108	90	110				

Sample ID	N053664-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934578

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.916	1.0	5.000	5.206	94.2	90	110				

Sample ID	N053664-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.996	1.0	5.000	0	99.9	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053664-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	1.0	5.000	0	101	90	110				

Sample ID	N053664-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.523	1.0	5.000	8.702	96.4	90	110				

Sample ID	N053664-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934586

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.799	1.0	5.000	0.9845	96.3	90	110				

Sample ID	N053664-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934590

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.431	1.0	25.00	19.71	98.9	90	110				

Sample ID	N053665-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.051	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053665-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.938	1.0	5.000	0	98.8	90	110				

Sample ID	N053664-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934597

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.284	0.20	5.000	5.355	98.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167627	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	PBW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939011		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R167627	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	LCSW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939012		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		4.863	0.20	5.000	0	97.3	90	110					

Sample ID	N053664-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939014		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1.421	0.20	1.000	0.5057	91.5	90	110					

Sample ID	N053686-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939022		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		9.945	2.0	10.00	0	99.4	90	110					

Sample ID	N053665-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939024		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1.013	0.20	1.000	0	101	90	110					

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053665-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939028

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.2	90	110				

Sample ID	N053688-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939029

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	64.430	1.0	25.00	39.53	99.6	90	110				

Sample ID	N053688-006AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939030

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.079	1.0	25.00	39.53	102	90	110	64.43	1.00	20	

Sample ID	N053664-011ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939031

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.477	0.20						0.5057	5.86	20	

Sample ID	N053679-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939032

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	671.195	10	250.0	413.8	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053679-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	675.715	10	250.0	413.6	105	90	110				

Sample ID **N053679-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	645.730	10	250.0	381.3	106	90	110				

Sample ID **N053688-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.683	1.0	25.00	22.47	105	90	110				

Sample ID **N053665-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.063	1.0	5.000	0	101	90	110				

Sample ID **N053665-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.970	1.0	5.000	0	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053688-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	782.890	20	500.0	277.5	101	90	110				

Sample ID	N053665-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.182	1.0	5.000	0	104	90	110				

Sample ID	N053688-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.095	0.20	5.000	8.020	102	90	110				

Sample ID	N053688-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.416	0.20	1.000	1.385	103	90	110				

Sample ID	N053665-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939053

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	1.0	5.000	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053688-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.279	1.0	5.000	0.9730	106	90	110				

Sample ID **N053688-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.183	1.0	5.000	0	104	90	110				

Sample ID **N053688-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID **N053688-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID **N053688-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96873	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	PBW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945710

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96873	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	LCSW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945711

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.477	1.0	10.00	0	94.8	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945736

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.055	1.0	10.00	0.06209	89.9	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945737

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.819	1.0	10.00	0.06209	87.6	75	125	9.055	2.65	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:48:00 AM
Lab ID:	N053664-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.38	0.048	0.25		mg/L	5	11/18/2022 09:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:30:00 AM
Lab ID:	N053664-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.98	0.095	0.50		mg/L	10	11/18/2022 09:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:02:00 AM
Lab ID:	N053664-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	11/18/2022 09:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:38:00 PM
Lab ID:	N053664-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.97	0.048	0.25		mg/L	5	11/18/2022 09:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:55:00 PM
Lab ID:	N053664-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.83	0.048	0.25		mg/L	5	11/18/2022 10:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:40:00 AM
Lab ID:	N053664-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.1	0.095	0.50		mg/L	10	11/18/2022 10:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:24:00 AM
Lab ID:	N053664-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.3	0.095	0.50		mg/L	10	11/18/2022 10:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:06:00 AM
Lab ID:	N053664-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 10:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167537_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	PBW	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935329

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167537_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	LCSW	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935330

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.248	0.050	1.250	0	99.8	90	110				

Sample ID	N053665-009DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935342

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.325	0.50	12.50	0	107	80	120				

Sample ID	N053665-009DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.684	0.50	12.50	0	109	80	120	13.32	2.66	20	

Sample ID	N053663-014BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935355

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.776	0.25	6.250	0.05650	108	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053663-014BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935356

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.629	0.25	6.250	0.05650	105	80	120	6.776	2.19	20	

Sample ID	N053663-015BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935357

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.187	0.10						1.224	3.10	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:38:00 PM
Lab ID:	N053664-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 01:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:55:00 PM
Lab ID:	N053664-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 01:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:06:00 AM
Lab ID:	N053664-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.9	0.14	1.0		mg/L	1	11/18/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167551**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **PBW**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167551**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **LCSW**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.967	1.0	5.000	0	99.3	85	115				

Sample ID **N053665-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **ZZZZZZ**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	76.106	20	100.0	0	76.1	75	125				

Sample ID **N053665-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **ZZZZZZ**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935699**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	76.072	20	100.0	0	76.1	75	125	76.11	0.0447	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:38:00 PM
Lab ID:	N053664-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 04:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:55:00 PM
Lab ID:	N053664-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 04:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:06:00 AM
Lab ID:	N053664-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	5200	13	20		µg/L	1	11/26/2022 04:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96876	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	PBW	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942733

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96876	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	LCSW	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.316	20	100.0	0	99.3	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	ZZZZZZ	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942749

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1206.289	20	100.0	1102	104	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	ZZZZZZ	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942750

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1202.608	20	100.0	1102	100	75	125	1206	0.306	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:48:00 AM
Lab ID:	N053664-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221130A**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Molybdenum	340	0.60	2.5		µg/L	5	11/30/2022 06:06 PM
Selenium	1.8	0.044	0.50		µg/L	1	11/29/2022 09:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:30:00 AM
Lab ID:	N053664-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**				PrepDate: **11/22/2022**		Analyst: **DJ**
Molybdenum	8.8	0.12	0.50		µg/L	1	11/27/2022 04:47 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 09:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:02:00 AM
Lab ID:	N053664-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Molybdenum	37	0.12	0.50		µg/L	1	11/27/2022 04:53 PM
Selenium	0.73	0.044	0.50		µg/L	1	12/1/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:38:00 PM
Lab ID:	N053664-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 05:16 PM
Barium	26	0.083	1.0		µg/L	1	11/27/2022 05:16 PM
Manganese	13	0.026	0.50		µg/L	1	11/29/2022 10:21 PM
Molybdenum	160	0.12	0.50		µg/L	1	11/27/2022 05:16 PM
Selenium	0.51	0.044	0.50		µg/L	1	11/30/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:55:00 PM
Lab ID:	N053664-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 05:40 PM
Barium	32	0.083	1.0		µg/L	1	11/27/2022 05:40 PM
Manganese	49	0.026	0.50		µg/L	1	11/29/2022 10:45 PM
Molybdenum	360	0.60	2.5		µg/L	5	11/30/2022 06:29 PM
Selenium	0.79	0.044	0.50		µg/L	1	11/30/2022 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 8:40:00 AM
Lab ID:	N053664-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Molybdenum	9.2	0.12	0.50		µg/L	1	11/27/2022 05:46 PM
Selenium	0.98	0.044	0.50		µg/L	1	11/29/2022 10:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:24:00 AM
Lab ID:	N053664-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Molybdenum	9.2	0.12	0.50		µg/L	1	11/27/2022 05:52 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 10:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q422
Lab Order:	N053664		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:06:00 AM
Lab ID:	N053664-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	32	0.050	0.10		µg/L	1	11/27/2022 05:58 PM
Barium	83	0.083	1.0		µg/L	1	11/27/2022 05:58 PM
Manganese	440	0.13	2.5		µg/L	5	11/30/2022 06:35 PM
Molybdenum	6.4	0.12	0.50		µg/L	1	11/27/2022 05:58 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 11:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96873**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **PBW**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Molybdenum	ND	0.50									

Sample ID **LCS-96873**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **LCSW**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.904	0.10	10.00	0	89.0	85	115				
Barium	9.259	1.0	10.00	0	92.6	85	115				
Molybdenum	9.255	0.50	10.00	0	92.5	85	115				

Sample ID **N053665-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.758	0.10	10.00	0	67.6	75	125				S
Barium	78.120	1.0	10.00	71.45	66.7	75	125				S
Molybdenum	54.810	0.50	10.00	46.05	87.6	75	125				

Sample ID **N053665-009BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.842	0.10	10.00	0	68.4	75	125	6.758	1.23	20	S
Barium	79.068	1.0	10.00	71.45	76.1	75	125	78.12	1.21	20	
Molybdenum	54.629	0.50	10.00	46.05	85.8	75	125	54.81	0.332	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96873	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	PBW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-96873	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	LCSW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.879	0.50	100.0	0	92.9	85	115				
Selenium	9.416	0.50	10.00	0	94.2	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.819	0.50	10.00	0	88.2	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945847

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.326	0.50	10.00	0	93.3	75	125	8.819	5.59	20	

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167818
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4948422

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	604.841	2.5	100.0	592.9	12.0	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167818
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4948423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	610.147	2.5	100.0	592.9	17.3	75	125	604.8	0.873	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053664
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053665-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167763**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.697	0.10	10.00	0	67.0	80	120				S
Barium	80.149	1.0	10.00	71.45	86.9	80	120				
Molybdenum	56.060	0.50	10.00	46.05	100	80	120				

Sample ID **N053665-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167795**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.000	0.50	10.00	0	90.0	80	120				

Sample ID **N053665-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167818**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4948421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	644.963	2.5	100.0	592.9	52.1	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 12/5/2022 12:00 AM
FOLDER R: 11/17/2022
N053664-015A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@cr1tigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#
Submitted By: Rissie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:
Title: Field Tech		
Signature: Date: 11/17/22	Sampled By: Rissie Tep	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
Project Name: PG&E Topock - PCM	Signature: Date: 11/17/22	
Project Number: 30121866.4Q22GW		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		✓
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number	3	
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 1.3°C / 2.8°C / 3.4°C		

Courier:

Tracking No.: ASSET

Item No.	Laboratory Work Order No.	Sample ID/Location	Matrix	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrite, Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 125mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Nitrate, (EPA 300.0) 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053664-001	MW-33-040-Q422	Ground	11/17/2022	8:48		X			X	X		X			X	E	4	P	BNS	
2	-002	MW-33-040-EB-Q422	Ground	11/17/2022	8:15		X										E	1	P	BNS	
3	-003	MW-33-090-Q422	Ground	11/17/2022	9:30		X			X	X		X			X	E	4	P	BNS	
4	-004	MW-33-150-Q422	Ground	11/17/2022	11:02		X			X	X		X			X	E	4	P	BNS	
5	-005	MW-33-210-Q422	Ground	11/17/2022	10:18		X			X							E	2	P	BNS	
6	-006	MW-96-045-Q422	Ground	11/17/2022	12:50		X			X							E	2	P	BNS	
7	-007	MW-96-217-Q422	Ground	11/17/2022	12:06		X			X							E	2	P	BNS	
8	-008	MW-46-175-Q422	Ground	11/17/2022	14:38		X		X	X	X	X	X			X	E	7	P	BNS	
9	-009	MW-46-205-Q422	Ground	11/17/2022	13:55		X		X	X	X	X				X	E	6	P	BNS	
10	-010	MW-35-060-Q422	Ground	11/17/2022	8:40		X			X	X		X			X	E	4	P	BNS	
11	-011	MW-35-135-Q422	Ground	11/17/2022	9:24		X			X	X		X			X	E	4	P	BNS	
12	-012	EB-724-Q422	Ground	11/17/2022	14:50		X										E	1	P	BNS	
13	-013	MW-43-025-Q422	Ground	11/17/2022	11:06		X		X	X	X	X				X	E	8	P	BNS	
14	-014	MW-43-025-EB-Q422	Ground	11/17/2022	10:46		X										E	1	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Rissie Tep	11/17/22 1522	Dante Ortiz	11/17/22 1522
Dante Ortiz	11/17/22 1757	Dante Ortiz	11/17/22 1757

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B (NH4)2SO4/NH4OH			

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=25%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/17/2022	Workorder:	N053664
Rep sample Temp (Deg C):	1.8/2.8/3.4	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

12/6/2022

Checklist Completed By: YR YRodriguez

Reviewed By: for: MBC 12/06/2022

ASSET Laboratories

WORK ORDER Summary

06-Dec-22

WorkOrder: N053664

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053664-001A	MW-33-040-Q422	11/17/2022 8:48:00 AM	12/6/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-001B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-001C			12/6/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053664-001D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-002A	MW-33-040-EB-Q422	11/17/2022 8:15:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-003A	MW-33-090-Q422	11/17/2022 9:30:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-003B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-003C			12/6/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053664-003D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-004A	MW-33-150-Q422	11/17/2022 11:02:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-004B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-004C			12/6/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053664-004D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-005A	MW-33-210-Q422	11/17/2022 10:18:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-005B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

06-Dec-22

WorkOrder: N053664

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053664-005B	MW-33-210-Q422	11/17/2022 10:18:00 AM	12/6/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-006A	MW-96-045-Q422	11/17/2022 12:50:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-006B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-007A	MW-96-217-Q422	11/17/2022 12:06:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-007B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-008A	MW-46-175-Q422	11/17/2022 2:38:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-008B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-008C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053664-008D			12/6/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053664-008E			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-009A	MW-46-205-Q422	11/17/2022 1:55:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-009B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

06-Dec-22

WorkOrder: N053664

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053664-009C	MW-46-205-Q422	11/17/2022 1:55:00 PM	12/6/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053664-009D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-010A	MW-35-060-Q422	11/17/2022 8:40:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-010B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-010C			12/6/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053664-010D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-011A	MW-35-135-Q422	11/17/2022 9:24:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-011B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053664-011C			12/6/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053664-011D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-012A	EB-724-Q422	11/17/2022 2:50:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-013A	MW-43-025-Q422	11/17/2022 11:06:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-013B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

06-Dec-22

WorkOrder: N053664

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053664-013C	MW-43-025-Q422	11/17/2022 11:06:00 AM	12/6/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053664-013D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053664-014A	MW-43-025-EB-Q422	11/17/2022 10:46:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053664-015A	FOLDER	12/6/2022	12/6/2022		Folder	Folder	☐	☐	☐	LAB
			12/6/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/6/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

21-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite ~~SM4500-NO3F~~	Requested Tests	
N053664-001C / MW-33-040-Q422	Groundwater	11/17/2022 8:48:00 AM	8OZP	1		
N053664-003C / MW-33-090-Q422	Groundwater	11/17/2022 9:30:00 AM	8OZP	1		
N053664-004C / MW-33-150-Q422	Groundwater	11/17/2022 11:02:00 AM	8OZP	1		
N053664-008D / MW-46-175-Q422	Groundwater	11/17/2022 2:38:00 PM	8OZP	1		
N053664-010C / ~~MW-33-060-Q422~~ MW-35-060-Q422	Groundwater	11/17/2022 8:40:00 AM	8OZP	1		
N053664-011C / MW-35-135-Q422	Groundwater	11/17/2022 9:24:00 AM	8OZP	1		

YRodriguez
12/7/2022

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53665A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite . EDD requirement Labspec7 edata.

GLS #: 558259864

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/21/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 02/14/2023

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53664A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2227965
Invoice ID:	B465504

Enclosed are the results of analyses for samples received by the laboratory on 11/22/2022. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1001397601

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

22-27965

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

21-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite SM4500-NO3F	Requested Tests	
N053664-001C / MW-33-040-Q422 -1	Groundwater	11/17/2022 8:48:00 AM	8OZP	1		
N053664-003C / MW-33-090-Q422 -2	Groundwater	11/17/2022 9:30:00 AM	8OZP	1		
N053664-004C / MW-33-150-Q422 -3	Groundwater	11/17/2022 11:02:00 AM	8OZP	1		
N053664-008D / MW-46-175-Q422 -4	Groundwater	11/17/2022 2:38:00 PM	8OZP	1		
N053664-010C / MW-33-060-Q422 -5	Groundwater	11/17/2022 8:40:00 AM	8OZP	1		
N053664-011C / MW-35-135-Q422 -6	Groundwater	11/17/2022 9:24:00 AM	8OZP	1		

Preserved with H2SO4

CHK BY ppb
DISTRIBUTION AE
SUB OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53665A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2689. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558259864

	Date/Time		Date/Time
Relinquished by: YRodriguez	11/21/2022 1630	Received by:	11-22-22 1116
Relinquished by:		Received by:	

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-27965

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)_____

FREE LIQUID
YES ☒ NO ☐
(W) S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

☒ COC Received YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 11-22-22

Temperature: (A) 1.8 °C / (C) 1.7 °C Analyst Init SMH 11/16

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE 802	A	A	A	A	A	A	A 802 11/22			
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PrA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:_____

Sample Numbering Completed By: JCR Date/Time: 11/22/22 1345

A = Actual / C = Corrected

Rev 23 05/20/22

[R:\WP\Doc\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 23]

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/14/2023 18:00
Project: Level IV + labSpec7
Project Number: N53664A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2227965-01	**COC Number:**	N53664A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/17/2022 08:48
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053664-001C / MW-33-040-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater
2227965-02	**COC Number:**	N53664A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/17/2022 09:30
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053664-003C / MW-33-090-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater
2227965-03	**COC Number:**	N53664A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/17/2022 11:02
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053664-004C / MW-33-150-Q422	**Lab Matrix:**	Water
	Sampled By:	rIGGIE TEP of ARRC	**Sample Type:**	Groundwater
2227965-04	**COC Number:**	N53664A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/17/2022 14:38
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053664-008D / MW-46-175-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater
2227965-05	**COC Number:**	N53664A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/17/2022 08:40
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053664-010C / MW-35-060-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater
2227965-06	**COC Number:**	N53664A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/17/2022 09:24
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053664-011C / MW-35-135-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater

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2218 Railroad Avenue
Redding, California 96001
voice 530.243.7234
fax 530.243.7494

3860 Morrow Lane, Suite F
Chico, California 95928
voice 530.894.8966
fax 530.894.5143

Analytical Report

AMENDED REPORT

Report To:	PACE ANALYTICAL SERVICES - BAKERSFIELD	**Lab No:**	22L0132
	4100 ATLAS COURT	**Reported:**	02/14/23
	BAKERSFIELD, CA 93308	**Phone:**	(800) 878-4911
Attention:	ELI VELAZQUEZ		
Project:	Geo#L10006095391 2227965		

Included in this report are laboratory results for work order 22L0132, received on 12/02/22. All analyses were performed in strict adherence to our established Quality Manual. Any qualifications or abnormalities are listed in the Notes and Definitions and/or the Case Narrative section of this report. The project Chain of Custody and laboratory sample receipt record are included as attachments to this report.

Sample Results

Description:	N053664-001C/MW-33-040-Q422			**Sampled:**	11/17/22 08:48
Matrix / Type:	Water ()	**Lab ID:**	22L0132-01	**Received:**	12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	0.45	QM-05	0.02	0.05	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

www.pacelabs.com

Page 1 of 16

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fax 530.894.5143

Analytical Report

AMENDED REPORT

Description: N053664-003C/MW-33-090-Q422 **Sampled:** 11/17/22 09:30
Matrix / Type: Water () **Lab ID:** 22L0132-02 **Received:** 12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	1.12	QM-05	0.02	0.05	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

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Chico, California 95928
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fax 530.894.5143

Analytical Report

AMENDED REPORT

Description:	N053664-004C/MW-33-150-Q422		**Sampled:** 11/17/22 11:02
Matrix / Type:	Water ()	**Lab ID:** 22L0132-03	**Received:** 12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	1.89	QM-05	0.02	0.05	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

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Analytical Report

AMENDED REPORT

Description:	N053664-008D/MW-46-175-Q422		**Sampled:** 11/17/22 14:38
Matrix / Type:	Water ()	**Lab ID:** 22L0132-04	**Received:** 12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	1.23	QM-05	0.02	0.05	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

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voice 530.894.8966
fax 530.894.5143

Analytical Report

AMENDED REPORT

Description: N053664-010C/MW-35-060-Q422 **Sampled:** 11/17/22 08:40
Matrix / Type: Water () **Lab ID:** 22L0132-05 **Received:** 12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	2.35	QM-05	0.02	0.05	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

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Chico, California 95928
voice 530.894.6966
fax 530.894.5143

Analytical Report

AMENDED REPORT

Description: N053664-011C/MW-35-135-Q422 **Sampled:** 11/17/22 09:24
Matrix / Type: Water () **Lab ID:** 22L0132-06 **Received:** 12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	2.45	QM-05	0.04	0.10	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

Quality Control Data

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
General Chemistry - Chico Location	**Batch B2L0867 - General Prep - Chico Gen Chem**									
Blank										
Nitrate+Nitrite as N	0.04	0.05	mg/l							J
LCS										
Nitrate+Nitrite as N	1.04	0.05	mg/l	1.00		104	90-110			
Duplicate	Source: 22L0132-01									
Nitrate+Nitrite as N	0.45	0.05	mg/l		0.45			0.289	20	
Duplicate	Source: 22L0134-01									
Nitrate+Nitrite as N	4.82	0.50	mg/l		4.85			0.703	20	
Matrix Spike	Source: 22L0132-01									
Nitrate+Nitrite as N	1.77	0.05	mg/l	1.00	0.45	132	90-110			QM-05
Matrix Spike	Source: 22L0134-01									
Nitrate+Nitrite as N	15.5	0.50	mg/l	10.0	4.85	106	90-110			

Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
ND	Analyte NOT DETECTED at or above the detection limit
RPD	Relative Percent Difference
MDL	Method Detection Limit
RL	Reporting Limit
* or #	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.
**	The laboratory holds accreditation for this analyte or method with WA-ECY Lab ID: Lab ID C783. Accreditation is not offered for this method by CA-ELAP
Note 2	According to 40 CFR Part 136 Table II, the following tests should be analyzed in the field within 15 minutes of sampling: pH, chlorine, dissolved oxygen, and sulfite.

Accreditations Held:
Redding Location: CA-ELAP - Cert # 1677
Chico Location: CA-ELAP - Cert # 2718

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2218 Railroad Avenue
Redding, California 96001
voice 530.243.7234
fax 530.243.7494

3860 Morrow Lane, Suite F
Chico, California 95928
voice 530.894.8966
fax 530.894.5143

Analytical Report

AMENDED REPORT

Approved By

I certify that these results meet the requirements of the applicable accreditation standard, and were performed in compliance with the stated analytical methods unless otherwise noted in the qualifications or Case Narrative section of this report.

Approved By:

Josh Kirkpatrick For Bryan Ervin, Chico Location - Supervisor

Pace Analytical Services LLC - Redding CA

The data included in this report relate only to the specific items as received, recorded on the Chain of Custody, and analyzed at the laboratory. All data is expressed on a wet-weight basis unless otherwise noted. Interpretation and use of the information included in this report is the sole responsibility of the client. This report may not be reproduced except in full, and may not be modified in any way without prior written approval from Pace Analytical. Use of this report in whole or part for public advertising or any other commercial purpose requires prior written authorization.

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SUBCONTRACT ORDER

Pace Analytical Labs - Bakersfield, CA

22L0132

2227965

22L0132

SENDING LABORATORY:

Pace Analytical Labs
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Eli Velazquez

RECEIVING LABORATORY:

Pace- Chico $PCHIO
3860 Morrow Lane Suite F
Chico, CA 95928
Phone :(999) 999-9999
Fax:

DOD: No **Level 4:** Yes **EDDs Needed:** EDD_Excel_Default_PQL, EDD_CH2M_ETIC_PQL, EDD_GeoTracker

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N	12/06/22 23:59	12/15/22 08:48	
CA Drinking Water PSCode:			
GeoTracker - Global ID: L10006095391	Field Point: N053664-001C / M	Log Code: ARRC	
-1 **Sample ID: 2227965-01** **Water**	**Sampled:** **11/17/22 08:48**	**Sample Name:** N053664-001C / MW-33-040-Q422	

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N	12/06/22 23:59	12/15/22 09:30	
CA Drinking Water PSCode:			
GeoTracker - Global ID: L10006095391	Field Point: N053664-003C / M	Log Code: ARRC	
-2 **Sample ID: 2227965-02** **Water**	**Sampled:** **11/17/22 09:30**	**Sample Name:** N053664-003C / MW-33-090-Q422	

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N	12/06/22 23:59	12/15/22 11:02	
CA Drinking Water PSCode:			
GeoTracker - Global ID: L10006095391	Field Point: N053664-004C / M	Log Code: ARRC	
-3 **Sample ID: 2227965-03** **Water**	**Sampled:** **11/17/22 11:02**	**Sample Name:** N053664-004C / MW-33-150-Q422	

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Released By	Date	Received By	Date
[signature]	12-1-22	[signature]	12-2-22
Released By	Date	Received By	Date
			12-1-22

Page 1 of 2

SUBCONTRACT ORDER

Pace Analytical Labs - Bakersfield, CA

2227965

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N **CA Drinking Water PSCode:**	12/06/22 23:59	12/15/22 14:38	

GeoTracker - Global ID: L10006095391 Field Point: N053664-008D / M Log Code: ARRC

-4 **Sample ID: 2227965-04** **Water** **Sampled:** **11/17/22 14:38** **Sample Name:** N053664-008D / MW-46-175-Q422

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N **CA Drinking Water PSCode:**	12/06/22 23:59	12/15/22 08:40	

GeoTracker - Global ID: L10006095391 Field Point: N053664-010C / M Log Code: ARRC

-5 **Sample ID: 2227965-05** **Water** **Sampled:** **11/17/22 08:40** **Sample Name:** N053664-010C / MW-33-060-Q422

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N **CA Drinking Water PSCode:**	12/06/22 23:59	12/15/22 09:24	

GeoTracker - Global ID: L10006095391 Field Point: N053664-011C / M Log Code: ARRC

-6 **Sample ID: 2227965-06** **Water** **Sampled:** **11/17/22 09:24** **Sample Name:** N053664-011C / MW-35-135-Q422

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Released By	Date	Received By	Date
[signature]	12-1-22		
Released By	Date	Received By	Date
			12-1-22

Page 2 of 2

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SAMPLE RECEIPT CHECKLIST

Pace

WO NUMBER 22L0132

Samples Received Via:
Fed-Ex ☒ Client Walk-In ☐ Courier ☐
UPS ☐ Pace Field Service ☐ Other ☐

Samples Received By: [illegible] Date: 12-2-22 Time: 1115
Are samples for regulatory compliance? Yes ☐ No ☐

THERMAL PRESERVATION

Were samples received in a cooler? Yes ☒ No ☐ If no, take temperature of representative sample container and record below.
If no, do they require thermal preservation? Yes ☐ No ☐ If no, why not? Non-regulatory ☐ Not Required by Method ☐
Samples received on ice? Yes ☒ No ☐ Ice type? Wet ☒ Ice Packs ☐ Other _____
Samples received the same day collected? Yes ☐ No ☒

Therm. ID (Circle one): Therm-36(IR) Therm-37(IR) Therm-59(IR) Therm-41(Stick) (Therm-C01(IR)) Therm-C02(IR) Other: _____

Cooler #1 Init. Temp °C 0.5 Correction °C +0.1 Corrected Temp °C 0.6
Cooler #2 Init. Temp °C _____ Correction °C _____ Corrected Temp °C _____
Cooler #3 Init. Temp °C _____ Correction °C _____ Corrected Temp °C _____
No Cooler - Representative Sample Temperature: Init. Temp °C _____ Correction °C _____ Corrected Temp °C _____
Do samples received meet thermal preservation requirements? Yes ☒ No ☐ N/A ☐

Thermal Preservation Notes/Discrepancies/Nonconformances: _____

SAMPLE CONDITION AND PROCESSING

Do all sample IDs on labels match the COC? Yes ☒ No ☐
Custody seals present? Yes ☐ No ☐ N/A ☒
Samples in proper containers? Yes ☒ No ☐
Sample containers damaged? Yes ☐ No ☒
Sufficient sample volume for indicated tests? Yes ☒ No ☐
Samples received with sufficient holding time? Yes ☒ No ☐
Are VOA vials free of headspace? Yes ☐ No ☐ N/A ☒

CHEMICAL PRESERVATION

Were the sample containers received with labels that indicate that appropriate preservatives were present for the indicated tests? Yes ☒ No ☐ N/A ☐
Were samples received properly dechlorinated? Yes ☐ No ☐ N/A ☒ For Dechlorination checks done by analysts, were dechlor. agent labels present? Yes ☐ No ☐
Preservation checked by Sample Receiving? Initials JDV Date & Time 12-2-22 1700 Test Strip ID PH-CC1
Dechlorination checked by Sample Receiving? Initials_____ Date & Time _____ Test Strip ID_____

	Yes	No	NA
H2SO4 preserved samples confirmed to pH <2 (i.e., E350.1, SM5220, SM5310)?	☒	☐	☐
HNO3 preserved samples confirmed to pH <2 (i.e., E200.7, E200.8, 6010)?	☐	☐	☒
NaOH preserved samples confirmed to pH >10 (cyanide) or >9 (sulfide)?	☐	☐	☒
Hexavalent Chromium (DW) preserved samples confirmed to pH >8 & Chlorine <0.1 mg/l?	☐	☐	☒
Hexavalent Chromium (W) preserved samples confirmed to pH 9.3 - 9.7?	☐	☐	☒

Added upon sample receipt? Yes ☐ No ☐
In Lab By:_____ Meter ID:_____

Were any additional preservatives added after receipt? Yes ☐ No ☐ Initial pH: _____ Final pH _____
If yes, is addition of preservatives allowed by the method? Yes ☐ No ☐
List preservatives added at receipt:
Type: _____ Volume Added:_____ ID:_____ Type: _____ Volume Added:_____ ID:_____
Type: _____ Volume Added:_____ ID:_____ Type: _____ Volume Added:_____ ID:_____

COMMENTS, DISCREPANCIES, ANOMALIES, NONCONFORMANCES

Rev 3.0 Page 1 ENV-FRM-REDD-0002 v03 Sample Receipt Form

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Joshua Kirkpatrick

From: Eli Velazquez
Sent: Friday, February 10, 2023 3:58 PM
To: Joshua Kirkpatrick
Subject: 22L0132

Hi Joshua,

For all sample IDs under this WO, can you please update sample IDs and reissue the report/EDD where:

N053665 instead of N053664

Please keep the rest of the sample ID the same.

Thank you!

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

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Page 11 of 16

Joshua Kirkpatrick

From: Eli Velazquez
Sent: Monday, February 13, 2023 9:31 AM
To: Joshua Kirkpatrick
Subject: RE: 22L0132

Hi Joshua,

Sample 5, It should be MW-35-060-Q422 not MW-33-060-Q422

Can you please update?

Thanks,

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

From: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Sent: Friday, February 10, 2023 4:08 PM
To: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Subject: RE: 22L0132

Amended report and EDF attached.

Josh Kirkpatrick
Quality Manager / Waste Coordinator
Pace Analytical Services, LLC - Redding

From: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Sent: Friday, February 10, 2023 3:58 PM
To: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Subject: 22L0132

Hi Joshua,

For all sample IDs under this WO, can you please update sample IDs and reissue the report/EDD where:

N053665 instead of N053664

Please keep the rest of the sample ID the same.

Thank you!

1

Page 12 of 16

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

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Page 13 of 16

Joshua Kirkpatrick

From: Eli Velazquez
Sent: Tuesday, February 14, 2023 4:30 PM
To: Joshua Kirkpatrick
Subject: RE: 22L0132

Client confirmed:

N053664

Thanks again.

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

From: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Sent: Tuesday, February 14, 2023 4:14 PM
To: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Subject: RE: 22L0132

Hello Eli,

No worries. I will update this, but I am confused now so I need clarification.

The COC and report originally said N053664. It was then requested to change this to N053665.

The request below is saying to change N053665 it to N53664A. This number neither matches the COC or the original change. It is missing a "0" and an A has been added.

I need you to confirm that this is what needs it needs to be changed to.

Josh Kirkpatrick
Quality Manager / Waste Coordinator
Pace Analytical Services, LLC - Redding

From: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Sent: Tuesday, February 14, 2023 3:59 PM
To: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Subject: RE: 22L0132

Joshua,

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I'm VERY sorry to do this to you but this should have been:

N53664A

Per the COC.

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

From: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Sent: Monday, February 13, 2023 10:23 AM
To: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Subject: RE: 22L0132

Hello Eli,

Updated files are attached.

Josh Kirkpatrick
Quality Manager / Waste Coordinator
Pace Analytical Services, LLC - Redding

From: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Sent: Monday, February 13, 2023 9:31 AM
To: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Subject: RE: 22L0132

Hi Joshua,

Sample 5, It should be MW-35-060-Q422 not MW-33-060-Q422

Can you please update?

Thanks,

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

From: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Sent: Friday, February 10, 2023 4:08 PM

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To: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Subject: RE: 22L0132

Amended report and EDF attached.

Josh Kirkpatrick
Quality Manager / Waste Coordinator
Pace Analytical Services, LLC - Redding

From: Eli Velazquez <Eli.Velazquez@pacelabs.com>
Sent: Friday, February 10, 2023 3:58 PM
To: Joshua Kirkpatrick <Joshua.Kirkpatrick@pacelabs.com>
Subject: 22L0132

Hi Joshua,

For all sample IDs under this WO, can you please update sample IDs and reissue the report/EDD where:

N053665 instead of N053664

Please keep the rest of the sample ID the same.

Thank you!

Eli Velazquez
Project Manager
4100 Atlas Ct, Bakersfield, CA 93308
O: 661.327.4911 | D: 661.852.4215 | pacelabs.com

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Page 16 of 16

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported:	02/14/2023 18:00
Project:	Level IV + labSpec7
Project Number:	N53664A
Project Manager:	Marlon B. Cartin

Notes And Definitions

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December 16, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053665

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 17, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Selenium was reported at 0.799ug/L with lowest RSD value of 16.42%. Please see attached Corrective Action Report 6650.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053665-009BMS and N053665-009BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N053665-009BMS and N053665-009BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CASE NARRATIVE

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053665-009CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053665-009 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053665
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053665-001A	MW-43-075-Q422	Groundwater	11/17/2022 10:36:00 AM	11/17/2022	12/16/2022
N053665-001B	MW-43-075-Q422	Groundwater	11/17/2022 10:36:00 AM	11/17/2022	12/16/2022
N053665-001C	MW-43-075-Q422	Groundwater	11/17/2022 10:36:00 AM	11/17/2022	12/16/2022
N053665-001D	MW-43-075-Q422	Groundwater	11/17/2022 10:36:00 AM	11/17/2022	12/16/2022
N053665-002A	MW-43-075-EB-Q422	Groundwater	11/17/2022 10:18:00 AM	11/17/2022	12/16/2022
N053665-003A	MW-43-090-Q422	Groundwater	11/17/2022 10:14:00 AM	11/17/2022	12/16/2022
N053665-003B	MW-43-090-Q422	Groundwater	11/17/2022 10:14:00 AM	11/17/2022	12/16/2022
N053665-003C	MW-43-090-Q422	Groundwater	11/17/2022 10:14:00 AM	11/17/2022	12/16/2022
N053665-003D	MW-43-090-Q422	Groundwater	11/17/2022 10:14:00 AM	11/17/2022	12/16/2022
N053665-004A	MW-43-090-EB-Q422	Groundwater	11/17/2022 9:56:00 AM	11/17/2022	12/16/2022
N053665-005A	MW-52D-Q422	Groundwater	11/17/2022 1:53:00 PM	11/17/2022	12/16/2022
N053665-005B	MW-52D-Q422	Groundwater	11/17/2022 1:53:00 PM	11/17/2022	12/16/2022
N053665-005C	MW-52D-Q422	Groundwater	11/17/2022 1:53:00 PM	11/17/2022	12/16/2022
N053665-005D	MW-52D-Q422	Groundwater	11/17/2022 1:53:00 PM	11/17/2022	12/16/2022
N053665-006A	MW-52M-Q422	Groundwater	11/17/2022 1:28:00 PM	11/17/2022	12/16/2022
N053665-006B	MW-52M-Q422	Groundwater	11/17/2022 1:28:00 PM	11/17/2022	12/16/2022
N053665-006C	MW-52M-Q422	Groundwater	11/17/2022 1:28:00 PM	11/17/2022	12/16/2022
N053665-006D	MW-52M-Q422	Groundwater	11/17/2022 1:28:00 PM	11/17/2022	12/16/2022
N053665-007A	MW-52S-Q422	Groundwater	11/17/2022 1:08:00 PM	11/17/2022	12/16/2022
N053665-007B	MW-52S-Q422	Groundwater	11/17/2022 1:08:00 PM	11/17/2022	12/16/2022
N053665-007C	MW-52S-Q422	Groundwater	11/17/2022 1:08:00 PM	11/17/2022	12/16/2022
N053665-007D	MW-52S-Q422	Groundwater	11/17/2022 1:08:00 PM	11/17/2022	12/16/2022
N053665-008A	MW-53D-Q422	Groundwater	11/17/2022 12:39:00 PM	11/17/2022	12/16/2022
N053665-008B	MW-53D-Q422	Groundwater	11/17/2022 12:39:00 PM	11/17/2022	12/16/2022
N053665-008C	MW-53D-Q422	Groundwater	11/17/2022 12:39:00 PM	11/17/2022	12/16/2022
N053665-008D	MW-53D-Q422	Groundwater	11/17/2022 12:39:00 PM	11/17/2022	12/16/2022
N053665-009A	MW-53M-Q422	Groundwater	11/17/2022 11:57:00 AM	11/17/2022	12/16/2022
N053665-009B	MW-53M-Q422	Groundwater	11/17/2022 11:57:00 AM	11/17/2022	12/16/2022
N053665-009C	MW-53M-Q422	Groundwater	11/17/2022 11:57:00 AM	11/17/2022	12/16/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053665
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053665-009D	MW-53M-Q422	Groundwater	11/17/2022 11:57:00 AM	11/17/2022	12/16/2022
N053665-010A	MW-53S-Q422	Groundwater	11/17/2022 11:32:00 AM	11/17/2022	12/16/2022
N053665-010B	MW-53S-Q422	Groundwater	11/17/2022 11:32:00 AM	11/17/2022	12/16/2022
N053665-010C	MW-53S-Q422	Groundwater	11/17/2022 11:32:00 AM	11/17/2022	12/16/2022
N053665-010D	MW-53S-Q422	Groundwater	11/17/2022 11:32:00 AM	11/17/2022	12/16/2022
N053665-011A	EB-725-Q422	Groundwater	11/17/2022 2:03:00 PM	11/17/2022	12/16/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:36:00 AM
Lab ID:	N053665-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 09:30 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-EB-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:18:00 AM
Lab ID:	N053665-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 04:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:14:00 AM
Lab ID:	N053665-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/18/2022 05:24 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-EB-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 9:56:00 AM
Lab ID:	N053665-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:53:00 PM
Lab ID:	N053665-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 10:08 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:28:00 PM
Lab ID:	N053665-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 04:26 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:08:00 PM
Lab ID:	N053665-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 07:33 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:39:00 PM
Lab ID:	N053665-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 05:08 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/29/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:57:00 AM
Lab ID:	N053665-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221118A**	QC Batch: **R167532**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/18/2022 11:30 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 12:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:32:00 AM
Lab ID:	N053665-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/21/2022 01:36 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221129C**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 12:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-725-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 2:03:00 PM
Lab ID:	N053665-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/21/2022 02:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167532	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	PBW	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934543		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R167532	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	LCSW	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934544		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.956	0.20	5.000	0	99.1	90	110						

Sample ID	N053664-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934546		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	16.540	1.0	5.000	11.87	93.4	90	110						

Sample ID	N053665-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934550		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.932	1.0	5.000	0	98.6	90	110						

Sample ID	N053665-009AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532		
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934551		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.194	1.0	5.000	0	104	90	110	4.932	5.18	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053664-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934557

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.982	0.20	1.000	0	98.2	90	110				

Sample ID	N053664-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934561

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID	N053664-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934563

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Sample ID	N053664-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934565

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110				

Sample ID	N053664-005ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934566

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.793	1.0						11.87	0.647	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053665-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167532**
Client ID: **ZZZZZZ** Batch ID: **R167532** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4934568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.001	0.20	1.000	0	100	90	110				

Sample ID **N053665-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167532**
Client ID: **ZZZZZZ** Batch ID: **R167532** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4934572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID **N053664-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167532**
Client ID: **ZZZZZZ** Batch ID: **R167532** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4934574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.417	1.0	5.000	0	108	90	110				

Sample ID **N053664-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167532**
Client ID: **ZZZZZZ** Batch ID: **R167532** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4934578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.916	1.0	5.000	5.206	94.2	90	110				

Sample ID **N053664-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167532**
Client ID: **ZZZZZZ** Batch ID: **R167532** TestNo: **EPA 218.6** Analysis Date: **11/18/2022** SeqNo: **4934580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.996	1.0	5.000	0	99.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053664-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	1.0	5.000	0	101	90	110				

Sample ID	N053664-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.523	1.0	5.000	8.702	96.4	90	110				

Sample ID	N053664-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934586

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.799	1.0	5.000	0.9845	96.3	90	110				

Sample ID	N053664-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934590

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.431	1.0	25.00	19.71	98.9	90	110				

Sample ID	N053665-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934592

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.051	1.0	5.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053665-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934596

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.938	1.0	5.000	0	98.8	90	110				

Sample ID	N053664-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167532
Client ID:	ZZZZZZ	Batch ID:	R167532	TestNo:	EPA 218.6			Analysis Date:	11/18/2022	SeqNo:	4934597

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.284	0.20	5.000	5.355	98.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167627	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	PBW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939011		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R167627	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	LCSW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939012		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		4.863	0.20	5.000	0	97.3	90	110					

Sample ID	N053664-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939014		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1.421	0.20	1.000	0.5057	91.5	90	110					

Sample ID	N053686-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939022		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		9.945	2.0	10.00	0	99.4	90	110					

Sample ID	N053665-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627		
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939024		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1.013	0.20	1.000	0	101	90	110					

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053665-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939028

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.2	90	110				

Sample ID	N053688-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939029

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	64.430	1.0	25.00	39.53	99.6	90	110				

Sample ID	N053688-006AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939030

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.079	1.0	25.00	39.53	102	90	110	64.43	1.00	20	

Sample ID	N053664-011ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939031

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.477	0.20						0.5057	5.86	20	

Sample ID	N053679-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939032

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	671.195	10	250.0	413.8	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053679-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939033

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	675.715	10	250.0	413.6	105	90	110				

Sample ID	N053679-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939034

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	645.730	10	250.0	381.3	106	90	110				

Sample ID	N053688-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939036

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.683	1.0	25.00	22.47	105	90	110				

Sample ID	N053665-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939040

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.063	1.0	5.000	0	101	90	110				

Sample ID	N053665-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939042

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.970	1.0	5.000	0	99.4	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053688-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	782.890	20	500.0	277.5	101	90	110				

Sample ID	N053665-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.182	1.0	5.000	0	104	90	110				

Sample ID	N053688-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.095	0.20	5.000	8.020	102	90	110				

Sample ID	N053688-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.416	0.20	1.000	1.385	103	90	110				

Sample ID	N053665-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939053

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	1.0	5.000	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053688-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.279	1.0	5.000	0.9730	106	90	110				

Sample ID **N053688-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.183	1.0	5.000	0	104	90	110				

Sample ID **N053688-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID **N053688-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID **N053688-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96873	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	PBW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945710

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96873	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	LCSW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945711

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.477	1.0	10.00	0	94.8	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945736

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.055	1.0	10.00	0.06209	89.9	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945737

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.819	1.0	10.00	0.06209	87.6	75	125	9.055	2.65	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:36:00 AM
Lab ID:	N053665-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 12:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:14:00 AM
Lab ID:	N053665-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 12:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:53:00 PM
Lab ID:	N053665-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 12:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:28:00 PM
Lab ID:	N053665-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 01:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:08:00 PM
Lab ID:	N053665-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 01:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:39:00 PM
Lab ID:	N053665-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 01:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:57:00 AM
Lab ID:	N053665-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 11:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:32:00 AM
Lab ID:	N053665-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221118A**	QC Batch: **R167537**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	11/18/2022 01:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167537_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	PBW	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935329

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167537_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	LCSW	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935330

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.248	0.050	1.250	0	99.8	90	110				

Sample ID	N053665-009DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935342

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.325	0.50	12.50	0	107	80	120				

Sample ID	N053665-009DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935343

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.684	0.50	12.50	0	109	80	120	13.32	2.66	20	

Sample ID	N053663-014BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935355

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.776	0.25	6.250	0.05650	108	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053663-014BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935356

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.629	0.25	6.250	0.05650	105	80	120	6.776	2.19	20	

Sample ID	N053663-015BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167537
Client ID:	ZZZZZZ	Batch ID:	R167537	TestNo:	EPA 300.0			Analysis Date:	11/18/2022	SeqNo:	4935357

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.187	0.10						1.224	3.10	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:36:00 AM
Lab ID:	N053665-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 07:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:14:00 AM
Lab ID:	N053665-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 08:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:53:00 PM
Lab ID:	N053665-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 08:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:28:00 PM
Lab ID:	N053665-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 08:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:08:00 PM
Lab ID:	N053665-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.1	0.14	1.0		mg/L	1	11/18/2022 08:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:39:00 PM
Lab ID:	N053665-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	11/18/2022 09:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:57:00 AM
Lab ID:	N053665-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	11/18/2022 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:32:00 AM
Lab ID:	N053665-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221118A**	QC Batch: **R167551**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.3	0.14	1.0		mg/L	1	11/18/2022 09:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167551**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **PBW**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167551**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **LCSW**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.967	1.0	5.000	0	99.3	85	115				

Sample ID **N053665-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **ZZZZZZ**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	76.106	20	100.0	0	76.1	75	125				

Sample ID **N053665-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167551**
Client ID: **ZZZZZZ**	Batch ID: **R167551**	TestNo: **SM 5310C**		Analysis Date: **11/18/2022**	SeqNo: **4935699**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	76.072	20	100.0	0	76.1	75	125	76.11	0.0447	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:36:00 AM
Lab ID:	N053665-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	3000	13	20		µg/L	1	11/26/2022 04:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:14:00 AM
Lab ID:	N053665-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	940	13	20		µg/L	1	11/26/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:53:00 PM
Lab ID:	N053665-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	690	13	20		µg/L	1	11/26/2022 04:43 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:28:00 PM
Lab ID:	N053665-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	1100	13	20		µg/L	1	11/26/2022 04:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:08:00 PM
Lab ID:	N053665-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	19000	13	20		µg/L	1	11/26/2022 05:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:39:00 PM
Lab ID:	N053665-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	180	13	20		µg/L	1	11/26/2022 05:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:57:00 AM
Lab ID:	N053665-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	1100	13	20		µg/L	1	11/26/2022 05:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:32:00 AM
Lab ID:	N053665-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	5100	13	20		µg/L	1	11/26/2022 05:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96876	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	PBW	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942733

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96876	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	LCSW	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.316	20	100.0	0	99.3	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	ZZZZZZ	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942749

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1206.289	20	100.0	1102	104	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	ZZZZZZ	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942750

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1202.608	20	100.0	1102	100	75	125	1206	0.306	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:36:00 AM
Lab ID:	N053665-001	**Matrix:**	GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221127B** QC Batch: **96873** PrepDate: **11/22/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	8.5	0.050	0.10		µg/L	1	11/27/2022 06:04 PM
Barium	55	0.083	1.0		µg/L	1	11/27/2022 06:04 PM
Manganese	600	0.13	2.5		µg/L	5	11/30/2022 06:41 PM
Molybdenum	16	0.12	0.50		µg/L	1	11/27/2022 06:04 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 11:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 10:14:00 AM
Lab ID:	N053665-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221129D**	QC Batch: **96873**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/29/2022 11:15 PM
Barium	52	0.083	1.0		µg/L	1	11/27/2022 06:10 PM
Manganese	690	0.13	2.5		µg/L	5	11/30/2022 06:47 PM
Molybdenum	28	0.12	0.50		µg/L	1	11/27/2022 06:10 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 11:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:53:00 PM
Lab ID:	N053665-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 06:16 PM
Barium	34	0.083	1.0		µg/L	1	11/27/2022 06:16 PM
Manganese	250	0.13	2.5		µg/L	5	11/30/2022 06:53 PM
Molybdenum	56	0.12	0.50		µg/L	1	11/27/2022 06:16 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 11:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 1:28:00 PM
Lab ID:	N053665-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 06:21 PM
Barium	58	0.083	1.0		µg/L	1	11/27/2022 06:21 PM
Manganese	180	0.026	0.50		µg/L	1	11/29/2022 11:26 PM
Molybdenum	31	0.12	0.50		µg/L	1	11/27/2022 06:21 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 11:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-52S-Q422

Lab Order: N053665

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 11/17/2022 1:08:00 PM

Lab ID: N053665-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 06:27 PM
Barium	400	0.42	5.0		µg/L	5	11/30/2022 07:17 PM
Manganese	1100	0.66	12		µg/L	25	11/30/2022 07:23 PM
Molybdenum	22	0.12	0.50		µg/L	1	11/27/2022 06:27 PM
Selenium	0.80	0.044	0.50		µg/L	1	12/14/2022 03:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 12:39:00 PM
Lab ID:	N053665-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 06:51 PM
Barium	44	0.083	1.0		µg/L	1	11/27/2022 06:51 PM
Manganese	650	0.13	2.5		µg/L	5	11/30/2022 07:28 PM
Molybdenum	130	0.12	0.50		µg/L	1	11/27/2022 06:51 PM
Selenium	ND	0.044	0.50		µg/L	1	11/29/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:57:00 AM
Lab ID:	N053665-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 06:57 PM
Barium	71	0.083	1.0		µg/L	1	11/27/2022 06:57 PM
Manganese	590	0.13	2.5		µg/L	5	11/30/2022 07:34 PM
Molybdenum	46	0.12	0.50		µg/L	1	11/27/2022 06:57 PM
Selenium	ND	0.044	0.50		µg/L	1	11/30/2022 12:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q422
Lab Order:	N053665		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	11/17/2022 11:32:00 AM
Lab ID:	N053665-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221127B**	QC Batch: **96873**				PrepDate: **11/22/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 07:27 PM
Barium	210	2.1	25		µg/L	25	11/30/2022 08:04 PM
Manganese	1100	0.66	12		µg/L	25	11/30/2022 08:04 PM
Molybdenum	3.1	0.12	0.50		µg/L	1	11/27/2022 07:27 PM
Selenium	ND	0.044	0.50		µg/L	1	11/30/2022 12:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96873**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **PBW**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Molybdenum	ND	0.50									

Sample ID **LCS-96873**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **LCSW**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.904	0.10	10.00	0	89.0	85	115				
Barium	9.259	1.0	10.00	0	92.6	85	115				
Molybdenum	9.255	0.50	10.00	0	92.5	85	115				

Sample ID **N053665-009BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.758	0.10	10.00	0	67.6	75	125				S
Barium	78.120	1.0	10.00	71.45	66.7	75	125				S
Molybdenum	54.810	0.50	10.00	46.05	87.6	75	125				

Sample ID **N053665-009BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167763**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.842	0.10	10.00	0	68.4	75	125	6.758	1.23	20	S
Barium	79.068	1.0	10.00	71.45	76.1	75	125	78.12	1.21	20	
Molybdenum	54.629	0.50	10.00	46.05	85.8	75	125	54.81	0.332	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96873	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	PBW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-96873	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	LCSW	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/29/2022	SeqNo:	4945821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.879	0.50	100.0	0	92.9	85	115				
Selenium	9.416	0.50	10.00	0	94.2	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.819	0.50	10.00	0	88.2	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945847

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.326	0.50	10.00	0	93.3	75	125	8.819	5.59	20	

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167818
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4948422

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	604.841	2.5	100.0	592.9	12.0	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167818
Client ID:	ZZZZZZ	Batch ID:	96873	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4948423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	610.147	2.5	100.0	592.9	17.3	75	125	604.8	0.873	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053665
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053665-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167763**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/27/2022**	SeqNo: **4944815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.697	0.10	10.00	0	67.0	80	120				S
Barium	80.149	1.0	10.00	71.45	86.9	80	120				
Molybdenum	56.060	0.50	10.00	46.05	100	80	120				

Sample ID **N053665-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167795**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.000	0.50	10.00	0	90.0	80	120				

Sample ID **N053665-009B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167818**
Client ID: **ZZZZZZ**	Batch ID: **96873**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4948421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	644.963	2.5	100.0	592.9	52.1	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

FOLDER R: 11/17/2022
N053665-012A 1 of 1

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

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Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement / QA/QC
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec / CalTrans
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200 Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 11/17/22	Sampled By: Riggie Tap		Global ID: / Regulatory / Specify State:

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Signature: Date: 11/17/22

Project Name: PG&E Topock - PCM

Project Number: 30121866.4Q22GW

Matrix: Ground X | Potable | NPDES | Surface | Sediment | Soil | Other Solid

Sample Receipt Condition: 1. Chilled Y ✓ N | 2. Headspace | 3. Container Intact ✓ | 4. Seal Present | 5. IR number 3 | 6. Method of Cooling: ICE | Sample Temp: 1.8°C / 2.8°C | Courier: 3.4°C | Tracking No.: ASSET

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053665-001	MW-43-075-Q422	11/17/2022	10:36		X		X	X	X	X				X	E	6	P	BNS	
2	-002	MW-43-075-EB-Q422	11/17/2022	10:18		X										E	1	P	BNS	
3	-003	MW-43-090-Q422	11/17/2022	10:14		X		X	X	X	X				X	E	6	P	BNS	
4	-004	MW-43-090-EB-Q422	11/17/2022	9:56		X										E	1	P	BNS	
5	-005	MW-52D-Q422	11/17/2022	13:53		X		X	X	X	X				X	E	6	P	BNS	
6	-006	MW-52M-Q422	11/17/2022	13:28		X		X	X	X	X				X	E	6	P	BNS	
7	-007	MW-52S-Q422	11/17/2022	13:08		X		X	X	X	X				X	E	6	P	BNS	
8	-008	MW-53D-Q422	11/17/2022	12:39		X		X	X	X	X				X	E	6	P	BNS	
9	-009	MW-53M-Q422	11/17/2022	11:57		X		X	X	X	X				X	E	9	P	BNS	MSMSD
10	-010	MW-53S-Q422	11/17/2022	11:32		X		X	X	X	X				X	E	6	P	BNS	
11	-011	EB-725-Q422	11/17/2022	14:03		X										E	1	P	BNS	
12																				
13																				
14																				

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tap	11/17/22 1522	Dante Ortiz Dante Ortiz	11/17/22 17:22
Dante Ortiz Dante O.	11/17/22 17:57	Dante Ortiz Dante Ortiz	11/17/22 17:57

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/17/2022 Workorder: N053665

Rep sample Temp (Deg C): 1.8/2.8/3.4 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: YR EFanegoF 11/21/2022

Reviewed By: for: MBC 11/25/2022

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053665

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053665-001A	MW-43-075-Q422	11/17/2022 10:36:00 AM	12/6/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-001B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-001C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-001D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053665-002A	MW-43-075-EB-Q422	11/17/2022 10:18:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-003A	MW-43-090-Q422	11/17/2022 10:14:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-003B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-003C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-003D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053665-004A	MW-43-090-EB-Q422	11/17/2022 9:56:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-005A	MW-52D-Q422	11/17/2022 1:53:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-005B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053665

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053665-005B	MW-52D-Q422	11/17/2022 1:53:00 PM	12/6/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-005C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-005D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053665-006A	MW-52M-Q422	11/17/2022 1:28:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-006B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-006C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-006D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053665-007A	MW-52S-Q422	11/17/2022 1:08:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-007B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-007C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-007D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053665-008A	MW-53D-Q422	11/17/2022 12:39:00 PM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-008B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053665

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053665-008B	MW-53D-Q422	11/17/2022 12:39:00 PM	12/6/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-008C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-008D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053665-009A	MW-53M-Q422	11/17/2022 11:57:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053665-009B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053665-009C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N053665-009D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053665-010A	MW-53S-Q422	11/17/2022 11:32:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-010B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053665-010C			12/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053665-010D			12/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053665

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/17/2022 5:57 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053665-011A	EB-725-Q422	11/17/2022 2:03:00 PM	12/6/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053665-012A	FOLDER	12/6/2022	12/6/2022		Folder	Folder	☐	☐	☐	LAB
			12/6/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/6/2022		Folder	Folder	☐	☐	☐	LAB

December 08, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053679

RE: PG&E Topock - OMM Baseline, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on November 18, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N053679

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

ASSET Laboratories

Date: *08-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N053679
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053679-001A	RPWC_INF-111822	Water	11/18/2022 8:15:00 AM	11/18/2022	12/8/2022
N053679-001B	RPWC_INF-111822	Water	11/18/2022 8:15:00 AM	11/18/2022	12/8/2022
N053679-001C	RPWC_INF-111822	Water	11/18/2022 8:15:00 AM	11/18/2022	12/8/2022
N053679-002A	RPWC_EFF-111822	Water	11/18/2022 8:30:00 AM	11/18/2022	12/8/2022
N053679-002B	RPWC_EFF-111822	Water	11/18/2022 8:30:00 AM	11/18/2022	12/8/2022
N053679-002C	RPWC_EFF-111822	Water	11/18/2022 8:30:00 AM	11/18/2022	12/8/2022
N053679-003A	RPWC_MID-111822	Water	11/18/2022 8:45:00 AM	11/18/2022	12/8/2022
N053679-003B	RPWC_MID-111822	Water	11/18/2022 8:45:00 AM	11/18/2022	12/8/2022
N053679-003C	RPWC_MID-111822	Water	11/18/2022 8:45:00 AM	11/18/2022	12/8/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_INF-111822
Lab Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/18/2022 8:15:00 AM
Lab ID: N053679-001 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.2	10		µg/L	50	11/21/2022 11:23 AM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221207B**	QC Batch: **96960**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	440	0.18	5.0		µg/L	5	12/7/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_EFF-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:30:00 AM
Lab ID:	N053679-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.2	10		µg/L	50	11/21/2022 11:33 AM
TOTAL METALS BY ICPMS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221207B**	QC Batch: **96960**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	520	0.18	5.0		µg/L	5	12/7/2022 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_MID-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:45:00 AM
Lab ID:	N053679-003	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	380	1.2	10		µg/L	50	11/21/2022 11:42 AM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221207B**	QC Batch: **96960**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	400	0.18	5.0		µg/L	5	12/7/2022 03:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167627	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	PBW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939011

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R167627	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	LCSW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.863	0.20	5.000	0	97.3	90	110				

Sample ID	N053664-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939014

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.421	0.20	1.000	0.5057	91.5	90	110				

Sample ID	N053686-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939022

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.945	2.0	10.00	0	99.4	90	110				

Sample ID	N053665-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939024

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.013	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053665-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.2	90	110				

Sample ID **N053688-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	64.430	1.0	25.00	39.53	99.6	90	110				

Sample ID **N053688-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.079	1.0	25.00	39.53	102	90	110	64.43	1.00	20	

Sample ID **N053664-011ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.477	0.20						0.5057	5.86	20	

Sample ID **N053679-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	671.195	10	250.0	413.8	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053679-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167627**
Client ID: **ZZZZZZ** Batch ID: **R167627** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4939033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	675.715	10	250.0	413.6	105	90	110				

Sample ID **N053679-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167627**
Client ID: **ZZZZZZ** Batch ID: **R167627** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4939034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	645.730	10	250.0	381.3	106	90	110				

Sample ID **N053688-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167627**
Client ID: **ZZZZZZ** Batch ID: **R167627** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4939036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.683	1.0	25.00	22.47	105	90	110				

Sample ID **N053665-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167627**
Client ID: **ZZZZZZ** Batch ID: **R167627** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4939040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.063	1.0	5.000	0	101	90	110				

Sample ID **N053665-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **167627**
Client ID: **ZZZZZZ** Batch ID: **R167627** TestNo: **EPA 218.6** Analysis Date: **11/21/2022** SeqNo: **4939042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.970	1.0	5.000	0	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053688-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	782.890	20	500.0	277.5	101	90	110				

Sample ID **N053665-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.182	1.0	5.000	0	104	90	110				

Sample ID **N053688-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.095	0.20	5.000	8.020	102	90	110				

Sample ID **N053688-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939052**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.416	0.20	1.000	1.385	103	90	110				

Sample ID **N053665-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939053**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	1.0	5.000	0	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053688-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.279	1.0	5.000	0.9730	106	90	110				

Sample ID **N053688-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.183	1.0	5.000	0	104	90	110				

Sample ID **N053688-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID **N053688-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID **N053688-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	MB-96960	SampType:	MBLK	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167820
Client ID:	PBW	Batch ID:	96960	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/1/2022	SeqNo:	4948616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96960	SampType:	LCS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167820
Client ID:	LCSW	Batch ID:	96960	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/1/2022	SeqNo:	4948617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.357	1.0	10.00	0	93.6	85	115				

Sample ID	N053717-001F-MS	SampType:	MS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167820
Client ID:	ZZZZZZ	Batch ID:	96960	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/1/2022	SeqNo:	4948621

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	79.808	1.0	10.00	70.85	89.5	75	125				

Sample ID	N053717-001F-MSD	SampType:	MSD	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167820
Client ID:	ZZZZZZ	Batch ID:	96960	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/1/2022	SeqNo:	4948622

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	81.057	1.0	10.00	70.85	102	75	125	79.81	1.55	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_INF-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:15:00 AM
Lab ID:	N053679-001	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 05:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_EFF-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:30:00 AM
Lab ID:	N053679-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 05:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_MID-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:45:00 AM
Lab ID:	N053679-003	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221126A**	QC Batch: **96876**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	11/26/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-96876	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	PBW	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942733

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-96876	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	LCSW	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.316	20	100.0	0	99.3	85	115				

Sample ID	N053665-009BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	ZZZZZZ	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942749

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1206.289	20	100.0	1102	104	75	125				

Sample ID	N053665-009BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167702
Client ID:	ZZZZZZ	Batch ID:	96876	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	11/26/2022	SeqNo:	4942750

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1202.608	20	100.0	1102	100	75	125	1206	0.306	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_INF-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:15:00 AM
Lab ID:	N053679-001	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221129D**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Manganese	27	0.026	0.50		µg/L	1	11/30/2022 01:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_EFF-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:30:00 AM
Lab ID:	N053679-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221129D**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Manganese	31	0.026	0.50		µg/L	1	11/30/2022 01:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_MID-111822
Lab Order:	N053679		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/18/2022 8:45:00 AM
Lab ID:	N053679-003	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221129D**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Manganese	26	0.026	0.50		µg/L	1	11/30/2022 01:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053679
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-96874**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167795**
Client ID: **PBW**	Batch ID: **96874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **LCS-96874**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167795**
Client ID: **LCSW**	Batch ID: **96874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.756	0.50	100.0	0	92.8	85	115				

Sample ID **N053688-006CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167795**
Client ID: **ZZZZZZ**	Batch ID: **96874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945867**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	87.834	0.50	100.0	2.326	85.5	75	125				

Sample ID **N053688-006CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/22/2022**	RunNo: **167795**
Client ID: **ZZZZZZ**	Batch ID: **96874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	88.106	0.50	100.0	2.326	85.8	75	125	87.83	0.309	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
			Geotracker		RWQCB	✓	1. Chilled ✓
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com daniel.moore@critigen.com	Address:	Labspec		CalTrans		2. Headspace
			Others	✓	LEVEL III		3. Container Intact ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9817-051	Specify: RWQCB		LEVEL IV		4. Seal Present
Submitted By: Kevin A.					Regulatory		5. IR number 7
Title: OMM Operators	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Global ID:		Specify State:		6. Method of Cooling: ICE
Signature: Date: 11/18/22	Sampled By: Kevin A.						Sample Temp: 3.1°C
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for						Courier:
Project Name: PG&E Topock - OMM Baseline	Signature: Date: 11-18-22						Tracking No.:
Project Number: 30106892							

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH; Filtered; 250 mL poly	Dissolved metals: iron, manganese (SW6020) HN03; Filtered; 500 mL poly	Total chromium (SW6020) HN03; NOT Filtered; 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053679-001	RPWC_INF-111822	11/18/2022	815 8AM		X	X	X	E	3	PV	BNS	
2	-002	RPWC_EFF-111822	11/18/2022	830A		X	X	X	E	3	PV	BNS	
3	-003	RPWC_MID-111822	11/18/2022	845A		X	X	X	E	3	PV	BNS	
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Kevin Ashley	11/18/22 1031	Rissie Tap	11/18/22 1031
Rissie Tap	11/18/22 1330	Dante Ortiz	11/18/22 13:30
Dante Ortiz	11/18/22 16:52	Dante Ortiz	11/18/22 16:52

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/18/2022	Workorder:	N053679
Rep sample Temp (Deg C):	3.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: YR EFanegoF 11/21/2022

Reviewed By: for: MBC 11/25/2022

ASSET Laboratories

WORK ORDER Summary

21-Nov-22

WorkOrder: N053679

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 11/18/2022 4:52 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053679-001A	RPWC_INF-111822	11/18/2022 8:15:00 AM	12/6/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053679-001B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053679-001C			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053679-002A	RPWC_EFF-111822	11/18/2022 8:30:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053679-002B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053679-002C			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053679-003A	RPWC_MID-111822	11/18/2022 8:45:00 AM	12/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053679-003B			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053679-003C			12/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/6/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053679-004A	FOLDER	12/6/2022	12/6/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

21-Nov-22

WorkOrder: N053679

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 11/18/2022 4:52 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053679-004A	FOLDER	12/6/2022	12/6/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/6/2022		Folder	Folder	☐	☐	☐	LAB

December 14, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053688

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 18, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.3 ug/L) and hexavalent chromium (0 ug/L) for sample N053688-004 (MW-87-275-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.3 ug/L) and hexavalent chromium (0 ug/L) for sample N053688-004 (MW-87-275-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.1and 1.2 ug/L, respectively. Since these

data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053688-006CMS and N053688-006CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053688
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053688-001A	MW-87-109-Q422	Groundwater	11/18/2022 9:28:00 AM	11/18/2022	12/14/2022
N053688-001B	MW-87-109-Q422	Groundwater	11/18/2022 9:28:00 AM	11/18/2022	12/14/2022
N053688-001C	MW-87-109-Q422	Groundwater	11/18/2022 9:28:00 AM	11/18/2022	12/14/2022
N053688-002A	MW-87-139-Q422	Groundwater	11/18/2022 10:02:00 AM	11/18/2022	12/14/2022
N053688-002B	MW-87-139-Q422	Groundwater	11/18/2022 10:02:00 AM	11/18/2022	12/14/2022
N053688-002C	MW-87-139-Q422	Groundwater	11/18/2022 10:02:00 AM	11/18/2022	12/14/2022
N053688-003A	MW-87-192-Q422	Groundwater	11/18/2022 8:48:00 AM	11/18/2022	12/14/2022
N053688-003B	MW-87-192-Q422	Groundwater	11/18/2022 8:48:00 AM	11/18/2022	12/14/2022
N053688-003C	MW-87-192-Q422	Groundwater	11/18/2022 8:48:00 AM	11/18/2022	12/14/2022
N053688-004A	MW-87-275-Q422	Groundwater	11/18/2022 8:10:00 AM	11/18/2022	12/14/2022
N053688-004B	MW-87-275-Q422	Groundwater	11/18/2022 8:10:00 AM	11/18/2022	12/14/2022
N053688-004C	MW-87-275-Q422	Groundwater	11/18/2022 8:10:00 AM	11/18/2022	12/14/2022
N053688-005A	EB-726-Q422	Groundwater	11/18/2022 10:15:00 AM	11/18/2022	12/14/2022
N053688-006A	MW-23-060-Q422	Groundwater	11/18/2022 7:53:00 AM	11/18/2022	12/14/2022
N053688-006B	MW-23-060-Q422	Groundwater	11/18/2022 7:53:00 AM	11/18/2022	12/14/2022
N053688-006C	MW-23-060-Q422	Groundwater	11/18/2022 7:53:00 AM	11/18/2022	12/14/2022
N053688-006D	MW-23-060-Q422	Groundwater	11/18/2022 7:53:00 AM	11/18/2022	12/14/2022
N053688-007A	MW-23-080-Q422	Groundwater	11/18/2022 8:22:00 AM	11/18/2022	12/14/2022
N053688-007B	MW-23-080-Q422	Groundwater	11/18/2022 8:22:00 AM	11/18/2022	12/14/2022
N053688-007C	MW-23-080-Q422	Groundwater	11/18/2022 8:22:00 AM	11/18/2022	12/14/2022
N053688-007D	MW-23-080-Q422	Groundwater	11/18/2022 8:22:00 AM	11/18/2022	12/14/2022
N053688-008A	MW-57-070-Q422	Groundwater	11/18/2022 8:53:00 AM	11/18/2022	12/14/2022
N053688-008B	MW-57-070-Q422	Groundwater	11/18/2022 8:53:00 AM	11/18/2022	12/14/2022
N053688-008C	MW-57-070-Q422	Groundwater	11/18/2022 8:53:00 AM	11/18/2022	12/14/2022
N053688-009A	MW-57-185-Q422	Groundwater	11/18/2022 9:24:00 AM	11/18/2022	12/14/2022
N053688-009B	MW-57-185-Q422	Groundwater	11/18/2022 9:24:00 AM	11/18/2022	12/14/2022
N053688-009C	MW-57-185-Q422	Groundwater	11/18/2022 9:24:00 AM	11/18/2022	12/14/2022
N053688-010A	EB-727-Q422	Groundwater	11/18/2022 9:30:00 AM	11/18/2022	12/14/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-109-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:28:00 AM
Lab ID:	N053688-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A** QC Batch: **R167627**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	22	0.12	1.0		µg/L	5	11/21/2022 03:29 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C** QC Batch: **96874**				PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	20	0.035	1.0		µg/L	1	11/30/2022 01:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-139-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 10:02:00 AM
Lab ID:	N053688-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.0	0.024	0.20		µg/L	1	11/21/2022 05:30 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	7.6	0.035	1.0		µg/L	1	11/30/2022 01:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-192-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:48:00 AM
Lab ID:	N053688-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A** QC Batch: **R167627**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.4	0.024	0.20		µg/L	1	11/21/2022 06:08 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_221129C** QC Batch: **96874**				PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	1.4	0.035	1.0		µg/L	1	11/30/2022 01:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-275-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:10:00 AM
Lab ID:	N053688-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 08:01 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	1.3	0.035	1.0		µg/L	1	11/30/2022 01:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-726-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 10:15:00 AM
Lab ID:	N053688-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/21/2022 08:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 7:53:00 AM
Lab ID:	N053688-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A** QC Batch: **R167627**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	40	0.12	1.0		µg/L	5	11/21/2022 11:52 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221129C** QC Batch: **96874**				PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	38	0.035	1.0		µg/L	1	11/30/2022 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:22:00 AM
Lab ID:	N053688-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 08:20 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 02:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:53:00 AM
Lab ID:	N053688-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	280	2.4	20		µg/L	100	11/21/2022 04:45 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221130A**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	310	0.18	5.0		µg/L	5	11/30/2022 09:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:24:00 AM
Lab ID:	N053688-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	11/21/2022 08:39 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221129C**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 03:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-727-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:30:00 AM
Lab ID:	N053688-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221121A**	QC Batch: **R167627**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	11/21/2022 09:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R167627	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	PBW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939011

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R167627	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	LCSW	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.863	0.20	5.000	0	97.3	90	110				

Sample ID	N053664-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939014

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.421	0.20	1.000	0.5057	91.5	90	110				

Sample ID	N053686-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939022

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.945	2.0	10.00	0	99.4	90	110				

Sample ID	N053665-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939024

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.013	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053665-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.2	90	110				

Sample ID **N053688-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	64.430	1.0	25.00	39.53	99.6	90	110				

Sample ID **N053688-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	65.079	1.0	25.00	39.53	102	90	110	64.43	1.00	20	

Sample ID **N053664-011ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.477	0.20						0.5057	5.86	20	

Sample ID **N053679-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	671.195	10	250.0	413.8	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053679-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	675.715	10	250.0	413.6	105	90	110				

Sample ID **N053679-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	645.730	10	250.0	381.3	106	90	110				

Sample ID **N053688-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.683	1.0	25.00	22.47	105	90	110				

Sample ID **N053665-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.063	1.0	5.000	0	101	90	110				

Sample ID **N053665-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.970	1.0	5.000	0	99.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053688-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	782.890	20	500.0	277.5	101	90	110				

Sample ID	N053665-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.182	1.0	5.000	0	104	90	110				

Sample ID	N053688-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.095	0.20	5.000	8.020	102	90	110				

Sample ID	N053688-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.416	0.20	1.000	1.385	103	90	110				

Sample ID	N053665-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	167627
Client ID:	ZZZZZZ	Batch ID:	R167627	TestNo:	EPA 218.6			Analysis Date:	11/21/2022	SeqNo:	4939053

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	1.0	5.000	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053688-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939058**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.279	1.0	5.000	0.9730	106	90	110				

Sample ID **N053688-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.183	1.0	5.000	0	104	90	110				

Sample ID **N053688-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939062**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID **N053688-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID **N053688-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **167627**
Client ID: **ZZZZZZ**	Batch ID: **R167627**	TestNo: **EPA 218.6**		Analysis Date: **11/21/2022**	SeqNo: **4939066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96874	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793	
Client ID:	PBW	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945743	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		ND	1.0									

Sample ID	LCS-96874	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793	
Client ID:	LCSW	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945744	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		9.609	1.0	10.00	0	96.1	85	115				

Sample ID	N053688-006CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793	
Client ID:	ZZZZZZ	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945757	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		45.218	1.0	10.00	37.93	72.8	75	125				S

Sample ID	N053688-006CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167793	
Client ID:	ZZZZZZ	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945758	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		44.999	1.0	10.00	37.93	70.6	75	125	45.22	0.485	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N053688-006C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167793**
Client ID:	**ZZZZZZ**	Batch ID: **96874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4945756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	45.406	1.0	10.00	37.93	74.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-109-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:28:00 AM
Lab ID:	N053688-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.1	0.095	0.50		mg/L	10	11/19/2022 10:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-139-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 10:02:00 AM
Lab ID:	N053688-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	11/19/2022 01:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-192-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:48:00 AM
Lab ID:	N053688-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	11/19/2022 01:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-275-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:10:00 AM
Lab ID:	N053688-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	11/19/2022 02:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 7:53:00 AM
Lab ID:	N053688-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.1	0.095	0.50		mg/L	10	11/19/2022 09:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:22:00 AM
Lab ID:	N053688-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.95	0.095	0.50		mg/L	10	11/19/2022 02:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:53:00 AM
Lab ID:	N053688-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.5	0.048	0.25		mg/L	5	11/19/2022 02:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:24:00 AM
Lab ID:	N053688-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221119A**	QC Batch: **R167538**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	11/19/2022 02:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167538_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	PBW	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935521

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.017	0.050									

Sample ID	LCS-R167538_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	LCSW	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935522

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.288	0.050	1.250	0	103	90	110				

Sample ID	N053689-005DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	ZZZZZZ	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935525

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.528	0.10	2.500	0.03580	99.7	80	120				

Sample ID	N053689-005DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	ZZZZZZ	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935527

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.589	0.10	2.500	0.03580	102	80	120	2.528	2.38	20	

Sample ID	N053688-006BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	ZZZZZZ	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935537

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.263	0.50	12.50	5.130	97.1	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053688-006BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	ZZZZZZ	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.121	0.50	12.50	5.130	95.9	80	120	17.26	0.826	20	

Sample ID	N053689-006DDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167538
Client ID:	ZZZZZZ	Batch ID:	R167538	TestNo:	EPA 300.0			Analysis Date:	11/19/2022	SeqNo:	4935539

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.741	0.25						0.7470	0.874	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-109-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:28:00 AM
Lab ID:	N053688-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221127B**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	0.63	0.050	0.10		µg/L	1	11/27/2022 08:31 PM
Manganese	55	0.026	0.50		µg/L	1	11/30/2022 01:37 AM
Molybdenum	8.5	0.12	0.50		µg/L	1	11/27/2022 08:31 PM
Selenium	3.5	0.044	0.50		µg/L	1	11/30/2022 01:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-139-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 10:02:00 AM
Lab ID:	N053688-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221127B**	QC Batch: **96874**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	11/27/2022 08:37 PM
Manganese	2.6	0.026	0.50		µg/L	1	11/30/2022 01:43 AM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/27/2022 08:37 PM
Selenium	1.0	0.044	0.50		µg/L	1	11/30/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-192-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:48:00 AM
Lab ID:	N053688-003	**Matrix:**	GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_221130A** QC Batch: **96874** PrepDate: **11/22/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	11/30/2022 09:03 PM
Manganese	ND	0.026	0.50		µg/L	1	11/30/2022 01:49 AM
Molybdenum	27	0.12	0.50		µg/L	1	11/27/2022 08:43 PM
Selenium	1.1	0.044	0.50		µg/L	1	11/30/2022 01:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-275-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:10:00 AM
Lab ID:	N053688-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221129D**	QC Batch: **96874**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	11/30/2022 01:55 AM
Manganese	ND	0.026	0.50		µg/L	1	11/30/2022 01:55 AM
Molybdenum	41	0.12	0.50		µg/L	1	11/27/2022 08:49 PM
Selenium	1.0	0.044	0.50		µg/L	1	11/30/2022 01:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 7:53:00 AM
Lab ID:	N053688-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221129D**	QC Batch: **96874**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	1.0	0.050	0.10		µg/L	1	11/30/2022 02:18 AM
Manganese	2.3	0.026	0.50		µg/L	1	11/30/2022 02:18 AM
Molybdenum	23	0.12	0.50		µg/L	1	11/27/2022 09:13 PM
Selenium	4.7	0.044	0.50		µg/L	1	11/30/2022 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:22:00 AM
Lab ID:	N053688-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221127B**	QC Batch: **96874**			PrepDate:	**11/22/2022**		Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	11/27/2022 09:43 PM
Manganese	0.84	0.026	0.50		µg/L	1	11/30/2022 02:48 AM
Molybdenum	48	0.12	0.50		µg/L	1	11/27/2022 09:43 PM
Selenium	5.0	0.044	0.50		µg/L	1	11/30/2022 02:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 8:53:00 AM
Lab ID:	N053688-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221127B**	QC Batch: **96874**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	11/27/2022 09:49 PM
Manganese	110	0.026	0.50		µg/L	1	11/30/2022 02:54 AM
Molybdenum	3.3	0.12	0.50		µg/L	1	11/27/2022 09:49 PM
Selenium	2.7	0.044	0.50		µg/L	1	11/30/2022 02:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q422
Lab Order:	N053688		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/18/2022 9:24:00 AM
Lab ID:	N053688-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221127B**	QC Batch: **96874**				PrepDate:	**11/22/2022**	Analyst: **DJ**
Arsenic	4.9	0.050	0.10		µg/L	1	11/27/2022 09:55 PM
Manganese	1.8	0.026	0.50		µg/L	1	11/30/2022 03:00 AM
Molybdenum	65	0.12	0.50		µg/L	1	11/27/2022 09:55 PM
Selenium	ND	0.044	0.50		µg/L	1	11/30/2022 03:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96874	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167763
Client ID:	PBW	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/27/2022	SeqNo:	4944823

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Molybdenum	ND	0.50									

Sample ID	LCS-96874	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167763
Client ID:	LCSW	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/27/2022	SeqNo:	4944824

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.906	0.10	10.00	0	89.1	85	115				
Molybdenum	9.866	0.50	10.00	0	98.7	85	115				

Sample ID	N053688-006CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167763
Client ID:	ZZZZZZ	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/27/2022	SeqNo:	4944837

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	33.177	0.50	10.00	22.93	102	75	125				

Sample ID	N053688-006CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167763
Client ID:	ZZZZZZ	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/27/2022	SeqNo:	4944838

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	33.627	0.50	10.00	22.93	107	75	125	33.18	1.35	20	

Sample ID	MB-96874	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	PBW	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053688
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	LCS-96874	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	LCSW	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945854

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.756	0.50	100.0	0	92.8	85	115				
Selenium	9.341	0.50	10.00	0	93.4	85	115				

Sample ID	N053688-006CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	ZZZZZZ	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945867

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.209	0.10	10.00	1.023	91.9	75	125				
Manganese	87.834	0.50	100.0	2.326	85.5	75	125				
Selenium	14.397	0.50	10.00	4.747	96.5	75	125				

Sample ID	N053688-006CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/22/2022	RunNo:	167795
Client ID:	ZZZZZZ	Batch ID:	96874	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4945868

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.560	0.10	10.00	1.023	95.4	75	125	10.21	3.39	20	
Manganese	88.106	0.50	100.0	2.326	85.8	75	125	87.83	0.309	20	
Selenium	14.801	0.50	10.00	4.747	101	75	125	14.40	2.77	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: ICE; Sample Temp.: 3.1°C
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Courier:
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200 Fax:	Tracking No.:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 11/18/22	Sampled By: Riggie Tap		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Project Name: PG&E Topock - RCM

Project Number: 30121868.4Q22GW

Signature: Date: 11/18/22

Matrix: Ground X; Sedlment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Nitrate/Nitrite as Nitrogen (SM4500); H2SO4 (125mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053688-001	MW-87-109-Q422	11/18/2022	9:28		X	X	X	X	X		E	3	P	BNS	
2	-002	MW-87-139-Q422	11/18/2022	10:02		X	X	X	X	X		E	3	P	BNS	
3	-003	MW-87-192-Q422	11/18/2022	8:48		X	X	X	X	X		E	3	P	BNS	
4	-004	MW-87-275-Q422	11/18/2022	8:10		X	X	X	X	X		E	3	P	BNS	
5	-005	EB-726-Q422	11/18/2022	10:15		X						E	1	P	BNS	
	-006	MW-23-060-Q422	11/18/2022	7:53		X	X	X	X	X	X	E	3	P	BNS	MSMSD
7	-007	MW-23-080-Q422	11/18/2022	8:22		X	X	X	X	X		E	3	P	BNS	
8												E	2	P	BNS	
9	-008	MW-57-070-Q422	11/18/2022	8:53		X	X	X	X	X		E	3	P	BNS	
10	-009	MW-57-185-Q422	11/18/2022	9:24		X	X	X	X	X		E	3	P	BNS	
11	-010	EB-727-Q422	11/18/2022	9:30		X						E	1	P	BNS	
12																
13																
14																

Relinquished by (Signature and Printed Name): Riggie Tap 11/18/22 1730	Relinquished by (Signature and Printed Name): Dante Ort Dante Ortiz 11/18/22 18:30
Relinquished by (Signature and Printed Name): Dante Ort Dante Ortiz 11/18/22 16:52	Relinquished by (Signature and Printed Name): Dante Ort Dante Ortiz 11/18/22 16:52
Relinquished by (Signature and Printed Name): Date/Time:	Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs:=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
6. Trip Blanks and Equipment Blanks are billable sample.
8. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/18/2022	Workorder:	N053688
Rep sample Temp (Deg C):	3.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

11/21/2022

Checklist Completed By: YR YRodriguez

Reviewed By: for: MBC 11/25/2022

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053688

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/18/2022 4:52 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053688-001A	MW-87-109-Q422	11/18/2022 9:28:00 AM	12/7/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-001B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-001C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053688-002A	MW-87-139-Q422	11/18/2022 10:02:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-002B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-002C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053688-003A	MW-87-192-Q422	11/18/2022 8:48:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-003B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-003C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053688-004A	MW-87-275-Q422	11/18/2022 8:10:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-004B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-004C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053688-005A	EB-726-Q422	11/18/2022 10:15:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-006A	MW-23-060-Q422	11/18/2022 7:53:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053688

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/18/2022 4:52 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053688-006B	MW-23-060-Q422	11/18/2022 7:53:00 AM	12/7/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053688-006C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053688-006D			12/7/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☑	WW
N053688-007A	MW-23-080-Q422	11/18/2022 8:22:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-007B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-007C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053688-007D			12/7/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	WW
N053688-008A	MW-57-070-Q422	11/18/2022 8:53:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-008B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-008C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053688-009A	MW-57-185-Q422	11/18/2022 9:24:00 AM	12/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-009B			12/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053688-009C			12/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

26-Nov-22

WorkOrder: N053688

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/18/2022 4:52 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053688-010A	EB-727-Q422	11/18/2022 9:30:00 AM	12/7/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053688-011A	FOLDER	12/7/2022	12/7/2022		Folder	Folder	☐	☐	☐	LAB
			12/7/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/7/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

21-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite ~~SM4500-NO3F~~	Requested Tests	
N053688-006D / MW-23-060-Q422	Groundwater	11/18/2022 7:53:00 AM	8OZP	1	(MS/MSD)	
N053688-007D / MW-23-080-Q422	Groundwater	11/18/2022 8:22:00 AM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53688A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite . EDD requirement Labspec7 edata.

GLS #: 558259864

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/21/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 12/19/2022

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53688A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2227968
Invoice ID:	B465506

Enclosed are the results of analyses for samples received by the laboratory on 11/22/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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3151-3153 W Post Rd., Las Vegas, NV 89118
www.asl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

22-27968

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

21-Nov-22

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite SM4500-NO3F	Requested Tests	
N053688-008D / MW-23-060-Q422 -1	Groundwater	11/18/2022 7:53:00 AM	8OZP	1	(MS/MSD)	
N053688-007D / MW-23-080-Q422 -2	Groundwater	11/18/2022 8:22:00 AM	8OZP	1		

Preserved with H2SO4

CHK BY DISTRIBUTION
SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53688A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite . EDD requirement Labspec7 edata.

GLS #: 558259864

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/21/2022 1630	Received by:		11-22-22 1116
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2227968 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-27968

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

☒ COC Received YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 11-22-22

Temperature: (A) 1.8 °C / (C) 1.7 °C Analyst Init SMH 1116

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE 802	A	A								
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
5oz / 16oz / 32oz AMBER										
5oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: TOR Date/Time: 11-22-22 1343

A = Actual / C = Corrected

Rev 23 06/20/22

[S:\WPDocs\WorkPerfect\LAB_DOCS\FORMS\SAMREC rev 23]

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/19/2022 13:52
Project: Level IV + labSpec7
Project Number: N53688A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2227968-01	**COC Number:**	N53688A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/18/2022 07:53
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053688-006D / MW-23-060-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater
2227968-02	**COC Number:**	N53688A	**Receive Date:**	11/22/2022 11:16
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/18/2022 08:22
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053688-007D / MW-23-080-Q422	**Lab Matrix:**	Water
	Sampled By:	RIGGIE TEP of ARRC	**Sample Type:**	Groundwater

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2218 Railroad Avenue
Redding, California 96001
voice 530.243.7234
fax 530.243.7494

3860 Morrow Lane, Suite F
Chico, California 95928
voice 530.894.8966
fax 530.894.5143

Analytical Report

Report To:	PACE ANALYTICAL SERVICES - BAKERSFIELD	**Lab No:**	22L0134
	4100 ATLAS COURT	**Reported:**	12/09/22
	BAKERSFIELD, CA 93308	**Phone:**	(800) 878-4911
Attention:	ELI VELAZQUEZ		
Project:	Geo#L10006095391 2227968		

Included in this report are laboratory results for work order 22L0134, received on 12/02/22. All analyses were performed in strict adherence to our established Quality Manual. Any qualifications or abnormalities are listed in the Notes and Definitions and/or the Case Narrative section of this report. The project Chain of Custody and laboratory sample receipt record are included as attachments to this report.

Sample Results

Description:	N053688-006D/MW-23-060-Q422			**Sampled:**	11/18/22 07:53
Matrix / Type:	Water ()	**Lab ID:**	22L0134-01	**Received:**	12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	4.85		0.20	0.50	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

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Chico, California 95928
voice 530.894.8966
fax 530.894.5143

Analytical Report

Description: N053688-007D/MW-23-080-Q422 **Sampled:** 11/18/22 08:22
Matrix / Type: Water () **Lab ID:** 22L0134-02 **Received:** 12/02/22 11:15

General Chemistry - Chico Location

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch / Analyst
Nitrate+Nitrite as N	mg/l	4.00		0.20	0.50	EPA 353.2	12/05/22	12/05/22	B2L0867 / JPW

Quality Control Data

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
General Chemistry - Chico Location	**Batch B2L0867 - General Prep - Chico Gen Chem**									
Blank										
Nitrate+Nitrite as N	0.04	0.05	mg/l							J
LCS										
Nitrate+Nitrite as N	1.04	0.05	mg/l	1.00		104	90-110			
Duplicate	Source: 22L0132-01									
Nitrate+Nitrite as N	0.45	0.05	mg/l		0.45			0.289	20	
Duplicate	Source: 22L0134-01									
Nitrate+Nitrite as N	4.82	0.50	mg/l		4.85			0.703	20	
Matrix Spike	Source: 22L0132-01									
Nitrate+Nitrite as N	1.77	0.05	mg/l	1.00	0.45	132	90-110			QM-05
Matrix Spike	Source: 22L0134-01									
Nitrate+Nitrite as N	15.5	0.50	mg/l	10.0	4.85	106	90-110			

Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
ND	Analyte NOT DETECTED at or above the detection limit
RPD	Relative Percent Difference
MDL	Method Detection Limit
RL	Reporting Limit
* or #	The laboratory does not hold CA-ELAP accreditation for this analyte or method. Accreditation may not be available from CA-ELAP for this analyte or method.
**	The laboratory holds accreditation for this analyte or method with WA-ECY Lab ID: Lab ID C783. Accreditation is not offered for this method by CA-ELAP
Note 2	According to 40 CFR Part 136 Table II, the following tests should be analyzed in the field within 15 minutes of sampling: pH, chlorine, dissolved oxygen, and sulfite.

Accreditations Held:
Redding Location: CA-ELAP - Cert # 1677
Chico Location: CA-ELAP - Cert # 2718

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Pace

2218 Railroad Avenue
Redding, California 96001
voice 530.243.7234
fax 530.243.7494

3860 Morrow Lane, Suite F
Chico, California 95928
voice 530.894.8966
fax 530.894.5143

Analytical Report

Approved By

I certify that these results meet the requirements of the applicable accreditation standard, and were performed in compliance with the stated analytical methods unless otherwise noted in the qualifications or Case Narrative section of this report.

Approved By: _____
Bryan Ervin, Chico Location Supervisor
Pace Analytical Services LLC - Redding CA

The data included in this report relate only to the specific items as received, recorded on the Chain of Custody, and analyzed at the laboratory. All data is expressed on a wet-weight basis unless otherwise noted. Interpretation and use of the information included in this report is the sole responsibility of the client. This report may not be reproduced except in full, and may not be modified in any way without prior written approval from Pace Analytical. Use of this report in whole or part for public advertising or any other commercial purpose requires prior written authorization.

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SUBCONTRACT ORDER

Pace Analytical Labs - Bakersfield, CA

2227968

22L0134

22L0134

SENDING LABORATORY:

Pace Analytical Labs
4100 Atlas Ct
Bakersfield, CA 93308
Phone: 661-327-4911
Fax: 661-327-1918
Project Manager: Eli Velazquez

RECEIVING LABORATORY:

Pace- Chico $PCHIO
3860 Morrow Lane Suite F
Chico, CA 95928
Phone :(999) 999-9999
Fax:

DOD: No **Level 4:** Yes **EDDs Needed:** EDD_Excel_Default_PQL, EDD_CH2M_ETIC_PQL, EDD_GeoTracker

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N **CA Drinking Water PSCode:**	12/06/22 23:59	12/16/22 07:53	

GeoTracker - Global ID: L10006095391 Field Point: N053688-006D / M Log Code: ARRC

1 **Sample ID: 2227968-01** **Water** **Sampled:** **11/18/22 07:53** **Sample Name:** N053688-006D / MW-23-060-Q422 MS/MSD

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Analysis	Due	Expires	Comments
i353.2w NO3/NO2 as N **CA Drinking Water PSCode:**	12/06/22 23:59	12/16/22 08:22	

GeoTracker - Global ID: L10006095391 Field Point: N053688-007D / M Log Code: ARRC

-2 **Sample ID: 2227968-02** **Water** **Sampled:** **11/18/22 08:22** **Sample Name:** N053688-007D / MW-23-080-Q422

Containers Supplied:
I20: Nitrate/Nitrite YELLOW PE 50ml, H2SO4 to pH<2

Released By	Date	Received By	Date
	12-1-22		12-2-22
Released By	Date	Received By	Date
			12-1-22

Page 1 of 1

SAMPLE RECEIPT CHECKLIST

Samples Received Via: Fed-Ex ☒ Client Walk-In ☐ Courier ☐ UPS ☐ Pace Field Service ☐ Other ☐

WO NUMBER 22L0134

Samples Received By: BMZ Date: 12-2-22 Time: 1115

Are samples for regulatory compliance? Yes ☐ No ☐ ?

THERMAL PRESERVATION

Were samples received in a cooler? Yes ☒ No ☐ If no, take temperature of representative sample container and record below.

If no, do they require thermal preservation? Yes ☐ No ☐ If no, why not? Non-regulatory ☐ Not Required by Method ☐

Samples received on ice? Yes ☒ No ☐ Ice type? Wet ☒ Ice Packs ☐ Other _____

Samples received the same day collected? Yes ☐ No ☒

Therm. ID (Circle one): Therm-36(IR) Therm-37(IR) Therm-59(IR) Therm-41(Stick) (Therm-C01(IR)) Therm-C02(IR) Other: _____

Cooler #1 Init. Temp °C 0.5 Correction °C +0.1 Corrected Temp °C 0.6

Cooler #2 Init. Temp °C _____ Correction °C _____ Corrected Temp °C _____

Cooler #3 Init. Temp °C _____ Correction °C _____ Corrected Temp °C _____

No Cooler - Representative Sample Temperature: Init. Temp °C _____ Correction °C _____ Corrected Temp °C _____

Do samples received meet thermal preservation requirements? Yes ☒ No ☐ N/A ☐

Thermal Preservation Notes/Discrepancies/Nonconformances:

SAMPLE CONDITION AND PROCESSING

Do all sample IDs on labels match the COC? Yes ☒ No ☐

Custody seals present? Yes ☐ No ☐ N/A ☒

Samples in proper containers? Yes ☒ No ☐

Sample containers damaged? Yes ☐ No ☒

Sufficient sample volume for indicated tests? Yes ☒ No ☐

Samples received with sufficient holding time? Yes ☒ No ☐

Are VOA vials free of headspace? Yes ☐ No ☐ N/A ☒

CHEMICAL PRESERVATION

Were the sample containers received with labels that indicate that appropriate preservatives were present for the indicated tests? Yes ☒ No ☐ N/A ☐

Were samples received properly dechlorinated? Yes ☐ No ☐ N/A ☒ For Dechlorination checks done by analysts, were dechlor. agent labels present? Yes ☐ No ☐

Preservation checked by Sample Receiving? Initials JMZ Date & Time 12-2-22 1700 Test Strip ID PH-C01

Dechlorination checked by Sample Receiving? Initials _____ Date & Time _____ Test Strip ID _____

	Yes	No	NA
H2SO4 preserved samples confirmed to pH <2 (i.e., E350.1, SM5220, SM5310)?	☒	☐	☐
HNO3 preserved samples confirmed to pH <2 (i.e., E200.7, E200.8, 6010)?	☐	☐	☒ Added upon sample receipt? Yes ☐ No ☐
NaOH preserved samples confirmed to pH >10 (cyanide) or >9 (sulfide)?	☐	☐	☒
Hexavalent Chromium (DW) preserved samples confirmed to pH >8 & Chlorine <0.1 mg/l?	☐	☐	☒
Hexavalent Chromium (W) preserved samples confirmed to pH 9.3 - 9.7?	☐	☐	☒ In Lab By: _____ Meter ID: _____

Were any additional preservatives added after receipt? Yes ☐ No ☐ Initial pH: _____ Final pH _____

If yes, is addition of preservatives allowed by the method? Yes ☐ No ☐

List preservatives added at receipt:

Type: _____ Volume Added: _____ ID: _____ Type: _____ Volume Added: _____ ID: _____

Type: _____ Volume Added: _____ ID: _____ Type: _____ Volume Added: _____ ID: _____

COMMENTS, DISCREPANCIES, ANOMALIES, NONCONFORMANCES

Rev 3.0 Page 1 ENV-FRM-REDD-0002 v03 Sample Receipt Form

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/19/2022 13:52
Project: Level IV + labSpec7
Project Number: N53688A
Project Manager: Marlon B. Cartin

Notes And Definitions

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December 20, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053787

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 28, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053787

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (520 ug/L) and hexavalent chromium (360 ug/L) for sample N053787-004 (MW-70BR-287-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Nitrate as N in QC sample N053787-002BMSD possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (520 ug/L) and hexavalent chromium (360 ug/L) for sample N053787-004 (MW-70BR-287-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 500 and 430 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Arsenic. However, samples were non-detect (ND) or greater than 5x the Method Blank detection for this analyte therefore reanalysis of the samples was not necessary.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053787
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053787-001A	MW-62-065-Q422	Groundwater	11/28/2022 12:46:00 PM	11/28/2022	12/20/2022
N053787-001B	MW-62-065-Q422	Groundwater	11/28/2022 12:46:00 PM	11/28/2022	12/20/2022
N053787-001C	MW-62-065-Q422	Groundwater	11/28/2022 12:46:00 PM	11/28/2022	12/20/2022
N053787-002A	MW-70-105-Q422	Groundwater	11/28/2022 1:50:00 PM	11/28/2022	12/20/2022
N053787-002B	MW-70-105-Q422	Groundwater	11/28/2022 1:50:00 PM	11/28/2022	12/20/2022
N053787-002C	MW-70-105-Q422	Groundwater	11/28/2022 1:50:00 PM	11/28/2022	12/20/2022
N053787-003A	MW-70BR-225-Q422	Groundwater	11/28/2022 3:12:00 PM	11/28/2022	12/20/2022
N053787-003B	MW-70BR-225-Q422	Groundwater	11/28/2022 3:12:00 PM	11/28/2022	12/20/2022
N053787-003C	MW-70BR-225-Q422	Groundwater	11/28/2022 3:12:00 PM	11/28/2022	12/20/2022
N053787-004A	MW-70BR-287-Q422	Groundwater	11/28/2022 2:38:00 PM	11/28/2022	12/20/2022
N053787-004B	MW-70BR-287-Q422	Groundwater	11/28/2022 2:38:00 PM	11/28/2022	12/20/2022
N053787-005A	EB-728-Q422	Groundwater	11/28/2022 3:30:00 PM	11/28/2022	12/20/2022
N053787-006A	TW-05-Q422	Groundwater	11/28/2022 11:45:00 AM	11/28/2022	12/20/2022
N053787-006B	TW-05-Q422	Groundwater	11/28/2022 11:45:00 AM	11/28/2022	12/20/2022
N053787-007A	MW-10-Q422	Groundwater	11/28/2022 11:49:00 AM	11/28/2022	12/20/2022
N053787-007B	MW-10-Q422	Groundwater	11/28/2022 11:49:00 AM	11/28/2022	12/20/2022
N053787-007C	MW-10-Q422	Groundwater	11/28/2022 11:49:00 AM	11/28/2022	12/20/2022
N053787-008A	MW-10D-Q422	Groundwater	11/28/2022 12:59:00 PM	11/28/2022	12/20/2022
N053787-008B	MW-10D-Q422	Groundwater	11/28/2022 12:59:00 PM	11/28/2022	12/20/2022
N053787-008C	MW-10D-Q422	Groundwater	11/28/2022 12:59:00 PM	11/28/2022	12/20/2022
N053787-009A	MW-38D-Q422	Groundwater	11/28/2022 2:41:00 PM	11/28/2022	12/20/2022
N053787-009B	MW-38D-Q422	Groundwater	11/28/2022 2:41:00 PM	11/28/2022	12/20/2022
N053787-009C	MW-38D-Q422	Groundwater	11/28/2022 2:41:00 PM	11/28/2022	12/20/2022
N053787-010A	MW-38S-Q422	Groundwater	11/28/2022 2:05:00 PM	11/28/2022	12/20/2022
N053787-010B	MW-38S-Q422	Groundwater	11/28/2022 2:05:00 PM	11/28/2022	12/20/2022
N053787-010C	MW-38S-Q422	Groundwater	11/28/2022 2:05:00 PM	11/28/2022	12/20/2022
N053787-011A	EB-730-Q422	Groundwater	11/28/2022 3:00:00 PM	11/28/2022	12/20/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:46:00 PM
Lab ID:	N053787-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A**	QC Batch: **R168005**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	580	9.0	20		µg/L	100	12/5/2022 05:51 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201B**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	590	0.18	5.0		µg/L	5	12/1/2022 11:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70-105-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 1:50:00 PM
Lab ID:	N053787-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A**	QC Batch: **R168005**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	180	1.8	4.0		µg/L	20	12/5/2022 06:37 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP7_221130A**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	170	0.035	1.0		µg/L	1	11/30/2022 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-225-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 3:12:00 PM
Lab ID:	N053787-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A**	QC Batch: **R168005**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1400	18	40		µg/L	200	12/5/2022 07:11 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201B**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	1500	0.88	25		µg/L	25	12/1/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-287-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:38:00 PM
Lab ID:	N053787-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A**	QC Batch: **R168005**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	360	4.5	10		µg/L	50	12/5/2022 07:45 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201B**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	520	0.18	5.0		µg/L	5	12/2/2022 12:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-728-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 3:30:00 PM
Lab ID:	N053787-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A**	QC Batch: **R168005**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/5/2022 08:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 11:45:00 AM
Lab ID:	N053787-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221205A** QC Batch: **R168005**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	13	0.45	1.0		µg/L	5	12/5/2022 08:31 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP7_221130A** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	11/30/2022 06:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 11:49:00 AM
Lab ID:	N053787-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B**	QC Batch: **R168088**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	3400	45	100		µg/L	500	12/9/2022 03:06 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201B**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	3500	0.88	25		µg/L	25	12/2/2022 12:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10D-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:59:00 PM
Lab ID:	N053787-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B**	QC Batch: **R168088**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	230	4.5	10		µg/L	50	12/9/2022 03:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201B**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	260	0.18	5.0		µg/L	5	12/2/2022 01:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:41:00 PM
Lab ID:	N053787-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B** QC Batch: **R168088**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	24	0.45	1.0		µg/L	5	12/9/2022 02:20 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	22	0.035	1.0		µg/L	1	11/30/2022 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:05:00 PM
Lab ID:	N053787-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A** QC Batch: **R168005**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	37	0.45	1.0		µg/L	5	12/5/2022 10:02 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	44	0.035	1.0		µg/L	1	12/2/2022 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-730-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 3:00:00 PM
Lab ID:	N053787-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221205A**	QC Batch: **R168005**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/5/2022 10:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-96961	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167808
Client ID:	PBW	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946767

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-96961	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167808
Client ID:	LCSW	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946768

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.673	1.0	10.00	0	96.7	85	115				

Sample ID	N053787-009CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167808
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946783

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.580	1.0	10.00	21.62	99.6	75	125				

Sample ID	N053787-009CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167808
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946785

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.380	1.0	10.00	21.62	87.6	75	125	31.58	3.87	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R168005	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005		
Client ID:	LCSW	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960235		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.749	0.20	5.000	0	95.0	90	110						

Sample ID	MB1-R168005	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005		
Client ID:	PBW	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960236		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053787-001A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005		
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960238		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	587.280	20						584.4	0.486	20			

Sample ID	N053787-001A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005		
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960239		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1092.590	20	500.0	584.4	102	90	110						

Sample ID	N053787-001A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005		
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960240		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1089.580	20	500.0	584.4	101	90	110	1093	0.276	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053787-002A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960242

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	278.400	4.0	100.0	180.8	97.6	90	110				

Sample ID	N053787-003A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960243

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2312.020	40	1000	1353	95.9	90	110				

Sample ID	N053787-004A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	608.810	10	250.0	362.9	98.4	90	110				

Sample ID	N053787-005A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960250

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.952	0.20	1.000	0	95.2	90	110				

Sample ID	N053787-006A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960252

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	37.293	1.0	25.00	12.70	98.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053787-010A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	61.677	1.0	25.00	37.07	98.4	90	110				

Sample ID	N053787-011A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168005
Client ID:	ZZZZZZ	Batch ID:	R168005	TestNo:	EPA 218.6			Analysis Date:	12/5/2022	SeqNo:	4960262

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.918	0.20	1.000	0	91.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	LCS1-R168088	SampType:	LCS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168088		
Client ID:	LCSW	Batch ID:	R168088	TestNo:	EPA 218.6			Analysis Date:	12/9/2022	SeqNo:	4964835		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	90	110						

Sample ID	MB1-R168088	SampType:	MBLK	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168088		
Client ID:	PBW	Batch ID:	R168088	TestNo:	EPA 218.6			Analysis Date:	12/9/2022	SeqNo:	4964836		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053787-009A-DUP	SampType:	DUP	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168088		
Client ID:	ZZZZZZ	Batch ID:	R168088	TestNo:	EPA 218.6			Analysis Date:	12/9/2022	SeqNo:	4964838		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	22.945	1.0						23.67	3.12	20			

Sample ID	N053787-009A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168088		
Client ID:	ZZZZZZ	Batch ID:	R168088	TestNo:	EPA 218.6			Analysis Date:	12/9/2022	SeqNo:	4964839		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	47.027	1.0	25.00	23.67	93.4	90	110						

Sample ID	N053787-009A-MSD	SampType:	MSD	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168088		
Client ID:	ZZZZZZ	Batch ID:	R168088	TestNo:	EPA 218.6			Analysis Date:	12/9/2022	SeqNo:	4964840		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	46.810	1.0	25.00	23.67	92.6	90	110	47.03	0.461	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID **N053787-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5830.600	100	2500	3397	97.4	90	110				

Sample ID **N053787-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	475.985	10	250.0	230.7	98.1	90	110				

Sample ID **N053788-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.595	1.0	5.000	0.8830	94.2	90	110				

Sample ID **N053788-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.909	0.20	1.000	0	90.9	90	110				

Sample ID **N053814-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.592	1.0	5.000	0.5550	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID	N053814-002A-MS	SampType:	MS	TestCode:	CA_218.6_W	Units:	µg/L	Prep Date:		RunNo:	168088
Client ID:	ZZZZZZ	Batch ID:	R168088	TestNo:	EPA 218.6			Analysis Date:	12/9/2022	SeqNo:	4964861

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.327	1.0	5.000	0.8180	90.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:46:00 PM
Lab ID:	N053787-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221129C**	QC Batch: **R167765**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.0	0.048	0.25		mg/L	5	11/29/2022 12:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70-105-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 1:50:00 PM
Lab ID:	N053787-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221130A**	QC Batch: **R167936**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.3	0.095	0.50		mg/L	10	11/30/2022 08:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-225-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 3:12:00 PM
Lab ID:	N053787-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221129C**	QC Batch: **R167765**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.7	0.048	0.25		mg/L	5	11/29/2022 01:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 11:49:00 AM
Lab ID:	N053787-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221129C**	QC Batch: **R167765**			PrepDate:			Analyst: **RAB**
Nitrate as N	11	0.095	0.50		mg/L	10	11/29/2022 01:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10D-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:59:00 PM
Lab ID:	N053787-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221129C**	QC Batch: **R167765**			PrepDate:			Analyst: **RAB**
Nitrate as N	12	0.095	0.50		mg/L	10	11/29/2022 01:58 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:41:00 PM
Lab ID:	N053787-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221129C**	QC Batch: **R167765**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.3	0.19	1.0		mg/L	20	11/29/2022 12:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:05:00 PM
Lab ID:	N053787-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221129C**	QC Batch: **R167765**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.6	0.095	0.50		mg/L	10	11/29/2022 02:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167765_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167765
Client ID:	PBW	Batch ID:	R167765	TestNo:	EPA 300.0			Analysis Date:	11/29/2022	SeqNo:	4945066

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167765_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167765
Client ID:	LCSW	Batch ID:	R167765	TestNo:	EPA 300.0			Analysis Date:	11/29/2022	SeqNo:	4945067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.260	0.050	1.250	0	101	90	110				

Sample ID	N053787-001BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167765
Client ID:	ZZZZZZ	Batch ID:	R167765	TestNo:	EPA 300.0			Analysis Date:	11/29/2022	SeqNo:	4945074

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.222	0.25						5.029	3.76	20	

Sample ID	N053787-009BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167765
Client ID:	ZZZZZZ	Batch ID:	R167765	TestNo:	EPA 300.0			Analysis Date:	11/29/2022	SeqNo:	4945077

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	24.084	1.0	25.00	3.336	83.0	80	120				

Sample ID	N053787-009BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167765
Client ID:	ZZZZZZ	Batch ID:	R167765	TestNo:	EPA 300.0			Analysis Date:	11/29/2022	SeqNo:	4945078

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	25.050	1.0	25.00	3.336	86.9	80	120	24.08	3.93	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167936_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167936
Client ID:	PBW	Batch ID:	R167936	TestNo:	EPA 300.0			Analysis Date:	11/30/2022	SeqNo:	4956751

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167936_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167936
Client ID:	LCSW	Batch ID:	R167936	TestNo:	EPA 300.0			Analysis Date:	11/30/2022	SeqNo:	4956752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.236	0.050	1.250	0	98.9	90	110				

Sample ID	N053787-002BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167936
Client ID:	ZZZZZZ	Batch ID:	R167936	TestNo:	EPA 300.0			Analysis Date:	11/30/2022	SeqNo:	4956754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.385	0.50	12.50	5.266	105	80	120				

Sample ID	N053787-002BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167936
Client ID:	ZZZZZZ	Batch ID:	R167936	TestNo:	EPA 300.0			Analysis Date:	11/30/2022	SeqNo:	4956755

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	21.316	0.50	12.50	5.266	128	80	120	18.39	14.8	20	S

Sample ID	N053787-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167936
Client ID:	ZZZZZZ	Batch ID:	R167936	TestNo:	EPA 300.0			Analysis Date:	11/30/2022	SeqNo:	4956756

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.835	0.50						5.266	8.53	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:46:00 PM
Lab ID:	N053787-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221202A**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	0.92	0.050	0.10		µg/L	1	12/2/2022 04:55 PM
Manganese	2.2	0.026	0.50		µg/L	1	11/30/2022 06:09 PM
Molybdenum	16	0.12	0.50		µg/L	1	12/1/2022 11:33 PM
Selenium	3.7	0.044	0.50		µg/L	1	12/1/2022 11:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70-105-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 1:50:00 PM
Lab ID:	N053787-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	12/1/2022 11:45 PM
Manganese	2.0	0.026	0.50		µg/L	1	11/30/2022 06:14 PM
Molybdenum	49	0.12	0.50		µg/L	1	12/1/2022 11:45 PM
Selenium	4.7	0.044	0.50		µg/L	1	12/1/2022 11:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-225-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 3:12:00 PM
Lab ID:	N053787-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/1/2022 11:50 PM
Manganese	7.1	0.026	0.50		µg/L	1	11/30/2022 06:18 PM
Molybdenum	19	0.12	0.50		µg/L	1	12/1/2022 11:50 PM
Selenium	2.4	0.044	0.50		µg/L	1	12/2/2022 02:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-287-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:38:00 PM
Lab ID:	N053787-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 12:02 AM
Manganese	0.98	0.026	0.50		µg/L	1	11/30/2022 06:23 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 11:45:00 AM
Lab ID:	N053787-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221207C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	12/7/2022 03:54 PM
Manganese	ND	0.026	0.50		µg/L	1	11/30/2022 06:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 11:49:00 AM
Lab ID:	N053787-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	8.2	0.050	0.10		µg/L	1	12/2/2022 12:38 AM
Manganese	27	0.026	0.50		µg/L	1	11/30/2022 06:32 PM
Molybdenum	160	0.12	0.50		µg/L	1	12/2/2022 12:38 AM
Selenium	1.7	0.044	0.50		µg/L	1	12/2/2022 12:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10D-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:59:00 PM
Lab ID:	N053787-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221215D**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	0.86	0.050	0.10		µg/L	1	12/16/2022 03:53 AM
Manganese	0.63	0.026	0.50		µg/L	1	11/30/2022 06:37 PM
Molybdenum	1.2	0.12	0.50		µg/L	1	12/2/2022 12:56 AM
Selenium	6.6	0.044	0.50		µg/L	1	12/2/2022 12:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:41:00 PM
Lab ID:	N053787-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 01:07 AM
Manganese	65	0.026	0.50		µg/L	1	11/30/2022 06:56 PM
Molybdenum	32	0.12	0.50		µg/L	1	12/2/2022 01:07 AM
Selenium	0.55	0.044	0.50		µg/L	1	12/7/2022 05:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q422
Lab Order:	N053787		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:05:00 PM
Lab ID:	N053787-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	3.6	0.050	0.10		µg/L	1	12/2/2022 02:18 AM
Manganese	240	0.13	2.5		µg/L	5	12/2/2022 03:44 PM
Molybdenum	6.9	0.12	0.50		µg/L	1	12/2/2022 02:18 AM
Selenium	3.7	0.044	0.50		µg/L	1	12/2/2022 02:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-96961	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167810
Client ID:	PBW	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946838

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.072	0.50									

Sample ID	LCS-96961	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167810
Client ID:	LCSW	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.812	0.50	100.0	0	89.8	85	115				

Sample ID	N053787-009CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167810
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946854

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.365	0.50	100.0	65.31	86.1	75	125				

Sample ID	N053787-009CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167810
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	11/30/2022	SeqNo:	4946856

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	146.995	0.50	100.0	65.31	81.7	75	125	151.4	2.93	20	

Sample ID	MB-96961	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167845
Client ID:	PBW	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/1/2022	SeqNo:	4950877

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.080	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053787
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	LCS-96961	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167845
Client ID:	LCSW	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/1/2022	SeqNo:	4950878

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.404	0.10	10.00	0	94.0	85	115				
Molybdenum	10.220	0.50	10.00	0	102	85	115				
Selenium	9.704	0.50	10.00	0	97.0	85	115				

Sample ID	N053787-009CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167845
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/2/2022	SeqNo:	4950901

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.238	0.10	10.00	0	82.4	75	125				
Molybdenum	43.961	0.50	10.00	31.56	124	75	125				

Sample ID	N053787-009CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167845
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/2/2022	SeqNo:	4950903

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.829	0.10	10.00	0	88.3	75	125	8.238	6.92	20	
Molybdenum	43.133	0.50	10.00	31.56	116	75	125	43.96	1.90	20	

Sample ID	N053787-009CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167845
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/2/2022	SeqNo:	4977924

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.265	0.50	10.00	0.5464	87.2	75	125				

Sample ID	N053787-009CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	11/30/2022	RunNo:	167845
Client ID:	ZZZZZZ	Batch ID:	96961	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/2/2022	SeqNo:	4977925

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.277	0.50	10.00	0.5464	87.3	75	125	9.265	0.133	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

ASSET LABORATORIES
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CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/28/2022 Workorder: N053787

Rep sample Temp (Deg C): 2.8/2.3 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/29/2022

Reviewed By: for: MBC 12/03/2022

ASSET Laboratories

WORK ORDER Summary

29-Nov-22

WorkOrder: N053787

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/28/2022 7:30 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053787-001A	MW-62-065-Q422	11/28/2022 12:46:00 PM	12/13/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-001B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053787-001C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-002A	MW-70-105-Q422	11/28/2022 1:50:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-002B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053787-002C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-003A	MW-70BR-225-Q422	11/28/2022 3:12:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-003B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053787-003C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-004A	MW-70BR-287-Q422	11/28/2022 2:38:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-004B			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-005A	EB-728-Q422	11/28/2022 3:30:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-006A	TW-05-Q422	11/28/2022 11:45:00 AM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-006B			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

29-Nov-22

WorkOrder: N053787

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/28/2022 7:30 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053787-006B	TW-05-Q422	11/28/2022 11:45:00 AM	12/13/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-007A	MW-10-Q422	11/28/2022 11:49:00 AM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-007B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053787-007C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-008A	MW-10D-Q422	11/28/2022 12:59:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-008B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053787-008C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053787-009A	MW-38D-Q422	11/28/2022 2:41:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053787-009B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053787-009C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053787-010A	MW-38S-Q422	11/28/2022 2:05:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-010B			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053787-010C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

29-Nov-22

WorkOrder: N053787

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/28/2022 7:30 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053787-011A	EB-730-Q422	11/28/2022 3:00:00 PM	12/13/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053787-012A	FOLDER	12/13/2022	12/13/2022		Folder	Folder	☐	☐	☐	LAB
			12/13/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/13/2022		Folder	Folder	☐	☐	☐	LAB

December 20, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053788

RE: PG&E Topock - IM3, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 28, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Since the actual result of total dissolved chromium (1.0 ug/L) differs with hexavalent chromium (0.88ug/L) by no more than 0.7ug/L for sample N053788-001 (OW-01D-Q422), reanalysis of the sample was not necessary. Sample was diluted for Hexavalent Chromium due to matrix.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Magnesium in QC sample N053788-001C-MS1 possibly due to matrix interference. Post Spike passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053717-001E-MS2, N053717-001E-MSD2, N053788-001C-MS1 and N053788-001C-MSD1 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Since the actual result of total dissolved chromium (1.0 ug/L) differs with hexavalent chromium (0.88ug/L) by no more than 0.7ug/L for sample N053788-001 (OW-01D-Q422), reanalysis of the sample was not necessary. Sample was diluted for Hexavalent Chromium due to matrix.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Arsenic. However, samples were non-detect (ND) for this analyte therefore reanalysis of the samples was not necessary.

Matrix Spike (MS) is outside recovery criteria for Barium in QC sample N053787-009CMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - IM3, 30121866.4Q22GW
Lab Order: N053788
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053788-001A	OW-01D-Q422	Groundwater	11/28/2022 2:51:00 PM	11/28/2022	12/20/2022
N053788-001B	OW-01D-Q422	Groundwater	11/28/2022 2:51:00 PM	11/28/2022	12/20/2022
N053788-001C	OW-01D-Q422	Groundwater	11/28/2022 2:51:00 PM	11/28/2022	12/20/2022
N053788-001D	OW-01D-Q422	Groundwater	11/28/2022 2:51:00 PM	11/28/2022	12/20/2022
N053788-002A	OW-01M-Q422	Groundwater	11/28/2022 2:00:00 PM	11/28/2022	12/20/2022
N053788-002B	OW-01M-Q422	Groundwater	11/28/2022 2:00:00 PM	11/28/2022	12/20/2022
N053788-002C	OW-01M-Q422	Groundwater	11/28/2022 2:00:00 PM	11/28/2022	12/20/2022
N053788-002D	OW-01M-Q422	Groundwater	11/28/2022 2:00:00 PM	11/28/2022	12/20/2022
N053788-003A	OW-01S-Q422	Groundwater	11/28/2022 12:39:00 PM	11/28/2022	12/20/2022
N053788-003B	OW-01S-Q422	Groundwater	11/28/2022 12:39:00 PM	11/28/2022	12/20/2022
N053788-003C	OW-01S-Q422	Groundwater	11/28/2022 12:39:00 PM	11/28/2022	12/20/2022
N053788-003D	OW-01S-Q422	Groundwater	11/28/2022 12:39:00 PM	11/28/2022	12/20/2022
N053788-004A	MW-903-Q422	Groundwater	11/28/2022 12:49:00 PM	11/28/2022	12/20/2022
N053788-004B	MW-903-Q422	Groundwater	11/28/2022 12:49:00 PM	11/28/2022	12/20/2022
N053788-004C	MW-903-Q422	Groundwater	11/28/2022 12:49:00 PM	11/28/2022	12/20/2022
N053788-004D	MW-903-Q422	Groundwater	11/28/2022 12:49:00 PM	11/28/2022	12/20/2022
N053788-005A	EB-729-Q422	Groundwater	11/28/2022 3:10:00 PM	11/28/2022	12/20/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01D-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:51:00 PM
Lab ID:	N053788-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221203C**	QC Batch: **97025**			PrepDate:	**12/3/2022**		Analyst: **RB**
Total Dissolved Solids (Residue, Filterable)	4500	50	50		mg/L	1	12/3/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01M-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:00:00 PM
Lab ID:	N053788-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221203C**	QC Batch: **97025**			PrepDate:	**12/3/2022**		Analyst: **RB**
Total Dissolved Solids (Residue, Filterable)	4700	50	50		mg/L	1	12/3/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01S-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:39:00 PM
Lab ID:	N053788-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221203C**	QC Batch: **97025**			PrepDate:	**12/3/2022**		Analyst: **RB**
Total Dissolved Solids (Residue, Filterable)	4400	50	50		mg/L	1	12/3/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:49:00 PM
Lab ID:	N053788-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221203C**	QC Batch: **97025**			PrepDate:	**12/3/2022**		Analyst: **RB**
Total Dissolved Solids (Residue, Filterable)	4800	50	50		mg/L	1	12/3/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-97025** SampType: **LCS** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **12/3/2022** RunNo: **167955**
Client ID: **LCSW** Batch ID: **97025** TestNo: **SM2540C** Analysis Date: **12/3/2022** SeqNo: **4957931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1001.000	10	1000	0	100	80	120				

Sample ID: **MB-97025** SampType: **MBLK** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **12/3/2022** RunNo: **167955**
Client ID: **PBW** Batch ID: **97025** TestNo: **SM2540C** Analysis Date: **12/3/2022** SeqNo: **4957932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: **N053788-001DDUP** SampType: **DUP** TestCode: **160.1_2540C_** Units: **mg/L** Prep Date: **12/3/2022** RunNo: **167955**
Client ID: **ZZZZZZ** Batch ID: **97025** TestNo: **SM2540C** Analysis Date: **12/3/2022** SeqNo: **4957934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4890.000	50						4495	8.42	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01D-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:51:00 PM
Lab ID:	N053788-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	83	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01M-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:00:00 PM
Lab ID:	N053788-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	120	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01S-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:39:00 PM
Lab ID:	N053788-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	250	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:49:00 PM
Lab ID:	N053788-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	230	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R167881**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **LCSW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	95.918	5.0	100.0	0	95.9	85	115				

Sample ID: **MB-R167881**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **PBW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N053873-009DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	71.429	5.0						72.45	1.42	30	

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125	163.3	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01D-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 2:51:00 PM
Lab ID: N053788-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B** QC Batch: **R168088**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/9/2022 04:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	1.0	0.035	1.0		µg/L	1	12/2/2022 02:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01M-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 2:00:00 PM
Lab ID: N053788-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A** QC Batch: **R168151**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.3	0.45	1.0		µg/L	5	12/12/2022 03:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	1.4	0.035	1.0		µg/L	1	12/2/2022 02:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01S-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 12:39:00 PM
Lab ID: N053788-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A** QC Batch: **R168151**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	7.7	0.45	1.0		µg/L	5	12/12/2022 04:01 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	7.3	0.035	1.0		µg/L	1	12/2/2022 03:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:49:00 PM
Lab ID:	N053788-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221212A** QC Batch: **R168151**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	7.7	0.45	1.0		µg/L	5	12/12/2022 04:23 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	7.6	0.035	1.0		µg/L	1	12/2/2022 03:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-729-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 3:10:00 PM
Lab ID:	N053788-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B**	QC Batch: **R168088**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/9/2022 05:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.673	1.0	10.00	0	96.7	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.580	1.0	10.00	21.62	99.6	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.380	1.0	10.00	21.62	87.6	75	125	31.58	3.87	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168088**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **LCSW**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	90	110				

Sample ID: **MB1-R168088**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **PBW**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053787-009A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.945	1.0						23.67	3.12	20	

Sample ID: **N053787-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.027	1.0	25.00	23.67	93.4	90	110				

Sample ID: **N053787-009A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.810	1.0	25.00	23.67	92.6	90	110	47.03	0.461	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053787-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5830.600	100	2500	3397	97.4	90	110				

Sample ID: **N053787-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	475.985	10	250.0	230.7	98.1	90	110				

Sample ID: **N053788-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.595	1.0	5.000	0.8830	94.2	90	110				

Sample ID: **N053788-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.909	0.20	1.000	0	90.9	90	110				

Sample ID: **N053814-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.592	1.0	5.000	0.5550	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053814-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.327	1.0	5.000	0.8180	90.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168151**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **LCSW**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.822	0.20	5.000	0	96.4	90	110				

Sample ID: **MB1-R168151**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **PBW**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053788-002A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.278	1.0						1.340	4.74	20	

Sample ID: **N053788-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.970	1.0	5.000	1.340	92.6	90	110				

Sample ID: **N053788-002A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.918	1.0	5.000	1.340	91.6	90	110	5.970	0.883	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053788-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	33.144	1.0	25.00	7.732	102	90	110				

Sample ID: **N053788-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.406	1.0	25.00	7.706	98.8	90	110				

Sample ID: **N053856-004B-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967585**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.972	0.20	1.000	0	97.2	90	110				

Sample ID: **N053852-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.021	1.0	5.000	0	100	90	110				

Sample ID: **N053852-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.945	0.20	1.000	0	94.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-006A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	157.232	4.0						157.5	0.200	20	

Sample ID: **N053852-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	253.102	4.0	100.0	157.5	95.6	90	110				

Sample ID: **N053852-006A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	253.964	4.0	100.0	157.5	96.4	90	110	253.1	0.340	20	

Sample ID: **N053852-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	219.712	4.0	100.0	119.6	100	90	110				

Sample ID: **N053852-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.234	1.0	25.00	13.69	98.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4967618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2337.180	40	1000	1360	97.8	90	110				

Sample ID: **N053852-013A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4967620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.970	0.20	1.000	0	97.0	90	110				

Sample ID: **N053852-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4967630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.276	1.0	25.00	9.491	99.1	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01D-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 2:51:00 PM
Lab ID: N053788-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1900	33	250		mg/L	500	12/4/2022 10:18 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	2.5	0.064	0.50		mg/L	5	12/3/2022 04:05 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 01:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01M-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 2:00:00 PM
Lab ID: N053788-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	2000	33	250		mg/L	500	12/4/2022 12:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	2.2	0.064	0.50		mg/L	5	12/3/2022 04:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 03:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01S-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 12:39:00 PM
Lab ID: N053788-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1700	33	250		mg/L	500	12/4/2022 12:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	1.2	0.064	0.50		mg/L	5	12/3/2022 05:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	380	3.0	25		mg/L	50	12/4/2022 03:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:49:00 PM
Lab ID:	N053788-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A**	QC Batch: **R167863**			PrepDate:			Analyst: **RAB**
Chloride	1700	33	250		mg/L	500	12/4/2022 12:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A**	QC Batch: **R167861**			PrepDate:			Analyst: **RAB**
Fluoride	1.2	0.064	0.50		mg/L	5	12/3/2022 05:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A**	QC Batch: **R167863**			PrepDate:			Analyst: **RAB**
Sulfate	380	3.0	25		mg/L	50	12/4/2022 03:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R167863_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **PBW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R167863_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **LCSW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.048	0.50	2.000	0	102	90	110				

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2975.300	250	1000	1930	105	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2939.000	250	1000	1930	101	80	120	2975	1.23	20	

Sample ID: **N053814-002DDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952485**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2117.750	250						2095	1.10	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N053814-002DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3123.150	250	1000	2095	103	80	120				

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1802.800	250	1000	857.0	94.6	80	120				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1812.750	250	1000	857.0	95.6	80	120	1803	0.550	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R167861_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **PBW**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R167861_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **LCSW**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.313	0.10	1.250	0	105	90	110				

Sample ID: **N053883-001AMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.367	0.50	6.250	0.3630	96.1	80	120				

Sample ID: **N053883-001AMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.439	0.50	6.250	0.3630	97.2	80	120	6.367	1.12	20	

Sample ID: **N053883-001ADUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.332	0.50						0.3630	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.570	0.50	6.250	2.479	97.5	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.012	0.50	6.250	2.479	88.5	80	120	8.570	6.74	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167863_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **PBW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.229	0.50									

Sample ID: **LCS-R167863_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **LCSW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.016	0.50	4.000	0	100	90	110				

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	710.785	25	200.0	509.6	101	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	712.110	25	200.0	509.6	101	80	120	710.8	0.186	20	

Sample ID: **N053814-002DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	507.090	25						508.2	0.217	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053814-002DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	707.230	25	200.0	508.2	99.5	80	120				

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	364.990	25	200.0	173.8	95.6	80	120				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	367.865	25	200.0	173.8	97.0	80	120	365.0	0.785	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01D-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:51:00 PM
Lab ID:	N053788-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Boron	1.9	0.035	0.10		mg/L	1	12/14/2022 11:31 AM
Calcium	180	0.18	0.50		mg/L	1	12/4/2022 05:28 PM
Magnesium	24	0.017	0.10		mg/L	1	12/4/2022 05:28 PM
Potassium	13	0.69	2.5		mg/L	5	12/5/2022 11:40 AM
Sodium	1400	42	62		mg/L	125	12/5/2022 03:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01M-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 2:00:00 PM
Lab ID: N053788-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Boron	1.9	0.035	0.10		mg/L	1	12/14/2022 11:55 AM
Calcium	190	0.18	0.50		mg/L	1	12/4/2022 05:54 PM
Magnesium	27	0.017	0.10		mg/L	1	12/4/2022 05:54 PM
Potassium	13	0.69	2.5		mg/L	5	12/5/2022 11:45 AM
Sodium	1400	42	62		mg/L	125	12/5/2022 03:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01S-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:39:00 PM
Lab ID:	N053788-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Boron	1.5	0.035	0.10		mg/L	1	12/14/2022 12:00 PM
Calcium	410	0.18	0.50		mg/L	1	12/4/2022 06:09 PM
Magnesium	59	0.017	0.10		mg/L	1	12/4/2022 06:09 PM
Potassium	15	0.69	2.5		mg/L	5	12/5/2022 11:49 AM
Sodium	830	42	62		mg/L	125	12/5/2022 03:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:49:00 PM
Lab ID:	N053788-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Boron	1.5	0.035	0.10		mg/L	1	12/14/2022 12:13 PM
Calcium	590	0.90	2.5		mg/L	5	12/15/2022 12:43 PM
Magnesium	68	0.017	0.10		mg/L	1	12/4/2022 06:14 PM
Potassium	17	0.69	2.5		mg/L	5	12/5/2022 11:54 AM
Sodium	920	42	62		mg/L	125	12/5/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-96965** SampType: **MBLK** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **11/30/2022** RunNo: **167869**
Client ID: **PBW** Batch ID: **96965** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS1-96965** SampType: **LCS** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **11/30/2022** RunNo: **167869**
Client ID: **LCSW** Batch ID: **96965** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.571	0.50	10.00	0	95.7	85	115				
Magnesium	10.141	0.10	10.00	0	101	85	115				

Sample ID: **N053788-001C-MS1** SampType: **MS** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **11/30/2022** RunNo: **167869**
Client ID: **ZZZZZZ** Batch ID: **96965** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952318**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	192.917	0.50	10.00	179.9	130	75	125				S
Magnesium	37.667	0.10	10.00	24.40	133	75	125				S

Sample ID: **N053788-001C-MSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **11/30/2022** RunNo: **167869**
Client ID: **ZZZZZZ** Batch ID: **96965** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	181.903	0.50	10.00	179.9	20.1	75	125	192.9	5.88	20	S
Magnesium	35.714	0.10	10.00	24.40	113	75	125	37.67	5.32	20	

Sample ID: **MB-96965** SampType: **MBLK** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **11/30/2022** RunNo: **167912**
Client ID: **PBW** Batch ID: **96965** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4954873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									
Sodium	ND	0.50									

Sample ID: **LCS2-96965**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **LCSW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	19.216	0.50	20.00	0	96.1	85	115				
Sodium	19.639	0.50	20.00	0	98.2	85	115				

Sample ID: **N053717-001E-MS2**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	31.517	2.5	20.00	12.43	95.4	75	125				

Sample ID: **N053717-001E-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954881**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	31.851	2.5	20.00	12.43	97.1	75	125	31.52	1.05	20	

Sample ID: **N053717-001E-MS2**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	316.577	62	20.00	328.7	-60.6	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N053717-001E-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	354.895	62	20.00	328.7	131	75	125	316.6	11.4	20	S

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.10									

Sample ID: **LCS1-96965**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **LCSW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.344	0.10	10.00	0	103	85	115				

Sample ID: **N053788-001C-MS1**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	13.769	0.10	10.00	1.886	119	75	125				

Sample ID: **N053788-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	13.069	0.10	10.00	1.886	112	75	125	13.77	5.22	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N053788-001C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	187.905	0.50	10.00	179.9	80.1	80	120				
Magnesium	34.247	0.10	10.00	24.40	98.5	80	120				

Sample ID: **N053717-001E-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	113.478	2.5	100.0	12.43	101	80	120				

Sample ID: **N053717-001E-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2651.323	62	2500	328.7	92.9	80	120				

Sample ID: **N053788-001C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	13.345	0.10	10.00	1.886	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-01D-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 2:51:00 PM
Lab ID: N053788-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 02:24 AM
Barium	31	0.083	1.0		µg/L	1	12/2/2022 02:24 AM
Manganese	ND	0.026	0.50		µg/L	1	12/2/2022 02:24 AM
Molybdenum	24	0.12	0.50		µg/L	1	12/2/2022 02:24 AM
Selenium	7.8	0.044	0.50		µg/L	1	12/2/2022 02:24 AM
Vanadium	3.7	0.067	1.0		µg/L	1	12/2/2022 02:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01M-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 2:00:00 PM
Lab ID:	N053788-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 02:30 AM
Barium	66	0.083	1.0		µg/L	1	12/2/2022 02:30 AM
Manganese	ND	0.026	0.50		µg/L	1	12/2/2022 02:30 AM
Molybdenum	21	0.12	0.50		µg/L	1	12/2/2022 02:30 AM
Selenium	6.0	0.044	0.50		µg/L	1	12/2/2022 02:30 AM
Vanadium	3.4	0.067	1.0		µg/L	1	12/2/2022 02:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01S-Q422
Lab Order:	N053788		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/28/2022 12:39:00 PM
Lab ID:	N053788-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 03:06 AM
Barium	67	0.083	1.0		µg/L	1	12/14/2022 04:22 PM
Manganese	6.2	0.026	0.50		µg/L	1	12/2/2022 03:06 AM
Molybdenum	5.2	0.12	0.50		µg/L	1	12/2/2022 03:06 AM
Selenium	3.0	0.044	0.50		µg/L	1	12/2/2022 03:06 AM
Vanadium	2.4	0.067	1.0		µg/L	1	12/2/2022 03:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-903-Q422
Lab Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/28/2022 12:49:00 PM
Lab ID: N053788-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:		**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 03:12 AM
Barium	110	0.083	1.0		µg/L	1	12/12/2022 07:18 PM
Manganese	7.2	0.026	0.50		µg/L	1	12/2/2022 03:12 AM
Molybdenum	5.3	0.12	0.50		µg/L	1	12/2/2022 03:12 AM
Selenium	3.2	0.044	0.50		µg/L	1	12/2/2022 03:12 AM
Vanadium	2.4	0.067	1.0		µg/L	1	12/2/2022 03:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.072	0.50									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.812	0.50	100.0	0	89.8	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.365	0.50	100.0	65.31	86.1	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	146.995	0.50	100.0	65.31	81.7	75	125	151.4	2.93	20	

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.080	0.10									
Barium	0.179	1.0									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.404	0.10	10.00	0	94.0	85	115				
Barium	10.822	1.0	10.00	0	108	85	115				
Molybdenum	10.220	0.50	10.00	0	102	85	115				
Selenium	9.704	0.50	10.00	0	97.0	85	115				
Vanadium	10.396	1.0	10.00	0	104	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.238	0.10	10.00	0	82.4	75	125				
Barium	123.097	1.0	10.00	107.1	160	75	125				S
Molybdenum	43.961	0.50	10.00	31.56	124	75	125				
Vanadium	18.202	1.0	10.00	8.074	101	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.829	0.10	10.00	0	88.3	75	125	8.238	6.92	20	
Barium	118.088	1.0	10.00	107.1	110	75	125	123.1	4.15	20	
Molybdenum	43.133	0.50	10.00	31.56	116	75	125	43.96	1.90	20	
Vanadium	17.704	1.0	10.00	8.074	96.3	75	125	18.20	2.77	20	

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.265	0.50	10.00	0.5464	87.2	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.277	0.50	10.00	0.5464	87.3	75	125	9.265	0.133	20	

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **168345**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4979568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053788
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053787-009C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.394	0.50	100.0	65.31	86.1	80	120				

Sample ID: **N053787-009C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.522	0.10	10.00	0	85.2	80	120				
Barium	120.102	1.0	10.00	107.1	130	80	120				S
Molybdenum	43.594	0.50	10.00	31.56	120	80	120				S
Vanadium	17.962	1.0	10.00	8.074	98.9	80	120				

Sample ID: **N053787-009C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.364	0.50	10.00	0.5464	78.2	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: [redacted] daniel.moore@arcadis.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace ✓
Submitted By: Ryan Bly		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 11/28/22	Sampled By: Ryan Bly		Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - IM3	Signature: Date: 11/28/22				Sample Temp: 2.8°C 2.9°C

Matrix: Ground X | Sediment; Potable | Soil; NPDES | Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate/Nitrite (SM4500NO3) Nitrogen; H2SO4 125 mL poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Boron, Barium, Calcium, Potassium, Magnesium, Manganese, Sodium, Vanadium 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Dissolved Solids (SM2540C); 4°C 1 liter poly	Chloride, Fluoride, Sulfate (EPA300.0); 4°C 1 liter poly	Alkalinity, Total as CaCO3 (SM2320B); 4°C 1 liter poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053788-001	OW-01D-Q422	11/28/2022	14:51		X	X	X	X	X	X	X	X	E	4	P	BNS	
2	-002	OW-01M-Q422	11/28/2022	14:00		X	X	X	X	X	X	X	X	E	4	P	BNS	
3	-003	OW-01S-Q422	11/28/2022	12:39		X	X	X	X	X	X	X	X	E	4	P	BNS	
4	-004	MW-903-Q422	11/28/2022	12:49		X	X	X	X	X	X	X	X	E	4	P	BNS	
5	-005	EB-729-Q422	11/28/2022	15:10		X								E	1	P	BNS	
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Courier:
Tracking No.:

Relinquished by (Signature and Printed Name): Ryan Bly	Date/Time: 11/28/22 1620	Relinquished by (Signature and Printed Name): Dante Ortiz Dante Ortiz NOV 28, 2022 16:20	Date/Time:
Relinquished by (Signature and Printed Name): Dante Ortiz Dante O. 11/28/22 19:20	Date/Time:	Relinquished by (Signature and Printed Name): Dante Ortiz Dante O. 11/28/22 19:20	Date/Time:
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:			
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:		
T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/28/2022	Workorder:	N053788
Rep sample Temp (Deg C):	2.8/2.3	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 11/29/2022

Reviewed By: for: MBC 12/8/2022

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053788

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/28/2022 7:30 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053788-001A	OW-01D-Q422	11/28/2022 2:51:00 PM	12/13/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW-CA
N053788-001B			12/13/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053788-001C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053788-001D			12/13/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/13/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/13/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053788-002A	OW-01M-Q422	11/28/2022 2:00:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW-CA
N053788-002B			12/13/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053788-002C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053788-002D			12/13/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053788

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/28/2022 7:30 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053788-002D	OW-01M-Q422	11/28/2022 2:00:00 PM	12/13/2022	Groundwater		Total Dissolved Solids Prep	☐	☐	☐	WW
			12/13/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053788-003A	OW-01S-Q422	11/28/2022 12:39:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW-CA
N053788-003B			12/13/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053788-003C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053788-003D			12/13/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/13/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/13/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053788-004A	MW-903-Q422	11/28/2022 12:49:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW-CA
N053788-004B			12/13/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053788-004C			12/13/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053788

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/28/2022 7:30 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053788-004C	MW-903-Q422	11/28/2022 12:49:00 PM	12/13/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/13/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/13/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053788-004D			12/13/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/13/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/13/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/13/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053788-005A	EB-729-Q422	11/28/2022 3:10:00 PM	12/13/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW-CA
N053788-006A	FOLDER	12/13/2022	12/13/2022		Folder	Folder	☐	☐	☐	LAB
			12/13/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/13/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

30-Nov-22

				Nitrate/Nitrite	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	~~SM4500-NO3F~~		
N053788-001B / OW-01D-Q422	Groundwater	11/28/2022 2:51:00 PM	8OZP	1		
N053788-002B / OW-01M-Q422	Groundwater	11/28/2022 2:00:00 PM	8OZP	1		
N053788-003B / OW-01S-Q422	Groundwater	11/28/2022 12:39:00 PM	8OZP	1		
N053788-004B / MW-903-Q422	Groundwater	11/28/2022 12:49:00 PM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53788A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS: 558317210

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/30/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 12/16/2022

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53788A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2228606
Invoice ID:	B465310

Enclosed are the results of analyses for samples received by the laboratory on 12/5/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. Pace Analytical assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Notes

Notes and Definitions 13

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Chain of Custody and Cooler Receipt Form for 2228606 Page 1 of 2

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

2228606

QC Level: Level IV

Field Sampler: Riggie Tep

30-Nov-22

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite SM4500-NO3F	Requested Tests		
N053788-001B / OW-01D-Q422	Groundwater	11/28/2022 2:51:00 PM	8OZP	1			
N053788-002B / OW-01M-Q422	Groundwater	11/28/2022 2:00:00 PM	8OZP	1			
N053788-003B / OW-01S-Q422	Groundwater	11/28/2022 12:39:00 PM	8OZP	1			
N053788-004B / MW-903-Q422	Groundwater	11/28/2022 12:49:00 PM	8OZP	1			

Preserved with H2SO4

CHK BY
DISTRIBUTION
SUB-OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53788A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2859. Please e-mail results to reports.lw@assetlaboratories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS: 558317210

	Date/Time		Date/Time
Relinquished by: YRodriguez	11/30/2022 1630	Received by:	12-5-22 0953
Relinquished by:		Received by:	

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PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 7.2-228606

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments: Melted ice.

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☐ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 12-5-22

Temperature: (A) 9.1 °C / (C) 9.0 °C Analyst Init SMH 953

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE	A	A	A	A						
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: EE Date/Time: 12/05/22 1010

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\MPDocs\WordPerfect\LAB_DOCS\FORMS\BASREC rev 20]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2228606-01	**COC Number:**	N53788A	**Receive Date:**	12/05/2022 09:53
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/28/2022 14:51
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053788-001B /OW-01D-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2228606-02	**COC Number:**	N53788A	**Receive Date:**	12/05/2022 09:53
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/28/2022 14:00
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053788-002B /OW-01M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2228606-03	**COC Number:**	N53788A	**Receive Date:**	12/05/2022 09:53
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/28/2022 12:39
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053788-003B /OW-01S-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2228606-04	**COC Number:**	N53788A	**Receive Date:**	12/05/2022 09:53
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/28/2022 12:49
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053788-004B /MW-903-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2228606-01 | **Client Sample Name:** Level IV + labSpec7, N053788-001B /OW-01D-Q422, 11/28/2022 2:51:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**6.8**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/15/22 16:00	12/15/22 18:51	KB1	SC-1	5	B156117	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2228606-02 | **Client Sample Name:** Level IV + labSpec7, N053788-002B /OW-01M-Q422, 11/28/2022 2:00:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**5.8**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/15/22 16:00	12/15/22 18:54	KB1	SC-1	5	B156117	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2228606-03 | **Client Sample Name:** Level IV + labSpec7, N053788-003B /OW-01S-Q422, 11/28/2022 12:39:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**3.1**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/15/22 16:00	12/15/22 18:23	KB1	SC-1	1	B156117	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2228606-04 | **Client Sample Name:** Level IV + labSpec7, N053788-004B /MW-903-Q422, 11/28/2022 12:49:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**3.0**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/15/22 16:00	12/15/22 18:25	KB1	SC-1	1	B156117	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals	Run #
QC Batch ID: B156117						
Nitrate/Nitrite as N	B156117-BLK1	ND	mg/L	0.10		1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156117-BLK1	PB	EPA-353.2	12/15/22	12/15/22 18:09	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B156117											
Nitrate/Nitrite as N	B156117-BS1	LCS	2.0918	2.0000	mg/L	105		90 - 110			1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156117-BS1	LCS	EPA-353.2	12/15/22	12/15/22 18:08	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals	R#
QC Batch ID: B156117	Used client sample: N											
Nitrate/Nitrite as N	DUP	**2228605-01**	**8.1583**	**8.5569**		**mg/L**	**4.8**		**10**			1
	MS	**2228605-01**	**8.1583**	**10.743**	**2.1053**	**mg/L**		**123**		**90 - 110**	**Q03**	2
	MSD	**2228605-01**	**8.1583**	**10.762**	**2.1053**	**mg/L**	**0.2**	**124**	**10**	**90 - 110**	**Q03**	3

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156117-DUP1	DUP	EPA-353.2	12/15/22	12/15/22 18:41	KB1	SC-1	5
2	B156117-MS1	MS	EPA-353.2	12/15/22	12/15/22 18:43	KB1	SC-1	5.263
3	B156117-MSD1	MSD	EPA-353.2	12/15/22	12/15/22 18:45	KB1	SC-1	5.263

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:11
Project: Level IV + labSpec7
Project Number: N53788A
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
A10	Detection and quantitation limits were raised due to matrix interference.
Q03	Matrix spike recovery(s) was(were) not within the control limits.

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December 20, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053814

RE: PG&E Topock - IM3, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 29, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.8 ug/L) and hexavalent chromium (0 ug/L) for sample N053814-001 (CW-01D-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Magnesium in QC sample N053788-001C-MS1 possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053788-001C-MS1/MSD1, N053717-001E-MS2/MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.8 ug/L) and hexavalent chromium (0 ug/L) for sample N053814-001 (CW-01D-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.8 and 0.71 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Arsenic. However, samples were non-detect (ND) for this analyte therefore reanalysis of the samples was not necessary.

Matrix Spike (MS) is outside recovery criteria for Barium in QC sample N053787-009CMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - IM3, 30121866.4Q22GW
Lab Order: N053814
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053814-001A	CW-01D-Q422	Groundwater	11/29/2022 2:28:00 PM	11/29/2022	12/20/2022
N053814-001B	CW-01D-Q422	Groundwater	11/29/2022 2:28:00 PM	11/29/2022	12/20/2022
N053814-001C	CW-01D-Q422	Groundwater	11/29/2022 2:28:00 PM	11/29/2022	12/20/2022
N053814-001D	CW-01D-Q422	Groundwater	11/29/2022 2:28:00 PM	11/29/2022	12/20/2022
N053814-002A	CW-01M-Q422	Groundwater	11/29/2022 2:36:00 PM	11/29/2022	12/20/2022
N053814-002B	CW-01M-Q422	Groundwater	11/29/2022 2:36:00 PM	11/29/2022	12/20/2022
N053814-002C	CW-01M-Q422	Groundwater	11/29/2022 2:36:00 PM	11/29/2022	12/20/2022
N053814-002D	CW-01M-Q422	Groundwater	11/29/2022 2:36:00 PM	11/29/2022	12/20/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01D-Q422
Lab Order:	N053814		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:28:00 PM
Lab ID:	N053814-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221203C**	QC Batch: **97025**			PrepDate:	**12/3/2022**		Analyst: **RB**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	12/3/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01M-Q422
Lab Order:	N053814		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:36:00 PM
Lab ID:	N053814-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221203C**	QC Batch: **97025**			PrepDate:	**12/3/2022**		Analyst: **RB**
Total Dissolved Solids (Residue, Filterable)	5500	50	50		mg/L	1	12/3/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-97025**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/3/2022**	RunNo: **167955**
Client ID: **LCSW**	Batch ID: **97025**	TestNo: **SM2540C**		Analysis Date: **12/3/2022**	SeqNo: **4957931**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1001.000	10	1000	0	100	80	120				

Sample ID: **MB-97025**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/3/2022**	RunNo: **167955**
Client ID: **PBW**	Batch ID: **97025**	TestNo: **SM2540C**		Analysis Date: **12/3/2022**	SeqNo: **4957932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: **N053788-001DDUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **12/3/2022**	RunNo: **167955**
Client ID: **ZZZZZZ**	Batch ID: **97025**	TestNo: **SM2540C**		Analysis Date: **12/3/2022**	SeqNo: **4957934**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4890.000	50						4495	8.42	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01D-Q422
Lab Order:	N053814		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:28:00 PM
Lab ID:	N053814-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	79	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01M-Q422
Lab Order:	N053814		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:36:00 PM
Lab ID:	N053814-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	78	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R167881**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **LCSW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	95.918	5.0	100.0	0	95.9	85	115				

Sample ID: **MB-R167881**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **PBW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N053873-009DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	71.429	5.0						72.45	1.42	30	

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125	163.3	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-01D-Q422

Lab Order: N053814

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:28:00 PM

Lab ID: N053814-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B** QC Batch: **R168088**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/9/2022 06:31 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	1.8	0.035	1.0		µg/L	1	12/2/2022 03:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01M-Q422
Lab Order:	N053814		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:36:00 PM
Lab ID:	N053814-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221209B**	QC Batch: **R168088**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/9/2022 07:05 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221201B**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/2/2022 03:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.673	1.0	10.00	0	96.7	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.580	1.0	10.00	21.62	99.6	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.380	1.0	10.00	21.62	87.6	75	125	31.58	3.87	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168088**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **LCSW**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	90	110				

Sample ID: **MB1-R168088**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **PBW**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053787-009A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.945	1.0						23.67	3.12	20	

Sample ID: **N053787-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.027	1.0	25.00	23.67	93.4	90	110				

Sample ID: **N053787-009A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.810	1.0	25.00	23.67	92.6	90	110	47.03	0.461	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053787-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5830.600	100	2500	3397	97.4	90	110				

Sample ID: **N053787-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	475.985	10	250.0	230.7	98.1	90	110				

Sample ID: **N053788-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.595	1.0	5.000	0.8830	94.2	90	110				

Sample ID: **N053788-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.909	0.20	1.000	0	90.9	90	110				

Sample ID: **N053814-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.592	1.0	5.000	0.5550	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053814-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.327	1.0	5.000	0.8180	90.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-01D-Q422
Lab Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:28:00 PM
Lab ID: N053814-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1900	33	250		mg/L	500	12/4/2022 12:55 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	2.3	0.064	0.50		mg/L	5	12/3/2022 05:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 03:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-01M-Q422
Lab Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:36:00 PM
Lab ID: N053814-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	2100	33	250		mg/L	500	12/4/2022 11:00 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	2.1	0.064	0.50		mg/L	5	12/3/2022 06:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 01:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R167863_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **PBW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R167863_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **LCSW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.048	0.50	2.000	0	102	90	110				

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2975.300	250	1000	1930	105	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952481**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2939.000	250	1000	1930	101	80	120	2975	1.23	20	

Sample ID: **N053814-002DDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952485**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2117.750	250						2095	1.10	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N053814-002DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3123.150	250	1000	2095	103	80	120				

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1802.800	250	1000	857.0	94.6	80	120				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1812.750	250	1000	857.0	95.6	80	120	1803	0.550	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R167861_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **PBW**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R167861_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **LCSW**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.313	0.10	1.250	0	105	90	110				

Sample ID: **N053883-001AMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.367	0.50	6.250	0.3630	96.1	80	120				

Sample ID: **N053883-001AMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.439	0.50	6.250	0.3630	97.2	80	120	6.367	1.12	20	

Sample ID: **N053883-001ADUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.332	0.50						0.3630	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.570	0.50	6.250	2.479	97.5	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.012	0.50	6.250	2.479	88.5	80	120	8.570	6.74	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167863_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **PBW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.229	0.50									

Sample ID: **LCS-R167863_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **LCSW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.016	0.50	4.000	0	100	90	110				

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	710.785	25	200.0	509.6	101	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	712.110	25	200.0	509.6	101	80	120	710.8	0.186	20	

Sample ID: **N053814-002DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	507.090	25						508.2	0.217	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053814-002DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	707.230	25	200.0	508.2	99.5	80	120				

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	364.990	25	200.0	173.8	95.6	80	120				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	367.865	25	200.0	173.8	97.0	80	120	365.0	0.785	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-01D-Q422

Lab Order: N053814

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:28:00 PM

Lab ID: N053814-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Boron	1.8	0.035	0.10		mg/L	1	12/14/2022 12:18 PM
Calcium	160	0.18	0.50		mg/L	1	12/4/2022 06:19 PM
Magnesium	17	0.017	0.10		mg/L	1	12/4/2022 06:19 PM
Potassium	12	0.69	2.5		mg/L	5	12/5/2022 11:58 AM
Sodium	1300	42	62		mg/L	125	12/5/2022 04:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-01M-Q422

Lab Order: N053814

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:36:00 PM

Lab ID: N053814-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Boron	1.8	0.035	0.10		mg/L	1	12/14/2022 12:23 PM
Calcium	200	0.18	0.50		mg/L	1	12/4/2022 06:25 PM
Magnesium	13	0.017	0.10		mg/L	1	12/4/2022 06:25 PM
Potassium	11	0.69	2.5		mg/L	5	12/5/2022 12:09 PM
Sodium	1500	42	62		mg/L	125	12/5/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS1-96965**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **LCSW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.571	0.50	10.00	0	95.7	85	115				
Magnesium	10.141	0.10	10.00	0	101	85	115				

Sample ID: **N053788-001C-MS1**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952318**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	192.917	0.50	10.00	179.9	130	75	125				S
Magnesium	37.667	0.10	10.00	24.40	133	75	125				S

Sample ID: **N053788-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	181.903	0.50	10.00	179.9	20.1	75	125	192.9	5.88	20	S
Magnesium	35.714	0.10	10.00	24.40	113	75	125	37.67	5.32	20	

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954873**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									
Sodium	ND	0.50									

Sample ID: **LCS2-96965**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **LCSW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	19.216	0.50	20.00	0	96.1	85	115				
Sodium	19.639	0.50	20.00	0	98.2	85	115				

Sample ID: **N053717-001E-MS2**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	31.517	2.5	20.00	12.43	95.4	75	125				

Sample ID: **N053717-001E-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954881**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	31.851	2.5	20.00	12.43	97.1	75	125	31.52	1.05	20	

Sample ID: **N053717-001E-MS2**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	316.577	62	20.00	328.7	-60.6	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N053717-001E-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	354.895	62	20.00	328.7	131	75	125	316.6	11.4	20	S

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.10									

Sample ID: **LCS1-96965**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **LCSW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.344	0.10	10.00	0	103	85	115				

Sample ID: **N053788-001C-MS1**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	13.769	0.10	10.00	1.886	119	75	125				

Sample ID: **N053788-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **11/30/2022**	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	13.069	0.10	10.00	1.886	112	75	125	13.77	5.22	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N053788-001C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	187.905	0.50	10.00	179.9	80.1	80	120				
Magnesium	34.247	0.10	10.00	24.40	98.5	80	120				

Sample ID: **N053717-001E-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	113.478	2.5	100.0	12.43	101	80	120				

Sample ID: **N053717-001E-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167912**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4954920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2651.323	62	2500	328.7	92.9	80	120				

Sample ID: **N053788-001C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	13.345	0.10	10.00	1.886	115	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-01D-Q422

Lab Order: N053814

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:28:00 PM

Lab ID: N053814-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:		**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 03:18 AM
Barium	23	0.083	1.0		µg/L	1	12/2/2022 03:50 PM
Manganese	18	0.026	0.50		µg/L	1	12/2/2022 03:18 AM
Molybdenum	23	0.12	0.50		µg/L	1	12/2/2022 03:18 AM
Selenium	7.5	0.044	0.50		µg/L	1	12/2/2022 03:18 AM
Vanadium	3.2	0.067	1.0		µg/L	1	12/2/2022 03:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01M-Q422
Lab Order:	N053814		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:36:00 PM
Lab ID:	N053814-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 03:24 AM
Barium	80	0.083	1.0		µg/L	1	12/2/2022 03:56 PM
Manganese	1.1	0.026	0.50		µg/L	1	12/2/2022 03:24 AM
Molybdenum	16	0.12	0.50		µg/L	1	12/2/2022 03:24 AM
Selenium	3.8	0.044	0.50		µg/L	1	12/2/2022 03:24 AM
Vanadium	3.0	0.067	1.0		µg/L	1	12/2/2022 03:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.072	0.50									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.812	0.50	100.0	0	89.8	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.365	0.50	100.0	65.31	86.1	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	146.995	0.50	100.0	65.31	81.7	75	125	151.4	2.93	20	

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.080	0.10									
Barium	0.179	1.0									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.404	0.10	10.00	0	94.0	85	115				
Barium	10.822	1.0	10.00	0	108	85	115				
Molybdenum	10.220	0.50	10.00	0	102	85	115				
Selenium	9.704	0.50	10.00	0	97.0	85	115				
Vanadium	10.396	1.0	10.00	0	104	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.238	0.10	10.00	0	82.4	75	125				
Barium	123.097	1.0	10.00	107.1	160	75	125				S
Molybdenum	43.961	0.50	10.00	31.56	124	75	125				
Vanadium	18.202	1.0	10.00	8.074	101	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.829	0.10	10.00	0	88.3	75	125	8.238	6.92	20	
Barium	118.088	1.0	10.00	107.1	110	75	125	123.1	4.15	20	
Molybdenum	43.133	0.50	10.00	31.56	116	75	125	43.96	1.90	20	
Vanadium	17.704	1.0	10.00	8.074	96.3	75	125	18.20	2.77	20	

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.265	0.50	10.00	0.5464	87.2	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.277	0.50	10.00	0.5464	87.3	75	125	9.265	0.133	20	

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **168345**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4979568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053814
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053787-009C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.394	0.50	100.0	65.31	86.1	80	120				

Sample ID: **N053787-009C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950899**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.522	0.10	10.00	0	85.2	80	120				
Barium	120.102	1.0	10.00	107.1	130	80	120				S
Molybdenum	43.594	0.50	10.00	31.56	120	80	120				S
Vanadium	17.962	1.0	10.00	8.074	98.9	80	120				

Sample ID: **N053787-009C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.364	0.50	10.00	0.5464	78.2	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95661	Email: [redacted]	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330, Roseville, CA 95661	Email to: mbloes@pivot.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 11/29/22	Sampled By: Riggie Tep		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - IM3	Signature: Date: 11/29/22						Sample Temp: 4.0°C
Project Number: 30121866.4Q22GW							Courier: Tracking No.:

Matrix: Ground (X), Sediment, Potable, Soil, NPDES, Other Solid, Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 125 mL poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Boron, Barium, Calcium, Potassium, Magnesium, Manganese, Sodium, Vanadium 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Dissolved Solids (SM2540C); 4°C 1 liter poly	Chloride, Fluoride, Sulfate (EPA300.0); 4°C 1 liter poly	Alkalinity, Total as CaCO3 (SM2320B); 4°C 1 liter poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053814-001	CW-01D-Q422	11/29/2022	14:28		X	X	X	X	X	X	X	X	E	5	P	BNS	
2	-002	CW-01M-Q422	11/29/2022	14:36		X	X	X	X	X	X	X	X	E	5	P	BNS	
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	11/29/22 16:10	Dante Ortiz Dante O.	11/29/22 16:20
Dante Ortiz Dante O.	11/29/22 19:05	Dante Ortiz Dante O.	11/29/22 19:05
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/29/2022	Workorder:	N053814
Rep sample Temp (Deg C):	4.0	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/1/2022

Reviewed By: for: MBC 12/08/2022

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053814

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053814-001A	CW-01D-Q422	11/29/2022 2:28:00 PM	12/14/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053814-001B			12/14/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053814-001C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053814-001D			12/14/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/14/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/14/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053814-002A	CW-01M-Q422	11/29/2022 2:36:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053814-002B			12/14/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053814-002C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053814-002D			12/14/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053814

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053814-002D	CW-01M-Q422	11/29/2022 2:36:00 PM	12/14/2022	Groundwater		Total Dissolved Solids Prep	☐	☐	☐	WW
			12/14/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053814-003A	FOLDER	12/14/2022	12/14/2022		Folder	Folder	☐	☐	☐	LAB
			12/14/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/14/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

30-Nov-22

				Nitrate/Nitrite	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N053814-001B / CW-01D-Q422	Groundwater	11/29/2022 2:28:00 PM	8OZP	1		
N053814-002B / CW-01M-Q422	Groundwater	11/29/2022 2:36:00 PM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53814A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS: 558317210

		Date/Time			Date/Time
Relinquished by:	YRodriguez	11/30/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 12/16/2022

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53814A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2228605
Invoice ID:	B465309

Enclosed are the results of analyses for samples received by the laboratory on 12/5/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

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Chain of Custody and Cooler Receipt Form for 2228605 Page 1 of 2

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.ael-labs.com
TEL: 7023072659 FAX: 7023072691

QC Level: Level IV

2228605

Field Sampler: Riggle Tep

30-Nov-22

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

22-28605

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite Requested Tests SM4500-NO3F		
N053814-001B / CW-01D-Q422	Groundwater	11/29/2022 2:28:00 PM	8OZP	1		
N053814-002B / CW-01M-Q422	Groundwater	11/29/2022 2:35:00 PM	8OZP	1		

Preserved with H2SO4

CHK BY DISTRIBUTION SUB-OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53814A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS: 558317210

Relinquished by:	Date/Time	Received by:	Date/Time
YRodriguez	11/30/2022 1630		12-5-22 1453
Relinquished by:		Received by:	

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PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-28605

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments: Melted ice.

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 (337) Date/Time 12-5-22

Temperature: (A) 9.1 °C / (C) 9.0 °C Analyst Init SMH 953

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE	A	A								
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL - 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: FC Date/Time: 12/05/22 1010

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 23]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2228605-01	**COC Number:**	N53814A	**Receive Date:**	12/05/2022 09:53
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/29/2022 14:28
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053814-001B / CW-01D-Q422	**Lab Matrix:**	Water
	Sampled By:	Client of ARRC	**Sample Type:**	Groundwater
2228605-02	**COC Number:**	N53814A	**Receive Date:**	12/05/2022 09:53
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/29/2022 14:36
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053814-002B / CW-01M-Q422	**Lab Matrix:**	Water
	Sampled By:	Client of ARRC	**Sample Type:**	Groundwater

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2228605-01 | **Client Sample Name:** Level IV + labSpec7, N053814-001B / CW-01D-Q422, 11/29/2022 2:28:00PM, Client

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**8.2**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/15/22 16:00	12/15/22 18:39	KB1	SC-1	5	B156117	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2228605-02 | **Client Sample Name:** Level IV + labSpec7, N053814-002B / CW-01M-Q422, 11/29/2022 2:36:00PM, Client

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.8**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/15/22 16:00	12/15/22 18:15	KB1	SC-1	1	B156117	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals	Run #
QC Batch ID: B156117						
Nitrate/Nitrite as N	B156117-BLK1	ND	mg/L	0.10		1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156117-BLK1	PB	EPA-353.2	12/15/22	12/15/22 18:09	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B156117											
Nitrate/Nitrite as N	B156117-BS1	LCS	2.0918	2.0000	mg/L	105		90 - 110			1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156117-BS1	LCS	EPA-353.2	12/15/22	12/15/22 18:08	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals	R#
QC Batch ID: B156117	Used client sample: Y - Description: N053814-001B / CW-01D-Q422, 11/29/2022 14:28											
Nitrate/Nitrite as N	DUP	**2228605-01**	**8.1583**	**8.5569**		**mg/L**	**4.8**		**10**			1
	MS	**2228605-01**	**8.1583**	**10.743**	**2.1053**	**mg/L**		**123**		**90 - 110**	**Q03**	2
	MSD	**2228605-01**	**8.1583**	**10.762**	**2.1053**	**mg/L**	**0.2**	**124**	**10**	**90 - 110**	**Q03**	3

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156117-DUP1	DUP	EPA-353.2	12/15/22	12/15/22 18:41	KB1	SC-1	5
2	B156117-MS1	MS	EPA-353.2	12/15/22	12/15/22 18:43	KB1	SC-1	5.263
3	B156117-MSD1	MSD	EPA-353.2	12/15/22	12/15/22 18:45	KB1	SC-1	5.263

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/16/2022 10:10
Project: Level IV + labSpec7
Project Number: N53814A
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
A10	Detection and quantitation limits were raised due to matrix interference.
Q03	Matrix spike recovery(s) was(were) not within the control limits.

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December 15, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053815

RE: PG&E Topock - OMM Baseline, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on November 29, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N053815

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N053815
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053815-001A	RPWC_INF-112922	Water	11/29/2022 9:00:00 AM	11/29/2022	12/15/2022
N053815-001B	RPWC_INF-112922	Water	11/29/2022 9:00:00 AM	11/29/2022	12/15/2022
N053815-001C	RPWC_INF-112922	Water	11/29/2022 9:00:00 AM	11/29/2022	12/15/2022
N053815-002A	RPWC_EFF-112922	Water	11/29/2022 9:15:00 AM	11/29/2022	12/15/2022
N053815-002B	RPWC_EFF-112922	Water	11/29/2022 9:15:00 AM	11/29/2022	12/15/2022
N053815-002C	RPWC_EFF-112922	Water	11/29/2022 9:15:00 AM	11/29/2022	12/15/2022
N053815-003A	RPWC_MID-112922	Water	11/29/2022 9:30:00 AM	11/29/2022	12/15/2022
N053815-003B	RPWC_MID-112922	Water	11/29/2022 9:30:00 AM	11/29/2022	12/15/2022
N053815-003C	RPWC_MID-112922	Water	11/29/2022 9:30:00 AM	11/29/2022	12/15/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_INF-112922

Lab Order: N053815

Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:00:00 AM

Lab ID: N053815-001 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221207B**	QC Batch: **R168008**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	640	4.5	10		µg/L	50	12/8/2022 05:50 AM
TOTAL METALS BY ICPMS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221207B**	QC Batch: **96960**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	680	0.88	25		µg/L	25	12/7/2022 05:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_EFF-112922
Lab Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:15:00 AM
Lab ID: N053815-002 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221207B** QC Batch: **R168008**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	580	4.5	10		µg/L	50	12/8/2022 06:35 AM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221202B** QC Batch: **96960**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	700	0.18	5.0		µg/L	5	12/2/2022 04:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_MID-112922
Lab Order:	N053815		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	11/29/2022 9:30:00 AM
Lab ID:	N053815-003	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221207B**	QC Batch: **R168008**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	520	4.5	10		µg/L	50	12/8/2022 07:32 AM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221202B**	QC Batch: **96960**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	710	0.18	5.0		µg/L	5	12/2/2022 04:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-96960**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167820**
Client ID: **PBW**	Batch ID: **96960**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4948616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96960**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167820**
Client ID: **LCSW**	Batch ID: **96960**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4948617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.357	1.0	10.00	0	93.6	85	115				

Sample ID: **N053717-001F-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167820**
Client ID: **ZZZZZZ**	Batch ID: **96960**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4948621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	79.808	1.0	10.00	70.85	89.5	75	125				

Sample ID: **N053717-001F-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167820**
Client ID: **ZZZZZZ**	Batch ID: **96960**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4948622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	81.057	1.0	10.00	70.85	102	75	125	79.81	1.55	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168005** SampType: **LCS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **LCSW** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.749	0.20	5.000	0	95.0	90	110				

Sample ID: **MB1-R168005** SampType: **MBLK** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **PBW** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053787-001A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	587.280	20						584.4	0.486	20	

Sample ID: **N053787-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1092.590	20	500.0	584.4	102	90	110				

Sample ID: **N053787-001A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1089.580	20	500.0	584.4	101	90	110	1093	0.276	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053787-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	278.400	4.0	100.0	180.8	97.6	90	110				

Sample ID: **N053787-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2312.020	40	1000	1353	95.9	90	110				

Sample ID: **N053787-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960248**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	608.810	10	250.0	362.9	98.4	90	110				

Sample ID: **N053787-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.952	0.20	1.000	0	95.2	90	110				

Sample ID: **N053787-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168005**
Client ID: **ZZZZZZ** Batch ID: **R168005** TestNo: **EPA 218.6** Analysis Date: **12/5/2022** SeqNo: **4960252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	37.293	1.0	25.00	12.70	98.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053787-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168005**
Client ID: **ZZZZZZ**	Batch ID: **R168005**	TestNo: **EPA 218.6**		Analysis Date: **12/5/2022**	SeqNo: **4960260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	61.677	1.0	25.00	37.07	98.4	90	110				

Sample ID: **N053787-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168005**
Client ID: **ZZZZZZ**	Batch ID: **R168005**	TestNo: **EPA 218.6**		Analysis Date: **12/5/2022**	SeqNo: **4960262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.918	0.20	1.000	0	91.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168008** SampType: **LCS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168008**
Client ID: **LCSW** Batch ID: **R168008** TestNo: **EPA 218.6** Analysis Date: **12/8/2022** SeqNo: **4960316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.770	0.20	5.000	0	95.4	90	110				

Sample ID: **MB1-R168008** SampType: **MBLK** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168008**
Client ID: **PBW** Batch ID: **R168008** TestNo: **EPA 218.6** Analysis Date: **12/8/2022** SeqNo: **4960317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053815-001A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168008**
Client ID: **ZZZZZZ** Batch ID: **R168008** TestNo: **EPA 218.6** Analysis Date: **12/8/2022** SeqNo: **4960345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	642.740	10						642.1	0.0934	20	

Sample ID: **N053815-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168008**
Client ID: **ZZZZZZ** Batch ID: **R168008** TestNo: **EPA 218.6** Analysis Date: **12/8/2022** SeqNo: **4960346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	882.395	10	250.0	642.1	96.1	90	110				

Sample ID: **N053815-001A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168008**
Client ID: **ZZZZZZ** Batch ID: **R168008** TestNo: **EPA 218.6** Analysis Date: **12/8/2022** SeqNo: **4960347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	883.860	10	250.0	642.1	96.7	90	110	882.4	0.166	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053815-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168008**
Client ID: **ZZZZZZ**	Batch ID: **R168008**	TestNo: **EPA 218.6**		Analysis Date: **12/8/2022**	SeqNo: **4960349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	824.570	10	250.0	580.7	97.5	90	110				

Sample ID: **N053815-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168008**
Client ID: **ZZZZZZ**	Batch ID: **R168008**	TestNo: **EPA 218.6**		Analysis Date: **12/8/2022**	SeqNo: **4960352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	755.180	10	250.0	522.5	93.1	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_INF-112922

Lab Order: N053815

Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:00:00 AM

Lab ID: N053815-001 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221204F**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/4/2022 06:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_EFF-112922
Lab Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:15:00 AM
Lab ID: N053815-002 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221204F**	QC Batch: **96965**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/4/2022 06:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_MID-112922

Lab Order: N053815

Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:30:00 AM

Lab ID: N053815-003 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221204F**	QC Batch: **96965**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Iron	21	13	20		µg/L	1	12/4/2022 06:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-96965**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **PBW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS1-96965**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **LCSW**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.748	20	100.0	0	98.7	85	115				

Sample ID: **N053788-001C-MS1**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	105.466	20	100.0	0	105	75	125				

Sample ID: **N053788-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **96965**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	96.030	20	100.0	0	96.0	75	125	105.5	9.37	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_INF-112922

Lab Order: N053815

Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:00:00 AM

Lab ID: N053815-001 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate: **11/30/2022**		Analyst: **DJ**
Manganese	97	0.026	0.50		µg/L	1	12/2/2022 03:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_EFF-112922

Lab Order: N053815

Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:15:00 AM

Lab ID: N053815-002 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Manganese	98	0.026	0.50		µg/L	1	12/2/2022 03:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** RPWC_MID-112922

Lab Order: N053815

Project: PG&E Topock - OMM Baseline, 30106892 **Collection Date:** 11/29/2022 9:30:00 AM

Lab ID: N053815-003 **Matrix:** WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Manganese	120	0.026	0.50		µg/L	1	12/2/2022 03:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053815
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.072	0.50									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.812	0.50	100.0	0	89.8	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.365	0.50	100.0	65.31	86.1	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	146.995	0.50	100.0	65.31	81.7	75	125	151.4	2.93	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement: Others ✓
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RWQCB ✓
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled Y ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.#: SWA-ASSET-C9817-051
Submitted By: Kevin Ashley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200	Fax:
Title: Oth Operator		Specify: RWQCB	Global ID:
Signature: Date: 11/29/22	Sampled By: Kevin A / MARK G.		Specify State:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - OMM Baseline	Signature: Date: 11/29/22		
Project Number: 30106892			

Matrix: Ground | Sediment | Potable | Soil | NPDES | Other Solid | Surface | Water (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH; Filtered (250 mL poly)	Dissolved metals: iron, manganese (SW6020) HNO3; Filtered (500 mL poly)	Total chromium (SW6020) HNO3; NOT Filtered (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053815-001	RPWC_INF-11292 2	11/29/22	9 Am		X	X	X	E	3	PV	BNS	
2	-002	RPWC_EFF-11292 2	11/29/22	9:5A		X	X	X	E	3	PV	BNS	
3	-003	RPWC_MID-11292 2	11/29/22	9:30A		X	X	X	E	3	PV	BNS	
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Courier:

Tracking No.:

Sample Temp: 4.8°C

6. Method of Cooling: ICE

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Kevin Ashley	11/29/22 1620	Dante C.	11/29/22 16:20
Dante C.	11/29/22 19:05	Dante C.	11/29/22 19:05

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/29/2022	Workorder:	N053815
Rep sample Temp (Deg C):	4.0	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/1/2022

Reviewed By: for: MBC 12/03/2022

ASSET Laboratories

WORK ORDER Summary

03-Dec-22

WorkOrder: N053815

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053815-001A	RPWC_INF-112922	11/29/2022 9:00:00 AM	12/14/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053815-001B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053815-001C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053815-002A	RPWC_EFF-112922	11/29/2022 9:15:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053815-002B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053815-002C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053815-003A	RPWC_MID-112922	11/29/2022 9:30:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053815-003B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053815-003C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053815-004A	FOLDER	12/14/2022	12/14/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

03-Dec-22

WorkOrder: N053815

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053815-004A	FOLDER	12/14/2022	12/14/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/14/2022		Folder	Folder	☐	☐	☐	LAB

January 13, 2023

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053816

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 29, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (70 ug/L) and hexavalent chromium (36 ug/L) for sample N053816-001 (MW-60-125-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (39 ug/L) and hexavalent chromium (31 ug/L) for sample N053816-007 (MW-84-057-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (1.6 ug/L) and hexavalent chromium (2.8 ug/L) for sample N053816-008 (MW-84-095-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Laboratory Control Sample (LCS) recovery biased high for Nitrate in QC sample LCS1-R168193_NO3. Matrix Spike (MS) is outside recovery criteria for Nitrate in QC sample N053816-003B-MS.

RPD for Sample Duplicate (DUP) and Matrix Spike Duplicate (MSD) in QC samples N053816-003B-DUP and N053816-003B-MSD are outside criteria.

Nitrate results are reported as estimated values due to QC failures. Reanalysis was not possible due to instrument problem and samples were past holding time. Please see attached correspondence to client and Corrective Action Report 6668.

Analytical Comments for EPA 6020_Dissolved:

Method Blank (MB-96961) has detect greater than 1/2 the reporting limit for Arsenic. However, affected samples were non-detect (ND) for this analyte therefore reanalysis of the sampless was not necessary.

Matrix Spike (MS) is outside recovery criteria for some analytes in QC sample N053816-003C-MS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Because the results for total dissolved chromium (70 ug/L) and hexavalent chromium (36 ug/L) for sample N053816-001 (MW-60-125-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 82 and 60 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (39 ug/L) and hexavalent chromium (31 ug/L) for sample N053816-007 (MW-84-057-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 31 and 29 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (1.6 ug/L) and hexavalent chromium (2.8 ug/L) for sample N053816-008 (MW-84-095-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.6 and 3.2 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053816
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053816-001A	MW-60-125-Q422	Groundwater	11/29/2022 11:12:00 AM	11/29/2022	1/13/2023
N053816-001B	MW-60-125-Q422	Groundwater	11/29/2022 11:12:00 AM	11/29/2022	1/13/2023
N053816-001C	MW-60-125-Q422	Groundwater	11/29/2022 11:12:00 AM	11/29/2022	1/13/2023
N053816-002A	MW-60BR-245-Q422	Groundwater	11/29/2022 11:52:00 AM	11/29/2022	1/13/2023
N053816-002B	MW-60BR-245-Q422	Groundwater	11/29/2022 11:52:00 AM	11/29/2022	1/13/2023
N053816-003A	MW-72-080-Q422	Groundwater	11/29/2022 9:44:00 AM	11/29/2022	1/13/2023
N053816-003B	MW-72-080-Q422	Groundwater	11/29/2022 9:44:00 AM	11/29/2022	1/13/2023
N053816-003C	MW-72-080-Q422	Groundwater	11/29/2022 9:44:00 AM	11/29/2022	1/13/2023
N053816-004A	MW-72BR-200-Q422	Groundwater	11/29/2022 8:42:00 AM	11/29/2022	1/13/2023
N053816-004B	MW-72BR-200-Q422	Groundwater	11/29/2022 8:42:00 AM	11/29/2022	1/13/2023
N053816-005A	MW-73-080-Q422	Groundwater	11/29/2022 10:21:00 AM	11/29/2022	1/13/2023
N053816-005B	MW-73-080-Q422	Groundwater	11/29/2022 10:21:00 AM	11/29/2022	1/13/2023
N053816-005C	MW-73-080-Q422	Groundwater	11/29/2022 10:21:00 AM	11/29/2022	1/13/2023
N053816-006A	EB-732-Q422	Groundwater	11/29/2022 2:46:00 PM	11/29/2022	1/13/2023
N053816-007A	MW-84-057-Q422	Groundwater	11/29/2022 10:06:00 AM	11/29/2022	1/13/2023
N053816-007B	MW-84-057-Q422	Groundwater	11/29/2022 10:06:00 AM	11/29/2022	1/13/2023
N053816-007C	MW-84-057-Q422	Groundwater	11/29/2022 10:06:00 AM	11/29/2022	1/13/2023
N053816-008A	MW-84-095-Q422	Groundwater	11/29/2022 10:50:00 AM	11/29/2022	1/13/2023
N053816-008B	MW-84-095-Q422	Groundwater	11/29/2022 10:50:00 AM	11/29/2022	1/13/2023
N053816-008C	MW-84-095-Q422	Groundwater	11/29/2022 10:50:00 AM	11/29/2022	1/13/2023
N053816-009A	MW-84-132-Q422	Groundwater	11/29/2022 11:34:00 AM	11/29/2022	1/13/2023
N053816-009B	MW-84-132-Q422	Groundwater	11/29/2022 11:34:00 AM	11/29/2022	1/13/2023
N053816-009C	MW-84-132-Q422	Groundwater	11/29/2022 11:34:00 AM	11/29/2022	1/13/2023
N053816-010A	MW-84-193-Q422	Groundwater	11/29/2022 12:15:00 PM	11/29/2022	1/13/2023
N053816-010B	MW-84-193-Q422	Groundwater	11/29/2022 12:15:00 PM	11/29/2022	1/13/2023
N053816-010C	MW-84-193-Q422	Groundwater	11/29/2022 12:15:00 PM	11/29/2022	1/13/2023
N053816-011A	MW-93-050-Q422	Groundwater	11/29/2022 1:34:00 PM	11/29/2022	1/13/2023
N053816-011B	MW-93-050-Q422	Groundwater	11/29/2022 1:34:00 PM	11/29/2022	1/13/2023
N053816-012A	MW-93-213-Q422	Groundwater	11/29/2022 2:18:00 PM	11/29/2022	1/13/2023

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053816
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053816-012B	MW-93-213-Q422	Groundwater	11/29/2022 2:18:00 PM	11/29/2022	1/13/2023
N053816-013A	EB-733-Q422	Groundwater	11/29/2022 3:00:00 PM	11/29/2022	1/13/2023

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-60-125-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 11:12:00 AM
Lab ID: N053816-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	36	0.45	1.0		µg/L	5	12/14/2022 02:52 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	70	0.035	1.0		µg/L	1	12/2/2022 03:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-60BR-245-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 11:52:00 AM
Lab ID: N053816-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	14	0.45	1.0		µg/L	5	12/14/2022 03:15 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96961**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	13	0.035	1.0		µg/L	1	12/2/2022 03:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-72-080-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 9:44:00 AM
Lab ID: N053816-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221209B** QC Batch: **R168088**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	77	0.90	2.0		µg/L	10	12/9/2022 08:48 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	73	0.035	1.0		µg/L	1	11/30/2022 03:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-72BR-200-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 8:42:00 AM
Lab ID: N053816-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/14/2022 04:23 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 03:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-73-080-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 10:21:00 AM
Lab ID: N053816-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	14	0.45	1.0		µg/L	5	12/14/2022 04:46 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	14	0.035	1.0		µg/L	1	11/30/2022 03:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** EB-732-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:46:00 PM

Lab ID: N053816-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/14/2022 05:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-057-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 10:06:00 AM
Lab ID:	N053816-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214A** QC Batch: **R168181** PrepDate: Analyst: **AD**							
Hexavalent Chromium	31	0.45	1.0		µg/L	5	12/14/2022 06:40 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP7_221130A** QC Batch: **96962** PrepDate: **11/30/2022** Analyst: **DJ**							
Chromium	39	0.035	1.0		µg/L	1	11/30/2022 04:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-095-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 10:50:00 AM
Lab ID: N053816-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	2.8	0.090	0.20		µg/L	1	12/14/2022 07:03 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	1.6	0.035	1.0		µg/L	1	11/30/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-132-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 11:34:00 AM
Lab ID: N053816-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	2.6	0.45	1.0		µg/L	5	12/15/2022 03:09 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	2.5	0.035	1.0		µg/L	1	11/30/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-193-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:15:00 PM
Lab ID: N053816-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214A** QC Batch: **R168181** PrepDate: Analyst: **AD**							
Hexavalent Chromium	3.3	0.45	1.0		µg/L	5	12/14/2022 08:11 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP7_221130A** QC Batch: **96962** PrepDate: **11/30/2022** Analyst: **DJ**							
Chromium	3.3	0.035	1.0		µg/L	1	11/30/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-93-050-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:34:00 PM

Lab ID: N053816-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214A** QC Batch: **R168181** PrepDate: Analyst: **AD**							
Hexavalent Chromium	24	0.45	1.0		µg/L	5	12/14/2022 05:09 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP7_221130A** QC Batch: **96962** PrepDate: **11/30/2022** Analyst: **DJ**							
Chromium	23	0.035	1.0		µg/L	1	11/30/2022 04:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-93-213-Q422
Lab Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:18:00 PM
Lab ID: N053816-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/15/2022 05:48 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 04:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** EB-733-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 3:00:00 PM

Lab ID: N053816-013 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/14/2022 09:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.673	1.0	10.00	0	96.7	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.580	1.0	10.00	21.62	99.6	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.380	1.0	10.00	21.62	87.6	75	125	31.58	3.87	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96962**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **PBW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96962**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **LCSW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.516	1.0	10.00	0	95.2	85	115				

Sample ID: **N053816-003C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	77.877	1.0	10.00	72.95	49.3	75	125				S

Sample ID: **N053816-003C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	83.298	1.0	10.00	72.95	104	75	125	77.88	6.73	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168088** SampType: **LCS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **LCSW** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.897	0.20	5.000	0	97.9	90	110				

Sample ID: **MB1-R168088** SampType: **MBLK** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **PBW** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053787-009A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.945	1.0						23.67	3.12	20	

Sample ID: **N053787-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.027	1.0	25.00	23.67	93.4	90	110				

Sample ID: **N053787-009A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964840**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.810	1.0	25.00	23.67	92.6	90	110	47.03	0.461	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053787-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5830.600	100	2500	3397	97.4	90	110				

Sample ID: **N053787-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	475.985	10	250.0	230.7	98.1	90	110				

Sample ID: **N053788-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.595	1.0	5.000	0.8830	94.2	90	110				

Sample ID: **N053788-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.909	0.20	1.000	0	90.9	90	110				

Sample ID: **N053814-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168088**
Client ID: **ZZZZZZ** Batch ID: **R168088** TestNo: **EPA 218.6** Analysis Date: **12/9/2022** SeqNo: **4964860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.592	1.0	5.000	0.5550	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053814-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.327	1.0	5.000	0.8180	90.2	90	110				

Sample ID: **N053816-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168088**
Client ID: **ZZZZZZ**	Batch ID: **R168088**	TestNo: **EPA 218.6**		Analysis Date: **12/9/2022**	SeqNo: **4964872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	124.835	2.0	50.00	77.37	94.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168181**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **LCSW**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.862	0.20	5.000	0	97.2	90	110				

Sample ID: **MB1-R168181**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **PBW**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053853-010A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.380	1.0						38.23	0.381	20	

Sample ID: **N053853-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63.370	1.0	25.00	38.23	101	90	110				

Sample ID: **N053853-010A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63.407	1.0	25.00	38.23	101	90	110	63.37	0.0592	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.900	1.0	25.00	7.882	100	90	110				

Sample ID: **N053853-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.782	1.0	25.00	11.54	101	90	110				

Sample ID: **N053853-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5693.550	100	2500	3133	102	90	110				

Sample ID: **N053853-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3557.900	40	1000	2562	99.6	90	110				

Sample ID: **N053816-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	60.414	1.0	25.00	35.63	99.1	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.106	1.0	25.00	14.22	99.5	90	110				

Sample ID: **N053816-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.243	1.0	25.00	14.02	101	90	110				

Sample ID: **N053816-011A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	23.961	1.0						24.06	0.419	20	

Sample ID: **N053816-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.175	1.0	25.00	24.06	100	90	110				

Sample ID: **N053816-011A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.798	1.0	25.00	24.06	98.9	90	110	49.17	0.769	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.954	0.20	1.000	0	95.4	90	110				

Sample ID: **N053816-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.523	1.0	25.00	30.75	103	90	110				

Sample ID: **N053816-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.885	0.20	1.000	2.822	106	90	110				

Sample ID: **N053816-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.136	1.0	5.000	3.314	96.4	90	110				

Sample ID: **N053816-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	667.610	10	250.0	423.3	97.7	90	110				

Sample ID: **N053817-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12083.000	200	5000	7046	101	90	110				

Sample ID: **N053816-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4971749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.242	1.0	5.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168252**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **LCSW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R168252**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **PBW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053989-001A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.123	0.20						3.137	0.457	20	

Sample ID: **N053989-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.170	0.20	1.000	3.137	103	90	110				

Sample ID: **N053989-001A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.168	0.20	1.000	3.137	103	90	110	4.170	0.0528	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.863	1.0	5.000	2.578	106	90	110				

Sample ID: **N053817-009A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	87.873	1.0	25.00	63.42	97.8	90	110				

Sample ID: **N053816-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.252	1.0	5.000	0	105	90	110				

Sample ID: **N053817-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.683	2.0	50.00	61.48	98.4	90	110				

Sample ID: **N053817-011A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.190	1.0	5.000	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID: **N053873-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.092	0.20	1.000	1.055	104	90	110				

Sample ID: **N053873-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.948	0.20	1.000	0.8850	106	90	110				

Sample ID: **N053873-009A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.149	1.0						21.09	0.277	20	

Sample ID: **N053873-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.197	1.0	25.00	21.09	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-009A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.201	1.0	25.00	21.09	100	90	110	46.20	0.00866	20	

Sample ID: **N053873-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.572	0.20	1.000	0.6292	94.2	90	110				

Sample ID: **N053873-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.572	0.20	5.000	12.71	97.2	90	110				

Sample ID: **N053873-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.408	0.20	1.000	0.3365	107	90	110				

Sample ID: **N053873-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.565	0.20	1.000	1.577	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N053874-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.033	1.0	25.00	8.597	102	90	110				

Sample ID: **N053874-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.243	0.20	1.000	0.2328	101	90	110				

Sample ID: **N053873-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.116	1.0	5.000	0.9510	103	90	110				

Sample ID: **N053873-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.835	1.0	5.000	1.669	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	71.343	1.0	25.00	46.24	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053816-003C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**		Prep Date:			RunNo: **167808**			
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**		Analysis Date: **11/30/2022**			SeqNo: **4946737**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	79.677	1.0	10.00	72.95	67.3	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 11:12:00 AM
Lab ID:	N053816-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	2.6	0.024	0.25		mg/L	5	12/1/2022 03:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 9:44:00 AM
Lab ID:	N053816-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	1.3	0.024	0.25		mg/L	5	11/30/2022 11:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-73-080-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 10:21:00 AM
Lab ID:	N053816-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	1.4	0.0047	0.050		mg/L	1	12/1/2022 02:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-057-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 10:06:00 AM
Lab ID:	N053816-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	6.8	0.024	0.25		mg/L	5	12/1/2022 01:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-095-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 10:50:00 AM
Lab ID:	N053816-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	1.6	0.0047	0.050		mg/L	1	12/1/2022 02:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-132-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 11:34:00 AM
Lab ID:	N053816-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	1.5	0.0047	0.050		mg/L	1	12/1/2022 04:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-193-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 12:15:00 PM
Lab ID:	N053816-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	1.4	0.0047	0.050		mg/L	1	12/1/2022 05:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_300_W1_PGE

Sample ID: **LCS1-R168193_NO3**	SampType: **LCS**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **LCSW**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **11/30/2022**	SeqNo: **4971059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	1.389	0.050	1.250	0	111	90	110				S

Sample ID: **MB-R168193_NO3**	SampType: **MBLK**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **PBW**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **11/30/2022**	SeqNo: **4971060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	0.027	0.050									

Sample ID: **N053816-003B-DUP**	SampType: **DUP**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **ZZZZZZ**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **12/1/2022**	SeqNo: **4971064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	0.965	0.25						1.270	27.3	20	R

Sample ID: **N053816-003B-MS**	SampType: **MS**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **ZZZZZZ**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **12/1/2022**	SeqNo: **4971065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.563	0.25	6.250	1.270	68.7	80	120				S

Sample ID: **N053816-003B-MSD**	SampType: **MSD**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **ZZZZZZ**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **12/1/2022**	SeqNo: **4971066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	7.488	0.25	6.250	1.270	99.5	80	120	5.563	29.5	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q422
Lab Order:	N053816		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 11:12:00 AM
Lab ID:	N053816-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 03:47 AM
Manganese	13	0.026	0.50		µg/L	1	12/2/2022 03:47 AM
Molybdenum	16	0.12	0.50		µg/L	1	12/2/2022 03:47 AM
Selenium	5.0	0.044	0.50		µg/L	1	12/2/2022 03:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-60BR-245-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 11:52:00 AM

Lab ID: N053816-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96961**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/2/2022 03:53 AM
Manganese	ND	0.026	0.50		µg/L	1	12/2/2022 03:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-72-080-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 9:44:00 AM

Lab ID: N053816-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	12	0.050	0.10		µg/L	1	11/30/2022 03:16 PM
Manganese	64	0.026	0.50		µg/L	1	11/30/2022 03:16 PM
Molybdenum	82	0.12	0.50		µg/L	1	12/1/2022 06:47 PM
Selenium	1.7	0.044	0.50		µg/L	1	12/1/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-72BR-200-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 8:42:00 AM

Lab ID: N053816-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	8.2	0.050	0.10		µg/L	1	11/30/2022 03:39 PM
Manganese	330	0.13	2.5		µg/L	5	12/1/2022 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-73-080-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 10:21:00 AM

Lab ID: N053816-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	11/30/2022 03:44 PM
Manganese	24	0.026	0.50		µg/L	1	11/30/2022 03:44 PM
Molybdenum	47	0.12	0.50		µg/L	1	11/30/2022 03:44 PM
Selenium	2.2	0.044	0.50		µg/L	1	12/1/2022 07:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-057-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 10:06:00 AM

Lab ID: N053816-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	1.7	0.050	0.10		µg/L	1	12/1/2022 07:54 PM
Manganese	ND	0.026	0.50		µg/L	1	12/15/2022 08:35 PM
Molybdenum	22	0.12	0.50		µg/L	1	11/30/2022 04:03 PM
Selenium	4.6	0.044	0.50		µg/L	1	12/1/2022 07:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-095-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 10:50:00 AM

Lab ID: N053816-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	0.29	0.050	0.10		µg/L	1	11/30/2022 04:07 PM
Manganese	0.68	0.026	0.50		µg/L	1	12/1/2022 08:00 PM
Molybdenum	16	0.12	0.50		µg/L	1	11/30/2022 04:07 PM
Selenium	1.0	0.044	0.50		µg/L	1	12/7/2022 04:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-132-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 11:34:00 AM

Lab ID: N053816-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	11/30/2022 04:12 PM
Manganese	2.1	0.026	0.50		µg/L	1	11/30/2022 04:12 PM
Molybdenum	9.3	0.12	0.50		µg/L	1	11/30/2022 04:12 PM
Selenium	1.4	0.044	0.50		µg/L	1	12/2/2022 02:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-84-193-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:15:00 PM

Lab ID: N053816-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	4.8	0.050	0.10		µg/L	1	11/30/2022 04:17 PM
Manganese	ND	0.026	0.50		µg/L	1	11/30/2022 04:17 PM
Molybdenum	48	0.12	0.50		µg/L	1	11/30/2022 04:17 PM
Selenium	1.5	0.044	0.50		µg/L	1	12/1/2022 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-93-050-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:34:00 PM

Lab ID: N053816-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	11/30/2022 04:21 PM
Manganese	ND	0.026	0.50		µg/L	1	11/30/2022 04:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-93-213-Q422

Lab Order: N053816

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 2:18:00 PM

Lab ID: N053816-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/1/2022 08:18 PM
Manganese	100	0.026	0.50		µg/L	1	11/30/2022 04:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.072	0.50									

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.812	0.50	100.0	0	89.8	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	151.365	0.50	100.0	65.31	86.1	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	146.995	0.50	100.0	65.31	81.7	75	125	151.4	2.93	20	

Sample ID: **MB-96961**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **PBW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.080	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-96961**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **LCSW**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.404	0.10	10.00	0	94.0	85	115				
Molybdenum	10.220	0.50	10.00	0	102	85	115				
Selenium	9.704	0.50	10.00	0	97.0	85	115				

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.238	0.10	10.00	0	82.4	75	125				
Molybdenum	43.961	0.50	10.00	31.56	124	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4950903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.829	0.10	10.00	0	88.3	75	125	8.238	6.92	20	
Molybdenum	43.133	0.50	10.00	31.56	116	75	125	43.96	1.90	20	

Sample ID: **N053787-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.265	0.50	10.00	0.5464	87.2	75	125				

Sample ID: **N053787-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96961**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/2/2022**	SeqNo: **4977925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.277	0.50	10.00	0.5464	87.3	75	125	9.265	0.133	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96962**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **PBW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									

Sample ID: **LCS-96962**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **LCSW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.277	0.10	10.00	0	92.8	85	115				
Manganese	93.656	0.50	100.0	0	93.7	85	115				
Molybdenum	9.578	0.50	10.00	0	95.8	85	115				

Sample ID: **N053816-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.960	0.10	10.00	12.36	86.0	75	125				
Manganese	140.568	0.50	100.0	63.93	76.6	75	125				

Sample ID: **N053816-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.657	0.10	10.00	12.36	93.0	75	125	20.96	3.27	20	
Manganese	144.109	0.50	100.0	63.93	80.2	75	125	140.6	2.49	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96962**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **PBW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID: **LCS-96962**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **LCSW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.147	0.50	10.00	0	91.5	85	115				

Sample ID: **N053816-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	84.357	0.50	10.00	81.66	26.9	75	125				S
Selenium	10.314	0.50	10.00	1.742	85.7	75	125				

Sample ID: **N053816-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	89.945	0.50	10.00	81.66	82.8	75	125	84.36	6.41	20	
Selenium	10.942	0.50	10.00	1.742	92.0	75	125	10.31	5.92	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053816
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053816-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.298	0.10	10.00	12.36	89.4	80	120				
Manganese	143.377	0.50	100.0	63.93	79.5	80	120				S

Sample ID: **N053816-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	87.660	0.50	10.00	81.66	60.0	80	120				S
Selenium	10.704	0.50	10.00	1.742	89.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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P: 562.219.7435 F:562.219.7436
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CHAIN OF CUSTODY RECORD

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| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/29/2022 Workorder: N053816

Rep sample Temp (Deg C): 4.0/2.8/2.8 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/1/2022

Reviewed By: for: MBC 12/04/2022

Subject: Re: Topock - Late SDGs
From: Nancy Sibucao <nancy@assetlaboratories.com>
Date: 1/4/2023, 6:36 PM
To: Dan Moore <Daniel.Moore@locana.co>
CC: Tina Rice <Tina.Rice@locana.co>, "Madsen, Laura" <Laura.Madsen@arcadis.com>, "Marlon B. Cartin" <marlon@assetlaboratories.com>, Razoniel Bernardino <razoniel.bernardino@assetlaboratories.com>

Hi Dan, noted we'll work on it. Thank you!

Sent from my iPhone

> On Jan 4, 2023, at 6:24 AM, Dan Moore <Daniel.Moore@locana.co> wrote:
>
> HI Nancy/Marlon –
>
> My apologies!! Please go ahead and report and note in the case narrative that reanalysis was not possible due to the reasons we discussed.
>
> Laura, these samples will be flagged as estimated. There is a chance that nondetects could be rejected but I will need to dig in a little more when the whole package comes in.
>
> Sorry for missing the follow-up in my email!!
> Dan
>
> ---
>
> **From:** Nancy Sibucao <nancy@assetlaboratories.com>
> **Sent:** Tuesday, December 27, 2022 6:39 PM
> **To:** Dan Moore <Daniel.Moore@locana.co>; Tina Rice <Tina.Rice@locana.co>
> **Cc:** Madsen, Laura <laura.madsen@arcadis.com>; Marlon B. Cartin <marlon@assetlaboratories.com>
> **Subject:** Re: Topock - Late SDGs
>
> Hi Dan,
>
> I just forwarded it again. Here it is just in case. Please see attached result and QCs of anions in question. Please advise how you want us to proceed.
>
> Thanks,
> Nancy
>
> ---
>
> **From:** Dan Moore [mailto:Daniel.Moore@locana.co]
> **Sent:** Tuesday, December 27, 2022 at 3:03 PM
> **To:** Nancy Sibucao; Tina Rice
> **Cc:** Madsen, Laura; Marlon B. Cartin
> **Subject:** Topock - Late SDGs
>
> Hi Nancy –
> Did I miss the correspondence we discussed last week? I don't see it in my email.

Thanks!!
Dan

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Tuesday, December 27, 2022 4:44 PM
To: Tina Rice <Tina.Rice@locana.co>
Cc: Madsen, Laura <laura.madsen@arcadis.com>; Dan Moore <Daniel.Moore@locana.co>; Marlon B. Cartin <marlon@assetlaboratories.com>
Subject: Re: Topock - Late SDGs

Hi Tina,

It is, and we are still working on them and some still needs confirmation too. As for N053816 & 817, these SDGs have anions in question, just waiting for Dan's advice. I will update you maybe tomorrow as some will be reported today. Sorry for the delay.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@locana.co]
Sent: Tuesday, December 27, 2022 at 2:25 PM
To: Nancy Sibucao
Cc: Madsen, Laura; Dan Moore
Subject: Topock - Late SDGs

Hi Nancy,

This is the list I have of SDGs that are past du (or are due this week). Could you verify this matches your records:

Lab	WorkOrder	Sub Work Order	SampleDate	DateDue	Task_Code
BC Labs	N052945	N052945_	10/5/2022	10/25/2022	Phase 2a Construction
BC Labs	N053481	N053481_	11/8/2022	11/29/2022	PCM 2022-11 Sampling
BC Labs	N053503	N053503_	11/9/2022	11/29/2022	PCM 2022-11 Sampling
BC Labs	N053542	N053542_	11/10/2022	12/2/2022	PCM 2022-11 Sampling
BC Labs	N053634	N053634_	11/16/2022	12/6/2022	PCM 2022-11 Sampling
BC Labs	N053664	N053664_	11/17/2022	12/12/2022	PCM 2022-11 Sampling
BC Labs	N053688	N053688_	11/18/2022	12/12/2022	RCM 2022-11 Sampling
BC Labs	N053788	N053788_	11/28/2022	12/19/2022	IM3 2022-11 Sampling
BC Labs	N053814	N053814_	11/29/2022	12/19/2022	IM3 2022-11 Sampling
Asset	N053816		11/29/2022	12/14/2022	RCM 2022-11 Sampling
Asset	N053817		11/29/2022	12/14/2022	RCM 2022-11 Sampling
Asset	N053874		12/1/2022	12/16/2022	RCM 2022-11 Sampling
Asset	N053885		12/2/2022	12/19/2022	IM3 2022-11 Sampling
Asset	N053886		12/2/2022	12/19/2022	RCM 2022-11 Sampling
Asset	N053925		12/5/2022	12/20/2022	PCM 2022-12 Sampling
Asset	N053958		12/6/2022	12/21/2022	PCM 2022-12 Sampling
Asset	N053959		12/6/2022	12/21/2022	PCM 2022-12 Sampling
Asset	N053991		12/7/2022	12/22/2022	RCM 2022-12 Sampling
Asset	N053993		12/7/2022	12/22/2022	PCM 2022-12 Sampling
Asset	N053994		12/7/2022	12/22/2022	PCM 2022-12 Sampling

Asset	N054020		12/8/2022	12/23/2022	PCM 2022-12 Sampling
Asset	N054021		12/8/2022	12/23/2022	PCM 2022-12 Sampling
Asset	N054022		12/8/2022	12/23/2022	RCM 2022-11 Sampling
BC Labs	N054089	N054089_	12/12/2022	12/20/2022	DOM 2022-11 Sampling
Asset	N054089		12/12/2022	12/20/2022	DOM 2022-11 Sampling
Asset	N054096		12/13/2022	12/28/2022	RCM 2022-11 Sampling
ISOTECH	N054105	N054105_	12/13/2022	12/28/2022	Hyd6 2022-11 Sampling
Asset	N054106		12/13/2022	12/28/2022	OMM 2022-Q4 Sampling

Thanks,
Tina

Subject: Re: TOPOCK N053814, N053816 AND N052817 COC and Work Order Summary for Samples Received 11/29/2022
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Date: 12/1/2022, 12:35 PM
To: "Madsen, Laura" <Laura.Madsen@arcadis.com>, ASSET Sample Control CA <samplecontrol@assetlaboratories.com>, "marlon@assetlaboratories.com" <marlon@assetlaboratories.com>, Tina Rice <Tina.Rice@locana.co>

Hi Laura,

Dissolved Arsenic has been logged in.

Thanks,

On 12/1/2022 11:18 AM, Madsen, Laura wrote:

> Hi Yoandra,
> There was a typo on the COC and the following samples need to also be logged in for dissolved Arsenic. Can you please revise the login?
>
> | Sample Name | chemical_name |
> |---|---|
> | MW-60-125-Q422 | Arsenic, dissolved |
> | MW-60BR-245-Q422 | Arsenic, dissolved |
> | MW-72-080-Q422 | Arsenic, dissolved |
> | MW-72BR-200-Q422 | Arsenic, dissolved |
> | MW-73-080-Q422 | Arsenic, dissolved |
> | MW-84-057-Q422 | Arsenic, dissolved |
> | MW-84-095-Q422 | Arsenic, dissolved |
> | MW-84-132-Q422 | Arsenic, dissolved |
> | MW-84-193-Q422 | Arsenic, dissolved |
> | MW-93-050-Q422 | Arsenic, dissolved |
> | MW-93-213-Q422 | Arsenic, dissolved |
>
> Thanks!
>
> **Laura Madsen** PG
> Project Geologist
> Arcadis U.S., Inc.
> M +1 303 653 5749
>
> **From:** ASSET Sample Control CA <samplecontrol@assetlaboratories.com>
> **Sent:** Wednesday, November 30, 2022 8:38 PM
> **To:** Bush, Dan <Dan.Bush@arcadis.com>; Dan Moore <Daniel.Moore@critigen.com>; Madsen, Laura <Laura.Madsen@arcadis.com>
> **Cc:** Tina Rice <Tina.Rice@critigen.com>; Harmon, Alison <Ali.Harmon@arcadis.com>; Erica.Serna@arcadis.com; Bloes, Marty <mbloes@pivox.com>; ntep@blainetech.com
> **Subject:** TOPOCK N053814, N053816 AND N052817 COC and Work Order Summary for Samples Received 11/29/2022

ASSET Laboratories

Corrective Action Report (CAR)

Date Initiated: 28-Dec-22 **Corrective Action Report ID:** 6668

Initiated By: Ashley Marie DaSilva **Department:** CA_II

Corrective Action Description

CAR Summary: QCs (CCVs) did not pass between sample runs.

Description of Nonconformance: For WO N053816 and N053817, samples were received with a short HT. Analyst did not review historical data and did not follow dilution for high chloride concentrations for PGE samples. Initial runs were priority to analyze within holding time, and the chloride concentrations may have caused CCVs to fail. ICV/LCS passed. Analyst was not aware of extended holding time (96HR), and did not analyze immediately after knowledge of QC failure.

Description of Corrective Action: Analyst will review historical data for appropriate dilutions before analyzing samples. If QCs are not passing, analyst will immediately reanalyze within the extended holding time.

Performed By: Ashley Marie DaSilva **Completion Date:** 28-Dec-22

Client Notification

Client Notification Required: ~~No~~ Yes **Notified By:** Nancy Sibucao

Comment:

Quality Assurance Review

Corrective Action: Deficiency

Further Action required by QA:

Approval and Closure

CAR Closed By: _____ Close Date:

QA Reviewed By: JRB 1/9/2023 QA Date:

Last Updated BY AshleyD Updated: 28-Dec-2022 4:45 PM Reported: 05-Jan-2023 3:11 PM

ASSET Laboratories

WORK ORDER Summary

30-Nov-22

WorkOrder: N053816

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053816-001A	MW-60-125-Q422	11/29/2022 11:12:00 AM	12/14/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-001B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-001C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-002A	MW-60BR-245-Q422	11/29/2022 11:52:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-002B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-003A	MW-72-080-Q422	11/29/2022 9:44:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-003B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-003C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-004A	MW-72BR-200-Q422	11/29/2022 8:42:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-004B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-005A	MW-73-080-Q422	11/29/2022 10:21:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-005B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-005C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Nov-22

WorkOrder: N053816

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053816-005C	MW-73-080-Q422	11/29/2022 10:21:00 AM	12/14/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-006A	EB-732-Q422	11/29/2022 2:46:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-007A	MW-84-057-Q422	11/29/2022 10:06:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-007B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-007C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-008A	MW-84-095-Q422	11/29/2022 10:50:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-008B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-008C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-009A	MW-84-132-Q422	11/29/2022 11:34:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-009B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-009C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-010A	MW-84-193-Q422	11/29/2022 12:15:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-010B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053816-010C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Nov-22

WorkOrder: N053816

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053816-011A	MW-93-050-Q422	11/29/2022 1:34:00 PM	12/14/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-011B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-012A	MW-93-213-Q422	11/29/2022 2:18:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-012B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053816-013A	EB-733-Q422	11/29/2022 3:00:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053816-014A	FOLDER	12/14/2022	12/14/2022		Folder	Folder	☐	☐	☐	LAB
			12/14/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/14/2022		Folder	Folder	☐	☐	☐	LAB

January 10, 2023

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053817

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 29, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (670 ug/L) and hexavalent chromium (420 ug/L) for sample N053817-001 (MW-66-165-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.2 ug/L) and hexavalent chromium (0 ug/L) for sample N053817-006 (MW-62-110-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (87 ug/L) and hexavalent chromium (61 ug/L) for sample N053817-010 (MW-934-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Laboratory Control Sample (LCS) recovery biased high for Nitrate in QC sample LCS1-R168193_NO3. Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrate in QC samples N053816-003B-MS and N053817-011B-MSD.

RPD for Sample Duplicate (DUP) and Matrix Spike Duplicate (MSD) in QC samples N053816-003B-DUP, N053816-003B-MSD and N053817-011B-MSD are outside criteria.

Nitrate results are reported as estimated values due to QC failures. Reanalysis was not possible due to instrument problem and samples were past holding time. Please see attached correspondence to client and Corrective Action Report 6668.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) is outside recovery criteria for some analytes in QC sample N053816-003C-MS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Because the results for total dissolved chromium (670 ug/L) and hexavalent chromium (420 ug/L) for sample N053817-001 (MW-66-165-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 590 and 460 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.2 ug/L) and hexavalent chromium (0 ug/L) for sample N053817-006 (MW-62-110-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.2 and 0.72 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (87 ug/L) and hexavalent chromium (61 ug/L) for sample N053817-010 (MW-934-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 84 and 63 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053817
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053817-001A	MW-66-165-Q422	Groundwater	11/29/2022 1:16:00 PM	11/29/2022	1/10/2023
N053817-001B	MW-66-165-Q422	Groundwater	11/29/2022 1:16:00 PM	11/29/2022	1/10/2023
N053817-001C	MW-66-165-Q422	Groundwater	11/29/2022 1:16:00 PM	11/29/2022	1/10/2023
N053817-002A	MW-66-230-Q422	Groundwater	11/29/2022 12:12:00 PM	11/29/2022	1/10/2023
N053817-002B	MW-66-230-Q422	Groundwater	11/29/2022 12:12:00 PM	11/29/2022	1/10/2023
N053817-002C	MW-66-230-Q422	Groundwater	11/29/2022 12:12:00 PM	11/29/2022	1/10/2023
N053817-003A	MW-936-Q422	Groundwater	11/29/2022 12:22:00 PM	11/29/2022	1/10/2023
N053817-003B	MW-936-Q422	Groundwater	11/29/2022 12:22:00 PM	11/29/2022	1/10/2023
N053817-003C	MW-936-Q422	Groundwater	11/29/2022 12:22:00 PM	11/29/2022	1/10/2023
N053817-004A	EB-731-Q422	Groundwater	11/29/2022 2:45:00 PM	11/29/2022	1/10/2023
N053817-005A	MW-15-Q422	Groundwater	11/29/2022 8:48:00 AM	11/29/2022	1/10/2023
N053817-005B	MW-15-Q422	Groundwater	11/29/2022 8:48:00 AM	11/29/2022	1/10/2023
N053817-006A	MW-62-110-Q422	Groundwater	11/29/2022 3:15:00 PM	11/29/2022	1/10/2023
N053817-006B	MW-62-110-Q422	Groundwater	11/29/2022 3:15:00 PM	11/29/2022	1/10/2023
N053817-006C	MW-62-110-Q422	Groundwater	11/29/2022 3:15:00 PM	11/29/2022	1/10/2023
N053817-007A	MW-62-190-Q422	Groundwater	11/29/2022 3:00:00 PM	11/29/2022	1/10/2023
N053817-007B	MW-62-190-Q422	Groundwater	11/29/2022 3:00:00 PM	11/29/2022	1/10/2023
N053817-007C	MW-62-190-Q422	Groundwater	11/29/2022 3:00:00 PM	11/29/2022	1/10/2023
N053817-008A	MW-63-065-Q422	Groundwater	11/29/2022 9:54:00 AM	11/29/2022	1/10/2023
N053817-008B	MW-63-065-Q422	Groundwater	11/29/2022 9:54:00 AM	11/29/2022	1/10/2023
N053817-008C	MW-63-065-Q422	Groundwater	11/29/2022 9:54:00 AM	11/29/2022	1/10/2023
N053817-009A	MW-61-110-Q422	Groundwater	11/29/2022 1:22:00 PM	11/29/2022	1/10/2023
N053817-009B	MW-61-110-Q422	Groundwater	11/29/2022 1:22:00 PM	11/29/2022	1/10/2023
N053817-009C	MW-61-110-Q422	Groundwater	11/29/2022 1:22:00 PM	11/29/2022	1/10/2023
N053817-010A	MW-934-Q422	Groundwater	11/29/2022 1:32:00 PM	11/29/2022	1/10/2023
N053817-010B	MW-934-Q422	Groundwater	11/29/2022 1:32:00 PM	11/29/2022	1/10/2023
N053817-010C	MW-934-Q422	Groundwater	11/29/2022 1:32:00 PM	11/29/2022	1/10/2023
N053817-011A	MW-64BR-Q422	Groundwater	11/29/2022 12:36:00 PM	11/29/2022	1/10/2023
N053817-011B	MW-64BR-Q422	Groundwater	11/29/2022 12:36:00 PM	11/29/2022	1/10/2023

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053817
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053817-011C	MW-64BR-Q422	Groundwater	11/29/2022 12:36:00 PM	11/29/2022	1/10/2023
N053817-012A	MW-935-Q422	Groundwater	11/29/2022 12:46:00 PM	11/29/2022	1/10/2023
N053817-012B	MW-935-Q422	Groundwater	11/29/2022 12:46:00 PM	11/29/2022	1/10/2023
N053817-012C	MW-935-Q422	Groundwater	11/29/2022 12:46:00 PM	11/29/2022	1/10/2023

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-66-165-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:16:00 PM
Lab ID: N053817-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	420	4.5	10		µg/L	50	12/14/2022 09:42 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	670	0.18	5.0		µg/L	5	12/1/2022 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-66-230-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:12:00 PM

Lab ID: N053817-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	7000	90	200		µg/L	1000	12/14/2022 10:05 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221201B** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	6500	18	500		µg/L	500	12/1/2022 08:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-936-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:22:00 PM

Lab ID: N053817-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214B** QC Batch: **R168208** PrepDate: Analyst: **AD**							
Hexavalent Chromium	7000	90	200		µg/L	1000	12/14/2022 11:59 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221201B** QC Batch: **96962** PrepDate: **11/30/2022** Analyst: **DJ**							
Chromium	7000	18	500		µg/L	500	12/1/2022 09:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-731-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 2:45:00 PM
Lab ID:	N053817-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214B** QC Batch: **R168208** PrepDate: Analyst: **AD**							
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/15/2022 12:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-15-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 8:48:00 AM
Lab ID: N053817-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214B** QC Batch: **R168208**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	12	0.18	0.40		µg/L	2	12/14/2022 11:13 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	11/30/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-62-110-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 3:15:00 PM

Lab ID: N053817-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221214B** QC Batch: **R168208** PrepDate: Analyst: **AD**							
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/15/2022 01:30 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP7_221130A** QC Batch: **96962** PrepDate: **11/30/2022** Analyst: **DJ**							
Chromium	2.2	0.035	1.0		µg/L	1	11/30/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-62-190-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 3:00:00 PM
Lab ID: N053817-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214B** QC Batch: **R168208**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/15/2022 02:16 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 05:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-63-065-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 9:54:00 AM
Lab ID: N053817-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214B** QC Batch: **R168208**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.5	0.090	0.20		µg/L	1	12/15/2022 02:39 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	11/30/2022 05:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-61-110-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:22:00 PM
Lab ID: N053817-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	63	0.45	1.0		µg/L	5	12/15/2022 04:17 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	66	0.035	1.0		µg/L	1	11/30/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-934-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:32:00 PM
Lab ID: N053817-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	61	0.90	2.0		µg/L	10	12/15/2022 04:40 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	87	0.035	1.0		µg/L	1	11/30/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-64BR-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:36:00 PM

Lab ID: N053817-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/15/2022 06:45 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP7_221130A** QC Batch: **96962**				PrepDate:	**11/30/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 05:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-935-Q422
Lab Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:46:00 PM
Lab ID: N053817-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/15/2022 07:08 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP7_221130A** QC Batch: **96962** PrepDate: **11/30/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	11/30/2022 05:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96962**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **PBW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96962**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **LCSW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.516	1.0	10.00	0	95.2	85	115				

Sample ID: **N053816-003C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	77.877	1.0	10.00	72.95	49.3	75	125				S

Sample ID: **N053816-003C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167808**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	83.298	1.0	10.00	72.95	104	75	125	77.88	6.73	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168181**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **LCSW**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.862	0.20	5.000	0	97.2	90	110				

Sample ID: **MB1-R168181**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **PBW**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053853-010A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.380	1.0						38.23	0.381	20	

Sample ID: **N053853-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63.370	1.0	25.00	38.23	101	90	110				

Sample ID: **N053853-010A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63.407	1.0	25.00	38.23	101	90	110	63.37	0.0592	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.900	1.0	25.00	7.882	100	90	110				

Sample ID: **N053853-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.782	1.0	25.00	11.54	101	90	110				

Sample ID: **N053853-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5693.550	100	2500	3133	102	90	110				

Sample ID: **N053853-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3557.900	40	1000	2562	99.6	90	110				

Sample ID: **N053816-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	60.414	1.0	25.00	35.63	99.1	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.106	1.0	25.00	14.22	99.5	90	110				

Sample ID: **N053816-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.243	1.0	25.00	14.02	101	90	110				

Sample ID: **N053816-011A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	23.961	1.0						24.06	0.419	20	

Sample ID: **N053816-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.175	1.0	25.00	24.06	100	90	110				

Sample ID: **N053816-011A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.798	1.0	25.00	24.06	98.9	90	110	49.17	0.769	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.954	0.20	1.000	0	95.4	90	110				

Sample ID: **N053816-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.523	1.0	25.00	30.75	103	90	110				

Sample ID: **N053816-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.885	0.20	1.000	2.822	106	90	110				

Sample ID: **N053816-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.136	1.0	5.000	3.314	96.4	90	110				

Sample ID: **N053816-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	667.610	10	250.0	423.3	97.7	90	110				

Sample ID: **N053817-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12083.000	200	5000	7046	101	90	110				

Sample ID: **N053816-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4971749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.242	1.0	5.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168208**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168208**
Client ID: **LCSW**	Batch ID: **R168208**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.838	0.20	5.000	0	96.8	90	110				

Sample ID: **MB1-R168208**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168208**
Client ID: **PBW**	Batch ID: **R168208**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053817-005A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168208**
Client ID: **ZZZZZZ**	Batch ID: **R168208**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.648	0.40						11.67	0.209	20	

Sample ID: **N053817-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168208**
Client ID: **ZZZZZZ**	Batch ID: **R168208**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.572	0.40	10.00	11.67	99.0	90	110				

Sample ID: **N053817-005A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168208**
Client ID: **ZZZZZZ**	Batch ID: **R168208**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.597	0.40	10.00	11.67	99.2	90	110	21.57	0.117	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168208**
Client ID: **ZZZZZZ** Batch ID: **R168208** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4971623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12173.700	200	5000	6979	104	90	110				

Sample ID: **N053817-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168208**
Client ID: **ZZZZZZ** Batch ID: **R168208** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4971625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110				

Sample ID: **N053817-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168208**
Client ID: **ZZZZZZ** Batch ID: **R168208** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4971631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.123	1.0	5.000	0	102	90	110				

Sample ID: **N053817-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168208**
Client ID: **ZZZZZZ** Batch ID: **R168208** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4971635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.228	1.0	5.000	0	105	90	110				

Sample ID: **N053817-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168208**
Client ID: **ZZZZZZ** Batch ID: **R168208** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4971637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.521	0.20	1.000	1.472	105	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168252**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **LCSW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R168252**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **PBW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053989-001A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.123	0.20						3.137	0.457	20	

Sample ID: **N053989-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.170	0.20	1.000	3.137	103	90	110				

Sample ID: **N053989-001A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.168	0.20	1.000	3.137	103	90	110	4.170	0.0528	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.863	1.0	5.000	2.578	106	90	110				

Sample ID: **N053817-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	87.873	1.0	25.00	63.42	97.8	90	110				

Sample ID: **N053816-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.252	1.0	5.000	0	105	90	110				

Sample ID: **N053817-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.683	2.0	50.00	61.48	98.4	90	110				

Sample ID: **N053817-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.190	1.0	5.000	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID: **N053873-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.092	0.20	1.000	1.055	104	90	110				

Sample ID: **N053873-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.948	0.20	1.000	0.8850	106	90	110				

Sample ID: **N053873-009A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.149	1.0						21.09	0.277	20	

Sample ID: **N053873-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.197	1.0	25.00	21.09	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-009A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.201	1.0	25.00	21.09	100	90	110	46.20	0.00866	20	

Sample ID: **N053873-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.572	0.20	1.000	0.6292	94.2	90	110				

Sample ID: **N053873-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.572	0.20	5.000	12.71	97.2	90	110				

Sample ID: **N053873-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.408	0.20	1.000	0.3365	107	90	110				

Sample ID: **N053873-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.565	0.20	1.000	1.577	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N053874-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.033	1.0	25.00	8.597	102	90	110				

Sample ID: **N053874-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.243	0.20	1.000	0.2328	101	90	110				

Sample ID: **N053873-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.116	1.0	5.000	0.9510	103	90	110				

Sample ID: **N053873-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.835	1.0	5.000	1.669	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	71.343	1.0	25.00	46.24	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053816-003C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167808**
Client ID: **ZZZZZZ** Batch ID: **96962** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **11/30/2022** SeqNo: **4946737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	79.677	1.0	10.00	72.95	67.3	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-165-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 1:16:00 PM
Lab ID:	N053817-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C**	QC Batch: **R168196**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	10	0.024	0.25		mg/L	5	12/1/2022 10:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 12:12:00 PM
Lab ID:	N053817-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	7.3	0.024	0.25		mg/L	5	12/1/2022 04:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-936-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 12:22:00 PM
Lab ID:	N053817-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C** QC Batch: **R168196**				PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	17	0.047	0.50		mg/L	10	12/1/2022 07:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 3:15:00 PM
Lab ID:	N053817-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C**	QC Batch: **R168196**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	ND	0.047	0.50		mg/L	10	12/1/2022 02:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-62-190-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 3:00:00 PM

Lab ID: N053817-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C** QC Batch: **R168196**				PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	ND	0.024	0.25		mg/L	5	12/1/2022 11:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 9:54:00 AM
Lab ID:	N053817-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130B**	QC Batch: **R168193**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	1.4	0.0047	0.050		mg/L	1	12/1/2022 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-61-110-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 1:22:00 PM
Lab ID:	N053817-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C**	QC Batch: **R168196**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	0.40	0.024	0.25		mg/L	5	12/1/2022 10:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-934-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 1:32:00 PM
Lab ID:	N053817-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C**	QC Batch: **R168196**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	0.46	0.024	0.25		mg/L	5	12/1/2022 11:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 12:36:00 PM
Lab ID:	N053817-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C**	QC Batch: **R168196**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	ND	0.024	0.25		mg/L	5	12/1/2022 08:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-935-Q422
Lab Order:	N053817		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/29/2022 12:46:00 PM
Lab ID:	N053817-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **CA01638-IC02_221130C**	QC Batch: **R168196**			PrepDate:			Analyst: **CR**
Nitrogen, Nitrate (As N)	ND	0.024	0.25		mg/L	5	12/1/2022 09:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_300_W1_PGE

Sample ID: **LCS1-R168193_NO3**	SampType: **LCS**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **LCSW**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **11/30/2022**	SeqNo: **4971059**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	1.389	0.050	1.250	0	111	90	110				S

Sample ID: **MB-R168193_NO3**	SampType: **MBLK**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **PBW**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **11/30/2022**	SeqNo: **4971060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	0.027	0.050									

Sample ID: **N053816-003B-DUP**	SampType: **DUP**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **ZZZZZZ**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **12/1/2022**	SeqNo: **4971064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	0.965	0.25						1.270	27.3	20	R

Sample ID: **N053816-003B-MS**	SampType: **MS**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **ZZZZZZ**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **12/1/2022**	SeqNo: **4971065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	5.563	0.25	6.250	1.270	68.7	80	120				S

Sample ID: **N053816-003B-MSD**	SampType: **MSD**	TestCode: **CA_300_W1_**	Units: **mg/L**	Prep Date:	RunNo: **168193**
Client ID: **ZZZZZZ**	Batch ID: **R168193**	TestNo: **EPA 300.0**		Analysis Date: **12/1/2022**	SeqNo: **4971066**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	7.488	0.25	6.250	1.270	99.5	80	120	5.563	29.5	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_300_W1_PGE

Sample ID: **LCS1-R168196_NO3** SampType: **LCS** TestCode: **CA_300_W1_** Units: **mg/L** Prep Date: RunNo: **168196**
Client ID: **LCSW** Batch ID: **R168196** TestNo: **EPA 300.0** Analysis Date: **12/1/2022** SeqNo: **4977462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	1.318	0.050	1.250	0	105	90	110				

Sample ID: **MB-R168196_NO3** SampType: **MBLK** TestCode: **CA_300_W1_** Units: **mg/L** Prep Date: RunNo: **168196**
Client ID: **PBW** Batch ID: **R168196** TestNo: **EPA 300.0** Analysis Date: **12/1/2022** SeqNo: **4977463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.050									

Sample ID: **N053817-011B-DUP** SampType: **DUP** TestCode: **CA_300_W1_** Units: **mg/L** Prep Date: RunNo: **168196**
Client ID: **ZZZZZZ** Batch ID: **R168196** TestNo: **EPA 300.0** Analysis Date: **12/1/2022** SeqNo: **4977466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	ND	0.25						0	0	20	

Sample ID: **N053817-011B-MS** SampType: **MS** TestCode: **CA_300_W1_** Units: **mg/L** Prep Date: RunNo: **168196**
Client ID: **ZZZZZZ** Batch ID: **R168196** TestNo: **EPA 300.0** Analysis Date: **12/1/2022** SeqNo: **4977467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	6.063	0.25	6.250	0	97.0	80	120				

Sample ID: **N053817-011B-MSD** SampType: **MSD** TestCode: **CA_300_W1_** Units: **mg/L** Prep Date: RunNo: **168196**
Client ID: **ZZZZZZ** Batch ID: **R168196** TestNo: **EPA 300.0** Analysis Date: **12/1/2022** SeqNo: **4977468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate (As N)	4.561	0.25	6.250	0	73.0	80	120	6.063	28.3	20	SR

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-66-165-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:16:00 PM

Lab ID: N053817-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**			PrepDate:	**11/30/2022**		Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	11/30/2022 04:31 PM
Manganese	24	0.026	0.50		µg/L	1	11/30/2022 04:31 PM
Molybdenum	4.5	0.12	0.50		µg/L	1	11/30/2022 04:31 PM
Selenium	13	0.044	0.50		µg/L	1	12/1/2022 08:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-66-230-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:12:00 PM

Lab ID: N053817-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	13	0.25	0.50		µg/L	5	11/30/2022 04:35 PM
Manganese	24	0.13	2.5		µg/L	5	11/30/2022 04:35 PM
Molybdenum	93	0.60	2.5		µg/L	5	11/30/2022 04:35 PM
Selenium	15	0.22	2.5		µg/L	5	12/1/2022 08:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-936-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:22:00 PM

Lab ID: N053817-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	12	0.25	0.50		µg/L	5	11/30/2022 04:40 PM
Manganese	19	0.13	2.5		µg/L	5	11/30/2022 04:40 PM
Molybdenum	73	0.60	2.5		µg/L	5	11/30/2022 04:40 PM
Selenium	12	0.22	2.5		µg/L	5	12/1/2022 09:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-15-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 8:48:00 AM

Lab ID: N053817-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	11/30/2022 04:59 PM
Manganese	ND	0.026	0.50		µg/L	1	11/30/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-62-110-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 3:15:00 PM

Lab ID: N053817-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	6.5	0.050	0.10		µg/L	1	11/30/2022 05:03 PM
Manganese	450	0.13	2.5		µg/L	5	12/1/2022 09:23 PM
Molybdenum	50	0.12	0.50		µg/L	1	11/30/2022 05:03 PM
Selenium	0.86	0.044	0.50		µg/L	1	12/1/2022 09:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-62-190-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 3:00:00 PM

Lab ID: N053817-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	4.0	0.050	0.10		µg/L	1	11/30/2022 05:08 PM
Manganese	480	0.13	2.5		µg/L	5	12/1/2022 09:34 PM
Molybdenum	35	0.12	0.50		µg/L	1	11/30/2022 05:08 PM
Selenium	ND	0.044	0.50		µg/L	1	12/1/2022 09:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-63-065-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 9:54:00 AM

Lab ID: N053817-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	11/30/2022 05:13 PM
Manganese	1.8	0.026	0.50		µg/L	1	11/30/2022 05:13 PM
Molybdenum	14	0.12	0.50		µg/L	1	11/30/2022 05:13 PM
Selenium	1.0	0.044	0.50		µg/L	1	12/1/2022 09:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-61-110-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:22:00 PM

Lab ID: N053817-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	2.9	0.050	0.10		µg/L	1	11/30/2022 05:18 PM
Manganese	570	0.13	2.5		µg/L	5	12/1/2022 09:52 PM
Molybdenum	20	0.12	0.50		µg/L	1	11/30/2022 05:18 PM
Selenium	0.87	0.044	0.50		µg/L	1	12/7/2022 04:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-934-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 1:32:00 PM

Lab ID: N053817-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate:	**11/30/2022**	Analyst: **DJ**
Arsenic	3.2	0.050	0.10		µg/L	1	11/30/2022 05:22 PM
Manganese	630	0.13	2.5		µg/L	5	12/1/2022 10:22 PM
Molybdenum	21	0.12	0.50		µg/L	1	11/30/2022 05:22 PM
Selenium	0.97	0.044	0.50		µg/L	1	12/2/2022 02:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-64BR-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:36:00 PM

Lab ID: N053817-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221201C**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/1/2022 10:28 PM
Manganese	1600	0.26	5.0		µg/L	10	12/1/2022 10:34 PM
Molybdenum	31	0.12	0.50		µg/L	1	11/30/2022 05:27 PM
Selenium	ND	0.044	0.50		µg/L	1	12/1/2022 10:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-935-Q422

Lab Order: N053817

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/29/2022 12:46:00 PM

Lab ID: N053817-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP7_221130B**	QC Batch: **96962**				PrepDate: **11/30/2022**		Analyst: **DJ**
Arsenic	0.92	0.050	0.10		µg/L	1	11/30/2022 05:32 PM
Manganese	1400	0.26	5.0		µg/L	10	12/1/2022 10:46 PM
Molybdenum	28	0.12	0.50		µg/L	1	11/30/2022 05:32 PM
Selenium	ND	0.044	0.50		µg/L	1	12/1/2022 10:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96962**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **PBW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									

Sample ID: **LCS-96962**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **LCSW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.277	0.10	10.00	0	92.8	85	115				
Manganese	93.656	0.50	100.0	0	93.7	85	115				
Molybdenum	9.578	0.50	10.00	0	95.8	85	115				

Sample ID: **N053816-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.960	0.10	10.00	12.36	86.0	75	125				
Manganese	140.568	0.50	100.0	63.93	76.6	75	125				

Sample ID: **N053816-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.657	0.10	10.00	12.36	93.0	75	125	20.96	3.27	20	
Manganese	144.109	0.50	100.0	63.93	80.2	75	125	140.6	2.49	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96962**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **PBW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID: **LCS-96962**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **LCSW**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.147	0.50	10.00	0	91.5	85	115				

Sample ID: **N053816-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	84.357	0.50	10.00	81.66	26.9	75	125				S
Selenium	10.314	0.50	10.00	1.742	85.7	75	125				

Sample ID: **N053816-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **11/30/2022**	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	89.945	0.50	10.00	81.66	82.8	75	125	84.36	6.41	20	
Selenium	10.942	0.50	10.00	1.742	92.0	75	125	10.31	5.92	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053817
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053816-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167810**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **11/30/2022**	SeqNo: **4946808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.298	0.10	10.00	12.36	89.4	80	120				
Manganese	143.377	0.50	100.0	63.93	79.5	80	120				S

Sample ID: **N053816-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167845**
Client ID: **ZZZZZZ**	Batch ID: **96962**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/1/2022**	SeqNo: **4950837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	87.660	0.50	10.00	81.66	60.0	80	120				S
Selenium	10.704	0.50	10.00	1.742	89.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
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CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement / QA/QC
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95661	Email:	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec / CalTrans
Submitted By: Rissie Top	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Others ✓ / LEVEL III
Title: Field Tech			Specify: RWQCB / LEVEL IV
Signature: Date: 11/29/22	Sampled By: Rissie Top		Global ID: / Regulatory
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Specify State:
Project Name: PG&E Topock - RCM	Signature: Date: 11/29/22		
Project Number: 30121866.4Q22GW			

Matrix: Ground (X), Sediment; Potable, Soil; NPDES, Other Solid; Surface

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		

Sample Temp: 1.8/2.8 °C/2.8°C

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	125mL poly: Nitrate/Nitrite as Nitrogen (SM4500); H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053817-001	MW-66-165-Q422	11/29/2022	13:16		X	X	X	X	X		E	3	P	BNS	
2	-002	MW-66-230-Q422	11/29/2022	12:12		X	X	X	X	X		E	3	P	BNS	
3	-003	MW-936-Q422	11/29/2022	12:22		X	X	X	X	X		E	3	P	BNS	
4	-004	EB-731-Q422	11/29/2022	14:45		X						E	1	P	BNS	
5	-005	MW-15-Q422	11/29/2022	8:48		X		X	X			E	2	P	BNS	
	-006	MW-62-110-Q422	11/29/2022	15:15		X	X	X	X	X		E	3	P	BNS	
7	-007	MW-62-190-Q422	11/29/2022	15:00		X	X	X	X	X		E	3	P	BNS	
8	-008	MW-63-065-Q422	11/29/2022	9:54		X	X	X	X	X		E	3	P	BNS	
9	-009	MW-61-110-Q422	11/29/2022	13:22		X	X	X	X	X		E	3	P	BNS	
10	-010	MW-934-Q422	11/29/2022	13:32		X	X	X	X	X		E	3	P	BNS	
11	-011	MW-64BR-Q422	11/29/2022	12:36		X	X	X	X	X		E	3	P	BNS	
12	-012	MW-935-Q422	11/29/2022	12:46		X	X	X	X	X		E	3	P	BNS	
13																
14																

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Rissie Top	11/29/22 1620	Dante Ortiz Dante O.	11/29/22 16:10
Dante Ortiz Dante O.	11/29/22 19:05	Dante Ortiz Dante O.	11/29/22 19:05
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are not 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analyses, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 11/29/2022 Workorder: N053817

Rep sample Temp (Deg C): 4.0/2.8/2.8 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/1/2022

Reviewed By: for: MBC 12/04/2022

Subject: Re: Topock - Late SDGs
From: Nancy Sibucao <nancy@assetlaboratories.com>
Date: 1/4/2023, 6:36 PM
To: Dan Moore <Daniel.Moore@locana.co>
CC: Tina Rice <Tina.Rice@locana.co>, "Madsen, Laura" <Laura.Madsen@arcadis.com>, "Marlon B. Cartin" <marlon@assetlaboratories.com>, Razoniel Bernardino <razoniel.bernardino@assetlaboratories.com>

Hi Dan, noted we'll work on it. Thank you!

Sent from my iPhone

> On Jan 4, 2023, at 6:24 AM, Dan Moore <Daniel.Moore@locana.co> wrote:
>
> HI Nancy/Marlon –
>
> My apologies!! Please go ahead and report and note in the case narrative that reanalysis was not possible due to the reasons we discussed.
>
> Laura, these samples will be flagged as estimated. There is a chance that nondetects could be rejected but I will need to dig in a little more when the whole package comes in.
>
> Sorry for missing the follow-up in my email!!
> Dan
>
> ---
>
> **From:** Nancy Sibucao <nancy@assetlaboratories.com>
> **Sent:** Tuesday, December 27, 2022 6:39 PM
> **To:** Dan Moore <Daniel.Moore@locana.co>; Tina Rice <Tina.Rice@locana.co>
> **Cc:** Madsen, Laura <laura.madsen@arcadis.com>; Marlon B. Cartin <marlon@assetlaboratories.com>
> **Subject:** Re: Topock - Late SDGs
>
> Hi Dan,
>
> I just forwarded it again. Here it is just in case. Please see attached result and QCs of anions in question. Please advise how you want us to proceed.
>
> Thanks,
> Nancy
>
> ---
>
> **From:** Dan Moore [mailto:Daniel.Moore@locana.co]
> **Sent:** Tuesday, December 27, 2022 at 3:03 PM
> **To:** Nancy Sibucao; Tina Rice
> **Cc:** Madsen, Laura; Marlon B. Cartin
> **Subject:** Topock - Late SDGs
>
> Hi Nancy –
> Did I miss the correspondence we discussed last week? I don't see it in my email.

Thanks!!
Dan

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Tuesday, December 27, 2022 4:44 PM
To: Tina Rice <Tina.Rice@locana.co>
Cc: Madsen, Laura <laura.madsen@arcadis.com>; Dan Moore <Daniel.Moore@locana.co>; Marlon B. Cartin <marlon@assetlaboratories.com>
Subject: Re: Topock - Late SDGs

Hi Tina,

It is, and we are still working on them and some still needs confirmation too. As for N053816 & 817, these SDGs have anions in question, just waiting for Dan's advice. I will update you maybe tomorrow as some will be reported today. Sorry for the delay.

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@locana.co]
Sent: Tuesday, December 27, 2022 at 2:25 PM
To: Nancy Sibucao
Cc: Madsen, Laura; Dan Moore
Subject: Topock - Late SDGs

Hi Nancy,

This is the list I have of SDGs that are past du (or are due this week). Could you verify this matches your records:

Lab	WorkOrder	Sub Work Order	SampleDate	DateDue	Task_Code
BC Labs	N052945	N052945_	10/5/2022	10/25/2022	Phase 2a Construction
BC Labs	N053481	N053481_	11/8/2022	11/29/2022	PCM 2022-11 Sampling
BC Labs	N053503	N053503_	11/9/2022	11/29/2022	PCM 2022-11 Sampling
BC Labs	N053542	N053542_	11/10/2022	12/2/2022	PCM 2022-11 Sampling
BC Labs	N053634	N053634_	11/16/2022	12/6/2022	PCM 2022-11 Sampling
BC Labs	N053664	N053664_	11/17/2022	12/12/2022	PCM 2022-11 Sampling
BC Labs	N053688	N053688_	11/18/2022	12/12/2022	RCM 2022-11 Sampling
BC Labs	N053788	N053788_	11/28/2022	12/19/2022	IM3 2022-11 Sampling
BC Labs	N053814	N053814_	11/29/2022	12/19/2022	IM3 2022-11 Sampling
Asset	N053816		11/29/2022	12/14/2022	RCM 2022-11 Sampling
Asset	N053817		11/29/2022	12/14/2022	RCM 2022-11 Sampling
Asset	N053874		12/1/2022	12/16/2022	RCM 2022-11 Sampling
Asset	N053885		12/2/2022	12/19/2022	IM3 2022-11 Sampling
Asset	N053886		12/2/2022	12/19/2022	RCM 2022-11 Sampling
Asset	N053925		12/5/2022	12/20/2022	PCM 2022-12 Sampling
Asset	N053958		12/6/2022	12/21/2022	PCM 2022-12 Sampling
Asset	N053959		12/6/2022	12/21/2022	PCM 2022-12 Sampling
Asset	N053991		12/7/2022	12/22/2022	RCM 2022-12 Sampling
Asset	N053993		12/7/2022	12/22/2022	PCM 2022-12 Sampling
Asset	N053994		12/7/2022	12/22/2022	PCM 2022-12 Sampling

Asset	N054020		12/8/2022	12/23/2022	PCM 2022-12 Sampling
Asset	N054021		12/8/2022	12/23/2022	PCM 2022-12 Sampling
Asset	N054022		12/8/2022	12/23/2022	RCM 2022-11 Sampling
BC Labs	N054089	N054089_	12/12/2022	12/20/2022	DOM 2022-11 Sampling
Asset	N054089		12/12/2022	12/20/2022	DOM 2022-11 Sampling
Asset	N054096		12/13/2022	12/28/2022	RCM 2022-11 Sampling
ISOTECH	N054105	N054105_	12/13/2022	12/28/2022	Hyd6 2022-11 Sampling
Asset	N054106		12/13/2022	12/28/2022	OMM 2022-Q4 Sampling

Thanks,
Tina

ASSET Laboratories

WORK ORDER Summary

30-Nov-22

WorkOrder: N053817

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053817-001A	MW-66-165-Q422	11/29/2022 1:16:00 PM	12/14/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-001B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-001C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-002A	MW-66-230-Q422	11/29/2022 12:12:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-002B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-002C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-003A	MW-936-Q422	11/29/2022 12:22:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-003B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-003C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-004A	EB-731-Q422	11/29/2022 2:45:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-005A	MW-15-Q422	11/29/2022 8:48:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-005B			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-006A	MW-62-110-Q422	11/29/2022 3:15:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-006B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Nov-22

WorkOrder: N053817

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053817-006C	MW-62-110-Q422	11/29/2022 3:15:00 PM	12/14/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-007A	MW-62-190-Q422	11/29/2022 3:00:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-007B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-007C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-008A	MW-63-065-Q422	11/29/2022 9:54:00 AM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-008B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-008C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-009A	MW-61-110-Q422	11/29/2022 1:22:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-009B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-009C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-010A	MW-934-Q422	11/29/2022 1:32:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-010B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-010C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Nov-22

WorkOrder: N053817

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/29/2022 7:05 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053817-010C	MW-934-Q422	11/29/2022 1:32:00 PM	12/14/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-011A	MW-64BR-Q422	11/29/2022 12:36:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-011B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-011C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-012A	MW-935-Q422	11/29/2022 12:46:00 PM	12/14/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053817-012B			12/14/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053817-012C			12/14/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/14/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053817-013A	FOLDER	12/14/2022	12/14/2022		Folder	Folder	☐	☐	☐	LAB
			12/14/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/14/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

Corrective Action Report (CAR)

Date Initiated: 28-Dec-22 **Corrective Action Report ID:** 6668

Initiated By: Ashley Marie DaSilva **Department:** CA_II

Corrective Action Description

CAR Summary: QCs (CCVs) did not pass between sample runs.

Description of Nonconformance: For WO N053816 and N053817, samples were received with a short HT. Analyst did not review historical data and did not follow dilution for high chloride concentrations for PGE samples. Initial runs were priority to analyze within holding time, and the chloride concentrations may have caused CCVs to fail. ICV/LCS passed. Analyst was not aware of extended holding time (96HR), and did not analyze immediately after knowledge of QC failure.

Description of Corrective Action: Analyst will review historical data for appropriate dilutions before analyzing samples. If QCs are not passing, analyst will immediately reanalyze within the extended holding time.

Performed By: Ashley Marie DaSilva **Completion Date:** 28-Dec-22

Client Notification

Client Notification Required: ~~No~~ Yes **Notified By:** Nancy Sibucao

Comment:

Quality Assurance Review

Corrective Action: Deficiency

Further Action required by QA:

Approval and Closure

CAR Closed By: _____ Close Date:

QA Reviewed By: JRB 1/9/2023 QA Date:

Last Updated BY AshleyD Updated: 28-Dec-2022 4:45 PM Reported: 05-Jan-2023 3:11 PM

December 21, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053852

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 30, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (650 ug/L) and hexavalent chromium (440 ug/L) for sample N053852-008 (MW-98-055-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (650 ug/L) and hexavalent chromium (440 ug/L) for sample N053852-008 (MW-98-055-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 550 and 410 ug/L, respectively. Since these

data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053852
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053852-001A	MW-41D-Q422	Groundwater	11/30/2022 10:06:00 AM	11/30/2022	12/21/2022
N053852-001B	MW-41D-Q422	Groundwater	11/30/2022 10:06:00 AM	11/30/2022	12/21/2022
N053852-001C	MW-41D-Q422	Groundwater	11/30/2022 10:06:00 AM	11/30/2022	12/21/2022
N053852-002A	MW-41M-Q422	Groundwater	11/30/2022 9:26:00 AM	11/30/2022	12/21/2022
N053852-002B	MW-41M-Q422	Groundwater	11/30/2022 9:26:00 AM	11/30/2022	12/21/2022
N053852-002C	MW-41M-Q422	Groundwater	11/30/2022 9:26:00 AM	11/30/2022	12/21/2022
N053852-002D	MW-41M-Q422	Groundwater	11/30/2022 9:26:00 AM	11/30/2022	12/21/2022
N053852-003A	MW-41S-Q422	Groundwater	11/30/2022 8:25:00 AM	11/30/2022	12/21/2022
N053852-003B	MW-41S-Q422	Groundwater	11/30/2022 8:25:00 AM	11/30/2022	12/21/2022
N053852-003C	MW-41S-Q422	Groundwater	11/30/2022 8:25:00 AM	11/30/2022	12/21/2022
N053852-003D	MW-41S-Q422	Groundwater	11/30/2022 8:25:00 AM	11/30/2022	12/21/2022
N053852-004A	EB-735-Q422	Groundwater	11/30/2022 3:30:00 PM	11/30/2022	12/21/2022
N053852-005A	MW-11-Q422	Groundwater	11/30/2022 11:47:00 AM	11/30/2022	12/21/2022
N053852-005B	MW-11-Q422	Groundwater	11/30/2022 11:47:00 AM	11/30/2022	12/21/2022
N053852-006A	MW-11D-Q422	Groundwater	11/30/2022 11:00:00 AM	11/30/2022	12/21/2022
N053852-006B	MW-11D-Q422	Groundwater	11/30/2022 11:00:00 AM	11/30/2022	12/21/2022
N053852-007A	MW-88-107-Q422	Groundwater	11/30/2022 1:00:00 PM	11/30/2022	12/21/2022
N053852-007B	MW-88-107-Q422	Groundwater	11/30/2022 1:00:00 PM	11/30/2022	12/21/2022
N053852-008A	MW-98-055-Q422	Groundwater	11/30/2022 9:25:00 AM	11/30/2022	12/21/2022
N053852-008B	MW-98-055-Q422	Groundwater	11/30/2022 9:25:00 AM	11/30/2022	12/21/2022
N053852-009A	MW-98-077-Q422	Groundwater	11/30/2022 8:45:00 AM	11/30/2022	12/21/2022
N053852-009B	MW-98-077-Q422	Groundwater	11/30/2022 8:45:00 AM	11/30/2022	12/21/2022
N053852-010A	MW-13-Q422	Groundwater	11/30/2022 2:04:00 PM	11/30/2022	12/21/2022
N053852-010B	MW-13-Q422	Groundwater	11/30/2022 2:04:00 PM	11/30/2022	12/21/2022
N053852-010C	MW-13-Q422	Groundwater	11/30/2022 2:04:00 PM	11/30/2022	12/21/2022
N053852-011A	MW-50-095-Q422	Groundwater	11/30/2022 2:52:00 PM	11/30/2022	12/21/2022
N053852-011B	MW-50-095-Q422	Groundwater	11/30/2022 2:52:00 PM	11/30/2022	12/21/2022
N053852-012A	MW-50-200-Q422	Groundwater	11/30/2022 3:31:00 PM	11/30/2022	12/21/2022
N053852-012B	MW-50-200-Q422	Groundwater	11/30/2022 3:31:00 PM	11/30/2022	12/21/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053852
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053852-012C	MW-50-200-Q422	Groundwater	11/30/2022 3:31:00 PM	11/30/2022	12/21/2022
N053852-013A	EB-736-Q422	Groundwater	11/30/2022 3:50:00 PM	11/30/2022	12/21/2022
N053852-014A	MW-59-100-Q422	Groundwater	11/30/2022 8:34:00 AM	11/30/2022	12/21/2022
N053852-014B	MW-59-100-Q422	Groundwater	11/30/2022 8:34:00 AM	11/30/2022	12/21/2022
N053852-014C	MW-59-100-Q422	Groundwater	11/30/2022 8:34:00 AM	11/30/2022	12/21/2022
N053852-015A	MW-933-Q422	Groundwater	11/30/2022 8:44:00 AM	11/30/2022	12/21/2022
N053852-015B	MW-933-Q422	Groundwater	11/30/2022 8:44:00 AM	11/30/2022	12/21/2022
N053852-015C	MW-933-Q422	Groundwater	11/30/2022 8:44:00 AM	11/30/2022	12/21/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 10:06:00 AM
Lab ID:	N053852-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A**	QC Batch: **R168151**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/12/2022 06:32 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221205C**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/5/2022 07:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-41M-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 9:26:00 AM

Lab ID: N053852-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A** QC Batch: **R168151**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	9.5	0.45	1.0		µg/L	5	12/13/2022 02:21 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **96999**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	9.8	0.035	1.0		µg/L	1	12/5/2022 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-41S-Q422
Lab Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 8:25:00 AM
Lab ID: N053852-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B** QC Batch: **R168165**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	5.1	0.45	1.0		µg/L	5	12/13/2022 07:02 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221205C** QC Batch: **96999**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	5.6	0.035	1.0		µg/L	1	12/5/2022 07:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-735-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 3:30:00 PM
Lab ID:	N053852-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A**	QC Batch: **R168151**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/12/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-11-Q422
Lab Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 11:47:00 AM
Lab ID: N053852-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	710	9.0	20		µg/L	100	12/13/2022 08:11 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	720	0.88	25		µg/L	25	12/6/2022 07:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-11D-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 11:00:00 AM

Lab ID: N053852-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A**	QC Batch: **R168151**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	160	1.8	4.0		µg/L	20	12/12/2022 08:39 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	150	0.035	1.0		µg/L	1	12/5/2022 07:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-88-107-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 1:00:00 PM

Lab ID: N053852-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A** QC Batch: **R168151**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	120	1.8	4.0		µg/L	20	12/12/2022 09:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **96999**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	130	0.035	1.0		µg/L	1	12/5/2022 07:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-98-055-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 9:25:00 AM
Lab ID:	N053852-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	440	4.5	10		µg/L	50	12/13/2022 08:34 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	650	0.18	5.0		µg/L	5	12/6/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-98-077-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 8:45:00 AM
Lab ID:	N053852-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	300	4.5	10		µg/L	50	12/13/2022 08:56 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	360	0.18	5.0		µg/L	5	12/6/2022 05:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-13-Q422
Lab Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 2:04:00 PM
Lab ID: N053852-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B** QC Batch: **R168165**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	26	0.45	1.0		µg/L	5	12/13/2022 09:19 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C** QC Batch: **96999**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	25	0.035	1.0		µg/L	1	12/5/2022 08:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-50-095-Q422
Lab Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 2:52:00 PM
Lab ID: N053852-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A** QC Batch: **R168151**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	14	0.45	1.0		µg/L	5	12/12/2022 11:18 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **96999**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	15	0.035	1.0		µg/L	1	12/5/2022 08:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 3:31:00 PM
Lab ID:	N053852-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A**	QC Batch: **R168151**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1400	18	40		µg/L	200	12/13/2022 12:04 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	1700	0.88	25		µg/L	25	12/6/2022 05:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-736-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 3:50:00 PM
Lab ID:	N053852-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221212A**	QC Batch: **R168151**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/13/2022 12:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 8:34:00 AM
Lab ID:	N053852-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	2300	18	40		µg/L	200	12/13/2022 09:42 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	2600	0.88	25		µg/L	25	12/6/2022 05:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-933-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 8:44:00 AM

Lab ID: N053852-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	2300	18	40		µg/L	200	12/13/2022 10:28 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	2500	0.88	25		µg/L	25	12/6/2022 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96999**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **PBW**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96999**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **LCSW**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.962	1.0	10.00	0	99.6	85	115				

Sample ID: **N053852-010CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	35.937	1.0	10.00	25.33	106	75	125				

Sample ID: **N053852-010CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	35.168	1.0	10.00	25.33	98.4	75	125	35.94	2.16	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168151**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **LCSW**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.822	0.20	5.000	0	96.4	90	110				

Sample ID: **MB1-R168151**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **PBW**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053788-002A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.278	1.0						1.340	4.74	20	

Sample ID: **N053788-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.970	1.0	5.000	1.340	92.6	90	110				

Sample ID: **N053788-002A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4967574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.918	1.0	5.000	1.340	91.6	90	110	5.970	0.883	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053788-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	33.144	1.0	25.00	7.732	102	90	110				

Sample ID: **N053788-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967578**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.406	1.0	25.00	7.706	98.8	90	110				

Sample ID: **N053856-004B-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967585**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.972	0.20	1.000	0	97.2	90	110				

Sample ID: **N053852-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.021	1.0	5.000	0	100	90	110				

Sample ID: **N053852-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.945	0.20	1.000	0	94.5	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-006A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	157.232	4.0						157.5	0.200	20	

Sample ID: **N053852-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	253.102	4.0	100.0	157.5	95.6	90	110				

Sample ID: **N053852-006A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	253.964	4.0	100.0	157.5	96.4	90	110	253.1	0.340	20	

Sample ID: **N053852-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	219.712	4.0	100.0	119.6	100	90	110				

Sample ID: **N053852-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168151**
Client ID: **ZZZZZZ** Batch ID: **R168151** TestNo: **EPA 218.6** Analysis Date: **12/12/2022** SeqNo: **4967614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.234	1.0	25.00	13.69	98.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-012A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4967618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2337.180	40	1000	1360	97.8	90	110				

Sample ID: **N053852-013A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4967620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.970	0.20	1.000	0	97.0	90	110				

Sample ID: **N053852-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168151**
Client ID: **ZZZZZZ**	Batch ID: **R168151**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4967630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.276	1.0	25.00	9.491	99.1	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168165**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **LCSW**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.779	0.20	5.000	0	95.6	90	110				

Sample ID: **MB1-R168165**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **PBW**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053956-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	367.774	4.0	100.0	270.8	97.0	90	110				

Sample ID: **N054019-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.072	0.20	1.000	0	107	90	110				

Sample ID: **N053852-003A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.928	1.0						5.070	2.84	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.074	1.0	25.00	5.070	100	90	110				

Sample ID: **N053852-003A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.052	1.0	25.00	5.070	99.9	90	110	30.07	0.0732	20	

Sample ID: **N053852-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1215.760	20	500.0	711.4	101	90	110				

Sample ID: **N053852-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	688.680	10	250.0	438.8	99.9	90	110				

Sample ID: **N053852-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	555.120	10	250.0	302.4	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.590	1.0	25.00	25.61	99.9	90	110				

Sample ID: **N053852-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3307.860	40	1000	2288	102	90	110				

Sample ID: **N053852-015A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3310.660	40	1000	2309	100	90	110				

Sample ID: **N053853-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6752.000	100	2500	4317	97.4	90	110				

Sample ID: **N053853-002A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	616.860	20						618.1	0.193	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1116.660	20	500.0	618.1	99.7	90	110				

Sample ID: **N053853-002A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1116.930	20	500.0	618.1	99.8	90	110	1117	0.0242	20	

Sample ID: **N053853-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2807.640	40	1000	1804	100	90	110				

Sample ID: **N053853-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.193	1.0	5.000	0	104	90	110				

Sample ID: **N053853-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	522.755	10	250.0	277.2	98.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	687.285	10	250.0	439.4	99.2	90	110				

Sample ID: **N053853-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	386.545	10	250.0	140.0	98.6	90	110				

Sample ID: **N053853-008-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.093	0.20	1.000	0.09520	99.7	90	110				

Sample ID: **N053853-009-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 10:06:00 AM
Lab ID:	N053852-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.55	0.095	0.50		mg/L	10	12/2/2022 02:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41M-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 9:26:00 AM
Lab ID:	N053852-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.51	0.095	0.50		mg/L	10	12/2/2022 01:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41S-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 8:25:00 AM
Lab ID:	N053852-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.4	0.095	0.50		mg/L	10	12/2/2022 01:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-13-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 2:04:00 PM
Lab ID:	N053852-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.2	0.095	0.50		mg/L	10	12/2/2022 02:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 3:31:00 PM
Lab ID:	N053852-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	12/2/2022 02:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 8:34:00 AM
Lab ID:	N053852-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.8	0.095	0.50		mg/L	10	12/2/2022 01:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-933-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 8:44:00 AM
Lab ID:	N053852-015	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.6	0.095	0.50		mg/L	10	12/2/2022 01:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167835_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **PBW**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950649**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167835_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **LCSW**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.171	0.050	1.250	0	93.7	90	110				

Sample ID: **N053852-010BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **ZZZZZZ**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.094	0.50	12.50	5.153	95.5	80	120				

Sample ID: **N053852-010BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **ZZZZZZ**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.119	0.50	12.50	5.153	95.7	80	120	17.09	0.146	20	

Sample ID: **N053853-012BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **ZZZZZZ**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.493	0.50						0.4770	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053853-012BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167835**
Client ID: **ZZZZZZ** Batch ID: **R167835** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.982	0.50	12.50	0.4770	92.0	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-41D-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 10:06:00 AM

Lab ID: N053852-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/5/2022 07:10 PM
Manganese	110	0.026	0.50		µg/L	1	12/5/2022 07:10 PM
Molybdenum	80	0.12	0.50		µg/L	1	12/5/2022 07:10 PM
Selenium	0.55	0.044	0.50		µg/L	1	12/6/2022 05:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41M-Q422
Lab Order:	N053852		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 9:26:00 AM
Lab ID:	N053852-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/5/2022 07:16 PM
Manganese	1.1	0.026	0.50		µg/L	1	12/5/2022 07:16 PM
Molybdenum	26	0.12	0.50		µg/L	1	12/5/2022 07:16 PM
Selenium	0.53	0.044	0.50		µg/L	1	12/5/2022 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-41S-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 8:25:00 AM

Lab ID: N053852-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221207C**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.30	0.050	0.10		µg/L	1	12/7/2022 03:15 PM
Manganese	1.3	0.026	0.50		µg/L	1	12/5/2022 07:22 PM
Molybdenum	12	0.12	0.50		µg/L	1	12/5/2022 07:22 PM
Selenium	2.3	0.044	0.50		µg/L	1	12/5/2022 07:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-11-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 11:47:00 AM

Lab ID: N053852-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	12/5/2022 07:28 PM
Manganese	0.86	0.026	0.50		µg/L	1	12/5/2022 07:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-11D-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 11:00:00 AM

Lab ID: N053852-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.35	0.050	0.10		µg/L	1	12/5/2022 07:33 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 07:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-88-107-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 1:00:00 PM

Lab ID: N053852-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	12/5/2022 07:39 PM
Manganese	2.0	0.026	0.50		µg/L	1	12/5/2022 07:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-98-055-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 9:25:00 AM

Lab ID: N053852-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.8	0.050	0.10		µg/L	1	12/5/2022 07:45 PM
Manganese	15	0.026	0.50		µg/L	1	12/5/2022 07:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-98-077-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 8:45:00 AM

Lab ID: N053852-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	4.6	0.050	0.10		µg/L	1	12/5/2022 08:09 PM
Manganese	2.4	0.026	0.50		µg/L	1	12/5/2022 08:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-13-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 2:04:00 PM

Lab ID: N053852-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/5/2022 08:15 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 08:15 PM
Molybdenum	9.3	0.12	0.50		µg/L	1	12/5/2022 08:15 PM
Selenium	3.0	0.044	0.50		µg/L	1	12/5/2022 08:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-50-095-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 2:52:00 PM

Lab ID: N053852-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.0	0.050	0.10		µg/L	1	12/5/2022 08:45 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 08:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-50-200-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 3:31:00 PM

Lab ID: N053852-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/5/2022 08:51 PM
Manganese	5.2	0.026	0.50		µg/L	1	12/5/2022 08:51 PM
Molybdenum	35	0.12	0.50		µg/L	1	12/5/2022 08:51 PM
Selenium	1.1	0.044	0.50		µg/L	1	12/5/2022 08:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-59-100-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 8:34:00 AM

Lab ID: N053852-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.71	0.050	0.10		µg/L	1	12/5/2022 08:57 PM
Manganese	0.58	0.026	0.50		µg/L	1	12/5/2022 08:57 PM
Molybdenum	4.4	0.12	0.50		µg/L	1	12/5/2022 08:57 PM
Selenium	3.4	0.044	0.50		µg/L	1	12/5/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-933-Q422

Lab Order: N053852

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 8:44:00 AM

Lab ID: N053852-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.41	0.050	0.10		µg/L	1	12/5/2022 09:20 PM
Manganese	0.78	0.026	0.50		µg/L	1	12/5/2022 09:20 PM
Molybdenum	4.1	0.12	0.50		µg/L	1	12/5/2022 09:20 PM
Selenium	3.1	0.044	0.50		µg/L	1	12/5/2022 09:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96999**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **PBW**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.079	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96999**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **LCSW**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.241	0.10	10.00	0	92.4	85	115				
Manganese	97.311	0.50	100.0	0	97.3	85	115				
Molybdenum	9.823	0.50	10.00	0	98.2	85	115				
Selenium	8.969	0.50	10.00	0	89.7	85	115				

Sample ID: **N053852-010CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.081	0.10	10.00	1.186	99.0	75	125				
Manganese	92.261	0.50	100.0	0	92.3	75	125				
Molybdenum	20.048	0.50	10.00	9.263	108	75	125				
Selenium	12.100	0.50	10.00	2.977	91.2	75	125				

Sample ID: **N053852-010CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.590	0.10	10.00	1.186	94.0	75	125	11.08	4.53	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053852
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053852-010CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **96999** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.785	0.50	100.0	0	91.8	75	125	92.26	0.517	20	
Molybdenum	19.983	0.50	10.00	9.263	107	75	125	20.05	0.328	20	
Selenium	12.776	0.50	10.00	2.977	98.0	75	125	12.10	5.43	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Others ✓ (Specify: RWQCB)
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RWQCB ✓
Address: Roseville, CA 95661	Email: [redacted]	Address:	Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Global ID: Specify State:
Submitted By: Riggie Tap	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	6. Method of Cooling: ICE
Title: Field Tech	Sampled By: Riggie Tap		Sample Temp: 4.4°C / 3.7°C
Signature: Date: 11/30/22	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
I hereby authorize ASSET Labs to perform the tests indicated below.			
Project Name: PG&E Topock - RCM	Signature: Date: 11/30/22		
Project Number: 30121866.4Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053852-001	MW-41D-Q422	11/30/2022	10:06		X	X	X	X	X		E	3	P	BNS	
2	-002	MW-41M-Q422	11/30/2022	9:26		X	X	X	X	X	X	E	4	P	BNS	
3	-003	MW-41S-Q422	11/30/2022	8:25		X	X	X	X	X	X	E	4	P	BNS	
4	-004	EB-735-Q422	11/30/2022	15:30		X						E	1	P	BNS	
5	-005	MW-11-Q422	11/30/2022	11:47		X		X	X			E	2	P	BNS	
	-006	MW-11D-Q422	11/30/2022	11:00		X		X	X			E	2	P	BNS	
7	-007	MW-88-107-Q422	11/30/2022	13:00		X		X	X			E	2	P	BNS	
8	-008	MW-98-055-Q422	11/30/2022	9:25		X		X	X			E	2	P	BNS	
9	-009	MW-98-077-Q422	11/30/2022	8:45		X		X	X			E	2	P	BNS	
10	-010	MW-13-Q422	11/30/2022	14:04		X	X	X	X	X		E	3	P	BNS	MSMSD
11	-011	MW-50-095-Q422	11/30/2022	14:52		X		X	X			E	2	P	BNS	
12	-012	MW-50-200-Q422	11/30/2022	15:31		X	X	X	X	X		E	3	P	BNS	
13	-013	EB-736-Q422	11/30/2022	15:50		X						E	1	P	BNS	
14																

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tap	11/30/22 16:52	Dante Ortiz	11/30/22 16:52
Dante Ortiz	11/30/22 19:06	Dante Ortiz	11/30/22 19:06

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

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California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95661	Email: [illegible]	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Ryan Tor			Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 11/30/22	Sampled By: Ryan Tor		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: Ice
Project Name: PG&E Topock - RCM	Signature: Date: 11/30/22	Matrix: Ground X Sediment; Potable Soil; NPDES Other Solid; Surface					Sample Temp: 4.4°c
Project Number: 30121866.4Q22GW							Courier: Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053852-014	MW-59-100-Q422	11/30/2022	8:34		X	X	X	X	X		E	3	P	BNS	
2	-015	MW-933-Q422	11/30/2022	8:44		X	X	X	X	X		E	3	P	BNS	
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Ryan Tor	11/30/22 1655	Dante Ortiz	11/30/22 16:56
Dante Ortiz Dante Ortiz	11/30/22 19:06	Dante Ortiz Dante Ortiz	11/30/22 19:06

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/30/2022	Workorder:	N053852
Rep sample Temp (Deg C):	4.4/3.7	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/1/2022

Reviewed By: for: MBC 12/08/2022

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053852-001A	MW-41D-Q422	11/30/2022 10:06:00 AM	12/15/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-001B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053852-001C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-002A	MW-41M-Q422	11/30/2022 9:26:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-002B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053852-002C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-002D			12/15/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053852-003A	MW-41S-Q422	11/30/2022 8:25:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-003B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053852-003C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-003D			12/15/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053852-004A	EB-735-Q422	11/30/2022 3:30:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-005A	MW-11-Q422	11/30/2022 11:47:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-005B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053852-005B	MW-11-Q422	11/30/2022 11:47:00 AM	12/15/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-006A	MW-11D-Q422	11/30/2022 11:00:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-006B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-007A	MW-88-107-Q422	11/30/2022 1:00:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-007B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-008A	MW-98-055-Q422	11/30/2022 9:25:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-008B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-009A	MW-98-077-Q422	11/30/2022 8:45:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-009B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-010A	MW-13-Q422	11/30/2022 2:04:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053852-010B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053852-010C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053852-011A	MW-50-095-Q422	11/30/2022 2:52:00 PM	12/15/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-011B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-012A	MW-50-200-Q422	11/30/2022 3:31:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-012B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053852-012C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-013A	EB-736-Q422	11/30/2022 3:50:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-014A	MW-59-100-Q422	11/30/2022 8:34:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-014B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053852-014C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-015A	MW-933-Q422	11/30/2022 8:44:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053852-015B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053852-015C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053852-016A	FOLDER	12/15/2022	12/15/2022		Folder	Folder	☐	☐	☐	LAB
			12/15/2022		Folder	Level IV Report	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053852-016A	FOLDER	12/15/2022	12/15/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

				Nitrate/Nitrite	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	~~SM4500-NO3F~~		
N053852-002D / MW-41M-Q422	Groundwater	11/30/2022 9:26:00 AM	8OZP	1		
N053852-003D / MW-41S-Q422	Groundwater	11/30/2022 8:25:00 AM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53852A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 12/21/2022

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53852A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2229273
Invoice ID:	B465656

Enclosed are the results of analyses for samples received by the laboratory on 12/6/2022. If you have any questions concerning this report, please feel free to contact me.

Revised Report: This report supercedes Report ID 1001379431

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody and Cooler Receipt Form for 2229273 Page 1 of 3

ASSET Laboratories
3151-3159 W Post Rd., Las Vegas, NV 89118
www.asl-labs.com
TEL: 7023072659 FAX: 7023072691

REVISED 12/21/22 DS

22-29273

CHAIN-OF-CUS 2229273

Page 1 of 1

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

Sample ID		Matrix	Date Collected	Bottle Type	Nitrate/Nitrite SM4500-NO3F	Requested Tests		
N053852-002D / MW-41M-Q422	-1	Groundwater	11/30/2022 9:26:00 AM	8OZP	1			
N053852-003D / MW-41S-Q422	-2	Groundwater	11/30/2022 8:25:00 AM	8OZP	1			

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53852A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspoc7 edata.

Relinquished by:	Date/Time	Received by:	Date/Time
yRodriguez	12/5/2022 1630		
Relinquished by:		Received by:	

GLS #: 558348580

Chain of Custody and Cooler Receipt Form for 2229273 Page 2 of 3

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTOD
2229273

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

22-29273

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

Sample ID		Matrix	Date Collected	Bottle Type	Nitrate/Nitrite SM4500-NO3F	Requested Tests
N053852-002D / MW-41M-Q42	-1	Groundwater	11/30/2022 9:28:00 AM	8OZP	1	
N053852-003D / MW-41S-Q422	-2	Groundwater	11/30/2022 8:25:00 AM	8OZP	1	

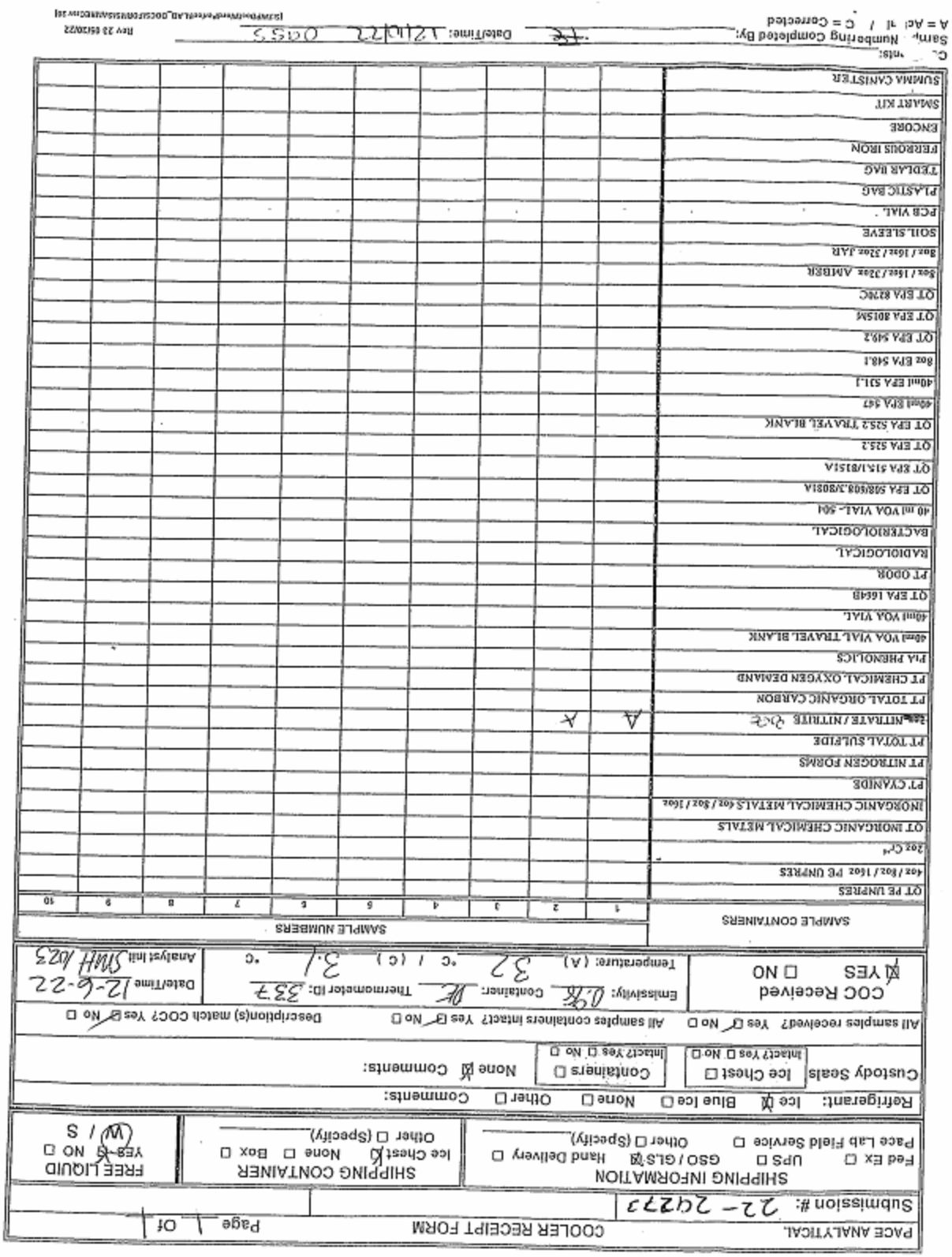
Preserved with H2SO4

CHK BY
DISTRIBUTION
SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53852A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marion at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	yRodriguez	12/5/2022 1630	Received by:		12-6-22 1623
Relinquished by:			Received by:		



PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-202273

SHIPPING INFORMATION: Fed Ex ☐ UPS ☐ GSO / G.L.S ☒ Hand Delivery ☐ Pace Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER: Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)

FREE LIQUID: YES ☐ NO ☐ (W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☒ Comments:

All samples received? Yes ☑ No ☐ | All samples containers intact? Yes ☑ No ☐ | Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO | Emissivity: 0.95 Container: BE Thermometer ID: 337 | Temperature: (A) 32 °C / (C) 31 °C | Date/Time 12-6-22 Analyst Init SMH 1023

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
250ml NITRATE / NITRITE 2oz	A	A								
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
P1A PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
BACTERIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/508.1/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: [illegible] Date/Time: 12/6/22 0955

A = Actual / C = Corrected

Rev 23 03/30/22

I:\SAMPLE\Forms\Current_All_DOCS\FORMS\SAMPLE.doc

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2229273-01	**COC Number:**	N53852A	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/30/2022 09:26
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-41M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229273-02	**COC Number:**	N53852A	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	11/30/2022 08:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	MW-41S-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229273-01 | **Client Sample Name:** Level IV + labSpec7, MW-41M-Q422, 11/30/2022 9:26:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**0.55**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/16/22 12:00	12/16/22 16:30	KB1	SC-1	1	B156257	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229273-02 | **Client Sample Name:** Level IV + labSpec7, MW-41S-Q422, 11/30/2022 8:25:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.7**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/16/22 12:00	12/16/22 16:32	KB1	SC-1	1	B156257	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals	Run #
QC Batch ID: B156257						
Nitrate/Nitrite as N	B156257-BLK1	ND	mg/L	0.10		1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156257-BLK1	PB	EPA-353.2	12/16/22	12/16/22 16:14	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B156257											
Nitrate/Nitrite as N	B156257-BS1	LCS	2.1641	2.0000	mg/L	108		90 - 110			1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156257-BS1	LCS	EPA-353.2	12/16/22	12/16/22 16:12	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals	R#
QC Batch ID: B156257	Used client sample: N											
Nitrate/Nitrite as N	DUP	2229272-01	0.28790	0.29010		mg/L	0.8		10			1
	MS	2229272-01	0.28790	2.4666	2.1053	mg/L		103		90 - 110		2
	MSD	2229272-01	0.28790	2.4444	2.1053	mg/L	0.9	102	10	90 - 110		3

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156257-DUP1	DUP	EPA-353.2	12/16/22	12/16/22 16:16	KB1	SC-1	1
2	B156257-MS1	MS	EPA-353.2	12/16/22	12/16/22 16:17	KB1	SC-1	1.053
3	B156257-MSD1	MSD	EPA-353.2	12/16/22	12/16/22 16:18	KB1	SC-1	1.053

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. Pace Analytical assumes no responsibility for report alteration, separation, detachment or third party interpretation.

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/21/2022 16:31
Project: Level IV + labSpec7
Project Number: N53852A
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected

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December 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053853

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on November 30, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (110 ug/L) and hexavalent chromium (140 ug/L) for sample N053853-007 (MW-69-195-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (110 ug/L) and hexavalent chromium (140 ug/L) for sample N053853-007 (MW-69-195-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 106 and 130 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET Laboratories

Date: *27-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053853
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053853-001A	MW-67-225-Q422	Groundwater	11/30/2022 1:14:00 PM	11/30/2022	12/27/2022
N053853-001B	MW-67-225-Q422	Groundwater	11/30/2022 1:14:00 PM	11/30/2022	12/27/2022
N053853-001C	MW-67-225-Q422	Groundwater	11/30/2022 1:14:00 PM	11/30/2022	12/27/2022
N053853-002A	MW-67-260-Q422	Groundwater	11/30/2022 12:18:00 PM	11/30/2022	12/27/2022
N053853-002B	MW-67-260-Q422	Groundwater	11/30/2022 12:18:00 PM	11/30/2022	12/27/2022
N053853-002C	MW-67-260-Q422	Groundwater	11/30/2022 12:18:00 PM	11/30/2022	12/27/2022
N053853-003A	MW-68-240-Q422	Groundwater	11/30/2022 2:08:00 PM	11/30/2022	12/27/2022
N053853-003B	MW-68-240-Q422	Groundwater	11/30/2022 2:08:00 PM	11/30/2022	12/27/2022
N053853-003C	MW-68-240-Q422	Groundwater	11/30/2022 2:08:00 PM	11/30/2022	12/27/2022
N053853-004A	MW-68BR-280-Q422	Groundwater	11/30/2022 3:17:00 PM	11/30/2022	12/27/2022
N053853-004B	MW-68BR-280-Q422	Groundwater	11/30/2022 3:17:00 PM	11/30/2022	12/27/2022
N053853-005A	MW-65-160-Q422	Groundwater	11/30/2022 10:24:00 AM	11/30/2022	12/27/2022
N053853-005B	MW-65-160-Q422	Groundwater	11/30/2022 10:24:00 AM	11/30/2022	12/27/2022
N053853-005C	MW-65-160-Q422	Groundwater	11/30/2022 10:24:00 AM	11/30/2022	12/27/2022
N053853-006A	MW-65-225-Q422	Groundwater	11/30/2022 9:38:00 AM	11/30/2022	12/27/2022
N053853-006B	MW-65-225-Q422	Groundwater	11/30/2022 9:38:00 AM	11/30/2022	12/27/2022
N053853-006C	MW-65-225-Q422	Groundwater	11/30/2022 9:38:00 AM	11/30/2022	12/27/2022
N053853-007A	MW-69-195-Q422	Groundwater	11/30/2022 4:08:00 PM	11/30/2022	12/27/2022
N053853-007B	MW-69-195-Q422	Groundwater	11/30/2022 4:08:00 PM	11/30/2022	12/27/2022
N053853-007C	MW-69-195-Q422	Groundwater	11/30/2022 4:08:00 PM	11/30/2022	12/27/2022
N053853-008A	MW-74-240-Q422	Groundwater	11/30/2022 11:20:00 AM	11/30/2022	12/27/2022
N053853-008B	MW-74-240-Q422	Groundwater	11/30/2022 11:20:00 AM	11/30/2022	12/27/2022
N053853-008C	MW-74-240-Q422	Groundwater	11/30/2022 11:20:00 AM	11/30/2022	12/27/2022
N053853-009A	EB-734-Q422	Groundwater	11/30/2022 4:20:00 PM	11/30/2022	12/27/2022
N053853-010A	MW-83-090-Q422	Groundwater	11/30/2022 11:32:00 AM	11/30/2022	12/27/2022
N053853-010B	MW-83-090-Q422	Groundwater	11/30/2022 11:32:00 AM	11/30/2022	12/27/2022
N053853-010C	MW-83-090-Q422	Groundwater	11/30/2022 11:32:00 AM	11/30/2022	12/27/2022
N053853-011A	MW-83-180-Q422	Groundwater	11/30/2022 12:06:00 PM	11/30/2022	12/27/2022
N053853-011B	MW-83-180-Q422	Groundwater	11/30/2022 12:06:00 PM	11/30/2022	12/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053853
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053853-011C	MW-83-180-Q422	Groundwater	11/30/2022 12:06:00 PM	11/30/2022	12/27/2022
N053853-012A	MW-83-225-Q422	Groundwater	11/30/2022 12:49:00 PM	11/30/2022	12/27/2022
N053853-012B	MW-83-225-Q422	Groundwater	11/30/2022 12:49:00 PM	11/30/2022	12/27/2022
N053853-012C	MW-83-225-Q422	Groundwater	11/30/2022 12:49:00 PM	11/30/2022	12/27/2022
N053853-013A	MW-83-245-Q422	Groundwater	11/30/2022 1:30:00 PM	11/30/2022	12/27/2022
N053853-013B	MW-83-245-Q422	Groundwater	11/30/2022 1:30:00 PM	11/30/2022	12/27/2022
N053853-013C	MW-83-245-Q422	Groundwater	11/30/2022 1:30:00 PM	11/30/2022	12/27/2022
N053853-014A	MW-12-Q422	Groundwater	11/30/2022 2:27:00 PM	11/30/2022	12/27/2022
N053853-014B	MW-12-Q422	Groundwater	11/30/2022 2:27:00 PM	11/30/2022	12/27/2022
N053853-014C	MW-12-Q422	Groundwater	11/30/2022 2:27:00 PM	11/30/2022	12/27/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 1:14:00 PM
Lab ID:	N053853-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	4300	45	100		µg/L	500	12/13/2022 10:50 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	4600	4.4	120		µg/L	125	12/6/2022 06:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 12:18:00 PM
Lab ID:	N053853-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	620	9.0	20		µg/L	100	12/13/2022 11:13 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	750	0.18	5.0		µg/L	5	12/6/2022 06:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 2:08:00 PM
Lab ID:	N053853-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1800	18	40		µg/L	200	12/13/2022 11:59 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	2000	0.88	25		µg/L	25	12/6/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 3:17:00 PM
Lab ID:	N053853-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/14/2022 01:07 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205C**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/5/2022 09:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 10:24:00 AM
Lab ID:	N053853-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	280	4.5	10		µg/L	50	12/14/2022 01:30 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	260	0.18	5.0		µg/L	5	12/6/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 9:38:00 AM
Lab ID:	N053853-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	440	4.5	10		µg/L	50	12/14/2022 01:53 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221206B**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	510	0.18	5.0		µg/L	5	12/6/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 4:08:00 PM
Lab ID:	N053853-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	140	4.5	10		µg/L	50	12/14/2022 02:16 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **96999**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	110	0.035	1.0		µg/L	1	12/5/2022 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-74-240-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 11:20:00 AM
Lab ID:	N053853-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/14/2022 03:01 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/5/2022 10:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-734-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 4:20:00 PM
Lab ID:	N053853-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221213B**	QC Batch: **R168165**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/14/2022 03:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-090-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 11:32:00 AM
Lab ID:	N053853-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	38	0.45	1.0		µg/L	5	12/14/2022 12:12 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97000**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	38	0.035	1.0		µg/L	1	12/5/2022 10:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-180-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 12:06:00 PM
Lab ID:	N053853-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A**	QC Batch: **R168181**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	7.9	0.45	1.0		µg/L	5	12/14/2022 12:58 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	8.3	0.035	1.0		µg/L	1	12/5/2022 11:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 12:49:00 PM
Lab ID:	N053853-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A** QC Batch: **R168181**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	12	0.45	1.0		µg/L	5	12/14/2022 01:21 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97000**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	12/5/2022 11:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-245-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 1:30:00 PM
Lab ID:	N053853-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A**	QC Batch: **R168181**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	3100	45	100		µg/L	500	12/14/2022 02:06 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221223B**	QC Batch: **97353**			PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	3000	0.88	25		µg/L	25	12/23/2022 06:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 2:27:00 PM
Lab ID:	N053853-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221214A**	QC Batch: **R168181**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	2600	18	40		µg/L	200	12/14/2022 02:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221206B**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	2800	0.88	25		µg/L	25	12/6/2022 07:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-96999**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **PBW**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-96999**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **LCSW**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.962	1.0	10.00	0	99.6	85	115				

Sample ID: **N053852-010CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	35.937	1.0	10.00	25.33	106	75	125				

Sample ID: **N053852-010CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **96999**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	35.168	1.0	10.00	25.33	98.4	75	125	35.94	2.16	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97000**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **PBW**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.093	1.0									

Sample ID: **LCS-97000**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **LCSW**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.261	1.0	10.00	0	103	85	115				

Sample ID: **N053873-009CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.925	1.0	10.00	21.96	89.7	75	125				

Sample ID: **N053873-009CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.042	1.0	10.00	21.96	90.8	75	125	30.93	0.378	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97353**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **PBW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-97353**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **LCSW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.921	1.0	10.00	0	109	85	115				

Sample ID: **N053873-001C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.131	1.0	10.00	1.020	101	75	125				

Sample ID: **N053873-001C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.366	1.0	10.00	1.020	93.5	75	125	11.13	7.11	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168165**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **LCSW**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.779	0.20	5.000	0	95.6	90	110				

Sample ID: **MB1-R168165**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **PBW**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053956-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	367.774	4.0	100.0	270.8	97.0	90	110				

Sample ID: **N054019-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.072	0.20	1.000	0	107	90	110				

Sample ID: **N053852-003A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.928	1.0						5.070	2.84	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.074	1.0	25.00	5.070	100	90	110				

Sample ID: **N053852-003A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.052	1.0	25.00	5.070	99.9	90	110	30.07	0.0732	20	

Sample ID: **N053852-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1215.760	20	500.0	711.4	101	90	110				

Sample ID: **N053852-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	688.680	10	250.0	438.8	99.9	90	110				

Sample ID: **N053852-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	555.120	10	250.0	302.4	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.590	1.0	25.00	25.61	99.9	90	110				

Sample ID: **N053852-014A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3307.860	40	1000	2288	102	90	110				

Sample ID: **N053852-015A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3310.660	40	1000	2309	100	90	110				

Sample ID: **N053853-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6752.000	100	2500	4317	97.4	90	110				

Sample ID: **N053853-002A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	616.860	20						618.1	0.193	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-002A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1116.660	20	500.0	618.1	99.7	90	110				

Sample ID: **N053853-002A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/13/2022**	SeqNo: **4968626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1116.930	20	500.0	618.1	99.8	90	110	1117	0.0242	20	

Sample ID: **N053853-003A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2807.640	40	1000	1804	100	90	110				

Sample ID: **N053853-004A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.193	1.0	5.000	0	104	90	110				

Sample ID: **N053853-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	522.755	10	250.0	277.2	98.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	687.285	10	250.0	439.4	99.2	90	110				

Sample ID: **N053853-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	386.545	10	250.0	140.0	98.6	90	110				

Sample ID: **N053853-008-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.093	0.20	1.000	0.09520	99.7	90	110				

Sample ID: **N053853-009-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168165**
Client ID: **ZZZZZZ**	Batch ID: **R168165**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4968646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168181**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **LCSW**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.862	0.20	5.000	0	97.2	90	110				

Sample ID: **MB1-R168181**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **PBW**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053853-010A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.380	1.0						38.23	0.381	20	

Sample ID: **N053853-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63.370	1.0	25.00	38.23	101	90	110				

Sample ID: **N053853-010A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	63.407	1.0	25.00	38.23	101	90	110	63.37	0.0592	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	32.900	1.0	25.00	7.882	100	90	110				

Sample ID: **N053853-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.782	1.0	25.00	11.54	101	90	110				

Sample ID: **N053853-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971672**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5693.550	100	2500	3133	102	90	110				

Sample ID: **N053853-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3557.900	40	1000	2562	99.6	90	110				

Sample ID: **N053816-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	60.414	1.0	25.00	35.63	99.1	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.106	1.0	25.00	14.22	99.5	90	110				

Sample ID: **N053816-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	88.391	2.0	50.00	39.41	98.0	90	110				

Sample ID: **N053816-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.243	1.0	25.00	14.02	101	90	110				

Sample ID: **N053816-011A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	23.961	1.0						24.06	0.419	20	

Sample ID: **N053816-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.175	1.0	25.00	24.06	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-011A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	48.798	1.0	25.00	24.06	98.9	90	110	49.17	0.769	20	

Sample ID: **N053816-006A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.954	0.20	1.000	0	95.4	90	110				

Sample ID: **N053816-007A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.523	1.0	25.00	30.75	103	90	110				

Sample ID: **N053816-008A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971698**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.885	0.20	1.000	2.822	106	90	110				

Sample ID: **N053816-010A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168181**
Client ID: **ZZZZZZ**	Batch ID: **R168181**	TestNo: **EPA 218.6**		Analysis Date: **12/14/2022**	SeqNo: **4971704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.136	1.0	5.000	3.314	96.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-013A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID: **N053817-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	667.610	10	250.0	423.3	97.7	90	110				

Sample ID: **N053817-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4971714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12083.000	200	5000	7046	101	90	110				

Sample ID: **N053816-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168181**
Client ID: **ZZZZZZ** Batch ID: **R168181** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4971749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.242	1.0	5.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 1:14:00 PM
Lab ID:	N053853-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	15	0.19	1.0		mg/L	20	12/2/2022 03:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 12:18:00 PM
Lab ID:	N053853-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.27	0.048	0.25		mg/L	5	12/2/2022 03:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 2:08:00 PM
Lab ID:	N053853-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.7	0.095	0.50		mg/L	10	12/2/2022 03:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 10:24:00 AM
Lab ID:	N053853-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	13	0.095	0.50		mg/L	10	12/2/2022 04:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 9:38:00 AM
Lab ID:	N053853-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	9.3	0.095	0.50		mg/L	10	12/2/2022 02:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 4:08:00 PM
Lab ID:	N053853-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.6	0.095	0.50		mg/L	10	12/2/2022 04:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-74-240-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 11:20:00 AM
Lab ID:	N053853-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/2/2022 04:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-090-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 11:32:00 AM
Lab ID:	N053853-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.5	0.095	0.50		mg/L	10	12/2/2022 04:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-180-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 12:06:00 PM
Lab ID:	N053853-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.63	0.095	0.50		mg/L	10	12/2/2022 05:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 12:49:00 PM
Lab ID:	N053853-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/2/2022 05:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-245-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 1:30:00 PM
Lab ID:	N053853-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.2	0.095	0.50		mg/L	10	12/2/2022 05:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 2:27:00 PM
Lab ID:	N053853-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221201D**	QC Batch: **R167835**			PrepDate:			Analyst: **RAB**
Nitrate as N	13	0.095	0.50		mg/L	10	12/2/2022 06:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167835_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **PBW**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950649**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167835_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **LCSW**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.171	0.050	1.250	0	93.7	90	110				

Sample ID: **N053852-010BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **ZZZZZZ**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.094	0.50	12.50	5.153	95.5	80	120				

Sample ID: **N053852-010BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **ZZZZZZ**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950675**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.119	0.50	12.50	5.153	95.7	80	120	17.09	0.146	20	

Sample ID: **N053853-012BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167835**
Client ID: **ZZZZZZ**	Batch ID: **R167835**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.493	0.50						0.4770	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053853-012BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167835**
Client ID: **ZZZZZZ** Batch ID: **R167835** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.982	0.50	12.50	0.4770	92.0	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-67-225-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 1:14:00 PM

Lab ID: N053853-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.64	0.050	0.10		µg/L	1	12/5/2022 09:26 PM
Manganese	5.0	0.026	0.50		µg/L	1	12/5/2022 09:26 PM
Molybdenum	58	0.12	0.50		µg/L	1	12/5/2022 09:26 PM
Selenium	62	0.044	0.50		µg/L	1	12/5/2022 09:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-67-260-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 12:18:00 PM

Lab ID: N053853-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	3.2	0.050	0.10		µg/L	1	12/5/2022 09:32 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 09:32 PM
Molybdenum	76	0.12	0.50		µg/L	1	12/5/2022 09:32 PM
Selenium	1.5	0.044	0.50		µg/L	1	12/5/2022 09:32 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Results are wet unless otherwise specified
- DO Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-68-240-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 2:08:00 PM

Lab ID: N053853-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/5/2022 09:38 PM
Manganese	35	0.026	0.50		µg/L	1	12/5/2022 09:38 PM
Molybdenum	20	0.12	0.50		µg/L	1	12/5/2022 09:38 PM
Selenium	4.0	0.044	0.50		µg/L	1	12/5/2022 09:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 3:17:00 PM
Lab ID:	N053853-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/5/2022 09:44 PM
Manganese	53	0.026	0.50		µg/L	1	12/5/2022 09:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-65-160-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 10:24:00 AM

Lab ID: N053853-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221206C**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.23	0.050	0.10		µg/L	1	12/6/2022 07:34 PM
Manganese	9.6	0.026	0.50		µg/L	1	12/5/2022 09:50 PM
Molybdenum	22	0.12	0.50		µg/L	1	12/5/2022 09:50 PM
Selenium	9.8	0.044	0.50		µg/L	1	12/5/2022 09:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q422
Lab Order:	N053853		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	11/30/2022 9:38:00 AM
Lab ID:	N053853-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.94	0.050	0.10		µg/L	1	12/5/2022 09:56 PM
Manganese	1.6	0.026	0.50		µg/L	1	12/5/2022 09:56 PM
Molybdenum	24	0.12	0.50		µg/L	1	12/5/2022 09:56 PM
Selenium	7.4	0.044	0.50		µg/L	1	12/5/2022 09:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-69-195-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 4:08:00 PM

Lab ID: N053853-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **96999**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	12/5/2022 10:02 PM
Manganese	12	0.026	0.50		µg/L	1	12/5/2022 10:02 PM
Molybdenum	57	0.12	0.50		µg/L	1	12/5/2022 10:02 PM
Selenium	5.7	0.044	0.50		µg/L	1	12/5/2022 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-74-240-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 11:20:00 AM

Lab ID: N053853-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	7.5	0.050	0.10		µg/L	1	12/5/2022 10:49 PM
Manganese	8.1	0.026	0.50		µg/L	1	12/5/2022 10:49 PM
Molybdenum	55	0.12	0.50		µg/L	1	12/5/2022 10:49 PM
Selenium	ND	0.044	0.50		µg/L	1	12/5/2022 10:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-83-090-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 11:32:00 AM

Lab ID: N053853-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.20	0.050	0.10		µg/L	1	12/5/2022 10:55 PM
Manganese	67	0.026	0.50		µg/L	1	12/5/2022 10:55 PM
Molybdenum	3.1	0.12	0.50		µg/L	1	12/5/2022 10:55 PM
Selenium	3.7	0.044	0.50		µg/L	1	12/5/2022 10:55 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Results are wet unless otherwise specified
- DO Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-83-180-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 12:06:00 PM

Lab ID: N053853-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	12/5/2022 11:01 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 11:01 PM
Molybdenum	31	0.12	0.50		µg/L	1	12/5/2022 11:01 PM
Selenium	0.72	0.044	0.50		µg/L	1	12/5/2022 11:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-83-225-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 12:49:00 PM

Lab ID: N053853-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	12/5/2022 11:07 PM
Manganese	1.4	0.026	0.50		µg/L	1	12/5/2022 11:07 PM
Molybdenum	48	0.12	0.50		µg/L	1	12/5/2022 11:07 PM
Selenium	ND	0.044	0.50		µg/L	1	12/5/2022 11:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-83-245-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 1:30:00 PM

Lab ID: N053853-013 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	12/5/2022 11:13 PM
Manganese	27	0.026	0.50		µg/L	1	12/5/2022 11:13 PM
Molybdenum	56	0.12	0.50		µg/L	1	12/5/2022 11:13 PM
Selenium	2.8	0.044	0.50		µg/L	1	12/5/2022 11:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-12-Q422

Lab Order: N053853

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 11/30/2022 2:27:00 PM

Lab ID: N053853-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	34	0.050	0.10		µg/L	1	12/5/2022 11:19 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 11:19 PM
Molybdenum	15	0.12	0.50		µg/L	1	12/5/2022 11:19 PM
Selenium	12	0.044	0.50		µg/L	1	12/5/2022 11:19 PM

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike/Surrogate outside of limits due to matrix interference
- Results are wet unless otherwise specified
- DO Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-96999** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **PBW** Batch ID: **96999** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.079	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-96999** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **LCSW** Batch ID: **96999** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.241	0.10	10.00	0	92.4	85	115				
Manganese	97.311	0.50	100.0	0	97.3	85	115				
Molybdenum	9.823	0.50	10.00	0	98.2	85	115				
Selenium	8.969	0.50	10.00	0	89.7	85	115				

Sample ID: **N053852-010CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **96999** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.081	0.10	10.00	1.186	99.0	75	125				
Manganese	92.261	0.50	100.0	0	92.3	75	125				
Molybdenum	20.048	0.50	10.00	9.263	108	75	125				
Selenium	12.100	0.50	10.00	2.977	91.2	75	125				

Sample ID: **N053852-010CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **96999** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.590	0.10	10.00	1.186	94.0	75	125	11.08	4.53	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053852-010CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **96999** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.785	0.50	100.0	0	91.8	75	125	92.26	0.517	20	
Molybdenum	19.983	0.50	10.00	9.263	107	75	125	20.05	0.328	20	
Selenium	12.776	0.50	10.00	2.977	98.0	75	125	12.10	5.43	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97000**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **PBW**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-97000**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **LCSW**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.570	0.10	10.00	0	95.7	85	115				
Manganese	98.175	0.50	100.0	0	98.2	85	115				
Molybdenum	9.432	0.50	10.00	0	94.3	85	115				
Selenium	9.724	0.50	10.00	0	97.2	85	115				

Sample ID: **N053873-009CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.352	0.10	10.00	0.7291	96.2	75	125				
Manganese	94.695	0.50	100.0	0.3708	94.3	75	125				
Molybdenum	35.017	0.50	10.00	24.97	100	75	125				
Selenium	12.274	0.50	10.00	2.936	93.4	75	125				

Sample ID: **N053873-009CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0.7291	94.6	75	125	10.35	1.61	20	
Manganese	95.759	0.50	100.0	0.3708	95.4	75	125	94.70	1.12	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053853
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053873-009CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97000** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	33.235	0.50	10.00	24.97	82.7	75	125	35.02	5.22	20	
Selenium	11.993	0.50	10.00	2.936	90.6	75	125	12.27	2.31	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	1. Chilled	✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; dana.cozad@arcadis.com	Address:	Geotracker	RWQCB ✓	2. Headspace	✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivotr.com P.O.#	Labspec	CalTrans	3. Container Intact	✓
Submitted By: Rissie Tap		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present	
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	5. IR number	3
Signature: 11/30/22 Date	Sampled By: Rissie Tap		Global ID:	Regulatory	6. Method of Cooling: ICE	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	Sample Temp: 4.4°C/3.7°C/1.5°C	
Project Name: PG&E Topock - RCM	Signature: Date: 11/30/22				Courier:	
Project Number: 30121866.4Q22GW					Tracking No.:	

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053853-001	MW-67-225-Q422	11/30/2022	13:14		Ground	X	X	X	X	X	E	3	P	BNS	
2	-002	MW-67-260-Q422	11/30/2022	12:18		Ground	X	X	X	X	X	E	3	P	BNS	
3	-003	MW-68-240-Q422	11/30/2022	14:08		Ground	X	X	X	X	X	E	3	P	BNS	
4	-004	MW-68BR-280-Q422	11/30/2022	15:17		Ground	X		X	X		E	2	P	BNS	
5	-005	MW-65-160-Q422	11/30/2022	10:24		Ground	X	X	X	X	X	E	3	P	BNS	
	-006	MW-65-225-Q422	11/30/2022	9:38		Ground	X	X	X	X	X	E	3	P	BNS	
7	-007	MW-69-195-Q422	11/30/2022	16:08		Ground	X	X	X	X	X	E	3	P	BNS	
8	-008	MW-74-240-Q422	11/30/2022	11:20		Ground	X	X	X	X	X	E	3	P	BNS	
9	-009	EB-734-Q422	11/30/2022	16:20		Ground	X					E	1	P	BNS	
10	-010	MW-83-090-Q422	11/30/2022	11:32		Ground	X	X	X	X	X	E	3	P	BNS	
11	-011	MW-83-180-Q422	11/30/2022	12:06		Ground	X	X	X	X	X	E	3	P	BNS	
12	-012	MW-83-225-Q422	11/30/2022	12:49		Ground	X	X	X	X	X	E	3	P	BNS	
13	-013	MW-83-245-Q422	11/30/2022	13:30		Ground	X	X	X	X	X	E	3	P	BNS	
14	-014	MW-12-Q422	11/30/2022	14:27		Ground	X	X	X	X	X	E	3	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Rissie Tap	11/30/22 1652	Dante Ortiz Dante Ortiz	11/30/22 16:52
Dante Ortiz Dante Ortiz	11/30/22 19:06	Dante Ortiz Dante Ortiz	11/30/22 19:06
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Plnt
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	11/30/2022	Workorder:	N053853
Rep sample Temp (Deg C):	4.4/3.7/1.5	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/1/2022

Reviewed By: for MBC 12/8/22

Subject: RE: TOPOCK N053852 AND N053853 COC and Work Order Summary for Samples Received 11/30/2022
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 12/1/2022, 3:00 PM
To: ASSET Sample Control CA <samplecontrol@assetlaboratories.com>, "yoandra@assetlaboratories.com" <yoandra@assetlaboratories.com>, "marlon@assetlaboratories.com" <marlon@assetlaboratories.com>, Tina Rice <Tina.Rice@locana.co>

Hi Yoandra,
There was a typo on the COC for N053853 and the following samples need to also be logged in for dissolved Arsenic. Can you please revise the login?

Sample Name	chemical_name
MW-12-Q422	Arsenic, dissolved
MW-65-160-Q422	Arsenic, dissolved
MW-65-225-Q422	Arsenic, dissolved
MW-67-225-Q422	Arsenic, dissolved
MW-67-260-Q422	Arsenic, dissolved
MW-68-240-Q422	Arsenic, dissolved
MW-68BR-280-Q422	Arsenic, dissolved
MW-69-195-Q422	Arsenic, dissolved
MW-74-240-Q422	Arsenic, dissolved
MW-83-090-Q422	Arsenic, dissolved
MW-83-180-Q422	Arsenic, dissolved
MW-83-225-Q422	Arsenic, dissolved
MW-83-245-Q422	Arsenic, dissolved

Thanks!

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: ASSET Sample Control CA <samplecontrol@assetlaboratories.com>
Sent: Thursday, December 1, 2022 1:39 PM
To: Bush, Dan <Dan.Bush@arcadis.com>; Dan Moore <Daniel.Moore@critigen.com>; Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: Tina Rice <Tina.Rice@critigen.com>; Harmon, Alison <Ali.Harmon@arcadis.com>; Erica.Serna@arcadis.com; Bloes, Marty <mbloes@pivox.com>; ntep@blainetech.com
Subject: TOPOCK N053852 AND N053853 COC and Work Order Summary for Samples Received 11/30/2022

Hi Dan Bush:

Enclosed are COC and WO Summary for samples received 11/30/2022. If you have any questions, please contact your Project Manager listed below.

A new column “Matrix_Spike” has been added in the excel file. If the “MS/MSD” field is ticked when logging in the testcode, the “Matrix_Spike” column will be marked ”YES”.

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053853

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053853-001A	MW-67-225-Q422	11/30/2022 1:14:00 PM	12/15/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-001B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-001C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-002A	MW-67-260-Q422	11/30/2022 12:18:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-002B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-002C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-003A	MW-68-240-Q422	11/30/2022 2:08:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-003B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-003C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-004A	MW-68BR-280-Q422	11/30/2022 3:17:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-004B			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053853

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053853-004B	MW-68BR-280-Q422	11/30/2022 3:17:00 PM	12/15/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-005A	MW-65-160-Q422	11/30/2022 10:24:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-005B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-005C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-006A	MW-65-225-Q422	11/30/2022 9:38:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-006B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-006C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-007A	MW-69-195-Q422	11/30/2022 4:08:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-007B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-007C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-008A	MW-74-240-Q422	11/30/2022 11:20:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-008B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053853

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053853-008C	MW-74-240-Q422	11/30/2022 11:20:00 AM	12/15/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-009A	EB-734-Q422	11/30/2022 4:20:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-010A	MW-83-090-Q422	11/30/2022 11:32:00 AM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-010B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-010C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-011A	MW-83-180-Q422	11/30/2022 12:06:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-011B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-011C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-012A	MW-83-225-Q422	11/30/2022 12:49:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-012B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-012C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053853

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 11/30/2022 7:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053853-012C	MW-83-225-Q422	11/30/2022 12:49:00 PM	12/15/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-013A	MW-83-245-Q422	11/30/2022 1:30:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-013B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-013C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-014A	MW-12-Q422	11/30/2022 2:27:00 PM	12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
			12/15/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053853-014B			12/15/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053853-014C			12/15/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/15/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053853-015A	FOLDER	12/15/2022	12/15/2022		Folder	Folder	☐	☐	☐	LAB
			12/15/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/15/2022		Folder	Folder	☐	☐	☐	LAB

December 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053873

RE: PG&E Topock - IM3, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 01, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Since the actual result of total dissolved chromium (1.0 ug/L) differs with hexavalent chromium (0.95ug/L) by no more than 0.7ug/L for sample N053873-001 (CW-04D-Q422), reanalysis of the sample was not necessary. Dilution was necessary for sample N053873-001 for Hexavalent Chromium due to matrix.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053873-009CMSD and N053873-009C-MS2 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The

associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium in QC samples N053873-009C-MS2 and N053873-009C-MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Barium in QC sample N053873-009CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Since the actual result of total dissolved chromium (1.0 ug/L) differs with hexavalent chromium (0.95ug/L) by no more than 0.7ug/L for sample N053873-001 (CW-04D-Q422), reanalysis of the sample was not necessary. Dilution was necessary for sample N053873-001 for Hexavalent Chromium due to matrix.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - IM3, 30121866.4Q22GW
Lab Order: N053873
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053873-001A	CW-04D-Q422	Groundwater	12/1/2022 1:56:00 PM	12/1/2022	12/27/2022
N053873-001B	CW-04D-Q422	Groundwater	12/1/2022 1:56:00 PM	12/1/2022	12/27/2022
N053873-001C	CW-04D-Q422	Groundwater	12/1/2022 1:56:00 PM	12/1/2022	12/27/2022
N053873-001D	CW-04D-Q422	Groundwater	12/1/2022 1:56:00 PM	12/1/2022	12/27/2022
N053873-002A	CW-04M-Q422	Groundwater	12/1/2022 2:54:00 PM	12/1/2022	12/27/2022
N053873-002B	CW-04M-Q422	Groundwater	12/1/2022 2:54:00 PM	12/1/2022	12/27/2022
N053873-002C	CW-04M-Q422	Groundwater	12/1/2022 2:54:00 PM	12/1/2022	12/27/2022
N053873-002D	CW-04M-Q422	Groundwater	12/1/2022 2:54:00 PM	12/1/2022	12/27/2022
N053873-003A	OW-05D-Q422	Groundwater	12/1/2022 12:23:00 PM	12/1/2022	12/27/2022
N053873-003B	OW-05D-Q422	Groundwater	12/1/2022 12:23:00 PM	12/1/2022	12/27/2022
N053873-003C	OW-05D-Q422	Groundwater	12/1/2022 12:23:00 PM	12/1/2022	12/27/2022
N053873-003D	OW-05D-Q422	Groundwater	12/1/2022 12:23:00 PM	12/1/2022	12/27/2022
N053873-004A	OW-05M-Q422	Groundwater	12/1/2022 11:37:00 AM	12/1/2022	12/27/2022
N053873-004B	OW-05M-Q422	Groundwater	12/1/2022 11:37:00 AM	12/1/2022	12/27/2022
N053873-004C	OW-05M-Q422	Groundwater	12/1/2022 11:37:00 AM	12/1/2022	12/27/2022
N053873-004D	OW-05M-Q422	Groundwater	12/1/2022 11:37:00 AM	12/1/2022	12/27/2022
N053873-005A	OW-05S-Q422	Groundwater	12/1/2022 10:34:00 AM	12/1/2022	12/27/2022
N053873-005B	OW-05S-Q422	Groundwater	12/1/2022 10:34:00 AM	12/1/2022	12/27/2022
N053873-005C	OW-05S-Q422	Groundwater	12/1/2022 10:34:00 AM	12/1/2022	12/27/2022
N053873-005D	OW-05S-Q422	Groundwater	12/1/2022 10:34:00 AM	12/1/2022	12/27/2022
N053873-006A	OW-02D-Q422	Groundwater	12/1/2022 2:56:00 PM	12/1/2022	12/27/2022
N053873-006B	OW-02D-Q422	Groundwater	12/1/2022 2:56:00 PM	12/1/2022	12/27/2022
N053873-006C	OW-02D-Q422	Groundwater	12/1/2022 2:56:00 PM	12/1/2022	12/27/2022
N053873-006D	OW-02D-Q422	Groundwater	12/1/2022 2:56:00 PM	12/1/2022	12/27/2022
N053873-007A	OW-02M-Q422	Groundwater	12/1/2022 1:58:00 PM	12/1/2022	12/27/2022
N053873-007B	OW-02M-Q422	Groundwater	12/1/2022 1:58:00 PM	12/1/2022	12/27/2022
N053873-007C	OW-02M-Q422	Groundwater	12/1/2022 1:58:00 PM	12/1/2022	12/27/2022
N053873-007D	OW-02M-Q422	Groundwater	12/1/2022 1:58:00 PM	12/1/2022	12/27/2022
N053873-008A	MW-904-Q422	Groundwater	12/1/2022 2:08:00 PM	12/1/2022	12/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - IM3, 30121866.4Q22GW
Lab Order: N053873
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053873-008B	MW-904-Q422	Groundwater	12/1/2022 2:08:00 PM	12/1/2022	12/27/2022
N053873-008C	MW-904-Q422	Groundwater	12/1/2022 2:08:00 PM	12/1/2022	12/27/2022
N053873-008D	MW-904-Q422	Groundwater	12/1/2022 2:08:00 PM	12/1/2022	12/27/2022
N053873-009A	OW-02S-Q422	Groundwater	12/1/2022 1:12:00 PM	12/1/2022	12/27/2022
N053873-009B	OW-02S-Q422	Groundwater	12/1/2022 1:12:00 PM	12/1/2022	12/27/2022
N053873-009C	OW-02S-Q422	Groundwater	12/1/2022 1:12:00 PM	12/1/2022	12/27/2022
N053873-009D	OW-02S-Q422	Groundwater	12/1/2022 1:12:00 PM	12/1/2022	12/27/2022
N053873-010A	EB-738-Q422	Groundwater	12/1/2022 4:20:00 PM	12/1/2022	12/27/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:56:00 PM
Lab ID:	N053873-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4500	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:54:00 PM
Lab ID:	N053873-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:23:00 PM
Lab ID:	N053873-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 11:37:00 AM
Lab ID:	N053873-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 10:34:00 AM
Lab ID:	N053873-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	3100	33	33		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:56:00 PM
Lab ID:	N053873-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:58:00 PM
Lab ID:	N053873-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4400	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:08:00 PM
Lab ID:	N053873-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:12:00 PM
Lab ID:	N053873-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221205F**	QC Batch: **97052**			PrepDate:	**12/5/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	1800	20	20		mg/L	1	12/5/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-97052**	SampType: **LCS**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/5/2022**	RunNo: **167929**
Client ID: **LCSW**	Batch ID: **97052**	TestNo: **SM2540C**		Analysis Date: **12/5/2022**	SeqNo: **4956179**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	979.000	10	1000	0	97.9	80	120				

Sample ID: **MB-97052**	SampType: **MBLK**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/5/2022**	RunNo: **167929**
Client ID: **PBW**	Batch ID: **97052**	TestNo: **SM2540C**		Analysis Date: **12/5/2022**	SeqNo: **4956180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: **N053873-001DDUP**	SampType: **DUP**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/5/2022**	RunNo: **167929**
Client ID: **ZZZZZZ**	Batch ID: **97052**	TestNo: **SM2540C**		Analysis Date: **12/5/2022**	SeqNo: **4956182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4490.000	50						4470	0.446	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-04D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:56:00 PM

Lab ID: N053873-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.45	1.0		µg/L	5	12/16/2022 09:21 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221223B** QC Batch: **97353**				PrepDate:	**12/21/2022**		Analyst: **DJ**
Chromium	1.0	0.035	1.0		µg/L	1	12/23/2022 06:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:54:00 PM
Lab ID:	N053873-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A**	QC Batch: **R168252**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.1	0.090	0.20		µg/L	1	12/15/2022 07:54 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	1.3	0.035	1.0		µg/L	1	12/6/2022 12:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:23:00 PM
Lab ID:	N053873-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A**	QC Batch: **R168252**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	0.88	0.090	0.20		µg/L	1	12/15/2022 08:17 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	1.3	0.035	1.0		µg/L	1	12/6/2022 12:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 11:37:00 AM
Lab ID:	N053873-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A**	QC Batch: **R168252**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	0.63	0.090	0.20		µg/L	1	12/15/2022 09:48 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 12:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 10:34:00 AM
Lab ID:	N053873-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	13	0.090	0.20		µg/L	1	12/15/2022 10:11 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_221205C** QC Batch: **97000**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	13	0.035	1.0		µg/L	1	12/6/2022 12:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:56:00 PM
Lab ID:	N053873-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A**	QC Batch: **R168252**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	0.34	0.090	0.20		µg/L	1	12/15/2022 10:34 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 12:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:58:00 PM
Lab ID:	N053873-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A**	QC Batch: **R168252**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.6	0.090	0.20		µg/L	1	12/15/2022 11:19 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97000**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	1.8	0.035	1.0		µg/L	1	12/6/2022 12:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:08:00 PM
Lab ID:	N053873-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.7	0.45	1.0		µg/L	5	12/16/2022 10:12 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97000**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	1.8	0.035	1.0		µg/L	1	12/6/2022 12:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:12:00 PM
Lab ID:	N053873-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A** QC Batch: **R168252**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	21	0.45	1.0		µg/L	5	12/15/2022 09:02 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97000**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	22	0.035	1.0		µg/L	1	12/6/2022 12:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-738-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 4:20:00 PM
Lab ID:	N053873-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215A**	QC Batch: **R168252**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/16/2022 12:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97000**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **PBW**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.093	1.0									

Sample ID: **LCS-97000**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **LCSW**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/5/2022**	SeqNo: **4956635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.261	1.0	10.00	0	103	85	115				

Sample ID: **N053873-009CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956659**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.925	1.0	10.00	21.96	89.7	75	125				

Sample ID: **N053873-009CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **97000**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	31.042	1.0	10.00	21.96	90.8	75	125	30.93	0.378	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97353**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **PBW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-97353**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **LCSW**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.921	1.0	10.00	0	109	85	115				

Sample ID: **N053873-001C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.131	1.0	10.00	1.020	101	75	125				

Sample ID: **N053873-001C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/21/2022**	RunNo: **168458**
Client ID: **ZZZZZZ**	Batch ID: **97353**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4987994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.366	1.0	10.00	1.020	93.5	75	125	11.13	7.11	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168252**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **LCSW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R168252**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **PBW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053989-001A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.123	0.20						3.137	0.457	20	

Sample ID: **N053989-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.170	0.20	1.000	3.137	103	90	110				

Sample ID: **N053989-001A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.168	0.20	1.000	3.137	103	90	110	4.170	0.0528	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.863	1.0	5.000	2.578	106	90	110				

Sample ID: **N053817-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	87.873	1.0	25.00	63.42	97.8	90	110				

Sample ID: **N053816-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.252	1.0	5.000	0	105	90	110				

Sample ID: **N053817-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.683	2.0	50.00	61.48	98.4	90	110				

Sample ID: **N053817-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.190	1.0	5.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID: **N053873-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.092	0.20	1.000	1.055	104	90	110				

Sample ID: **N053873-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.948	0.20	1.000	0.8850	106	90	110				

Sample ID: **N053873-009A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.149	1.0						21.09	0.277	20	

Sample ID: **N053873-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.197	1.0	25.00	21.09	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-009A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.201	1.0	25.00	21.09	100	90	110	46.20	0.00866	20	

Sample ID: **N053873-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.572	0.20	1.000	0.6292	94.2	90	110				

Sample ID: **N053873-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.572	0.20	5.000	12.71	97.2	90	110				

Sample ID: **N053873-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.408	0.20	1.000	0.3365	107	90	110				

Sample ID: **N053873-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.565	0.20	1.000	1.577	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N053874-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.033	1.0	25.00	8.597	102	90	110				

Sample ID: **N053874-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.243	0.20	1.000	0.2328	101	90	110				

Sample ID: **N053873-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.116	1.0	5.000	0.9510	103	90	110				

Sample ID: **N053873-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.835	1.0	5.000	1.669	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	71.343	1.0	25.00	46.24	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:56:00 PM
Lab ID:	N053873-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	54	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:54:00 PM
Lab ID:	N053873-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	59	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:23:00 PM
Lab ID:	N053873-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	82	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 11:37:00 AM
Lab ID:	N053873-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	84	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 10:34:00 AM
Lab ID:	N053873-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	54	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:56:00 PM
Lab ID:	N053873-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	87	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:58:00 PM
Lab ID:	N053873-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	110	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:08:00 PM
Lab ID:	N053873-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	110	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:12:00 PM
Lab ID:	N053873-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	72	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID: **LCS-R167881**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **LCSW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	95.918	5.0	100.0	0	95.9	85	115				

Sample ID: **MB-R167881**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **PBW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID: **N053873-009DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	71.429	5.0						72.45	1.42	30	

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125	163.3	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-04D-Q422
Lab Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:56:00 PM
Lab ID: N053873-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	2200	33	250		mg/L	500	12/4/2022 04:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	4.0	0.064	0.50		mg/L	5	12/3/2022 11:01 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 07:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-04M-Q422
Lab Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:54:00 PM
Lab ID: N053873-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	2000	33	250		mg/L	500	12/4/2022 04:29 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	2.0	0.064	0.50		mg/L	5	12/3/2022 11:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	12/4/2022 07:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-05D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:23:00 PM

Lab ID: N053873-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1900	33	250		mg/L	500	12/4/2022 05:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	2.6	0.064	0.50		mg/L	5	12/3/2022 11:29 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 07:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 11:37:00 AM
Lab ID:	N053873-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A**	QC Batch: **R167863**			PrepDate:			Analyst: **RAB**
Chloride	1900	33	250		mg/L	500	12/4/2022 05:57 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A**	QC Batch: **R167863**			PrepDate:			Analyst: **RAB**
Fluoride	2.4	0.064	0.50		mg/L	5	12/4/2022 10:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A**	QC Batch: **R167863**			PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 07:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-05S-Q422
Lab Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:34:00 AM
Lab ID: N053873-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1400	33	250		mg/L	500	12/4/2022 06:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A** QC Batch: **R167861**				PrepDate:			Analyst: **RAB**
Fluoride	1.4	0.064	0.50		mg/L	5	12/3/2022 11:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	310	3.0	25		mg/L	50	12/4/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:56:00 PM

Lab ID: N053873-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	2000	33	250		mg/L	500	12/4/2022 06:25 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Fluoride	2.6	0.064	0.50		mg/L	5	12/4/2022 10:57 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 08:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02M-Q422
Lab Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:58:00 PM
Lab ID: N053873-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1900	33	250		mg/L	500	12/4/2022 06:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Fluoride	2.4	0.064	0.50		mg/L	5	12/4/2022 11:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 09:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-904-Q422
Lab Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:08:00 PM
Lab ID: N053873-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	1900	33	250		mg/L	500	12/4/2022 06:54 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Fluoride	2.3	0.064	0.50		mg/L	5	12/4/2022 10:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/4/2022 09:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02S-Q422
Lab Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:12:00 PM
Lab ID: N053873-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Chloride	860	33	250		mg/L	500	12/4/2022 11:54 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Fluoride	3.0	0.064	0.50		mg/L	5	12/4/2022 09:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A** QC Batch: **R167863**				PrepDate:			Analyst: **RAB**
Sulfate	170	3.0	25		mg/L	50	12/5/2022 12:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **MB-R167863_CL**	SampType: **MBLK**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:			RunNo: **167863**			
Client ID: **PBW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**			SeqNo: **4952477**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.50									

Sample ID: **LCS-R167863_CL**	SampType: **LCS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:			RunNo: **167863**			
Client ID: **LCSW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**			SeqNo: **4952478**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.048	0.50	2.000	0	102	90	110				

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:			RunNo: **167863**			
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**			SeqNo: **4952480**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2975.300	250	1000	1930	105	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:			RunNo: **167863**			
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**			SeqNo: **4952481**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2939.000	250	1000	1930	101	80	120	2975	1.23	20	

Sample ID: **N053814-002DDUP**	SampType: **DUP**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:			RunNo: **167863**			
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**			SeqNo: **4952485**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2117.750	250						2095	1.10	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID: **N053814-002DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3123.150	250	1000	2095	103	80	120				

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1802.800	250	1000	857.0	94.6	80	120				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **300_W_CLPG**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952509**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1812.750	250	1000	857.0	95.6	80	120	1803	0.550	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R167861_F** SampType: **MBLK** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167861**
Client ID: **PBW** Batch ID: **R167861** TestNo: **EPA 300.0** Analysis Date: **12/3/2022** SeqNo: **4951988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R167861_F** SampType: **LCS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167861**
Client ID: **LCSW** Batch ID: **R167861** TestNo: **EPA 300.0** Analysis Date: **12/3/2022** SeqNo: **4951989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.313	0.10	1.250	0	105	90	110				

Sample ID: **N053883-001AMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167861**
Client ID: **ZZZZZZ** Batch ID: **R167861** TestNo: **EPA 300.0** Analysis Date: **12/3/2022** SeqNo: **4951991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.367	0.50	6.250	0.3630	96.1	80	120				

Sample ID: **N053883-001AMSD** SampType: **MSD** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167861**
Client ID: **ZZZZZZ** Batch ID: **R167861** TestNo: **EPA 300.0** Analysis Date: **12/3/2022** SeqNo: **4951992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	6.439	0.50	6.250	0.3630	97.2	80	120	6.367	1.12	20	

Sample ID: **N053883-001ADUP** SampType: **DUP** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167861**
Client ID: **ZZZZZZ** Batch ID: **R167861** TestNo: **EPA 300.0** Analysis Date: **12/3/2022** SeqNo: **4951993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.332	0.50						0.3630	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951997**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.570	0.50	6.250	2.479	97.5	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **167861**
Client ID: **ZZZZZZ**	Batch ID: **R167861**	TestNo: **EPA 300.0**		Analysis Date: **12/3/2022**	SeqNo: **4951998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.012	0.50	6.250	2.479	88.5	80	120	8.570	6.74	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R167863_F** SampType: **MBLK** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167863**
Client ID: **PBW** Batch ID: **R167863** TestNo: **EPA 300.0** Analysis Date: **12/4/2022** SeqNo: **4952447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R167863_F** SampType: **LCS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167863**
Client ID: **LCSW** Batch ID: **R167863** TestNo: **EPA 300.0** Analysis Date: **12/4/2022** SeqNo: **4952448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.257	0.10	1.250	0	101	90	110				

Sample ID: **N053873-009DMS** SampType: **MS** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167863**
Client ID: **ZZZZZZ** Batch ID: **R167863** TestNo: **EPA 300.0** Analysis Date: **12/4/2022** SeqNo: **4952462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.293	0.50	6.250	3.041	100	80	120				

Sample ID: **N053873-009DMSD** SampType: **MSD** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167863**
Client ID: **ZZZZZZ** Batch ID: **R167863** TestNo: **EPA 300.0** Analysis Date: **12/4/2022** SeqNo: **4952463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.299	0.50	6.250	3.041	100	80	120	9.293	0.0592	20	

Sample ID: **N053873-008DDUP** SampType: **DUP** TestCode: **300_W_FPGE** Units: **mg/L** Prep Date: RunNo: **167863**
Client ID: **ZZZZZZ** Batch ID: **R167863** TestNo: **EPA 300.0** Analysis Date: **12/4/2022** SeqNo: **4952465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.352	0.50						2.318	1.46	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167863_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **PBW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.229	0.50									

Sample ID: **LCS-R167863_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **LCSW**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.016	0.50	4.000	0	100	90	110				

Sample ID: **N053788-001DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	710.785	25	200.0	509.6	101	80	120				

Sample ID: **N053788-001DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	712.110	25	200.0	509.6	101	80	120	710.8	0.186	20	

Sample ID: **N053814-002DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	507.090	25						508.2	0.217	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N053814-002DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/4/2022**	SeqNo: **4952549**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	707.230	25	200.0	508.2	99.5	80	120				

Sample ID: **N053873-009DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	364.990	25	200.0	173.8	95.6	80	120				

Sample ID: **N053873-009DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167863**
Client ID: **ZZZZZZ**	Batch ID: **R167863**	TestNo: **EPA 300.0**		Analysis Date: **12/5/2022**	SeqNo: **4952571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	367.865	25	200.0	173.8	97.0	80	120	365.0	0.785	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-04D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:56:00 PM

Lab ID: N053873-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.4	0.035	0.10		mg/L	1	12/14/2022 01:20 PM
Calcium	160	0.18	0.50		mg/L	1	12/4/2022 07:53 PM
Magnesium	8.0	0.017	0.10		mg/L	1	12/4/2022 07:53 PM
Potassium	13	0.69	2.5		mg/L	5	12/15/2022 03:53 PM
Sodium	1500	42	62		mg/L	125	12/15/2022 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:54:00 PM
Lab ID:	N053873-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.2	0.035	0.10		mg/L	1	12/14/2022 01:24 PM
Calcium	230	0.18	0.50		mg/L	1	12/4/2022 07:59 PM
Magnesium	15	0.017	0.10		mg/L	1	12/4/2022 07:59 PM
Potassium	13	0.69	2.5		mg/L	5	12/15/2022 03:57 PM
Sodium	1400	42	62		mg/L	125	12/15/2022 04:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:23:00 PM
Lab ID:	N053873-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.2	0.035	0.10		mg/L	1	12/14/2022 01:29 PM
Calcium	180	0.18	0.50		mg/L	1	12/4/2022 08:05 PM
Magnesium	27	0.017	0.10		mg/L	1	12/4/2022 08:05 PM
Potassium	17	0.69	2.5		mg/L	5	12/15/2022 04:02 PM
Sodium	1200	42	62		mg/L	125	12/15/2022 04:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-05M-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:37:00 AM

Lab ID: N053873-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.3	0.035	0.10		mg/L	1	12/14/2022 01:34 PM
Calcium	170	0.18	0.50		mg/L	1	12/4/2022 08:10 PM
Magnesium	25	0.017	0.10		mg/L	1	12/4/2022 08:10 PM
Potassium	20	0.69	2.5		mg/L	5	12/15/2022 04:06 PM
Sodium	1300	42	62		mg/L	125	12/15/2022 04:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-05S-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:34:00 AM

Lab ID: N053873-005 **Matrix:** GROUNDWATER

DISSOLVED METALS BY ICP

EPA 3010A **EPA 6010B**

RunID: **NV00922-ICP2_221214A** QC Batch: **97002** PrepDate: **12/2/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Boron	0.41	0.035	0.10		mg/L	1	12/14/2022 01:39 PM
Calcium	430	0.18	0.50		mg/L	1	12/4/2022 08:26 PM
Magnesium	59	0.017	0.10		mg/L	1	12/4/2022 08:26 PM
Potassium	18	0.69	2.5		mg/L	5	12/15/2022 04:11 PM
Sodium	580	42	62		mg/L	125	12/15/2022 04:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:56:00 PM

Lab ID: N053873-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.3	0.035	0.10		mg/L	1	12/14/2022 01:43 PM
Calcium	210	0.18	0.50		mg/L	1	12/4/2022 08:31 PM
Magnesium	31	0.017	0.10		mg/L	1	12/4/2022 08:31 PM
Potassium	18	0.69	2.5		mg/L	5	12/15/2022 04:21 PM
Sodium	1300	42	62		mg/L	125	12/15/2022 04:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02M-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:58:00 PM

Lab ID: N053873-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.2	0.035	0.10		mg/L	1	12/14/2022 01:47 PM
Calcium	170	0.18	0.50		mg/L	1	12/4/2022 08:37 PM
Magnesium	24	0.017	0.10		mg/L	1	12/4/2022 08:37 PM
Potassium	19	0.69	2.5		mg/L	5	12/15/2022 04:26 PM
Sodium	1300	42	62		mg/L	125	12/15/2022 05:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:08:00 PM
Lab ID:	N053873-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	1.2	0.035	0.10		mg/L	1	12/14/2022 01:52 PM
Calcium	170	0.18	0.50		mg/L	1	12/4/2022 08:43 PM
Magnesium	25	0.017	0.10		mg/L	1	12/4/2022 08:43 PM
Potassium	15	0.69	2.5		mg/L	5	12/15/2022 04:30 PM
Sodium	1400	42	62		mg/L	125	12/15/2022 05:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02S-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:12:00 PM

Lab ID: N053873-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221214A**	QC Batch: **97002**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Boron	0.67	0.035	0.10		mg/L	1	12/14/2022 02:18 PM
Calcium	110	0.18	0.50		mg/L	1	12/4/2022 08:48 PM
Magnesium	12	0.017	0.10		mg/L	1	12/4/2022 08:48 PM
Potassium	15	0.69	2.5		mg/L	5	12/15/2022 04:35 PM
Sodium	350	42	62		mg/L	125	12/20/2022 01:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-97002** SampType: **MBLK** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **12/2/2022** RunNo: **167869**
Client ID: **PBW** Batch ID: **97002** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.50									
Magnesium	ND	0.10									

Sample ID: **LCS-97002** SampType: **LCS** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **12/2/2022** RunNo: **167869**
Client ID: **LCSW** Batch ID: **97002** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	9.405	0.50	10.00	0	94.0	85	115				
Magnesium	9.812	0.10	10.00	0	98.1	85	115				

Sample ID: **N053873-009CMS** SampType: **MS** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **12/2/2022** RunNo: **167869**
Client ID: **ZZZZZZ** Batch ID: **97002** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	116.671	0.50	10.00	105.6	111	75	125				
Magnesium	21.648	0.10	10.00	12.14	95.1	75	125				

Sample ID: **N053873-009CMSD** SampType: **MSD** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **12/2/2022** RunNo: **167869**
Client ID: **ZZZZZZ** Batch ID: **97002** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/4/2022** SeqNo: **4952356**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	118.577	0.50	10.00	105.6	130	75	125	116.7	1.62	20	S
Magnesium	21.870	0.10	10.00	12.14	97.3	75	125	21.65	1.02	20	

Sample ID: **MB-97002** SampType: **MBLK** TestCode: **6010_WDPG** Units: **mg/L** Prep Date: **12/2/2022** RunNo: **168177**
Client ID: **PBW** Batch ID: **97002** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/14/2022** SeqNo: **4969804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **MB-97002**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168177**
Client ID: **PBW**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.039	0.10									

Sample ID: **LCS-97002**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168177**
Client ID: **LCSW**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.394	0.10	10.00	0	104	85	115				

Sample ID: **N053873-009CMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	11.748	0.10	10.00	0.6725	111	75	125				

Sample ID: **N053873-009CMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	11.839	0.10	10.00	0.6725	112	75	125	11.75	0.769	20	

Sample ID: **MB-97002**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168233**
Client ID: **PBW**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4972993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									
Sodium	ND	0.50									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **LCS2-97002**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168233**
Client ID: **LCSW**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4972994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18.429	0.50	20.00	0	92.1	85	115				
Sodium	18.412	0.50	20.00	0	92.1	85	115				

Sample ID: **N053873-009C-MS2**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168233**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4973023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	42.098	2.5	20.00	14.88	136	75	125				S

Sample ID: **N053873-009C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168233**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4973025**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	36.686	2.5	20.00	14.88	109	75	125	42.10	13.7	20	

Sample ID: **N053873-009C-MS2**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168376**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2022**	SeqNo: **4981736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	271.323	62	20.00	354.5	-416	75	125				S

Sample ID: **N053873-009C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date: **12/2/2022**	RunNo: **168376**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2022**	SeqNo: **4981738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	215.165	62	20.00	354.5	-697	75	125	271.3	23.1	20	SR

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID: **N053873-009C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **167869**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/4/2022**	SeqNo: **4952354**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	117.353	0.50	10.00	105.6	118	80	120				
Magnesium	21.725	0.10	10.00	12.14	95.8	80	120				

Sample ID: **N053873-009C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168177**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/14/2022**	SeqNo: **4969821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	11.664	0.10	10.00	0.6725	110	80	120				

Sample ID: **N053873-009C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168233**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4973021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	69.783	2.5	100.0	14.88	54.9	80	120				S

Sample ID: **N053873-009C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **mg/L**	Prep Date:	RunNo: **168376**
Client ID: **ZZZZZZ**	Batch ID: **97002**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/20/2022**	SeqNo: **4981734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	2106.788	62	2500	354.5	70.1	80	120				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-04D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:56:00 PM

Lab ID: N053873-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	12/5/2022 11:25 PM
Barium	21	0.083	1.0		µg/L	1	12/5/2022 11:25 PM
Manganese	ND	0.026	0.50		µg/L	1	12/5/2022 11:25 PM
Molybdenum	32	0.12	0.50		µg/L	1	12/5/2022 11:25 PM
Selenium	3.4	0.044	0.50		µg/L	1	12/5/2022 11:25 PM
Vanadium	3.7	0.067	1.0		µg/L	1	12/5/2022 11:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-04M-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:54:00 PM

Lab ID: N053873-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.68	0.050	0.10		µg/L	1	12/6/2022 12:00 AM
Barium	85	0.083	1.0		µg/L	1	12/6/2022 12:00 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:00 AM
Molybdenum	9.1	0.12	0.50		µg/L	1	12/6/2022 12:00 AM
Selenium	3.3	0.044	0.50		µg/L	1	12/6/2022 07:28 PM
Vanadium	3.8	0.067	1.0		µg/L	1	12/6/2022 12:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-05D-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:23:00 PM

Lab ID: N053873-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	12/6/2022 12:06 AM
Barium	31	0.083	1.0		µg/L	1	12/6/2022 12:06 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:06 AM
Molybdenum	26	0.12	0.50		µg/L	1	12/6/2022 12:06 AM
Selenium	8.8	0.044	0.50		µg/L	1	12/6/2022 12:06 AM
Vanadium	2.9	0.067	1.0		µg/L	1	12/6/2022 12:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05M-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 11:37:00 AM
Lab ID:	N053873-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 12:12 AM
Barium	33	0.083	1.0		µg/L	1	12/6/2022 12:12 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:12 AM
Molybdenum	24	0.12	0.50		µg/L	1	12/6/2022 12:12 AM
Selenium	9.7	0.044	0.50		µg/L	1	12/6/2022 12:12 AM
Vanadium	2.4	0.067	1.0		µg/L	1	12/6/2022 12:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-05S-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:34:00 AM

Lab ID: N053873-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 12:18 AM
Barium	120	0.083	1.0		µg/L	1	12/6/2022 12:18 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:18 AM
Molybdenum	7.7	0.12	0.50		µg/L	1	12/6/2022 12:18 AM
Selenium	2.3	0.044	0.50		µg/L	1	12/6/2022 12:18 AM
Vanadium	2.7	0.067	1.0		µg/L	1	12/6/2022 12:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02D-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:56:00 PM
Lab ID:	N053873-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.41	0.050	0.10		µg/L	1	12/6/2022 12:24 AM
Barium	24	0.083	1.0		µg/L	1	12/6/2022 12:24 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:24 AM
Molybdenum	23	0.12	0.50		µg/L	1	12/6/2022 12:24 AM
Selenium	9.4	0.044	0.50		µg/L	1	12/6/2022 12:24 AM
Vanadium	1.9	0.067	1.0		µg/L	1	12/6/2022 12:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** OW-02M-Q422

Lab Order: N053873

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:58:00 PM

Lab ID: N053873-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 12:30 AM
Barium	40	0.083	1.0		µg/L	1	12/6/2022 12:30 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:30 AM
Molybdenum	22	0.12	0.50		µg/L	1	12/6/2022 12:30 AM
Selenium	9.3	0.044	0.50		µg/L	1	12/6/2022 12:30 AM
Vanadium	3.3	0.067	1.0		µg/L	1	12/6/2022 12:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:08:00 PM
Lab ID:	N053873-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 12:36 AM
Barium	38	0.083	1.0		µg/L	1	12/6/2022 12:36 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:36 AM
Molybdenum	21	0.12	0.50		µg/L	1	12/6/2022 12:36 AM
Selenium	9.0	0.044	0.50		µg/L	1	12/6/2022 12:36 AM
Vanadium	3.1	0.067	1.0		µg/L	1	12/6/2022 12:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02S-Q422
Lab Order:	N053873		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/1/2022 1:12:00 PM
Lab ID:	N053873-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97000**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.73	0.050	0.10		µg/L	1	12/6/2022 12:41 AM
Barium	96	0.083	1.0		µg/L	1	12/6/2022 12:41 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 12:41 AM
Molybdenum	25	0.12	0.50		µg/L	1	12/6/2022 12:41 AM
Selenium	2.9	0.044	0.50		µg/L	1	12/6/2022 12:41 AM
Vanadium	4.5	0.067	1.0		µg/L	1	12/6/2022 12:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97000** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **PBW** Batch ID: **97000** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									
Vanadium	0.192	1.0									

Sample ID: **LCS-97000** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **LCSW** Batch ID: **97000** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/5/2022** SeqNo: **4956802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.570	0.10	10.00	0	95.7	85	115				
Barium	9.881	1.0	10.00	0	98.8	85	115				
Manganese	98.175	0.50	100.0	0	98.2	85	115				
Molybdenum	9.432	0.50	10.00	0	94.3	85	115				
Selenium	9.724	0.50	10.00	0	97.2	85	115				
Vanadium	10.349	1.0	10.00	0	103	85	115				

Sample ID: **N053873-009CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97000** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.352	0.10	10.00	0.7291	96.2	75	125				
Barium	104.003	1.0	10.00	95.84	81.7	75	125				
Manganese	94.695	0.50	100.0	0.3708	94.3	75	125				
Molybdenum	35.017	0.50	10.00	24.97	100	75	125				
Selenium	12.274	0.50	10.00	2.936	93.4	75	125				
Vanadium	14.871	1.0	10.00	4.470	104	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053873-009CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97000** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.187	0.10	10.00	0.7291	94.6	75	125	10.35	1.61	20	
Barium	101.642	1.0	10.00	95.84	58.0	75	125	104.0	2.30	20	S
Manganese	95.759	0.50	100.0	0.3708	95.4	75	125	94.70	1.12	20	
Molybdenum	33.235	0.50	10.00	24.97	82.7	75	125	35.02	5.22	20	
Selenium	11.993	0.50	10.00	2.936	90.6	75	125	12.27	2.31	20	
Vanadium	14.763	1.0	10.00	4.470	103	75	125	14.87	0.734	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053873
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053873-009C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97000** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.357	0.10	10.00	0.7291	96.3	80	120				
Barium	100.940	1.0	10.00	95.84	51.0	80	120				S
Manganese	95.325	0.50	100.0	0.3708	95.0	80	120				
Molybdenum	33.959	0.50	10.00	24.97	89.9	80	120				
Selenium	11.887	0.50	10.00	2.936	89.5	80	120				
Vanadium	15.064	1.0	10.00	4.470	106	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

53873

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement / QA/QC
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95661	Email:	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec / CalTrans
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 12/01/22	Sampled By: Riggie Tep		Global ID: / Regulatory
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Specify State:
Project Name: PG&E Topock - IM3	Signature: Date: 12/01/22		
Project Number: 30121866.4Q22GW			

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	2	
6. Method of Cooling: ICE		

Sample Temp: 3.3°C / 1.7°C / 4.6°C

Courier:

Tracking No.:

Matrix: Ground X, Sediment; Potable, Soil; NPDES, Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	125 mL poly: Nitrate/Nitrite (SM4500N03) Nitrogen: H2SO4	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Boron, Barium, Calcium, Potassium, Magnesium, Manganese, Sodium, Vanadium	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	1 liter poly: Total Dissolved Solids (SM2540C); 4°C	1 liter poly: Chloride, Fluoride, Sulfate (EPA300.0); 4°C	1 liter poly: Alkalinity, Total as CaCO3 (SM2320B); 4°C	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053873-001	CW-04D-Q422	12/1/2022	13:56		X	X	X	X	X	X	X	X	E	5	P	BNS	
2	-002	CW-04M-Q422	12/1/2022	14:54		X	X	X	X	X	X	X	X	E	5	P	BNS	
3	-003	OW-05D-Q422	12/1/2022	12:23		X	X	X	X	X	X	X	X	E	5	P	BNS	
4	-004	OW-05M-Q422	12/1/2022	11:37		X	X	X	X	X	X	X	X	E	5	P	BNS	
5	-005	OW-05S-Q422	12/1/2022	10:34		X	X	X	X	X	X	X	X	E	5	P	BNS	
6	006	OW-02D-Q422	12/1/2022	14:56		X	X	X	X	X	X	X	X	E	5	P	BNS	
7	007	OW-02M-Q422	12/1/2022	13:58		X	X	X	X	X	X	X	X	E	5	P	BNS	
8	-008	MW-904-Q422	12/1/2022	14:08		X	X	X	X	X	X	X	X	E	5	P	BNS	
9	-009	OW-02S-Q422	12/1/2022	13:12		X	X	X	X	X	X	X	X	E	5	P	BNS	MSMSD
10	-010	EB-738-Q422	12/1/2022	16:20		X								E	1	P	BNS	
11																		
12																		
13																		
14																		
15																		

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
Riggie Tep	12/01/22 1716	Dante Ortiz	12/1/22 17:16
Dante Ortiz	12/1/22 19:06	Dante Ortiz	12/1/22 21:06

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/11/2022	Workorder:	N053873
Rep sample Temp (Deg C):	3.3/1.7/4.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/2/2022

Reviewed By: for MBC 12/8/22

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053873

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053873-001A	CW-04D-Q422	12/1/2022 1:56:00 PM	12/16/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-001B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-001C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-001D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-002A	CW-04M-Q422	12/1/2022 2:54:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-002B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-002C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-002D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053873

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053873-002D	CW-04M-Q422	12/1/2022 2:54:00 PM	12/16/2022	Groundwater		Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-003A	OW-05D-Q422	12/1/2022 12:23:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-003B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-003C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-003D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-004A	OW-05M-Q422	12/1/2022 11:37:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-004B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-004C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053873

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053873-004C	OW-05M-Q422	12/1/2022 11:37:00 AM	12/16/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-004D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-005A	OW-05S-Q422	12/1/2022 10:34:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-005B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-005C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-005D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053873

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053873-005D	OW-05S-Q422	12/1/2022 10:34:00 AM	12/16/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-006A	OW-02D-Q422	12/1/2022 2:56:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-006B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-006C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-006D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-007A	OW-02M-Q422	12/1/2022 1:58:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-007B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-007C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053873

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053873-007D	OW-02M-Q422	12/1/2022 1:58:00 PM	12/16/2022	Groundwater	SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-008A	MW-904-Q422	12/1/2022 2:08:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-008B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053873-008C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053873-008D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053873-009A	OW-02S-Q422	12/1/2022 1:12:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053873-009B			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☑	☑	SUB

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053873

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053873-009C	OW-02S-Q422	12/1/2022 1:12:00 PM	12/16/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053873-009D			12/16/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☑	☐	WW
			12/16/2022			Total Dissolved Solids Prep	☐	☑	☐	WW
			12/16/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☑	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053873-010A	EB-738-Q422	12/1/2022 4:20:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053873-011A	FOLDER	12/16/2022	12/16/2022		Folder	Folder	☐	☐	☐	LAB
			12/16/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/16/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N053873-001B / CW-04D-Q422	Groundwater	12/1/2022 1:56:00 PM	16OZP	1		
N053873-002B / CW-04M-Q422	Groundwater	12/1/2022 2:54:00 PM	16OZP	1		
N053873-003B / OW-05D-Q422	Groundwater	12/1/2022 12:23:00 PM	8OZP	1		
N053873-004B / OW-05M-Q422	Groundwater	12/1/2022 11:37:00 AM	8OZP	1		
N053873-005B / OW-05S-Q422	Groundwater	12/1/2022 10:34:00 AM	8OZP	1		
N053873-006B ~~/ OW-2D-Q422~~ OW-02D-Q422	Groundwater	12/1/2022 2:56:00 PM	8OZP	1		
N053873-007B / OW-02M-Q422	Groundwater	12/1/2022 1:58:00 PM	8OZP	1		
N053873-008B / MW-904-Q422	Groundwater	12/1/2022 2:08:00 PM	8OZP	1		
N053873-009B / OW-02S-Q422	Groundwater	12/1/2022 1:12:00 PM	8OZP	1	(MS/MSD)	

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53873A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 12/23/2022

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53873A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2229291
Invoice ID:	B465950

Enclosed are the results of analyses for samples received by the laboratory on 12/6/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody and Cooler Receipt Form for 2229291 Page 1 of 3

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY

2229291

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NO3F	
N053873-001B / CW-04D-Q422	Groundwater	12/1/2022 1:56:00 PM	16OZP	1	
N053873-002B / CW-04M-Q422	Groundwater	12/1/2022 2:54:00 PM	16OZP	1	
N053873-003B / CW-05D-Q422	Groundwater	12/1/2022 12:23:00 PM	8OZP	1	
N053873-004B / CW-05M-Q422	Groundwater	12/1/2022 11:37:00 AM	8OZP	1	
N053873-005B / CW-05S-Q422	Groundwater	12/1/2022 10:34:00 AM	8OZP	1	
N053873-006B / CW-2D-Q422	Groundwater	12/1/2022 2:56:00 PM	8OZP	1	
N053873-007B / CW-02M-Q422	Groundwater	12/1/2022 1:58:00 PM	8OZP	1	
N053873-008B / MW-904-Q422	Groundwater	12/1/2022 2:08:00 PM	8OZP	1	
N053873-009B / CW-02S-Q422	Groundwater	12/1/2022 1:12:00 PM	8OZP	1	(MS/MSD)

Preserved with H2SO4

CHK BY DW2

DISTRIBUTION
SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53873A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

Relinquished by:	Date/Time	Received by:	Date/Time
YRodriguez	12/5/2022 1630		12-6-22 1623
Relinquished by:		Received by:	

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 2 Of 2

Submission #: 2229291

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☑ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☐ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 12-6-22

Temperature: (A) 3.0 °C / (C) 2.9 °C Analyst Init: MH 1023

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE 806	A	A								
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL - 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: PE Date/Time: 12/6/22 1345

A = Actual / C = Corrected

Rev 23 06/20/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SRAM\RECrev 23]

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PACE ANALYTICAL — COOLER RECEIPT FORM — Page 2 Of 2

Submission #: 22-29291

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐
Pace Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☒ NO ☐
(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: IR Thermometer ID: 337

Temperature: (A) 3.7 °C / (C) 3.1 °C

Date/Time 12-6-22

Analyst Init SMH 1023

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
~~2oz~~ NITRATE / NITRITE 807			A	A	A	A	A	A	A	
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/508.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: PE Date/Time: 12/10/22 1345

A = Actual / C = Corrected

Rev 23 05/25/22

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2229291-01	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 13:56
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-001B/CW-04D-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-02	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 14:54
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-002B/CW-04M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-03	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 12:23
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-003B/OW-05D-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-04	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 11:37
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-004B/OW-05M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-05	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 10:34
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-005B/OW-05S-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-06	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 14:56
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-006B/OW-2D-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-07	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 13:58
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-007B/OW-02M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2229291-08	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 14:08
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-008B/MW-904-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229291-09	**COC Number:**	---	**Receive Date:**	12/06/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/01/2022 13:12
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053873-009B/OW-02S-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater

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ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-01 | **Client Sample Name:** Level IV + labSpec7, N053873-001B/CW-04D-Q422, 12/1/2022 1:56:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.7**	**mg/L**	**0.20**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:50	KB1	SC-1	2	B156577	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-02 | **Client Sample Name:** Level IV + labSpec7, N053873-002B/CW-04M-Q422, 12/1/2022 2:54:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.9**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 13:36	KB1	SC-1	1	B156577	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-03 | **Client Sample Name:** Level IV + labSpec7, N053873-003B/OW-05D-Q422, 12/1/2022 12:23:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**6.7**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:04	KB1	SC-1	5	B156577	No Prep

DCN = Data Continuation Number

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ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-04 | **Client Sample Name:** Level IV + labSpec7, N053873-004B/OW-05M-Q422, 12/1/2022 11:37:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**8.4**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:06	KB1	SC-1	5	B156577	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-05 | **Client Sample Name:** Level IV + labSpec7, N053873-005B/OW-05S-Q422, 12/1/2022 10:34:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**3.1**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 13:40	KB1	SC-1	1	B156577	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-06 | **Client Sample Name:** Level IV + labSpec7, N053873-006B/OW-2D-Q422, 12/1/2022 2:56:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**7.4**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:08	KB1	SC-1	5	B156577	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-07 | **Client Sample Name:** Level IV + labSpec7, N053873-007B/OW-02M-Q422, 12/1/2022 1:58:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**7.6**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:13	KB1	SC-1	5	B156577	No Prep

DCN = Data Continuation Number

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ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-08 | **Client Sample Name:** Level IV + labSpec7, N053873-008B/MW-904-Q422, 12/1/2022 2:08:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**7.3**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:15	KB1	SC-1	5	B156577	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229291-09 | **Client Sample Name:** Level IV + labSpec7, N053873-009B/OW-02S-Q422, 12/1/2022 1:12:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**4.3**	**mg/L**	**0.50**	**EPA-353.2**	ND	**A10**	1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 14:17	KB1	SC-1	5	B156577	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals	Run #
QC Batch ID: B156577						
Nitrate/Nitrite as N	B156577-BLK1	ND	mg/L	0.10		1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156577-BLK1	PB	EPA-353.2	12/20/22	12/20/22 13:30	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B156577											
Nitrate/Nitrite as N	B156577-BS1	LCS	1.9994	2.0000	mg/L	100		90 - 110			1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156577-BS1	LCS	EPA-353.2	12/20/22	12/20/22 13:29	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals	R#
QC Batch ID: B156577	Used client sample: Y - Description: N053873-001B/CW-04D-Q422, 12/01/2022 13:56											
Nitrate/Nitrite as N	DUP	2229291-01	2.6668	2.7630		mg/L	3.5		10			1
	MS	2229291-01	2.6668	6.8091	4.2105	mg/L		98.4		90 - 110		2
	MSD	2229291-01	2.6668	6.8398	4.2105	mg/L	0.5	99.1	10	90 - 110		3

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156577-DUP1	DUP	EPA-353.2	12/20/22	12/20/22 14:51	KB1	SC-1	2
2	B156577-MS1	MS	EPA-353.2	12/20/22	12/20/22 14:52	KB1	SC-1	2.105
3	B156577-MSD1	MSD	EPA-353.2	12/20/22	12/20/22 14:53	KB1	SC-1	2.105

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53873A
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
A10	Detection and quantitation limits were raised due to matrix interference.

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January 02, 2023

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053874

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 01, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (37 ug/L) and hexavalent chromium (46 ug/L) for sample N053874-001 (MW-40D-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (760 ug/L) and hexavalent chromium (590 ug/L) for sample N053874-014 (PT9M-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (37 ug/L) and hexavalent chromium (46 ug/L) for sample N053874-001 (MW-40D-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 33 and 44 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (760 ug/L) and hexavalent chromium (590 ug/L) for sample N053874-014 (PT9M-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 340 and 500 ug/L, respectively. Sample for total dissolved Chromium was again redigested and result was comparable to the initial result. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053874-018CMS and N053874-018CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum in QC sample N053874-018CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053874-001A	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-001B	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-001C	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-001D	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-002A	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-002B	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-002C	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-002D	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-003A	MW-09-Q422	Groundwater	12/1/2022 12:26:00 PM	12/1/2022	1/2/2023
N053874-003B	MW-09-Q422	Groundwater	12/1/2022 12:26:00 PM	12/1/2022	1/2/2023
N053874-003C	MW-09-Q422	Groundwater	12/1/2022 12:26:00 PM	12/1/2022	1/2/2023
N053874-004A	MW-931-Q422	Groundwater	12/1/2022 12:36:00 PM	12/1/2022	1/2/2023
N053874-004B	MW-931-Q422	Groundwater	12/1/2022 12:36:00 PM	12/1/2022	1/2/2023
N053874-004C	MW-931-Q422	Groundwater	12/1/2022 12:36:00 PM	12/1/2022	1/2/2023
N053874-005A	MW-85-129-Q422	Groundwater	12/1/2022 3:48:00 PM	12/1/2022	1/2/2023
N053874-005B	MW-85-129-Q422	Groundwater	12/1/2022 3:48:00 PM	12/1/2022	1/2/2023
N053874-005C	MW-85-129-Q422	Groundwater	12/1/2022 3:48:00 PM	12/1/2022	1/2/2023
N053874-006A	MW-85-217-Q422	Groundwater	12/1/2022 4:44:00 PM	12/1/2022	1/2/2023
N053874-006B	MW-85-217-Q422	Groundwater	12/1/2022 4:44:00 PM	12/1/2022	1/2/2023
N053874-006C	MW-85-217-Q422	Groundwater	12/1/2022 4:44:00 PM	12/1/2022	1/2/2023
N053874-007A	MW-85-237-Q422	Groundwater	12/1/2022 3:52:00 PM	12/1/2022	1/2/2023
N053874-007B	MW-85-237-Q422	Groundwater	12/1/2022 3:52:00 PM	12/1/2022	1/2/2023
N053874-007C	MW-85-237-Q422	Groundwater	12/1/2022 3:52:00 PM	12/1/2022	1/2/2023
N053874-008A	EB-737-Q422	Groundwater	12/1/2022 4:10:00 PM	12/1/2022	1/2/2023
N053874-009A	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-009B	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-009C	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-009D	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-010A	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053874-010B	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023
N053874-010C	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023
N053874-010D	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023
N053874-011A	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-011B	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-011C	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-011D	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-012A	PT8D-Q422	Groundwater	12/1/2022 2:55:00 PM	12/1/2022	1/2/2023
N053874-012B	PT8D-Q422	Groundwater	12/1/2022 2:55:00 PM	12/1/2022	1/2/2023
N053874-013A	PT9D-Q422	Groundwater	12/1/2022 2:05:00 PM	12/1/2022	1/2/2023
N053874-013B	PT9D-Q422	Groundwater	12/1/2022 2:05:00 PM	12/1/2022	1/2/2023
N053874-013C	PT9D-Q422	Groundwater	12/1/2022 2:05:00 PM	12/1/2022	1/2/2023
N053874-014A	PT9M-Q422	Groundwater	12/1/2022 12:35:00 PM	12/1/2022	1/2/2023
N053874-014B	PT9M-Q422	Groundwater	12/1/2022 12:35:00 PM	12/1/2022	1/2/2023
N053874-014C	PT9M-Q422	Groundwater	12/1/2022 12:35:00 PM	12/1/2022	1/2/2023
N053874-015A	MW-939-Q422	Groundwater	12/1/2022 12:40:00 PM	12/1/2022	1/2/2023
N053874-015B	MW-939-Q422	Groundwater	12/1/2022 12:40:00 PM	12/1/2022	1/2/2023
N053874-015C	MW-939-Q422	Groundwater	12/1/2022 12:40:00 PM	12/1/2022	1/2/2023
N053874-016A	PT9S-Q422	Groundwater	12/1/2022 1:35:00 PM	12/1/2022	1/2/2023
N053874-016B	PT9S-Q422	Groundwater	12/1/2022 1:35:00 PM	12/1/2022	1/2/2023
N053874-016C	PT9S-Q422	Groundwater	12/1/2022 1:35:00 PM	12/1/2022	1/2/2023
N053874-017A	MW-24A-Q422	Groundwater	12/1/2022 10:31:00 AM	12/1/2022	1/2/2023
N053874-017B	MW-24A-Q422	Groundwater	12/1/2022 10:31:00 AM	12/1/2022	1/2/2023
N053874-017C	MW-24A-Q422	Groundwater	12/1/2022 10:31:00 AM	12/1/2022	1/2/2023
N053874-018A	MW-24B-Q422	Groundwater	12/1/2022 11:30:00 AM	12/1/2022	1/2/2023
N053874-018B	MW-24B-Q422	Groundwater	12/1/2022 11:30:00 AM	12/1/2022	1/2/2023
N053874-018C	MW-24B-Q422	Groundwater	12/1/2022 11:30:00 AM	12/1/2022	1/2/2023
N053874-019A	MW-37D-Q422	Groundwater	12/1/2022 9:16:00 AM	12/1/2022	1/2/2023
N053874-019B	MW-37D-Q422	Groundwater	12/1/2022 9:16:00 AM	12/1/2022	1/2/2023
N053874-019C	MW-37D-Q422	Groundwater	12/1/2022 9:16:00 AM	12/1/2022	1/2/2023

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053874-020A	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-020B	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-020C	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-020D	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-021A	EB-739-Q422	Groundwater	12/1/2022 3:30:00 PM	12/1/2022	1/2/2023
N053874-022A	PGE-07BR-Q422	Groundwater	12/1/2022 10:24:00 AM	12/1/2022	1/2/2023
N053874-022B	PGE-07BR-Q422	Groundwater	12/1/2022 10:24:00 AM	12/1/2022	1/2/2023

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:30:00 AM

Lab ID: N053874-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	46	0.45	1.0		µg/L	5	12/16/2022 12:50 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	37	0.035	1.0		µg/L	1	12/6/2022 01:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:05:00 AM

Lab ID: N053874-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	8.6	0.45	1.0		µg/L	5	12/16/2022 01:36 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	9.3	0.035	1.0		µg/L	1	12/6/2022 01:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-09-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:26:00 PM

Lab ID: N053874-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	0.23	0.090	0.20		µg/L	1	12/16/2022 01:59 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 01:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-931-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:36:00 PM
Lab ID: N053874-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/16/2022 03:53 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 02:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-129-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:48:00 PM

Lab ID: N053874-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	190	1.8	4.0		µg/L	20	12/16/2022 02:44 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221229D** QC Batch: **97435**				PrepDate:	**12/29/2022**		Analyst: **DJ**
Chromium	180	0.18	5.0		µg/L	5	12/29/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-217-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:44:00 PM

Lab ID: N053874-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	570	9.0	20		µg/L	100	12/16/2022 04:16 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221207C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	480	0.88	25		µg/L	25	12/7/2022 02:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-237-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:52:00 PM
Lab ID: N053874-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215B** QC Batch: **R168253**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	84	0.90	2.0		µg/L	10	12/16/2022 12:06 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	75	0.035	1.0		µg/L	1	12/6/2022 02:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** EB-737-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:10:00 PM

Lab ID: N053874-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/16/2022 05:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-183-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:32:00 AM

Lab ID: N053874-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **CA01638-IC01_221215B**	QC Batch: **R168253**			PrepDate:			Analyst: **AD**
Hexavalent Chromium	1.0	0.45	1.0		µg/L	5	12/16/2022 12:49 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	1.3	0.035	1.0		µg/L	1	12/6/2022 02:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-937-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:42:00 AM

Lab ID: N053874-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	1.1	0.45	1.0		µg/L	5	12/16/2022 07:45 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	1.2	0.035	1.0		µg/L	1	12/6/2022 02:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-273-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:26:00 AM

Lab ID: N053874-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.63	0.024	0.20		µg/L	1	12/21/2022 12:30 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 02:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT8D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:55:00 PM

Lab ID: N053874-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	130	1.2	10		µg/L	50	12/21/2022 12:39 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	110	0.035	1.0		µg/L	1	12/6/2022 03:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:05:00 PM

Lab ID: N053874-013 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4000	24	200		µg/L	1000	12/21/2022 01:08 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	4400	4.4	120		µg/L	125	12/6/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9M-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:35:00 PM

Lab ID: N053874-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	590	1.2	10		µg/L	50	12/21/2022 02:14 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	760	0.18	5.0		µg/L	5	12/6/2022 09:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-939-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:40:00 PM
Lab ID:	N053874-015	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	600	1.2	10		µg/L	50	12/21/2022 02:33 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	550	0.18	5.0		µg/L	5	12/6/2022 09:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:35:00 PM

Lab ID: N053874-016 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	94	0.24	2.0		µg/L	10	12/21/2022 08:49 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	86	0.035	1.0		µg/L	1	12/6/2022 03:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24A-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:31:00 AM
Lab ID: N053874-017 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/21/2022 03:11 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 04:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24B-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:30:00 AM

Lab ID: N053874-018 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	270	1.2	10		µg/L	50	12/21/2022 05:04 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	270	0.18	5.0		µg/L	5	12/6/2022 09:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37D-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:16:00 AM
Lab ID: N053874-019 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.8	0.12	1.0		µg/L	5	12/21/2022 06:37 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	4.2	0.035	1.0		µg/L	1	12/6/2022 04:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37S-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:29:00 AM
Lab ID: N053874-020 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	11	0.12	1.0		µg/L	5	12/21/2022 11:34 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	12/6/2022 05:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** EB-739-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:30:00 PM
Lab ID: N053874-021 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/21/2022 06:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PGE-07BR-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:24:00 AM

Lab ID: N053874-022 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/21/2022 05:49 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205C**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 05:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168413**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **PBW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168413**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **LCSW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.874	0.20	5.000	0	97.5	90	110				

Sample ID: **N053874-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	376.425	10	250.0	131.7	97.9	90	110				

Sample ID: **N053874-013ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4051.500	200						3957	2.36	20	

Sample ID: **N053874-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9073.300	200	5000	3957	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053874-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	836.315	10	250.0	593.3	97.2	90	110				

Sample ID: **N053874-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	855.080	10	250.0	605.0	100	90	110				

Sample ID: **N053874-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.1257	102	90	110				

Sample ID: **N053874-018AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	504.135	10	250.0	266.0	95.2	90	110				

Sample ID: **N053874-018AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	515.980	10	250.0	266.0	100	90	110	504.1	2.32	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053874-021AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N053874-019AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.774	1.0	5.000	3.850	98.5	90	110				

Sample ID: **N053874-022AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.847	1.0	5.000	0	96.9	90	110				

Sample ID: **N053885-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.440	0.20	1.000	0.3961	104	90	110				

Sample ID: **N053885-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.139	0.20	1.000	1.085	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053885-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.634	0.20	1.000	0.6034	103	90	110				

Sample ID: **N053885-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.373	0.20	1.000	2.369	100	90	110				

Sample ID: **N053885-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID: **N053886-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.985	1.0	5.000	0	99.7	90	110				

Sample ID: **N053886-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.693	1.0	5.000	0	93.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053874-020AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.762	1.0	25.00	11.40	101	90	110				

Sample ID: **N053886-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.196	1.0	5.000	1.099	102	90	110				

Sample ID: **N053874-016AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4990226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	144.300	2.0	50.00	93.65	101	90	110				

Sample ID: **N053874-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4990315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.587	0.20	1.000	0.6271	96.0	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97001**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **PBW**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.041	1.0									

Sample ID: **LCS-97001**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **LCSW**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.488	1.0	10.00	0	105	85	115				

Sample ID: **N053874-018CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167980**
Client ID: **ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4958792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	304.328	5.0	10.00	267.6	368	75	125				S

Sample ID: **N053874-018CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167980**
Client ID: **ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4958793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	290.776	5.0	10.00	267.6	232	75	125	304.3	4.55	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97435**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **PBW**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.408	1.0									

Sample ID: **LCS-97435**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **LCSW**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.967	1.0	10.00	0	99.7	85	115				

Sample ID: **N054022-001C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **ZZZZZZ**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.299	1.0	10.00	1.082	92.2	75	125				

Sample ID: **N054022-001C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **ZZZZZZ**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.314	1.0	10.00	1.082	92.3	75	125	10.30	0.140	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168252**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **LCSW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R168252**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **PBW**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053989-001A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.123	0.20						3.137	0.457	20	

Sample ID: **N053989-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.170	0.20	1.000	3.137	103	90	110				

Sample ID: **N053989-001A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.168	0.20	1.000	3.137	103	90	110	4.170	0.0528	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.863	1.0	5.000	2.578	106	90	110				

Sample ID: **N053817-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	87.873	1.0	25.00	63.42	97.8	90	110				

Sample ID: **N053816-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.252	1.0	5.000	0	105	90	110				

Sample ID: **N053817-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.683	2.0	50.00	61.48	98.4	90	110				

Sample ID: **N053817-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.190	1.0	5.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID: **N053873-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.092	0.20	1.000	1.055	104	90	110				

Sample ID: **N053873-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.948	0.20	1.000	0.8850	106	90	110				

Sample ID: **N053873-009A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.149	1.0						21.09	0.277	20	

Sample ID: **N053873-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.197	1.0	25.00	21.09	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-009A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.201	1.0	25.00	21.09	100	90	110	46.20	0.00866	20	

Sample ID: **N053873-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.572	0.20	1.000	0.6292	94.2	90	110				

Sample ID: **N053873-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.572	0.20	5.000	12.71	97.2	90	110				

Sample ID: **N053873-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.408	0.20	1.000	0.3365	107	90	110				

Sample ID: **N053873-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.565	0.20	1.000	1.577	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N053874-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.033	1.0	25.00	8.597	102	90	110				

Sample ID: **N053874-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.243	0.20	1.000	0.2328	101	90	110				

Sample ID: **N053873-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.116	1.0	5.000	0.9510	103	90	110				

Sample ID: **N053873-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.835	1.0	5.000	1.669	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-001A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	71.343	1.0	25.00	46.24	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168253**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **LCSW**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.774	0.20	5.000	0	95.5	90	110				

Sample ID: **MB1-R168253**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **PBW**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053874-005A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	189.918	4.0						190.3	0.223	20	

Sample ID: **N053874-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	286.642	4.0	100.0	190.3	96.3	90	110				

Sample ID: **N053874-005A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	287.944	4.0	100.0	190.3	97.6	90	110	286.6	0.453	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1063.680	20	500.0	574.7	97.8	90	110				

Sample ID: **N053874-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID: **N053874-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.131	0.20	1.000	0.1153	102	90	110				

Sample ID: **N053874-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	133.316	2.0	50.00	83.30	100	90	110				

Sample ID: **N053874-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.026	1.0	5.000	1.034	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.736	1.0	5.000	1.058	93.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053874-018C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167980**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4958791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	358.016	5.0	10.00	267.6	904	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:30:00 AM

Lab ID: N053874-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.5	0.048	0.25		mg/L	5	12/2/2022 11:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40S-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 9:05:00 AM
Lab ID:	N053874-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.5	0.095	0.50		mg/L	10	12/2/2022 11:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:26:00 PM
Lab ID:	N053874-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.3	0.095	0.50		mg/L	10	12/2/2022 12:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-931-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:36:00 PM
Lab ID:	N053874-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	12/2/2022 12:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-129-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 3:48:00 PM
Lab ID:	N053874-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	20	0.19	1.0		mg/L	20	12/2/2022 04:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-217-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 4:44:00 PM
Lab ID:	N053874-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.9	0.095	0.50		mg/L	10	12/2/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-237-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 3:52:00 PM
Lab ID:	N053874-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	12/2/2022 01:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-89-183-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 8:32:00 AM
Lab ID:	N053874-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.9	0.095	0.50		mg/L	10	12/2/2022 01:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-937-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 8:42:00 AM
Lab ID:	N053874-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.4	0.095	0.50		mg/L	10	12/2/2022 01:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-273-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:26:00 AM

Lab ID: N053874-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.0	0.095	0.50		mg/L	10	12/2/2022 01:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT9D-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:05:00 PM
Lab ID:	N053874-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.0	0.048	0.25		mg/L	5	12/2/2022 02:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9M-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:35:00 PM

Lab ID: N053874-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.4	0.048	0.25		mg/L	5	12/2/2022 02:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-939-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:40:00 PM

Lab ID: N053874-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.6	0.048	0.25		mg/L	5	12/2/2022 02:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:35:00 PM

Lab ID: N053874-016 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.8	0.095	0.50		mg/L	10	12/2/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24A-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:31:00 AM

Lab ID: N053874-017 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.66	0.048	0.25		mg/L	5	12/2/2022 02:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24B-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:30:00 AM

Lab ID: N053874-018 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.7	0.048	0.25		mg/L	5	12/2/2022 10:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 9:16:00 AM
Lab ID:	N053874-019	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.6	0.048	0.25		mg/L	5	12/2/2022 03:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:29:00 AM

Lab ID: N053874-020 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.048	0.25		mg/L	5	12/2/2022 04:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: **MB-R167841_NO3** SampType: **MBLK** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167841**											
Client ID: **PBW** Batch ID: **R167841** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950950**											
Nitrate as N	ND	0.050									
Sample ID: **LCS-R167841_NO3** SampType: **LCS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167841**											
Client ID: **LCSW** Batch ID: **R167841** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950951**											
Nitrate as N	1.235	0.050	1.250	0	98.8	90	110				
Sample ID: **N053874-018BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167841**											
Client ID: **ZZZZZZ** Batch ID: **R167841** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950953**											
Nitrate as N	8.376	0.25	6.250	2.660	91.4	80	120				
Sample ID: **N053874-018BMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167841**											
Client ID: **ZZZZZZ** Batch ID: **R167841** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950954**											
Nitrate as N	8.383	0.25	6.250	2.660	91.6	80	120	8.376	0.0835	20	
Sample ID: **N053874-020BDUP** SampType: **DUP** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167841**											
Client ID: **ZZZZZZ** Batch ID: **R167841** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950975**											
Nitrate as N	1.744	0.25						1.766	1.28	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053874-020BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **ZZZZZZ**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	7.845	0.25	6.250	1.766	97.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:30:00 AM

Lab ID: N053874-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221207C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	12/7/2022 03:21 PM
Manganese	1.4	0.026	0.50		µg/L	1	12/6/2022 08:09 PM
Molybdenum	33	0.12	0.50		µg/L	1	12/6/2022 01:46 AM
Selenium	0.84	0.044	0.50		µg/L	1	12/6/2022 01:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:05:00 AM

Lab ID: N053874-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/6/2022 01:52 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 01:52 AM
Molybdenum	6.7	0.12	0.50		µg/L	1	12/6/2022 01:52 AM
Selenium	2.0	0.044	0.50		µg/L	1	12/6/2022 01:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-09-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:26:00 PM

Lab ID: N053874-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Arsenic	17	0.050	0.10		µg/L	1	12/6/2022 01:58 AM
Manganese	2500	0.66	12		µg/L	25	12/6/2022 08:15 PM
Molybdenum	23	0.12	0.50		µg/L	1	12/6/2022 01:58 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 01:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-931-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:36:00 PM

Lab ID: N053874-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Arsenic	18	0.050	0.10		µg/L	1	12/6/2022 02:22 AM
Manganese	2600	0.66	12		µg/L	25	12/6/2022 08:21 PM
Molybdenum	23	0.12	0.50		µg/L	1	12/6/2022 02:22 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 02:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-129-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:48:00 PM

Lab ID: N053874-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.86	0.050	0.10		µg/L	1	12/6/2022 02:28 AM
Manganese	0.96	0.026	0.50		µg/L	1	12/14/2022 04:34 PM
Molybdenum	2.6	0.12	0.50		µg/L	1	12/6/2022 02:28 AM
Selenium	9.8	0.044	0.50		µg/L	1	12/6/2022 02:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-217-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:44:00 PM

Lab ID: N053874-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	3.4	0.050	0.10		µg/L	1	12/6/2022 02:34 AM
Manganese	2.7	0.026	0.50		µg/L	1	12/6/2022 02:34 AM
Molybdenum	47	0.12	0.50		µg/L	1	12/6/2022 02:34 AM
Selenium	4.2	0.044	0.50		µg/L	1	12/6/2022 02:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-237-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:52:00 PM

Lab ID: N053874-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221207C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	12/7/2022 03:27 PM
Manganese	71	0.026	0.50		µg/L	1	12/6/2022 02:40 AM
Molybdenum	81	0.12	0.50		µg/L	1	12/6/2022 02:40 AM
Selenium	1.2	0.044	0.50		µg/L	1	12/6/2022 02:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-183-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:32:00 AM

Lab ID: N053874-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 02:45 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 02:45 AM
Molybdenum	6.7	0.12	0.50		µg/L	1	12/6/2022 02:45 AM
Selenium	2.6	0.044	0.50		µg/L	1	12/6/2022 02:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-937-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:42:00 AM

Lab ID: N053874-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 02:51 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 02:51 AM
Molybdenum	6.4	0.12	0.50		µg/L	1	12/6/2022 02:51 AM
Selenium	2.7	0.044	0.50		µg/L	1	12/6/2022 02:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-273-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:26:00 AM

Lab ID: N053874-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	4.6	0.050	0.10		µg/L	1	12/6/2022 02:57 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 02:57 AM
Molybdenum	35	0.12	0.50		µg/L	1	12/6/2022 02:57 AM
Selenium	3.6	0.044	0.50		µg/L	1	12/6/2022 02:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT8D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:55:00 PM

Lab ID: N053874-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221206C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.67	0.050	0.10		µg/L	1	12/6/2022 08:45 PM
Manganese	900	0.66	12		µg/L	25	12/7/2022 02:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:05:00 PM

Lab ID: N053874-013 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	12/6/2022 03:09 AM
Manganese	24	0.026	0.50		µg/L	1	12/6/2022 03:09 AM
Molybdenum	29	0.12	0.50		µg/L	1	12/6/2022 03:09 AM
Selenium	6.1	0.044	0.50		µg/L	1	12/6/2022 03:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9M-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:35:00 PM

Lab ID: N053874-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 03:45 AM
Manganese	51	0.026	0.50		µg/L	1	12/6/2022 03:45 AM
Molybdenum	5.2	0.12	0.50		µg/L	1	12/6/2022 03:45 AM
Selenium	5.7	0.044	0.50		µg/L	1	12/6/2022 03:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-939-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:40:00 PM

Lab ID: N053874-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 03:51 AM
Manganese	48	0.026	0.50		µg/L	1	12/6/2022 03:51 AM
Molybdenum	4.8	0.12	0.50		µg/L	1	12/6/2022 03:51 AM
Selenium	5.8	0.044	0.50		µg/L	1	12/6/2022 03:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:35:00 PM

Lab ID: N053874-016 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.98	0.050	0.10		µg/L	1	12/6/2022 03:57 AM
Manganese	660	0.13	2.5		µg/L	5	12/6/2022 09:32 PM
Molybdenum	12	0.12	0.50		µg/L	1	12/6/2022 03:57 AM
Selenium	1.5	0.044	0.50		µg/L	1	12/6/2022 03:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24A-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:31:00 AM

Lab ID: N053874-017 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221206C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.27	0.050	0.10		µg/L	1	12/6/2022 09:38 PM
Manganese	140	0.026	0.50		µg/L	1	12/6/2022 04:03 AM
Molybdenum	73	0.12	0.50		µg/L	1	12/6/2022 04:03 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 04:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24B-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:30:00 AM

Lab ID: N053874-018 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 04:09 AM
Manganese	29	0.026	0.50		µg/L	1	12/6/2022 04:09 AM
Molybdenum	32	0.12	0.50		µg/L	1	12/6/2022 04:09 AM
Selenium	2.2	0.044	0.50		µg/L	1	12/6/2022 04:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:16:00 AM

Lab ID: N053874-019 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	12/6/2022 04:56 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 04:56 AM
Molybdenum	74	0.12	0.50		µg/L	1	12/6/2022 04:56 AM
Selenium	1.8	0.044	0.50		µg/L	1	12/14/2022 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:29:00 AM

Lab ID: N053874-020 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221214B**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	0.57	0.050	0.10		µg/L	1	12/14/2022 04:46 PM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 05:02 AM
Molybdenum	13	0.12	0.50		µg/L	1	12/6/2022 05:02 AM
Selenium	0.87	0.044	0.50		µg/L	1	12/21/2022 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PGE-07BR-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:24:00 AM

Lab ID: N053874-022 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 05:08 AM
Manganese	330	0.13	2.5		µg/L	5	12/6/2022 10:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97001** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **PBW** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-97001** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **LCSW** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.436	0.10	10.00	0	94.4	85	115				
Manganese	101.012	0.50	100.0	0	101	85	115				
Molybdenum	9.821	0.50	10.00	0	98.2	85	115				
Selenium	9.684	0.50	10.00	0	96.8	85	115				

Sample ID: **N053874-018CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.401	0.10	10.00	0	94.0	75	125				
Manganese	123.545	0.50	100.0	29.12	94.4	75	125				
Molybdenum	44.153	0.50	10.00	31.94	122	75	125				
Selenium	11.534	0.50	10.00	2.179	93.6	75	125				

Sample ID: **N053874-018CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.996	0.10	10.00	0	90.0	75	125	9.401	4.40	20	
Manganese	124.937	0.50	100.0	29.12	95.8	75	125	123.5	1.12	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053874-018CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	45.436	0.50	10.00	31.94	135	75	125	44.15	2.87	20	S
Selenium	11.385	0.50	10.00	2.179	92.1	75	125	11.53	1.30	20	

Sample ID: **MB-97001**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **168602**
Client ID: **PBW**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053874-018C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.901	0.10	10.00	0	89.0	80	120				
Manganese	123.006	0.50	100.0	29.12	93.9	80	120				
Molybdenum	45.084	0.50	10.00	31.94	131	80	120				S
Selenium	10.643	0.50	10.00	2.179	84.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

53874

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: [redacted]	Address:	Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mblo[redacted]@pivax.com P.O.#	Sample Temp: 4.6 °C/3.3°C/3.9°C
Submitted By: Riggie Top		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		Courier:
Signature: Date: 12/01/22	Sampled By: Riggie Top	Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid	Tracking No.:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: Date: 12/01/22		
Project Number: 30121866.4Q22GW			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	125mL poly: Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053874-015	MW-939-Q422	12/1/2022	12:40		X	X	X	X	X		E	3	P	BNS	
2	-016	PT9S-Q422	12/1/2022	13:35		X	X	X	X	X		E	3	P	BNS	
3	-017	MW-24A-Q422	12/1/2022	10:31		X	X	X	X	X		E	3	P	BNS	
4	-018	MW-24B-Q422	12/1/2022	11:30		X	X	X	X	X		E	3	P	BNS	
5	-019	MW-37D-Q422	12/1/2022	9:16		X	X	X	X	X		E	3	P	BNS	MSMSD
	-020	MW-37S-Q422	12/1/2022	8:29		X	X	X	X	X	X	E	4	P	BNS	
7	-021	EB-739-Q422	12/1/2022	15:30		X						E	1	P	BNS	
8	-022	PGE-07BR-Q422	12/1/2022	10:24		X		X	X			E	2	P	BNS	
9																
10																
11																
12																
13																
14																

Relinquished by (Signature and Printed Name): Riggie Top Date/Time: 12/1/22 1716
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/1/22 17:16
Relinquished by (Signature and Printed Name): Dante Ortiz Date/Time: 12/1/22 19:06
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/1/22 19:06
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=Zn(AC)$_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/1/2022	Workorder:	N053874
Rep sample Temp (Deg C):	4.6/3.3/3.9	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/2/2022

Reviewed By: for MBC 12/8/22

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-001A	MW-40D-Q422	12/1/2022 8:30:00 AM	12/16/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-001B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-001C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-001D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-002A	MW-40S-Q422	12/1/2022 9:05:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-002B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-002C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-002D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-003A	MW-09-Q422	12/1/2022 12:26:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-003B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-003C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-004A	MW-931-Q422	12/1/2022 12:36:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-004B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-004C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-004C	MW-931-Q422	12/1/2022 12:36:00 PM	12/16/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-005A	MW-85-129-Q422	12/1/2022 3:48:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-005B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-005C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-006A	MW-85-217-Q422	12/1/2022 4:44:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-006B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-006C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-007A	MW-85-237-Q422	12/1/2022 3:52:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-007B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-007C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-008A	EB-737-Q422	12/1/2022 4:10:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-009A	MW-89-183-Q422	12/1/2022 8:32:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-009B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-009C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-009D	MW-89-183-Q422	12/1/2022 8:32:00 AM	12/16/2022	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-010A	MW-937-Q422	12/1/2022 8:42:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-010B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-010C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-010D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-011A	MW-89-273-Q422	12/1/2022 9:26:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-011B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-011C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-011D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-012A	PT8D-Q422	12/1/2022 2:55:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-012B			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-013A	PT9D-Q422	12/1/2022 2:05:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-013B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-013C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-013C	PT9D-Q422	12/1/2022 2:05:00 PM	12/16/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-014A	PT9M-Q422	12/1/2022 12:35:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-014B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-014C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-015A	MW-939-Q422	12/1/2022 12:40:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-015B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-015C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-016A	PT9S-Q422	12/1/2022 1:35:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-016B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-016C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-017A	MW-24A-Q422	12/1/2022 10:31:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-017B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-017C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-018A	MW-24B-Q422	12/1/2022 11:30:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-018B	MW-24B-Q422	12/1/2022 11:30:00 AM	12/16/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053874-018C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053874-019A	MW-37D-Q422	12/1/2022 9:16:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-019B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-019C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-020A	MW-37S-Q422	12/1/2022 8:29:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-020B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-020C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-020D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-021A	EB-739-Q422	12/1/2022 3:30:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-022A	PGE-07BR-Q422	12/1/2022 10:24:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-022B			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-023A	FOLDER	12/16/2022	12/16/2022		Folder	Folder	☐	☐	☐	LAB
			12/16/2022		Folder	Level IV Report	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-023A	FOLDER	12/16/2022	12/16/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N053874-001D / MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	8OZP	1		
N053874-002D / MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	8OZP	1		
N053874-009D / MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	8OZP	1		
N053874-010D / MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	8OZP	1		
N053874-011D / MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	8OZP	1		
N053874-020D / MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53874A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time		Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

ARCADIS

Project: PG&E Topock - RCM

Project No.: 30121866.4Q22GW

ASSET Laboratories Work Order:

N053874

ANALYTICAL and QC RESULTS
SAMPLE RECEIVING ITEMS

PRIVILEGED AND CONFIDENTIAL

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January 02, 2023

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053874

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 01, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (37 ug/L) and hexavalent chromium (46 ug/L) for sample N053874-001 (MW-40D-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (760 ug/L) and hexavalent chromium (590 ug/L) for sample N053874-014 (PT9M-Q422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (37 ug/L) and hexavalent chromium (46 ug/L) for sample N053874-001 (MW-40D-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 33 and 44 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (760 ug/L) and hexavalent chromium (590 ug/L) for sample N053874-014 (PT9M-Q422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 340 and 500 ug/L, respectively. Sample for total dissolved Chromium was again redigested and result was comparable to the initial result. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053874-018CMS and N053874-018CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Molybdenum in QC sample N053874-018CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *02-Jan-23*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053874-001A	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-001B	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-001C	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-001D	MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	12/1/2022	1/2/2023
N053874-002A	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-002B	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-002C	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-002D	MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	12/1/2022	1/2/2023
N053874-003A	MW-09-Q422	Groundwater	12/1/2022 12:26:00 PM	12/1/2022	1/2/2023
N053874-003B	MW-09-Q422	Groundwater	12/1/2022 12:26:00 PM	12/1/2022	1/2/2023
N053874-003C	MW-09-Q422	Groundwater	12/1/2022 12:26:00 PM	12/1/2022	1/2/2023
N053874-004A	MW-931-Q422	Groundwater	12/1/2022 12:36:00 PM	12/1/2022	1/2/2023
N053874-004B	MW-931-Q422	Groundwater	12/1/2022 12:36:00 PM	12/1/2022	1/2/2023
N053874-004C	MW-931-Q422	Groundwater	12/1/2022 12:36:00 PM	12/1/2022	1/2/2023
N053874-005A	MW-85-129-Q422	Groundwater	12/1/2022 3:48:00 PM	12/1/2022	1/2/2023
N053874-005B	MW-85-129-Q422	Groundwater	12/1/2022 3:48:00 PM	12/1/2022	1/2/2023
N053874-005C	MW-85-129-Q422	Groundwater	12/1/2022 3:48:00 PM	12/1/2022	1/2/2023
N053874-006A	MW-85-217-Q422	Groundwater	12/1/2022 4:44:00 PM	12/1/2022	1/2/2023
N053874-006B	MW-85-217-Q422	Groundwater	12/1/2022 4:44:00 PM	12/1/2022	1/2/2023
N053874-006C	MW-85-217-Q422	Groundwater	12/1/2022 4:44:00 PM	12/1/2022	1/2/2023
N053874-007A	MW-85-237-Q422	Groundwater	12/1/2022 3:52:00 PM	12/1/2022	1/2/2023
N053874-007B	MW-85-237-Q422	Groundwater	12/1/2022 3:52:00 PM	12/1/2022	1/2/2023
N053874-007C	MW-85-237-Q422	Groundwater	12/1/2022 3:52:00 PM	12/1/2022	1/2/2023
N053874-008A	EB-737-Q422	Groundwater	12/1/2022 4:10:00 PM	12/1/2022	1/2/2023
N053874-009A	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-009B	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-009C	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-009D	MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	12/1/2022	1/2/2023
N053874-010A	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053874-010B	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023
N053874-010C	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023
N053874-010D	MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	12/1/2022	1/2/2023
N053874-011A	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-011B	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-011C	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-011D	MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	12/1/2022	1/2/2023
N053874-012A	PT8D-Q422	Groundwater	12/1/2022 2:55:00 PM	12/1/2022	1/2/2023
N053874-012B	PT8D-Q422	Groundwater	12/1/2022 2:55:00 PM	12/1/2022	1/2/2023
N053874-013A	PT9D-Q422	Groundwater	12/1/2022 2:05:00 PM	12/1/2022	1/2/2023
N053874-013B	PT9D-Q422	Groundwater	12/1/2022 2:05:00 PM	12/1/2022	1/2/2023
N053874-013C	PT9D-Q422	Groundwater	12/1/2022 2:05:00 PM	12/1/2022	1/2/2023
N053874-014A	PT9M-Q422	Groundwater	12/1/2022 12:35:00 PM	12/1/2022	1/2/2023
N053874-014B	PT9M-Q422	Groundwater	12/1/2022 12:35:00 PM	12/1/2022	1/2/2023
N053874-014C	PT9M-Q422	Groundwater	12/1/2022 12:35:00 PM	12/1/2022	1/2/2023
N053874-015A	MW-939-Q422	Groundwater	12/1/2022 12:40:00 PM	12/1/2022	1/2/2023
N053874-015B	MW-939-Q422	Groundwater	12/1/2022 12:40:00 PM	12/1/2022	1/2/2023
N053874-015C	MW-939-Q422	Groundwater	12/1/2022 12:40:00 PM	12/1/2022	1/2/2023
N053874-016A	PT9S-Q422	Groundwater	12/1/2022 1:35:00 PM	12/1/2022	1/2/2023
N053874-016B	PT9S-Q422	Groundwater	12/1/2022 1:35:00 PM	12/1/2022	1/2/2023
N053874-016C	PT9S-Q422	Groundwater	12/1/2022 1:35:00 PM	12/1/2022	1/2/2023
N053874-017A	MW-24A-Q422	Groundwater	12/1/2022 10:31:00 AM	12/1/2022	1/2/2023
N053874-017B	MW-24A-Q422	Groundwater	12/1/2022 10:31:00 AM	12/1/2022	1/2/2023
N053874-017C	MW-24A-Q422	Groundwater	12/1/2022 10:31:00 AM	12/1/2022	1/2/2023
N053874-018A	MW-24B-Q422	Groundwater	12/1/2022 11:30:00 AM	12/1/2022	1/2/2023
N053874-018B	MW-24B-Q422	Groundwater	12/1/2022 11:30:00 AM	12/1/2022	1/2/2023
N053874-018C	MW-24B-Q422	Groundwater	12/1/2022 11:30:00 AM	12/1/2022	1/2/2023
N053874-019A	MW-37D-Q422	Groundwater	12/1/2022 9:16:00 AM	12/1/2022	1/2/2023
N053874-019B	MW-37D-Q422	Groundwater	12/1/2022 9:16:00 AM	12/1/2022	1/2/2023
N053874-019C	MW-37D-Q422	Groundwater	12/1/2022 9:16:00 AM	12/1/2022	1/2/2023

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053874
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053874-020A	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-020B	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-020C	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-020D	MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	12/1/2022	1/2/2023
N053874-021A	EB-739-Q422	Groundwater	12/1/2022 3:30:00 PM	12/1/2022	1/2/2023
N053874-022A	PGE-07BR-Q422	Groundwater	12/1/2022 10:24:00 AM	12/1/2022	1/2/2023
N053874-022B	PGE-07BR-Q422	Groundwater	12/1/2022 10:24:00 AM	12/1/2022	1/2/2023

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:30:00 AM

Lab ID: N053874-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	46	0.45	1.0		µg/L	5	12/16/2022 12:50 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	37	0.035	1.0		µg/L	1	12/6/2022 01:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:05:00 AM

Lab ID: N053874-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	8.6	0.45	1.0		µg/L	5	12/16/2022 01:36 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	9.3	0.035	1.0		µg/L	1	12/6/2022 01:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-09-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:26:00 PM
Lab ID: N053874-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215A** QC Batch: **R168252** PrepDate: Analyst: **AD**							
Hexavalent Chromium	0.23	0.090	0.20		µg/L	1	12/16/2022 01:59 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 01:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-931-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:36:00 PM
Lab ID: N053874-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/16/2022 03:53 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 02:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-129-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:48:00 PM
Lab ID: N053874-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	190	1.8	4.0		µg/L	20	12/16/2022 02:44 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221229D** QC Batch: **97435** PrepDate: **12/29/2022** Analyst: **DJ**							
Chromium	180	0.18	5.0		µg/L	5	12/29/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-217-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:44:00 PM

Lab ID: N053874-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	570	9.0	20		µg/L	100	12/16/2022 04:16 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221207C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	480	0.88	25		µg/L	25	12/7/2022 02:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-237-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:52:00 PM

Lab ID: N053874-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253**					PrepDate:		Analyst: **AD**
Hexavalent Chromium	84	0.90	2.0		µg/L	10	12/16/2022 12:06 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**					PrepDate: **12/2/2022**		Analyst: **DJ**
Chromium	75	0.035	1.0		µg/L	1	12/6/2022 02:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** EB-737-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:10:00 PM

Lab ID: N053874-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253**				PrepDate:			Analyst: **AD**
Hexavalent Chromium	ND	0.090	0.20		µg/L	1	12/16/2022 05:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-183-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:32:00 AM

Lab ID: N053874-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	1.0	0.45	1.0		µg/L	5	12/16/2022 12:49 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	1.3	0.035	1.0		µg/L	1	12/6/2022 02:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-937-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:42:00 AM
Lab ID: N053874-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221215B** QC Batch: **R168253** PrepDate: Analyst: **AD**							
Hexavalent Chromium	1.1	0.45	1.0		µg/L	5	12/16/2022 07:45 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	1.2	0.035	1.0		µg/L	1	12/6/2022 02:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-273-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:26:00 AM
Lab ID: N053874-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.63	0.024	0.20		µg/L	1	12/21/2022 12:30 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 02:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT8D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:55:00 PM

Lab ID: N053874-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	130	1.2	10		µg/L	50	12/21/2022 12:39 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	110	0.035	1.0		µg/L	1	12/6/2022 03:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:05:00 PM

Lab ID: N053874-013 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4000	24	200		µg/L	1000	12/21/2022 01:08 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	4400	4.4	120		µg/L	125	12/6/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9M-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:35:00 PM
Lab ID: N053874-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	590	1.2	10		µg/L	50	12/21/2022 02:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221206B** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	760	0.18	5.0		µg/L	5	12/6/2022 09:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-939-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:40:00 PM

Lab ID: N053874-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	600	1.2	10		µg/L	50	12/21/2022 02:33 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	550	0.18	5.0		µg/L	5	12/6/2022 09:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:35:00 PM

Lab ID: N053874-016 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	94	0.24	2.0		µg/L	10	12/21/2022 08:49 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	86	0.035	1.0		µg/L	1	12/6/2022 03:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24A-Q422
Lab Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:31:00 AM
Lab ID: N053874-017 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/21/2022 03:11 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 04:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24B-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:30:00 AM

Lab ID: N053874-018 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	270	1.2	10		µg/L	50	12/21/2022 05:04 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221206B**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	270	0.18	5.0		µg/L	5	12/6/2022 09:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:16:00 AM

Lab ID: N053874-019 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	3.8	0.12	1.0		µg/L	5	12/21/2022 06:37 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	4.2	0.035	1.0		µg/L	1	12/6/2022 04:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:29:00 AM

Lab ID: N053874-020 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	11	0.12	1.0		µg/L	5	12/21/2022 11:34 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_221205C** QC Batch: **97001** PrepDate: **12/2/2022** Analyst: **DJ**							
Chromium	12	0.035	1.0		µg/L	1	12/6/2022 05:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-739-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 3:30:00 PM
Lab ID:	N053874-021	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221A** QC Batch: **R168413** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/21/2022 06:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PGE-07BR-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:24:00 AM

Lab ID: N053874-022 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/21/2022 05:49 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221205C** QC Batch: **97001**				PrepDate:	**12/2/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 05:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168413**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **PBW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168413**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **LCSW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.874	0.20	5.000	0	97.5	90	110				

Sample ID: **N053874-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	376.425	10	250.0	131.7	97.9	90	110				

Sample ID: **N053874-013ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4051.500	200						3957	2.36	20	

Sample ID: **N053874-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9073.300	200	5000	3957	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053874-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	836.315	10	250.0	593.3	97.2	90	110				

Sample ID: **N053874-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	855.080	10	250.0	605.0	100	90	110				

Sample ID: **N053874-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.1257	102	90	110				

Sample ID: **N053874-018AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	504.135	10	250.0	266.0	95.2	90	110				

Sample ID: **N053874-018AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	515.980	10	250.0	266.0	100	90	110	504.1	2.32	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053874-021AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N053874-019AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.774	1.0	5.000	3.850	98.5	90	110				

Sample ID: **N053874-022AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.847	1.0	5.000	0	96.9	90	110				

Sample ID: **N053885-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.440	0.20	1.000	0.3961	104	90	110				

Sample ID: **N053885-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.139	0.20	1.000	1.085	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053885-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983627**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.634	0.20	1.000	0.6034	103	90	110				

Sample ID: **N053885-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.373	0.20	1.000	2.369	100	90	110				

Sample ID: **N053885-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID: **N053886-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.985	1.0	5.000	0	99.7	90	110				

Sample ID: **N053886-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.693	1.0	5.000	0	93.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053874-020AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.762	1.0	25.00	11.40	101	90	110				

Sample ID: **N053886-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.196	1.0	5.000	1.099	102	90	110				

Sample ID: **N053874-016AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4990226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	144.300	2.0	50.00	93.65	101	90	110				

Sample ID: **N053874-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4990315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.587	0.20	1.000	0.6271	96.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97001**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **PBW**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.041	1.0									

Sample ID: **LCS-97001**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167935**
Client ID: **LCSW**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.488	1.0	10.00	0	105	85	115				

Sample ID: **N053874-018CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167980**
Client ID: **ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4958792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	304.328	5.0	10.00	267.6	368	75	125				S

Sample ID: **N053874-018CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167980**
Client ID: **ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4958793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	290.776	5.0	10.00	267.6	232	75	125	304.3	4.55	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97435**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **PBW**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.408	1.0									

Sample ID: **LCS-97435**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **LCSW**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.967	1.0	10.00	0	99.7	85	115				

Sample ID: **N054022-001C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **ZZZZZZ**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.299	1.0	10.00	1.082	92.2	75	125				

Sample ID: **N054022-001C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/29/2022**	RunNo: **168559**
Client ID: **ZZZZZZ**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.314	1.0	10.00	1.082	92.3	75	125	10.30	0.140	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168252** SampType: **LCS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **LCSW** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.867	0.20	5.000	0	97.3	90	110				

Sample ID: **MB1-R168252** SampType: **MBLK** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **PBW** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053989-001A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.123	0.20						3.137	0.457	20	

Sample ID: **N053989-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.170	0.20	1.000	3.137	103	90	110				

Sample ID: **N053989-001A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.168	0.20	1.000	3.137	103	90	110	4.170	0.0528	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053816-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.863	1.0	5.000	2.578	106	90	110				

Sample ID: **N053817-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	87.873	1.0	25.00	63.42	97.8	90	110				

Sample ID: **N053816-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.252	1.0	5.000	0	105	90	110				

Sample ID: **N053817-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.683	2.0	50.00	61.48	98.4	90	110				

Sample ID: **N053817-011A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.190	1.0	5.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053817-012A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID: **N053873-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.092	0.20	1.000	1.055	104	90	110				

Sample ID: **N053873-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.948	0.20	1.000	0.8850	106	90	110				

Sample ID: **N053873-009A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.149	1.0						21.09	0.277	20	

Sample ID: **N053873-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.197	1.0	25.00	21.09	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-009A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.201	1.0	25.00	21.09	100	90	110	46.20	0.00866	20	

Sample ID: **N053873-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.572	0.20	1.000	0.6292	94.2	90	110				

Sample ID: **N053873-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.572	0.20	5.000	12.71	97.2	90	110				

Sample ID: **N053873-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.408	0.20	1.000	0.3365	107	90	110				

Sample ID: **N053873-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/15/2022** SeqNo: **4973765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.565	0.20	1.000	1.577	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053873-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N053874-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	34.033	1.0	25.00	8.597	102	90	110				

Sample ID: **N053874-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.243	0.20	1.000	0.2328	101	90	110				

Sample ID: **N053873-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973785**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.116	1.0	5.000	0.9510	103	90	110				

Sample ID: **N053873-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.835	1.0	5.000	1.669	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168252**
Client ID: **ZZZZZZ** Batch ID: **R168252** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	71.343	1.0	25.00	46.24	100	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168253**	SampType: **LCS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **LCSW**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.774	0.20	5.000	0	95.5	90	110				

Sample ID: **MB1-R168253**	SampType: **MBLK**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **PBW**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053874-005A-DUP**	SampType: **DUP**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	189.918	4.0						190.3	0.223	20	

Sample ID: **N053874-005A-MS**	SampType: **MS**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973814**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	286.642	4.0	100.0	190.3	96.3	90	110				

Sample ID: **N053874-005A-MSD**	SampType: **MSD**	TestCode: **CA_218.6_W**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	287.944	4.0	100.0	190.3	97.6	90	110	286.6	0.453	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1063.680	20	500.0	574.7	97.8	90	110				

Sample ID: **N053874-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID: **N053874-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.131	0.20	1.000	0.1153	102	90	110				

Sample ID: **N053874-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	133.316	2.0	50.00	83.30	100	90	110				

Sample ID: **N053874-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.026	1.0	5.000	1.034	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053874-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168253**
Client ID: **ZZZZZZ** Batch ID: **R168253** TestNo: **EPA 218.6** Analysis Date: **12/16/2022** SeqNo: **4973841**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.736	1.0	5.000	1.058	93.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053874-018C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **167980**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4958791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	358.016	5.0	10.00	267.6	904	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:30:00 AM

Lab ID: N053874-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221202A** QC Batch: **R167841** PrepDate: Analyst: **RAB**							
Nitrate as N	3.5	0.048	0.25		mg/L	5	12/2/2022 11:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:05:00 AM

Lab ID: N053874-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.5	0.095	0.50		mg/L	10	12/2/2022 11:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:26:00 PM
Lab ID:	N053874-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.3	0.095	0.50		mg/L	10	12/2/2022 12:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-931-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 12:36:00 PM
Lab ID:	N053874-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	12/2/2022 12:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-129-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 3:48:00 PM
Lab ID:	N053874-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	20	0.19	1.0		mg/L	20	12/2/2022 04:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-217-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:44:00 PM

Lab ID: N053874-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.9	0.095	0.50		mg/L	10	12/2/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-237-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 3:52:00 PM
Lab ID:	N053874-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	12/2/2022 01:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-183-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:32:00 AM

Lab ID: N053874-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.9	0.095	0.50		mg/L	10	12/2/2022 01:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-937-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:42:00 AM

Lab ID: N053874-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.4	0.095	0.50		mg/L	10	12/2/2022 01:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-89-273-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 9:26:00 AM
Lab ID:	N053874-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.0	0.095	0.50		mg/L	10	12/2/2022 01:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT9D-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 2:05:00 PM
Lab ID:	N053874-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.0	0.048	0.25		mg/L	5	12/2/2022 02:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9M-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:35:00 PM

Lab ID: N053874-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.4	0.048	0.25		mg/L	5	12/2/2022 02:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-939-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:40:00 PM

Lab ID: N053874-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.6	0.048	0.25		mg/L	5	12/2/2022 02:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:35:00 PM

Lab ID: N053874-016 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.8	0.095	0.50		mg/L	10	12/2/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 10:31:00 AM
Lab ID:	N053874-017	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.66	0.048	0.25		mg/L	5	12/2/2022 02:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24B-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:30:00 AM

Lab ID: N053874-018 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.7	0.048	0.25		mg/L	5	12/2/2022 10:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q422
Lab Order:	N053874		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/1/2022 9:16:00 AM
Lab ID:	N053874-019	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.6	0.048	0.25		mg/L	5	12/2/2022 03:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:29:00 AM

Lab ID: N053874-020 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221202A**	QC Batch: **R167841**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.048	0.25		mg/L	5	12/2/2022 04:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167841_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **PBW**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950950**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167841_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **LCSW**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.235	0.050	1.250	0	98.8	90	110				

Sample ID: **N053874-018BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **ZZZZZZ**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.376	0.25	6.250	2.660	91.4	80	120				

Sample ID: **N053874-018BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **ZZZZZZ**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.383	0.25	6.250	2.660	91.6	80	120	8.376	0.0835	20	

Sample ID: **N053874-020BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **ZZZZZZ**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950975**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.744	0.25						1.766	1.28	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053874-020BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167841**
Client ID: **ZZZZZZ** Batch ID: **R167841** TestNo: **EPA 300.0** Analysis Date: **12/2/2022** SeqNo: **4950976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	7.845	0.25	6.250	1.766	97.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:30:00 AM

Lab ID: N053874-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221207C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	12/7/2022 03:21 PM
Manganese	1.4	0.026	0.50		µg/L	1	12/6/2022 08:09 PM
Molybdenum	33	0.12	0.50		µg/L	1	12/6/2022 01:46 AM
Selenium	0.84	0.044	0.50		µg/L	1	12/6/2022 01:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-40S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:05:00 AM

Lab ID: N053874-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/6/2022 01:52 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 01:52 AM
Molybdenum	6.7	0.12	0.50		µg/L	1	12/6/2022 01:52 AM
Selenium	2.0	0.044	0.50		µg/L	1	12/6/2022 01:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-09-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:26:00 PM

Lab ID: N053874-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	17	0.050	0.10		µg/L	1	12/6/2022 01:58 AM
Manganese	2500	0.66	12		µg/L	25	12/6/2022 08:15 PM
Molybdenum	23	0.12	0.50		µg/L	1	12/6/2022 01:58 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 01:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-931-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:36:00 PM

Lab ID: N053874-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:	**12/2/2022**		Analyst: **DJ**
Arsenic	18	0.050	0.10		µg/L	1	12/6/2022 02:22 AM
Manganese	2600	0.66	12		µg/L	25	12/6/2022 08:21 PM
Molybdenum	23	0.12	0.50		µg/L	1	12/6/2022 02:22 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 02:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-129-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:48:00 PM

Lab ID: N053874-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.86	0.050	0.10		µg/L	1	12/6/2022 02:28 AM
Manganese	0.96	0.026	0.50		µg/L	1	12/14/2022 04:34 PM
Molybdenum	2.6	0.12	0.50		µg/L	1	12/6/2022 02:28 AM
Selenium	9.8	0.044	0.50		µg/L	1	12/6/2022 02:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-217-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 4:44:00 PM

Lab ID: N053874-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	3.4	0.050	0.10		µg/L	1	12/6/2022 02:34 AM
Manganese	2.7	0.026	0.50		µg/L	1	12/6/2022 02:34 AM
Molybdenum	47	0.12	0.50		µg/L	1	12/6/2022 02:34 AM
Selenium	4.2	0.044	0.50		µg/L	1	12/6/2022 02:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-85-237-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 3:52:00 PM

Lab ID: N053874-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221207C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	12/7/2022 03:27 PM
Manganese	71	0.026	0.50		µg/L	1	12/6/2022 02:40 AM
Molybdenum	81	0.12	0.50		µg/L	1	12/6/2022 02:40 AM
Selenium	1.2	0.044	0.50		µg/L	1	12/6/2022 02:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-183-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:32:00 AM

Lab ID: N053874-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 02:45 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 02:45 AM
Molybdenum	6.7	0.12	0.50		µg/L	1	12/6/2022 02:45 AM
Selenium	2.6	0.044	0.50		µg/L	1	12/6/2022 02:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-937-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:42:00 AM

Lab ID: N053874-010 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 02:51 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 02:51 AM
Molybdenum	6.4	0.12	0.50		µg/L	1	12/6/2022 02:51 AM
Selenium	2.7	0.044	0.50		µg/L	1	12/6/2022 02:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-89-273-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:26:00 AM

Lab ID: N053874-011 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	4.6	0.050	0.10		µg/L	1	12/6/2022 02:57 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 02:57 AM
Molybdenum	35	0.12	0.50		µg/L	1	12/6/2022 02:57 AM
Selenium	3.6	0.044	0.50		µg/L	1	12/6/2022 02:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT8D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:55:00 PM

Lab ID: N053874-012 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221206C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.67	0.050	0.10		µg/L	1	12/6/2022 08:45 PM
Manganese	900	0.66	12		µg/L	25	12/7/2022 02:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 2:05:00 PM

Lab ID: N053874-013 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	12/6/2022 03:09 AM
Manganese	24	0.026	0.50		µg/L	1	12/6/2022 03:09 AM
Molybdenum	29	0.12	0.50		µg/L	1	12/6/2022 03:09 AM
Selenium	6.1	0.044	0.50		µg/L	1	12/6/2022 03:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9M-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:35:00 PM

Lab ID: N053874-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 03:45 AM
Manganese	51	0.026	0.50		µg/L	1	12/6/2022 03:45 AM
Molybdenum	5.2	0.12	0.50		µg/L	1	12/6/2022 03:45 AM
Selenium	5.7	0.044	0.50		µg/L	1	12/6/2022 03:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-939-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 12:40:00 PM

Lab ID: N053874-015 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 03:51 AM
Manganese	48	0.026	0.50		µg/L	1	12/6/2022 03:51 AM
Molybdenum	4.8	0.12	0.50		µg/L	1	12/6/2022 03:51 AM
Selenium	5.8	0.044	0.50		µg/L	1	12/6/2022 03:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PT9S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 1:35:00 PM

Lab ID: N053874-016 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	0.98	0.050	0.10		µg/L	1	12/6/2022 03:57 AM
Manganese	660	0.13	2.5		µg/L	5	12/6/2022 09:32 PM
Molybdenum	12	0.12	0.50		µg/L	1	12/6/2022 03:57 AM
Selenium	1.5	0.044	0.50		µg/L	1	12/6/2022 03:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24A-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:31:00 AM

Lab ID: N053874-017 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221206C**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.27	0.050	0.10		µg/L	1	12/6/2022 09:38 PM
Manganese	140	0.026	0.50		µg/L	1	12/6/2022 04:03 AM
Molybdenum	73	0.12	0.50		µg/L	1	12/6/2022 04:03 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 04:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-24B-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 11:30:00 AM

Lab ID: N053874-018 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 04:09 AM
Manganese	29	0.026	0.50		µg/L	1	12/6/2022 04:09 AM
Molybdenum	32	0.12	0.50		µg/L	1	12/6/2022 04:09 AM
Selenium	2.2	0.044	0.50		µg/L	1	12/6/2022 04:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37D-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 9:16:00 AM

Lab ID: N053874-019 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	12/6/2022 04:56 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 04:56 AM
Molybdenum	74	0.12	0.50		µg/L	1	12/6/2022 04:56 AM
Selenium	1.8	0.044	0.50		µg/L	1	12/14/2022 04:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-37S-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 8:29:00 AM

Lab ID: N053874-020 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221214B**	QC Batch: **97001**			PrepDate:		**12/2/2022**	Analyst: **DJ**
Arsenic	0.57	0.050	0.10		µg/L	1	12/14/2022 04:46 PM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 05:02 AM
Molybdenum	13	0.12	0.50		µg/L	1	12/6/2022 05:02 AM
Selenium	0.87	0.044	0.50		µg/L	1	12/21/2022 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** PGE-07BR-Q422

Lab Order: N053874

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/1/2022 10:24:00 AM

Lab ID: N053874-022 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97001**				PrepDate:	**12/2/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 05:08 AM
Manganese	330	0.13	2.5		µg/L	5	12/6/2022 10:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97001** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **PBW** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-97001** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **LCSW** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.436	0.10	10.00	0	94.4	85	115				
Manganese	101.012	0.50	100.0	0	101	85	115				
Molybdenum	9.821	0.50	10.00	0	98.2	85	115				
Selenium	9.684	0.50	10.00	0	96.8	85	115				

Sample ID: **N053874-018CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.401	0.10	10.00	0	94.0	75	125				
Manganese	123.545	0.50	100.0	29.12	94.4	75	125				
Molybdenum	44.153	0.50	10.00	31.94	122	75	125				
Selenium	11.534	0.50	10.00	2.179	93.6	75	125				

Sample ID: **N053874-018CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/2/2022** RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.996	0.10	10.00	0	90.0	75	125	9.401	4.40	20	
Manganese	124.937	0.50	100.0	29.12	95.8	75	125	123.5	1.12	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053874-018CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	45.436	0.50	10.00	31.94	135	75	125	44.15	2.87	20	S
Selenium	11.385	0.50	10.00	2.179	92.1	75	125	11.53	1.30	20	

Sample ID: **MB-97001**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/2/2022**	RunNo: **168602**
Client ID: **PBW**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/31/2022**	SeqNo: **4997787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053874-018C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.901	0.10	10.00	0	89.0	80	120				
Manganese	123.006	0.50	100.0	29.12	93.9	80	120				
Molybdenum	45.084	0.50	10.00	31.94	131	80	120				S
Selenium	10.643	0.50	10.00	2.179	84.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SAMPLE RECEIVING ITEMS

53874

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
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CHAIN OF CUSTODY RECORD

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| | | |

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CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: [redacted]	Address:	Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mblo[redacted]@ivox.com P.O.#	Sample Temp: 4.6 °C/3.3°C/3.9°C
Submitted By: Riggie Top	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Courier:
Title: Field Tech	Sampled By: Riggie Top	Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid	Tracking No.:
Signature: Date: 12/01/22	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 12/01/22		
Project Name: PG&E Topock - RCM			
Project Number: 30121866.4Q22GW			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053874-015	MW-939-Q422	12/1/2022	12:40		X	X	X	X	X		E	3	P	BNS	
2	-016	PT9S-Q422	12/1/2022	13:35		X	X	X	X	X		E	3	P	BNS	
3	-017	MW-24A-Q422	12/1/2022	10:31		X	X	X	X	X		E	3	P	BNS	
4	-018	MW-24B-Q422	12/1/2022	11:30		X	X	X	X	X		E	3	P	BNS	
5	-019	MW-37D-Q422	12/1/2022	9:16		X	X	X	X	X		E	3	P	BNS	MSMSD
	-020	MW-37S-Q422	12/1/2022	8:29		X	X	X	X	X	X	E	4	P	BNS	
7	-021	EB-739-Q422	12/1/2022	15:30		X						E	1	P	BNS	
8	-022	PGE-07BR-Q422	12/1/2022	10:24		X		X	X			E	2	P	BNS	
9																
10																
11																
12																
13																
14																

Relinquished by (Signature and Printed Name): Riggie Top Date/Time: 12/1/22 1716
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/1/22 17:16
Relinquished by (Signature and Printed Name): Dante Ortiz Date/Time: 12/1/22 19:06
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/1/22 19:06
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=Zn(AC)$_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/1/2022	Workorder:	N053874
Rep sample Temp (Deg C):	4.6/3.3/3.9	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/2/2022

Reviewed By: for MBC 12/8/22

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-001A	MW-40D-Q422	12/1/2022 8:30:00 AM	12/16/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-001B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-001C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-001D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-002A	MW-40S-Q422	12/1/2022 9:05:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-002B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-002C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-002D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-003A	MW-09-Q422	12/1/2022 12:26:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-003B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-003C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-004A	MW-931-Q422	12/1/2022 12:36:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-004B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-004C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-004C	MW-931-Q422	12/1/2022 12:36:00 PM	12/16/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-005A	MW-85-129-Q422	12/1/2022 3:48:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-005B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-005C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-006A	MW-85-217-Q422	12/1/2022 4:44:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-006B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-006C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-007A	MW-85-237-Q422	12/1/2022 3:52:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-007B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-007C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-008A	EB-737-Q422	12/1/2022 4:10:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-009A	MW-89-183-Q422	12/1/2022 8:32:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-009B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-009C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-009D	MW-89-183-Q422	12/1/2022 8:32:00 AM	12/16/2022	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-010A	MW-937-Q422	12/1/2022 8:42:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-010B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-010C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-010D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-011A	MW-89-273-Q422	12/1/2022 9:26:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-011B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-011C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-011D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-012A	PT8D-Q422	12/1/2022 2:55:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-012B			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-013A	PT9D-Q422	12/1/2022 2:05:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-013B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-013C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-013C	PT9D-Q422	12/1/2022 2:05:00 PM	12/16/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-014A	PT9M-Q422	12/1/2022 12:35:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-014B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-014C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-015A	MW-939-Q422	12/1/2022 12:40:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-015B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-015C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-016A	PT9S-Q422	12/1/2022 1:35:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-016B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-016C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-017A	MW-24A-Q422	12/1/2022 10:31:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-017B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-017C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-018A	MW-24B-Q422	12/1/2022 11:30:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-018B	MW-24B-Q422	12/1/2022 11:30:00 AM	12/16/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053874-018C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053874-019A	MW-37D-Q422	12/1/2022 9:16:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-019B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-019C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-020A	MW-37S-Q422	12/1/2022 8:29:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-020B			12/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053874-020C			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-020D			12/16/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053874-021A	EB-739-Q422	12/1/2022 3:30:00 PM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-022A	PGE-07BR-Q422	12/1/2022 10:24:00 AM	12/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053874-022B			12/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053874-023A	FOLDER	12/16/2022	12/16/2022		Folder	Folder	☐	☐	☐	LAB
			12/16/2022		Folder	Level IV Report	☐	☐	☐	LAB

WORK ORDER Summary

08-Dec-22

WorkOrder: N053874

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/1/2022 9:06 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053874-023A	FOLDER	12/16/2022	12/16/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N053874-001D / MW-40D-Q422	Groundwater	12/1/2022 8:30:00 AM	8OZP	1		
N053874-002D / MW-40S-Q422	Groundwater	12/1/2022 9:05:00 AM	8OZP	1		
N053874-009D / MW-89-183-Q422	Groundwater	12/1/2022 8:32:00 AM	8OZP	1		
N053874-010D / MW-937-Q422	Groundwater	12/1/2022 8:42:00 AM	8OZP	1		
N053874-011D / MW-89-273-Q422	Groundwater	12/1/2022 9:26:00 AM	8OZP	1		
N053874-020D / MW-37S-Q422	Groundwater	12/1/2022 8:29:00 AM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53874A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

List of Analysts

ASSET Laboratories Work Order: N053874

NAME	TEST METHOD
Ria Abes	EPA 218.6, EPA 300.0
Diane Jetajobe	EPA 6020_Dissolved

EPA 218.6

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R168252
ASSET #: N053874

Instrument ID: IC-01
Analyst: AMD
Date Analyzed: 12/15/2022

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X			X		
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X			X		
3. ICV within ± 10% of expected value.	X			X		
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X			X		
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X			X		
6. Calibration blanks run after ICV and CCV?	X			X		
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X			X		
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X			X		
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X			X		
Sample Information						
10. All samples are within linear range.	X			X		
11. All samples pH within 9.3-9.7 when analyzed?	X			X		
12. Duplicate sample injections for every sample. (7199 only)			X			X
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X			X		
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			X
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?		X			X	
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X			X		
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?	X			X		
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X			X		
19. EPA 3060A digestion performed on solid samples (7199 only)			X			X
20. Are all peaks within RT window, ± 0.2 min?	X			X		
21. Are all samples analyzed within hold time?	X			X		
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			X
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X			X		
24. LCS compounds are within control limits.	X			X		
25. MS/MSD, RPD's are within control limits.	X			X		
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			X
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X			X		
28. Extraction log complete and included in package (if applicable)			X			X
29. All manual integrations initialed, date and reasons included.	X			X		
30. Before and after manual integration chromatogram included in the package	X			X		
31. All samples and QC raw data present in package.	X			X		
Preliminary Report						
32. Does the raw data match the preliminary report?	X			X		
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
34 Is the QC summary report present and complete?	X			X		

Comments:

N053874-001A= 46ugL ; N053874-001C(6020) = 37 ugL MS protocol performed. Recovery within criteria.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Is QC present and complete?	X		
4. Are analytical results correct? (dilutions,calculations)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer AMD Date: _____

2nd Level Reviewer NS 12162022 Date: _____

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R168253
ASSET #: N053874

Instrument ID: IC-01
Analyst: AMD
Date Analyzed: 12/15/2022

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X			X		
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X			X		
3. ICV within ± 10% of expected value.	X			X		
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X			X		
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X			X		
6. Calibration blanks run after ICV and CCV?	X			X		
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X			X		
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X			X		
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X			X		
Sample Information						
10. All samples are within linear range.	X			X		
11. All samples pH within 9.3-9.7 when analyzed?	X			X		
12. Duplicate sample injections for every sample. (7199 only)			X			X
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X			X		
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			X
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X			X		
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?		X		X		
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?	X					X
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X			X		
19. EPA 3060A digestion performed on solid samples (7199 only)			X			X
20. Are all peaks within RT window, ± 0.2 min?	X			X		
21. Are all samples analyzed within hold time?	X			X		
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			X
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X			X		
24. LCS compounds are within control limits.	X			X		
25. MS/MSD, RPD's are within control limits.	X			X		
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			X
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X			X		
28. Extraction log complete and included in package (if applicable)			X			X
29. All manual integrations initialed, date and reasons included.	X			X		
30. Before and after manual integration chromatogram included in the package	X			X		
31. All samples and QC raw data present in package.	X			X		
Preliminary Report						
32. Does the raw data match the preliminary report?	X			X		
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
34 Is the QC summary report present and complete?	X			X		

Comments:

~~N053874-005A= 190 ugL ; N)53874-005C(6020) = 280 ugL MS protocol performed. Recovery within criteria.~~

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Is QC present and complete?	X		
4. Are analytical results correct? (dilutions,calculations)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer AMD Date: _____

2nd Level Reviewer NS 12162022 Date: _____

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

IC ARCUS
REV 2.0
011416

QC Batch Number: R168413
ASSET #: N053874

Instrument ID: IC-07
Analyst: RBA
Date Analyzed: 12/21/2022

Method:

- [ ] EPA 300.0
- [ ] EPA 7199
- [X] EPA 218.6/EPA 218.7
- [ ] EPA 218.6/EPA 218.7 LL
- [ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X			X		
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X			X		
3. ICV within ± 10% of expected value.	X			X		
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X			X		
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X			X		
6. Calibration blanks run after ICV and CCV?	X			X		
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)	X			X		
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X			X		
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?	X			X		
Sample Information						
10. All samples are within linear range.	X			X		
11. All samples pH within 9.3-9.7 when analyzed?	X			X		
12. Duplicate sample injections for every sample. (7199 only)			X			X
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)	X			X		
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			X
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X			X		
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?		X			X	
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?	X			X		
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)	X			X		
19. EPA 3060A digestion performed on solid samples (7199 only)			X			X
20. Are all peaks within RT window, ± 0.2 min?	X			X		
21. Are all samples analyzed within hold time?	X			X		
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			X
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X			X		
24. LCS compounds are within control limits.	X			X		
25. MS/MSD, RPD's are within control limits.	X			X		
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			X
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X			X		
28. Extraction log complete and included in package (if applicable)			X			X
29. All manual integrations initialed, date and reasons included.	X			X		
30. Before and after manual integration chromatogram included in the package	X			X		
31. All samples and QC raw data present in package.	X			X		
Preliminary Report						
32. Does the raw data match the preliminary report?	X			X		
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
34 Is the QC summary report present and complete?	X			X		

Comments: Dilution was necessary for some samples due to matrix interference.

~~N053874-001A = 46 ppb ; N043874-001C (6020) = 37 ppb N053874-005A = 190 ppb ; N043874-005C (6020) = 280 ppb~~
N053874-014A = 590 ppb ; N043874-014C (6020) = 760 ppb ~~N053874-016A = 47 ppb ; N043874-016C (6020) = 86 ppb~~
MS protocol performed. Recvoery within criteria.

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Is QC present and complete?	X		
4. Are analytical results correct? (dilutions,calculations)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer RBA Date: _____

2nd Level Reviewer NS 12222022 Date: _____

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 218.6
TEST NAME: HEXAVALENT CHROMIUM BY IC
MATRIX: Groundwater

FORMULA:

Calculate the Hexavalent Chromium concentration, in μg/L, in the original sample as follows:

$$Cr^{+6}, \mu g/L = A * DF$$

where:

A = µg/L, IC Cr+6 calculated concentration
DF = dilution factor

For Sample **N053874-001A** , the concentration in µg/L is calculated as follows:

$$Cr^{+6}, \mu g/L = 9.2470 * 5$$

$$Cr^{+6}, \mu g/L = 46.2350$$

Reporting results in two significant figures,

$$\mathbf{Cr^{+6}, \mu g/L = 46}$$

Reviewed by:

dMocha 1/4/2023

ANALYSIS RUN LOG

INJECTION LOG: 221212A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	iBLANK	iBLANK	1	Hexavalent Chromium	12/12/22 12:42 PM	Reported
2	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/12/22 12:54 PM	Reported
3	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:05 PM	Not Reported
4	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:17 PM	Reported
5	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:28 PM	Reported
6	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:39 PM	Reported
7	STD- 20.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:51 PM	Reported
8	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 2:05 PM	Reported
9	ICV-1	ICV	1	Hexavalent Chromium	12/12/22 2:17 PM	Reported
10	PQL-0.2ppb	CCV2	1	Hexavalent Chromium	12/12/22 2:28 PM	Reported
11	ICB-1	ICB	1	Hexavalent Chromium	12/12/22 2:39 PM	Reported
12	LCS1-R168151	LCS	1	Hexavalent Chromium	12/12/22 2:51 PM	Reported
13	MB1-R168151	MBLK	1	Hexavalent Chromium	12/12/22 3:02 PM	Reported
14	N053788-002A	SAMP	5	Hexavalent Chromium	12/12/22 3:14 PM	Reported
15	N053788-002A-DUP	DUP	5	Hexavalent Chromium	12/12/22 3:26 PM	Reported
16	N053788-002A-MS	MS	5	Hexavalent Chromium	12/12/22 3:38 PM	Reported
17	N053788-002A-MSD	MSD	5	Hexavalent Chromium	12/12/22 3:49 PM	Reported
18	N053788-003A	SAMP	5	Hexavalent Chromium	12/12/22 4:01 PM	Reported
19	N053788-003A-MS	MS	5	Hexavalent Chromium	12/12/22 4:12 PM	Reported
20	N053788-004A	SAMP	5	Hexavalent Chromium	12/12/22 4:23 PM	Reported
21	N053788-004A-MS	MS	5	Hexavalent Chromium	12/12/22 4:35 PM	Reported
22	CCV-1	CCV	1	Hexavalent Chromium	12/12/22 4:46 PM	Reported
23	CCB-1	CCB	1	Hexavalent Chromium	12/12/22 4:58 PM	Reported
24	N054019-001A	SAMP	1	Hexavalent Chromium	12/12/22 5:09 PM	Not Reported
25	N054019-001A-MS	MS	1	Hexavalent Chromium	12/12/22 5:20 PM	Not Reported
26	N053856-004B	SAMP	1	Hexavalent Chromium	12/12/22 5:32 PM	Reported
27	N053856-004B-MS	MS	1	Hexavalent Chromium	12/12/22 5:43 PM	Not Reported
28	N053856-004B-MS	MS	1	Hexavalent Chromium	12/12/22 5:58 PM	Reported
29	N053852-001A	SAMP	1	Hexavalent Chromium	12/12/22 6:09 PM	Not Reported
30	N053852-001A-MS	MS	1	Hexavalent Chromium	12/12/22 6:20 PM	Not Reported
31	N053852-001A	SAMP	5	Hexavalent Chromium	12/12/22 6:32 PM	Reported
32	N053852-001A-MS	MS	5	Hexavalent Chromium	12/12/22 6:43 PM	Reported
33	N053852-002A	SAMP	1	Hexavalent Chromium	12/12/22 6:55 PM	Not Reported
34	CCV-2	CCV1	1	Hexavalent Chromium	12/12/22 7:07 PM	Reported
35	CCB-2	CCB	1	Hexavalent Chromium	12/12/22 7:19 PM	Reported
36	N053852-003A	SAMP	1	Hexavalent Chromium	12/12/22 7:30 PM	Not Reported
37	N053852-003A-MS	MS	1	Hexavalent Chromium	12/12/22 7:42 PM	Not Reported
38	N053852-004A	SAMP	1	Hexavalent Chromium	12/12/22 7:53 PM	Reported
39	N053852-004A-MS	MS	1	Hexavalent Chromium	12/12/22 8:04 PM	Reported
40	N053852-005A	SAMP	5	Hexavalent Chromium	12/12/22 8:16 PM	Not Reported
41	N053852-005A-MS	MS	5	Hexavalent Chromium	12/12/22 8:27 PM	Not Reported
42	N053852-006A	SAMP	20	Hexavalent Chromium	12/12/22 8:39 PM	Reported

INJECTION LOG: 221212A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N053852-006A-DUP	DUP	20	Hexavalent Chromium	12/12/22 8:50 PM	Reported
44	N053852-006A-MS	MS	20	Hexavalent Chromium	12/12/22 9:01 PM	Reported
45	N053852-006A-MSD	MSD	20	Hexavalent Chromium	12/12/22 9:13 PM	Reported
46	CCV-3	CCV	1	Hexavalent Chromium	12/12/22 9:24 PM	Reported
47	CCB-3	CCB	1	Hexavalent Chromium	12/12/22 9:36 PM	Reported
48	N053852-007A	SAMP	20	Hexavalent Chromium	12/12/22 9:47 PM	Reported
49	N053852-007A-MS	MS	20	Hexavalent Chromium	12/12/22 9:58 PM	Reported
50	N053852-008A	SAMP	20	Hexavalent Chromium	12/12/22 10:10 PM	Not Reported
51	N053852-008A-MS	MS	20	Hexavalent Chromium	12/12/22 10:21 PM	Not Reported
52	N053852-009A	SAMP	5	Hexavalent Chromium	12/12/22 10:33 PM	Not Reported
53	N053852-009A-MS	MS	5	Hexavalent Chromium	12/12/22 10:44 PM	Not Reported
54	N053852-010A	SAMP	1	Hexavalent Chromium	12/12/22 10:55 PM	Not Reported
55	N053852-010A-MS	MS	1	Hexavalent Chromium	12/12/22 11:07 PM	Not Reported
56	N053852-011A	SAMP	5	Hexavalent Chromium	12/12/22 11:18 PM	Reported
57	N053852-011A-MS	MS	5	Hexavalent Chromium	12/12/22 11:30 PM	Reported
58	CCV-4	CCV1	1	Hexavalent Chromium	12/12/22 11:41 PM	Reported
59	CCB-4	CCB	1	Hexavalent Chromium	12/12/22 11:52 PM	Reported
60	N053852-012A	SAMP	200	Hexavalent Chromium	12/13/22 12:04 AM	Reported
61	N053852-012A-MS	MS	200	Hexavalent Chromium	12/13/22 12:15 AM	Reported
62	N053852-013A	SAMP	1	Hexavalent Chromium	12/13/22 12:27 AM	Reported
63	N053852-013A-MS	MS	1	Hexavalent Chromium	12/13/22 12:38 AM	Reported
64	N053852-014A	SAMP	1	Hexavalent Chromium	12/13/22 12:49 AM	Not Reported
65	N053852-014A-MS	MS	1	Hexavalent Chromium	12/13/22 1:01 AM	Not Reported
66	N053852-014A	SAMP	5	Hexavalent Chromium	12/13/22 1:12 AM	Not Reported
67	N053852-014A-MS	MS	5	Hexavalent Chromium	12/13/22 1:24 AM	Not Reported
68	N053852-015A	SAMP	1	Hexavalent Chromium	12/13/22 1:35 AM	Not Reported
69	N053852-015A-MS	MS	1	Hexavalent Chromium	12/13/22 1:46 AM	Not Reported
70	CCV-5	CCV	1	Hexavalent Chromium	12/13/22 1:58 AM	Reported
71	CCB-5	CCB	1	Hexavalent Chromium	12/13/22 2:09 AM	Reported
72	N053852-002A	SAMP	5	Hexavalent Chromium	12/13/22 2:21 AM	Reported
73	N053852-002A-MS	MS	5	Hexavalent Chromium	12/13/22 2:32 AM	Reported
74	CCV-6	CCV1	1	Hexavalent Chromium	12/13/22 2:43 AM	Reported
75	CCB-6	CCB	1	Hexavalent Chromium	12/13/22 2:55 AM	Reported

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
1	iBLANK	Unknown	1	CR6 Program	CR6 METHOD_221212A	Finished
2	STD-0.2 ppb	Standard	2	CR6 Program	CR6 METHOD_221212A	Finished
3	STD-1.0 ppb	Unknown	3	CR6 Program	CR6 METHOD_221212A	Finished
4	STD-5.0 ppb	Standard	4	CR6 Program	CR6 METHOD_221212A	Finished
5	STD-10.0 ppb	Standard	5	CR6 Program	CR6 METHOD_221212A	Finished
6	STD-15.0 ppb	Standard	6	CR6 Program	CR6 METHOD_221212A	Finished
7	STD- 20.0 ppb	Standard	7	CR6 Program	CR6 METHOD_221212A	Finished
8	STD-1.0 ppb	Standard	8	CR6 Program	CR6 METHOD_221212A	Finished
9	ICV-1,ICV,1	Unknown	9	CR6 Program	CR6 METHOD_221212A	Finished
10	PQL-0.2ppb,CCV2,1	Unknown	10	CR6 Program	CR6 METHOD_221212A	Finished
11	ICB-1,ICB,1	Unknown	11	CR6 Program	CR6 METHOD_221212A	Finished
12	LCS1-H2O,LCS,1	Unknown	12	CR6 Program	CR6 METHOD_221212A	Finished
13	MB1-H2O,MBLK,1	Unknown	13	CR6 Program	CR6 METHOD_221212A	Finished
14	N053788-002A,SAMP,5	Unknown	14	CR6 Program	CR6 METHOD_221212A	Finished
15	N053788-002A-DUP,DUP,5	Unknown	15	CR6 Program	CR6 METHOD_221212A	Finished
16	N053788-002A-MS,MS,5	Unknown	16	CR6 Program	CR6 METHOD_221212A	Finished
17	N053788-002A-MSD,MSD,5	Unknown	17	CR6 Program	CR6 METHOD_221212A	Finished
18	N053788-003A,SAMP,5	Unknown	18	CR6 Program	CR6 METHOD_221212A	Finished
19	N053788-003A-MS,MS,5	Unknown	19	CR6 Program	CR6 METHOD_221212A	Finished
20	N053788-004A,SAMP,5	Unknown	20	CR6 Program	CR6 METHOD_221212A	Finished
21	N053788-004A-MS,MS,5	Unknown	21	CR6 Program	CR6 METHOD_221212A	Finished
22	CCV-1,CCV,1	Unknown	22	CR6 Program	CR6 METHOD_221212A	Finished
23	CCB-1,CCB,1	Unknown	23	CR6 Program	CR6 METHOD_221212A	Finished
24	N054019-001A,SAMP,1	Unknown	24	CR6 Program	CR6 METHOD_221212A	Finished
25	N054019-001A-MS,MS,1	Unknown	25	CR6 Program	CR6 METHOD_221212A	Finished
26	N053856-004B,SAMP,1	Unknown	26	CR6 Program	CR6 METHOD_221212A	Finished
27	N053856-004B-MS,MS,1	Unknown	27	CR6 Program	CR6 METHOD_221212A	Finished
28	N053856-004B-MS,MS,1	Unknown	28	CR6 Program	CR6 METHOD_221212A	Finished
29	N053852-001A,SAMP,1	Unknown	29	CR6 Program	CR6 METHOD_221212A	Finished
30	N053852-001A-MS,MS,1	Unknown	30	CR6 Program	CR6 METHOD_221212A	Finished
31	N053852-001A,SAMP,5	Unknown	31	CR6 Program	CR6 METHOD_221212A	Finished
32	N053852-001A-MS,MS,5	Unknown	32	CR6 Program	CR6 METHOD_221212A	Finished
33	N053852-002A,SAMP,1	Unknown	33	CR6 Program	CR6 METHOD_221212A	Finished
34	CCV-2,CCV1,1	Unknown	34	CR6 Program	CR6 METHOD_221212A	Finished
35	CCB-2,CCB,1	Unknown	35	CR6 Program	CR6 METHOD_221212A	Finished
36	N053852-003A,SAMP,1	Unknown	36	CR6 Program	CR6 METHOD_221212A	Finished
37	N053852-003A-MS,MS,1	Unknown	37	CR6 Program	CR6 METHOD_221212A	Finished
38	N053852-004A,SAMP,1	Unknown	38	CR6 Program	CR6 METHOD_221212A	Finished
39	N053852-004A-MS,MS,1	Unknown	39	CR6 Program	CR6 METHOD_221212A	Finished
40	N053852-005A,SAMP,5	Unknown	40	CR6 Program	CR6 METHOD_221212A	Finished
41	N053852-005A-MS,MS,5	Unknown	41	CR6 Program	CR6 METHOD_221212A	Finished
42	N053852-006A,SAMP,20	Unknown	42	CR6 Program	CR6 METHOD_221212A	Finished
43	N053852-006A-DUP,DUP,20	Unknown	43	CR6 Program	CR6 METHOD_221212A	Finished
44	N053852-006A-MS,MS,20	Unknown	44	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Inj. Date/Time	Comment
1	iBLANK	12/12/2022 12:42:48 PM	Instrument Blank,R221115B
2	STD-0.2 ppb	12/12/2022 12:54:12 PM	0.2 ppb,IWST221111A,R220920A
3	STD-1.0 ppb	12/12/2022 1:05:36 PM	1.0 ppb,IWST221111A,R221115B
4	STD-5.0 ppb	12/12/2022 1:17:00 PM	5.0 ppb,IWST221111A,R221115B
5	STD-10.0 ppb	12/12/2022 1:28:24 PM	10 ppb,IWST221111A,R221115B
6	STD-15.0 ppb	12/12/2022 1:39:48 PM	15 ppb,IWST221111A,R221115B
7	STD- 20.0 ppb	12/12/2022 1:51:13 PM	20 ppb,IWST221111A,R221115B
8	STD-1.0 ppb	12/12/2022 2:05:01 PM	1.0 ppb,IWST221111A,R221115B
9	ICV-1,ICV,1	12/12/2022 2:17:05 PM	ICV @ 5ppb,IWST221111B,R221115B
10	PQL-0.2ppb,CCV2,1	12/12/2022 2:28:29 PM	PQL @ 0.2ppb,IWST221111A,R221115B
11	ICB-1,ICB,1	12/12/2022 2:39:54 PM	ICB,R221115B
12	LCS1-H2O,LCS,1	12/12/2022 2:51:18 PM	LCS @ 5ppb,IWST221205A,R221115B
13	MB1-H2O,MBLK,1	12/12/2022 3:02:42 PM	METHOD BLANK,R221115B
14	N053788-002A,SAMP,5	12/12/2022 3:14:06 PM	SAMPLE,2>10mL
15	N053788-002A-DUP,DUP,5	12/12/2022 3:26:52 PM	DUPLICATE,2>10mL
16	N053788-002A-MS,MS,5	12/12/2022 3:38:16 PM	MS @ 1ppb,IWST221205A,2>10mL
17	N053788-002A-MSD,MSD,5	12/12/2022 3:49:40 PM	MSD @ 1ppb,IWST221205A,2>10mL
18	N053788-003A,SAMP,5	12/12/2022 4:01:05 PM	SAMPLE,2>10mL
19	N053788-003A-MS,MS,5	12/12/2022 4:12:29 PM	MS @ 5ppb,IWST221205A,2>10mL
20	N053788-004A,SAMP,5	12/12/2022 4:23:53 PM	SAMPLE,2>10mL
21	N053788-004A-MS,MS,5	12/12/2022 4:35:17 PM	MS @ 5ppb,IWST221205A,2>10mL
22	CCV-1,CCV,1	12/12/2022 4:46:41 PM	CCV @ 5ppb,IWST221111A,R221115B
23	CCB-1,CCB,1	12/12/2022 4:58:06 PM	CCB,R221115B
24	N054019-001A,SAMP,1	12/12/2022 5:09:30 PM	SAMPLE
25	N054019-001A-MS,MS,1	12/12/2022 5:20:54 PM	MS @ 1ppb,IWST221205A
26	N053856-004B,SAMP,1	12/12/2022 5:32:18 PM	SAMPLE
27	N053856-004B-MS,MS,1	12/12/2022 5:43:42 PM	MS @ 1ppb,IWST221205A
28	N053856-004B-MS,MS,1	12/12/2022 5:58:08 PM	MS @ 1ppb,IWST221205A
29	N053852-001A,SAMP,1	12/12/2022 6:09:32 PM	SAMPLE
30	N053852-001A-MS,MS,1	12/12/2022 6:20:56 PM	MS @ 1ppb,IWST221205A
31	N053852-001A,SAMP,5	12/12/2022 6:32:20 PM	SAMPLE,2>10mL
32	N053852-001A-MS,MS,5	12/12/2022 6:43:44 PM	MS @ 1ppb,IWST221205A,2>10mL
33	N053852-002A,SAMP,1	12/12/2022 6:55:08 PM	SAMPLE
34	CCV-2,CCV1,1	12/12/2022 7:07:48 PM	CCV @ 10ppb,IWST221111A,R221115B
35	CCB-2,CCB,1	12/12/2022 7:19:12 PM	CCB,R221115B
36	N053852-003A,SAMP,1	12/12/2022 7:30:36 PM	SAMPLE
37	N053852-003A-MS,MS,1	12/12/2022 7:42:00 PM	MS @ 5ppb,IWST221205A
38	N053852-004A,SAMP,1	12/12/2022 7:53:24 PM	SAMPLE
39	N053852-004A-MS,MS,1	12/12/2022 8:04:49 PM	MS @ 1ppb,IWST221205A
40	N053852-005A,SAMP,5	12/12/2022 8:16:13 PM	SAMPLE,2>10mL
41	N053852-005A-MS,MS,5	12/12/2022 8:27:37 PM	MS @ 5ppb,IWST221205A,2>10mL
42	N053852-006A,SAMP,20	12/12/2022 8:39:01 PM	SAMPLE,0.5>10mL
43	N053852-006A-DUP,DUP,20	12/12/2022 8:50:25 PM	DUPLICATE,0.5>10mL
44	N053852-006A-MS,MS,20	12/12/2022 9:01:49 PM	MS @ 5ppb,IWST221205A,0.5>10mL

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
45	N053852-006A-MSD,MSD,20	Unknown	45	CR6 Program	CR6 METHOD_221212A	Finished
46	CCV-3,CCV,1	Unknown	46	CR6 Program	CR6 METHOD_221212A	Finished
47	CCB-3,CCB,1	Unknown	47	CR6 Program	CR6 METHOD_221212A	Finished
48	N053852-007A,SAMP,20	Unknown	48	CR6 Program	CR6 METHOD_221212A	Finished
49	N053852-007A-MS,MS,20	Unknown	49	CR6 Program	CR6 METHOD_221212A	Finished
50	N053852-008A,SAMP,20	Unknown	50	CR6 Program	CR6 METHOD_221212A	Finished
51	N053852-008A-MS,MS,20	Unknown	51	CR6 Program	CR6 METHOD_221212A	Finished
52	N053852-009A,SAMP,5	Unknown	52	CR6 Program	CR6 METHOD_221212A	Finished
53	N053852-009A-MS,MS,5	Unknown	53	CR6 Program	CR6 METHOD_221212A	Finished
54	N053852-010A,SAMP,1	Unknown	54	CR6 Program	CR6 METHOD_221212A	Finished
55	N053852-010A-MS,MS,1	Unknown	55	CR6 Program	CR6 METHOD_221212A	Finished
56	N053852-011A,SAMP,5	Unknown	56	CR6 Program	CR6 METHOD_221212A	Finished
57	N053852-011A-MS,MS,5	Unknown	57	CR6 Program	CR6 METHOD_221212A	Finished
58	CCV-4,CCV1,1	Unknown	58	CR6 Program	CR6 METHOD_221212A	Finished
59	CCB-4,CCB,1	Unknown	59	CR6 Program	CR6 METHOD_221212A	Finished
60	N053852-012A,SAMP,200	Unknown	60	CR6 Program	CR6 METHOD_221212A	Finished
61	N053852-012A-MS,MS,200	Unknown	61	CR6 Program	CR6 METHOD_221212A	Finished
62	N053852-013A,SAMP,1	Unknown	62	CR6 Program	CR6 METHOD_221212A	Finished
63	N053852-013A-MS,MS,1	Unknown	63	CR6 Program	CR6 METHOD_221212A	Finished
64	N053852-014A,SAMP,1	Unknown	64	CR6 Program	CR6 METHOD_221212A	Finished
65	N053852-014A-MS,MS,1	Unknown	65	CR6 Program	CR6 METHOD_221212A	Finished
66	N053852-014A,SAMP,5	Unknown	66	CR6 Program	CR6 METHOD_221212A	Finished
67	N053852-014A-MS,MS,5	Unknown	67	CR6 Program	CR6 METHOD_221212A	Finished
68	N053852-015A,SAMP,1	Unknown	68	CR6 Program	CR6 METHOD_221212A	Finished
69	N053852-015A-MS,MS,1	Unknown	69	CR6 Program	CR6 METHOD_221212A	Finished
70	CCV-5,CCV,1	Unknown	70	CR6 Program	CR6 METHOD_221212A	Finished
71	CCB-5,CCB,1	Unknown	71	CR6 Program	CR6 METHOD_221212A	Finished
72	N053852-002A,SAMP,5	Unknown	72	CR6 Program	CR6 METHOD_221212A	Finished
73	N053852-002A-MS,MS,5	Unknown	73	CR6 Program	CR6 METHOD_221212A	Finished
74	CCV-6,CCV1,1	Unknown	74	CR6 Program	CR6 METHOD_221212A	Finished
75	CCB-6,CCB,1	Unknown	75	CR6 Program	CR6 METHOD_221212A	Finished
76	Eluent: R221212A	Unknown	76	CR6 Program	CR6 METHOD_221212A	Finished
77	PCR: R221212B	Unknown	77	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Inj. Date/Time	Comment
45	N053852-006A-MSD,MSD,20	12/12/2022 9:13:13 PM	MSD @ 5ppb,IWST221205A,0.5>10mL
46	CCV-3,CCV,1	12/12/2022 9:24:37 PM	CCV @ 5ppb,IWST221111A,R221115B
47	CCB-3,CCB,1	12/12/2022 9:36:01 PM	CCB,R221115B
48	N053852-007A,SAMP,20	12/12/2022 9:47:25 PM	SAMPLE,0.5>10mL
49	N053852-007A-MS,MS,20	12/12/2022 9:58:49 PM	MS @ 5ppb,IWST221205A,0.5>10mL
50	N053852-008A,SAMP,20	12/12/2022 10:10:14 PM	SAMPLE,0.5>10mL
51	N053852-008A-MS,MS,20	12/12/2022 10:21:38 PM	MS @ 5ppb,IWST221205A,0.5>10mL
52	N053852-009A,SAMP,5	12/12/2022 10:33:02 PM	SAMPLE,2>10mL
53	N053852-009A-MS,MS,5	12/12/2022 10:44:26 PM	MS @ 5ppb,IWST221205A,2>10mL
54	N053852-010A,SAMP,1	12/12/2022 10:55:50 PM	SAMPLE
55	N053852-010A-MS,MS,1	12/12/2022 11:07:14 PM	MS @ 5ppb,IWST221205A
56	N053852-011A,SAMP,5	12/12/2022 11:18:38 PM	SAMPLE2>10mL
57	N053852-011A-MS,MS,5	12/12/2022 11:30:02 PM	MS @ 5ppb,IWST221205A2>10mL
58	CCV-4,CCV1,1	12/12/2022 11:41:27 PM	CCV @ 10ppb,IWST221111A,R221115B
59	CCB-4,CCB,1	12/12/2022 11:52:51 PM	CCB,R221115B
60	N053852-012A,SAMP,200	12/13/2022 12:04:15 AM	SAMPLE,0.05>10mL
61	N053852-012A-MS,MS,200	12/13/2022 12:15:39 AM	MS @ 5ppb,IWST221205A,0.05>10mL
62	N053852-013A,SAMP,1	12/13/2022 12:27:03 AM	SAMPLE
63	N053852-013A-MS,MS,1	12/13/2022 12:38:26 AM	MS @ 1ppb,IWST221205A
64	N053852-014A,SAMP,1	12/13/2022 12:49:51 AM	SAMPLE
65	N053852-014A-MS,MS,1	12/13/2022 1:01:15 AM	MS @ 1ppb,IWST221205A
66	N053852-014A,SAMP,5	12/13/2022 1:12:39 AM	SAMPLE,2>10mL
67	N053852-014A-MS,MS,5	12/13/2022 1:24:03 AM	MS @ 1ppb,IWST221205A,2>10mL
68	N053852-015A,SAMP,1	12/13/2022 1:35:27 AM	SAMPLE
69	N053852-015A-MS,MS,1	12/13/2022 1:46:51 AM	MS @ 1ppb,IWST221205A
70	CCV-5,CCV,1	12/13/2022 1:58:15 AM	CCV @ 5ppb,IWST221111A,R221115B
71	CCB-5,CCB,1	12/13/2022 2:09:39 AM	CCB,R221115B
72	N053852-002A,SAMP,5	12/13/2022 2:21:03 AM	SAMPLE,2>10mL
73	N053852-002A-MS,MS,5	12/13/2022 2:32:27 AM	MS @ 5ppb,IWST221205A,2>10mL
74	CCV-6,CCV1,1	12/13/2022 2:43:52 AM	CCV @ 10ppb,IWST221111A,R221115B
75	CCB-6,CCB,1	12/13/2022 2:55:16 AM	CCB,R221115B
76	Eluent: R221212A		Eluent
77	PCR: R221212B		PCR

INJECTION LOG: 221215A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	iBLANK	iBLANK	1	Hexavalent Chromium	12/12/22 12:42 PM	Reported
2	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/12/22 12:54 PM	Reported
3	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:05 PM	Not Reported
4	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:17 PM	Reported
5	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:28 PM	Reported
6	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:39 PM	Reported
7	STD- 20.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:51 PM	Reported
8	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 2:05 PM	Reported
9	ICV-1	ICV	1	Hexavalent Chromium	12/12/22 2:17 PM	Reported
10	PQL-0.2ppb	CCV2	1	Hexavalent Chromium	12/12/22 2:28 PM	Reported
11	ICB-1	ICB	1	Hexavalent Chromium	12/12/22 2:39 PM	Reported
12	iBLANK	iBLANK	1	Hexavalent Chromium	12/15/22 1:15 PM	Reported
13	CCV-1	CCV	1	Hexavalent Chromium	12/15/22 1:26 PM	Reported
14	PQL-0.2ppb	CCV2	1	Hexavalent Chromium	12/15/22 1:38 PM	Reported
15	CCB-1	CCB	1	Hexavalent Chromium	12/15/22 1:49 PM	Reported
16	LCS1-R168252	LCS	1	Hexavalent Chromium	12/15/22 2:00 PM	Reported
17	MB1-R168252	MBLK	1	Hexavalent Chromium	12/15/22 2:12 PM	Reported
18	N053989-001A	SAMP	1	Hexavalent Chromium	12/15/22 2:23 PM	Reported
19	N053989-001A-DUP	DUP	1	Hexavalent Chromium	12/15/22 2:35 PM	Reported
20	N053989-001A-MS	MS	1	Hexavalent Chromium	12/15/22 2:46 PM	Reported
21	N053989-001A-MSD	MSD	1	Hexavalent Chromium	12/15/22 2:57 PM	Reported
22	N053816-009A	SAMP	5	Hexavalent Chromium	12/15/22 3:09 PM	Reported
23	N053816-009A-MS	MS	5	Hexavalent Chromium	12/15/22 3:20 PM	Reported
24	N053816-012A	SAMP	1	Hexavalent Chromium	12/15/22 3:32 PM	Not Reported
25	N053816-012A-MS	MS	1	Hexavalent Chromium	12/15/22 3:43 PM	Not Reported
26	CCV-2	CCV1	1	Hexavalent Chromium	12/15/22 3:54 PM	Reported
27	CCB-2	CCB	1	Hexavalent Chromium	12/15/22 4:06 PM	Reported
28	N053817-009A	SAMP	5	Hexavalent Chromium	12/15/22 4:17 PM	Reported
29	N053817-009A-MS	MS	5	Hexavalent Chromium	12/15/22 4:29 PM	Reported
30	N053817-010A	SAMP	10	Hexavalent Chromium	12/15/22 4:40 PM	Reported
31	N053817-010A-MS	MS	10	Hexavalent Chromium	12/15/22 4:51 PM	Not Reported
32	N053817-011A	SAMP	1	Hexavalent Chromium	12/15/22 5:03 PM	Not Reported
33	N053817-011A-MS	MS	1	Hexavalent Chromium	12/15/22 5:14 PM	Not Reported
34	N053817-012A	SAMP	1	Hexavalent Chromium	12/15/22 5:26 PM	Not Reported
35	N053817-012A-MS	MS	1	Hexavalent Chromium	12/15/22 5:37 PM	Not Reported
36	N053816-012A	SAMP	5	Hexavalent Chromium	12/15/22 5:48 PM	Reported
37	N053816-012A-MS	MS	5	Hexavalent Chromium	12/15/22 6:00 PM	Reported
38	CCV-3	CCV	1	Hexavalent Chromium	12/15/22 6:11 PM	Reported
39	CCB-3	CCB	1	Hexavalent Chromium	12/15/22 6:23 PM	Reported
40	N053817-010A-MS	MS	10	Hexavalent Chromium	12/15/22 6:34 PM	Reported
41	N053817-011A	SAMP	5	Hexavalent Chromium	12/15/22 6:45 PM	Reported
42	N053817-011A-MS	MS	5	Hexavalent Chromium	12/15/22 6:57 PM	Reported

INJECTION LOG: 221215A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N053817-012A	SAMP	5	Hexavalent Chromium	12/15/22 7:08 PM	Reported
44	N053817-012A-MS	MS	5	Hexavalent Chromium	12/15/22 7:20 PM	Reported
45	N053873-001A	SAMP	1	Hexavalent Chromium	12/15/22 7:31 PM	Not Reported
46	N053873-001A-MS	MS	1	Hexavalent Chromium	12/15/22 7:42 PM	Not Reported
47	N053873-002A	SAMP	1	Hexavalent Chromium	12/15/22 7:54 PM	Reported
48	N053873-002A-MS	MS	1	Hexavalent Chromium	12/15/22 8:05 PM	Reported
49	N053873-003A	SAMP	1	Hexavalent Chromium	12/15/22 8:17 PM	Reported
50	CCV-4	CCV1	1	Hexavalent Chromium	12/15/22 8:28 PM	Reported
51	CCB-4	CCB	1	Hexavalent Chromium	12/15/22 8:39 PM	Reported
52	N053873-003A-MS	MS	1	Hexavalent Chromium	12/15/22 8:51 PM	Reported
53	N053873-009A	SAMP	5	Hexavalent Chromium	12/15/22 9:02 PM	Reported
54	N053873-009A-DUP	DUP	5	Hexavalent Chromium	12/15/22 9:14 PM	Reported
55	N053873-009A-MS	MS	5	Hexavalent Chromium	12/15/22 9:25 PM	Reported
56	N053873-009A-MSD	MSD	5	Hexavalent Chromium	12/15/22 9:36 PM	Reported
57	N053873-004A	SAMP	1	Hexavalent Chromium	12/15/22 9:48 PM	Reported
58	N053873-004A-MS	MS	1	Hexavalent Chromium	12/15/22 9:59 PM	Reported
59	N053873-005A	SAMP	1	Hexavalent Chromium	12/15/22 10:11 PM	Reported
60	N053873-005A-MS	MS	1	Hexavalent Chromium	12/15/22 10:22 PM	Reported
61	N053873-006A	SAMP	1	Hexavalent Chromium	12/15/22 10:34 PM	Reported
62	CCV-5	CCV	1	Hexavalent Chromium	12/15/22 10:45 PM	Reported
63	CCB-5	CCB	1	Hexavalent Chromium	12/15/22 10:56 PM	Reported
64	N053873-006A-MS	MS	1	Hexavalent Chromium	12/15/22 11:08 PM	Reported
65	N053873-007A	SAMP	1	Hexavalent Chromium	12/15/22 11:19 PM	Reported
66	N053873-007A-MS	MS	1	Hexavalent Chromium	12/15/22 11:31 PM	Reported
67	N053873-008A	SAMP	200	Hexavalent Chromium	12/15/22 11:42 PM	Not Reported
68	N053873-008A-MS	MS	200	Hexavalent Chromium	12/15/22 11:53 PM	Not Reported
69	N053873-010A	SAMP	1	Hexavalent Chromium	12/16/22 12:05 AM	Reported
70	N053873-010A-MS	MS	1	Hexavalent Chromium	12/16/22 12:16 AM	Reported
71	N053874-001A	SAMP	1	Hexavalent Chromium	12/16/22 12:28 AM	Not Reported
72	N053874-001A-MS	MS	1	Hexavalent Chromium	12/16/22 12:39 AM	Not Reported
73	N053874-001A	SAMP	5	Hexavalent Chromium	12/16/22 12:50 AM	Reported
74	CCV-6	CCV1	1	Hexavalent Chromium	12/16/22 1:02 AM	Reported
75	CCB-6	CCB	1	Hexavalent Chromium	12/16/22 1:13 AM	Reported
76	N053874-001A-MS	MS	5	Hexavalent Chromium	12/16/22 1:25 AM	Not Reported
77	N053874-002A	SAMP	5	Hexavalent Chromium	12/16/22 1:36 AM	Reported
78	N053874-002A-MS	MS	5	Hexavalent Chromium	12/16/22 1:47 AM	Reported
79	N053874-003A	SAMP	1	Hexavalent Chromium	12/16/22 1:59 AM	Reported
80	N053874-003A-MS	MS	1	Hexavalent Chromium	12/16/22 2:10 AM	Reported
81	LCS1-R168253	LCS	1	Hexavalent Chromium	12/16/22 2:22 AM	Reported
82	MB1-R168253	MBLK	1	Hexavalent Chromium	12/16/22 2:33 AM	Reported
83	N053874-005A	SAMP	20	Hexavalent Chromium	12/16/22 2:44 AM	Reported
84	N053874-005A-DUP	DUP	20	Hexavalent Chromium	12/16/22 2:56 AM	Reported

INJECTION LOG: 221215A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
85	N053874-005A-MS	MS	20	Hexavalent Chromium	12/16/22 3:07 AM	Reported
86	CCV-7	CCV	1	Hexavalent Chromium	12/16/22 3:19 AM	Reported
87	CCB-7	CCB	1	Hexavalent Chromium	12/16/22 3:30 AM	Reported
88	N053874-005A-MSD	MSD	20	Hexavalent Chromium	12/16/22 3:41 AM	Reported
89	N053874-004A	SAMP	1	Hexavalent Chromium	12/16/22 3:53 AM	Reported
90	N053874-004A-MS	MS	1	Hexavalent Chromium	12/16/22 4:04 AM	Reported
91	N053874-006A	SAMP	100	Hexavalent Chromium	12/16/22 4:16 AM	Reported
92	N053874-006A-MS	MS	100	Hexavalent Chromium	12/16/22 4:27 AM	Reported
93	N053874-007A	SAMP	200	Hexavalent Chromium	12/16/22 4:38 AM	Reported
94	N053874-007A-MS	MS	200	Hexavalent Chromium	12/16/22 4:50 AM	Reported
95	N053874-008A	SAMP	1	Hexavalent Chromium	12/16/22 5:01 AM	Reported
96	N053874-008A-MS	MS	1	Hexavalent Chromium	12/16/22 5:13 AM	Reported
97	CCV-8	CCV1	1	Hexavalent Chromium	12/16/22 5:24 AM	Reported
98	CCB-8	CCB	1	Hexavalent Chromium	12/16/22 5:35 AM	Reported
99	N053874-009A	SAMP	1	Hexavalent Chromium	12/16/22 7:22 AM	Reported
100	N053874-009A-MS	MS	1	Hexavalent Chromium	12/16/22 7:34 AM	Reported
101	N053874-010A	SAMP	5	Hexavalent Chromium	12/16/22 7:45 AM	Reported
102	N053874-010A-MS	MS	5	Hexavalent Chromium	12/16/22 7:57 AM	Reported
103	N053873-001A	SAMP	5	Hexavalent Chromium	12/16/22 9:21 AM	Not Reported
104	N053873-001A-MS	MS	5	Hexavalent Chromium	12/16/22 9:32 AM	Not Reported
105	N053873-008A	SAMP	1	Hexavalent Chromium	12/16/22 9:44 AM	Not Reported
106	N053873-008A	SAMP	5	Hexavalent Chromium	12/16/22 10:12 AM	Not Reported
107	N053873-008A-MS	MS	5	Hexavalent Chromium	12/16/22 10:23 AM	Reported
108	N053874-001A-MS	MS	5	Hexavalent Chromium	12/16/22 10:35 AM	Reported
109	CCV-9	CCV	1	Hexavalent Chromium	12/16/22 10:46 AM	Reported
110	CCB-9	CCB	1	Hexavalent Chromium	12/16/22 10:57 AM	Reported
111	N053874-004A-MS	MS	1	Hexavalent Chromium	12/16/22 11:09 AM	Reported
112	N053874-007A	SAMP	10	Hexavalent Chromium	12/16/22 12:06 PM	Reported
113	N053874-007A-MS	MS	10	Hexavalent Chromium	12/16/22 12:29 PM	Reported
114	N053874-009A	SAMP	5	Hexavalent Chromium	12/16/22 12:49 PM	Reported
115	N053874-009A-MS	MS	5	Hexavalent Chromium	12/16/22 1:01 PM	Reported
116	N053874-010A	SAMP	1	Hexavalent Chromium	12/16/22 1:12 PM	Reported
117	N053874-010A-MS	MS	1	Hexavalent Chromium	12/16/22 1:38 PM	Reported
118	N053874-010A-MS	MS	5	Hexavalent Chromium	12/16/22 1:54 PM	Reported
119	CCV-10	CCV1	1	Hexavalent Chromium	12/16/22 2:05 PM	Reported
120	CCB-10	CCB	1	Hexavalent Chromium	12/16/22 2:16 PM	Reported

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
1	iBLANK	Unknown	1	CR6 Program	CR6 METHOD_221212A	Finished
2	STD-0.2 ppb	Standard	2	CR6 Program	CR6 METHOD_221212A	Finished
3	STD-1.0 ppb	Unknown	3	CR6 Program	CR6 METHOD_221212A	Finished
4	STD-5.0 ppb	Standard	4	CR6 Program	CR6 METHOD_221212A	Finished
5	STD-10.0 ppb	Standard	5	CR6 Program	CR6 METHOD_221212A	Finished
6	STD-15.0 ppb	Standard	6	CR6 Program	CR6 METHOD_221212A	Finished
7	STD- 20.0 ppb	Standard	7	CR6 Program	CR6 METHOD_221212A	Finished
8	STD-1.0 ppb	Standard	8	CR6 Program	CR6 METHOD_221212A	Finished
9	ICV-1,ICV,1	Unknown	9	CR6 Program	CR6 METHOD_221212A	Finished
10	PQL-0.2ppb,CCV2,1	Unknown	10	CR6 Program	CR6 METHOD_221212A	Finished
11	ICB-1,ICB,1	Unknown	11	CR6 Program	CR6 METHOD_221212A	Finished
12	iBLANK	Unknown	12	CR6 Program	CR6 METHOD_221212A	Finished
13	CCV-1,CCV,1	Unknown	13	CR6 Program	CR6 METHOD_221212A	Finished
14	PQL-0.2ppb,CCV2,1	Unknown	14	CR6 Program	CR6 METHOD_221212A	Finished
15	CCB-1,CCB,1	Unknown	15	CR6 Program	CR6 METHOD_221212A	Finished
16	LCS1-H2O,LCS,1	Unknown	16	CR6 Program	CR6 METHOD_221212A	Finished
17	MB1-H2O,MBLK,1	Unknown	17	CR6 Program	CR6 METHOD_221212A	Finished
18	N053989-001A,SAMP,1	Unknown	18	CR6 Program	CR6 METHOD_221212A	Finished
19	N053989-001A-DUP,DUP,1	Unknown	19	CR6 Program	CR6 METHOD_221212A	Finished
20	N053989-001A-MS,MS,1	Unknown	20	CR6 Program	CR6 METHOD_221212A	Finished
21	N053989-001A-MSD,MSD,1	Unknown	21	CR6 Program	CR6 METHOD_221212A	Finished
22	N053816-009A,SAMP,5	Unknown	22	CR6 Program	CR6 METHOD_221212A	Finished
23	N053816-009A-MS,MS,5	Unknown	23	CR6 Program	CR6 METHOD_221212A	Finished
24	N053816-012A,SAMP,1	Unknown	24	CR6 Program	CR6 METHOD_221212A	Finished
25	N053816-012A-MS,MS,1	Unknown	25	CR6 Program	CR6 METHOD_221212A	Finished
26	CCV-2,CCV1,1	Unknown	26	CR6 Program	CR6 METHOD_221212A	Finished
27	CCB-2,CCB,1	Unknown	27	CR6 Program	CR6 METHOD_221212A	Finished
28	N053817-009A,SAMP,5	Unknown	28	CR6 Program	CR6 METHOD_221212A	Finished
29	N053817-009A-MS,MS,5	Unknown	29	CR6 Program	CR6 METHOD_221212A	Finished
30	N053817-010A,SAMP,10	Unknown	30	CR6 Program	CR6 METHOD_221212A	Finished
31	N053817-010A-MS,MS,10	Unknown	31	CR6 Program	CR6 METHOD_221212A	Finished
32	N053817-011A,SAMP,1	Unknown	32	CR6 Program	CR6 METHOD_221212A	Finished
33	N053817-011A-MS,MS,1	Unknown	33	CR6 Program	CR6 METHOD_221212A	Finished
34	N053817-012A,SAMP,1	Unknown	34	CR6 Program	CR6 METHOD_221212A	Finished
35	N053817-012A-MS,MS,1	Unknown	35	CR6 Program	CR6 METHOD_221212A	Finished
36	N053816-012A,SAMP,5	Unknown	36	CR6 Program	CR6 METHOD_221212A	Finished
37	N053816-012A-MS,MS,5	Unknown	37	CR6 Program	CR6 METHOD_221212A	Finished
38	CCV-3,CCV,1	Unknown	38	CR6 Program	CR6 METHOD_221212A	Finished
39	CCB-3,CCB,1	Unknown	39	CR6 Program	CR6 METHOD_221212A	Finished
40	N053817-010A-MS,MS,10	Unknown	40	CR6 Program	CR6 METHOD_221212A	Finished
41	N053817-011A,SAMP,5	Unknown	41	CR6 Program	CR6 METHOD_221212A	Finished

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Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Inj. Date/Time	Comment
1	iBLANK	12/12/2022 12:42:48 PM	Instrument Blank,R221115B
2	STD-0.2 ppb	12/12/2022 12:54:12 PM	0.2 ppb,IWST221111A,R220920A
3	STD-1.0 ppb	12/12/2022 1:05:36 PM	1.0 ppb,IWST221111A,R221115B
4	STD-5.0 ppb	12/12/2022 1:17:00 PM	5.0 ppb,IWST221111A,R221115B
5	STD-10.0 ppb	12/12/2022 1:28:24 PM	10 ppb,IWST221111A,R221115B
6	STD-15.0 ppb	12/12/2022 1:39:48 PM	15 ppb,IWST221111A,R221115B
7	STD- 20.0 ppb	12/12/2022 1:51:13 PM	20 ppb,IWST221111A,R221115B
8	STD-1.0 ppb	12/12/2022 2:05:01 PM	1.0 ppb,IWST221111A,R221115B
9	ICV-1,ICV,1	12/12/2022 2:17:05 PM	ICV @ 5ppb,IWST221111B,R221115B
10	PQL-0.2ppb,CCV2,1	12/12/2022 2:28:29 PM	PQL @ 0.2ppb,IWST221111A,R221115B
11	ICB-1,ICB,1	12/12/2022 2:39:54 PM	ICB,R221115B
12	iBLANK	12/15/2022 1:15:19 PM	Instrument Blank,R221115B
13	CCV-1,CCV,1	12/15/2022 1:26:42 PM	CCV @ 5ppb, IWST221111A,R221115B
14	PQL-0.2ppb,CCV2,1	12/15/2022 1:38:07 PM	0.2ppb,IWST221111A,R221115B
15	CCB-1,CCB,1	12/15/2022 1:49:31 PM	CCB,R221115B
16	LCS1-H2O,LCS,1	12/15/2022 2:00:55 PM	LCS @ 5ppb,IWST221205A,R221115B
17	MB1-H2O,MBLK,1	12/15/2022 2:12:20 PM	METHOD BLANK,R221115B
18	N053989-001A,SAMP,1	12/15/2022 2:23:44 PM	SAMPLE
19	N053989-001A-DUP,DUP,1	12/15/2022 2:35:08 PM	DUPLICATE
20	N053989-001A-MS,MS,1	12/15/2022 2:46:32 PM	MS @ 5ppb,IWST221205A
21	N053989-001A-MSD,MSD,1	12/15/2022 2:57:56 PM	MSD @ 5ppb,IWST221205A
22	N053816-009A,SAMP,5	12/15/2022 3:09:20 PM	SAMPLE,2>10mL
23	N053816-009A-MS,MS,5	12/15/2022 3:20:44 PM	MS @ 1ppb,IWST221205A,2>10mL
24	N053816-012A,SAMP,1	12/15/2022 3:32:08 PM	SAMPLE
25	N053816-012A-MS,MS,1	12/15/2022 3:43:32 PM	MS @ 1ppb,IWST221205A
26	CCV-2,CCV1,1	12/15/2022 3:54:57 PM	CCV @ 10ppb,IWST221111A,R221115B
27	CCB-2,CCB,1	12/15/2022 4:06:21 PM	CCB,R221115B
28	N053817-009A,SAMP,5	12/15/2022 4:17:45 PM	SAMPLE,2>10mL
29	N053817-009A-MS,MS,5	12/15/2022 4:29:09 PM	MS @ 5ppb,IWST221205A,2>10mL
30	N053817-010A,SAMP,10	12/15/2022 4:40:33 PM	SAMPLE,1>10mL
31	N053817-010A-MS,MS,10	12/15/2022 4:51:57 PM	MS @ 5ppb,IWST221205A,1>10mL
32	N053817-011A,SAMP,1	12/15/2022 5:03:21 PM	SAMPLE
33	N053817-011A-MS,MS,1	12/15/2022 5:14:45 PM	MS @ 1ppb,IWST221205A
34	N053817-012A,SAMP,1	12/15/2022 5:26:09 PM	SAMPLE
35	N053817-012A-MS,MS,1	12/15/2022 5:37:33 PM	MS @ 1ppb,IWST221205A
36	N053816-012A,SAMP,5	12/15/2022 5:48:57 PM	SAMPLE,2>10mL
37	N053816-012A-MS,MS,5	12/15/2022 6:00:21 PM	MS @ 1ppb,IWST221205A,2>10mL
38	CCV-3,CCV,1	12/15/2022 6:11:45 PM	CCV @ 5ppb,IWST221111A,R221115B
39	CCB-3,CCB,1	12/15/2022 6:23:09 PM	CCB,R221115B
40	N053817-010A-MS,MS,10	12/15/2022 6:34:34 PM	MS @ 5ppb,IWST221205A,1>10mL
41	N053817-011A,SAMP,5	12/15/2022 6:45:57 PM	SAMPLE,2>10mL

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
42	N053817-011A-MS,MS,5	Unknown	42	CR6 Program	CR6 METHOD_221212A	Finished
43	N053817-012A,SAMP,5	Unknown	43	CR6 Program	CR6 METHOD_221212A	Finished
44	N053817-012A-MS,MS,5	Unknown	44	CR6 Program	CR6 METHOD_221212A	Finished
45	N053873-001A,SAMP,1	Unknown	45	CR6 Program	CR6 METHOD_221212A	Finished
46	N053873-001A-MS,MS,1	Unknown	46	CR6 Program	CR6 METHOD_221212A	Finished
47	N053873-002A,SAMP,1	Unknown	47	CR6 Program	CR6 METHOD_221212A	Finished
48	N053873-002A-MS,MS,1	Unknown	48	CR6 Program	CR6 METHOD_221212A	Finished
49	N053873-003A,SAMP,1	Unknown	49	CR6 Program	CR6 METHOD_221212A	Finished
50	CCV-4,CCV1,1	Unknown	50	CR6 Program	CR6 METHOD_221212A	Finished
51	CCB-4,CCB,1	Unknown	51	CR6 Program	CR6 METHOD_221212A	Finished
52	N053873-003A-MS,MS,1	Unknown	52	CR6 Program	CR6 METHOD_221212A	Finished
53	N053873-009A,SAMP,5	Unknown	53	CR6 Program	CR6 METHOD_221212A	Finished
54	N053873-009A-DUP,DUP,5	Unknown	54	CR6 Program	CR6 METHOD_221212A	Finished
55	N053873-009A-MS,MS,5	Unknown	55	CR6 Program	CR6 METHOD_221212A	Finished
56	N053873-009A-MSD,MSD,5	Unknown	56	CR6 Program	CR6 METHOD_221212A	Finished
57	N053873-004A,SAMP,1	Unknown	57	CR6 Program	CR6 METHOD_221212A	Finished
58	N053873-004A-MS,MS,1	Unknown	58	CR6 Program	CR6 METHOD_221212A	Finished
59	N053873-005A,SAMP,1	Unknown	59	CR6 Program	CR6 METHOD_221212A	Finished
60	N053873-005A-MS,MS,1	Unknown	60	CR6 Program	CR6 METHOD_221212A	Finished
61	N053873-006A,SAMP,1	Unknown	61	CR6 Program	CR6 METHOD_221212A	Finished
62	CCV-5,CCV,1	Unknown	62	CR6 Program	CR6 METHOD_221212A	Finished
63	CCB-5,CCB,1	Unknown	63	CR6 Program	CR6 METHOD_221212A	Finished
64	N053873-006A-MS,MS,1	Unknown	64	CR6 Program	CR6 METHOD_221212A	Finished
65	N053873-007A,SAMP,1	Unknown	65	CR6 Program	CR6 METHOD_221212A	Finished
66	N053873-007A-MS,MS,1	Unknown	66	CR6 Program	CR6 METHOD_221212A	Finished
67	N053873-008A,SAMP,200	Unknown	67	CR6 Program	CR6 METHOD_221212A	Finished
68	N053873-008A-MS,MS,200	Unknown	68	CR6 Program	CR6 METHOD_221212A	Finished
69	N053873-010A,SAMP,1	Unknown	69	CR6 Program	CR6 METHOD_221212A	Finished
70	N053873-010A-MS,MS,1	Unknown	70	CR6 Program	CR6 METHOD_221212A	Finished
71	N053874-001A,SAMP,1	Unknown	71	CR6 Program	CR6 METHOD_221212A	Finished
72	N053874-001A-MS,MS,1	Unknown	72	CR6 Program	CR6 METHOD_221212A	Finished
73	N053874-001A,SAMP,5	Unknown	73	CR6 Program	CR6 METHOD_221212A	Finished
74	CCV-6,CCV1,1	Unknown	74	CR6 Program	CR6 METHOD_221212A	Finished
75	CCB-6,CCB,1	Unknown	75	CR6 Program	CR6 METHOD_221212A	Finished
76	N053874-001A-MS,MS,5	Unknown	76	CR6 Program	CR6 METHOD_221212A	Finished
77	N053874-002A,SAMP,5	Unknown	77	CR6 Program	CR6 METHOD_221212A	Finished
78	N053874-002A-MS,MS,5	Unknown	78	CR6 Program	CR6 METHOD_221212A	Finished
79	N053874-003A,SAMP,1	Unknown	79	CR6 Program	CR6 METHOD_221212A	Finished
80	N053874-003A-MS,MS,1	Unknown	80	CR6 Program	CR6 METHOD_221212A	Finished
81	LCS1-H2O,LCS,1	Unknown	81	CR6 Program	CR6 METHOD_221212A	Finished
82	MB1-H2O,MBLK,1	Unknown	82	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Inj. Date/Time	Comment
42	N053817-011A-MS,MS,5	12/15/2022 6:57:21 PM	MS @ 1ppb,IWST221205A,2>10mL
43	N053817-012A,SAMP,5	12/15/2022 7:08:45 PM	SAMPLE,2>10mL
44	N053817-012A-MS,MS,5	12/15/2022 7:20:09 PM	MS @ 1ppb,IWST221205A,2>10mL
45	N053873-001A,SAMP,1	12/15/2022 7:31:34 PM	SAMPLE
46	N053873-001A-MS,MS,1	12/15/2022 7:42:58 PM	MS @ 1ppb,IWST221205A
47	N053873-002A,SAMP,1	12/15/2022 7:54:22 PM	SAMPLE
48	N053873-002A-MS,MS,1	12/15/2022 8:05:46 PM	MS @ 1ppb,IWST221205A
49	N053873-003A,SAMP,1	12/15/2022 8:17:11 PM	SAMPLE
50	CCV-4,CCV1,1	12/15/2022 8:28:35 PM	CCV @ 10ppb,IWST221111A,R221115B
51	CCB-4,CCB,1	12/15/2022 8:39:59 PM	CCB,R221115B
52	N053873-003A-MS,MS,1	12/15/2022 8:51:23 PM	MS @ 1ppb,IWST221205A
53	N053873-009A,SAMP,5	12/15/2022 9:02:47 PM	SAMPLE,2>10mL
54	N053873-009A-DUP,DUP,5	12/15/2022 9:14:11 PM	DUPLICATE,2>10mL
55	N053873-009A-MS,MS,5	12/15/2022 9:25:35 PM	MS @ 5ppb,IWST221205A,2>10mL
56	N053873-009A-MSD,MSD,5	12/15/2022 9:36:59 PM	MSD @ 5ppb,IWST221205A,2>10mL
57	N053873-004A,SAMP,1	12/15/2022 9:48:24 PM	SAMPLE
58	N053873-004A-MS,MS,1	12/15/2022 9:59:48 PM	MS @ 1ppb,IWST221205A
59	N053873-005A,SAMP,1	12/15/2022 10:11:12 PM	SAMPLE
60	N053873-005A-MS,MS,1	12/15/2022 10:22:36 PM	MS @ 5ppb,IWST221205A
61	N053873-006A,SAMP,1	12/15/2022 10:34:01 PM	SAMPLE
62	CCV-5,CCV,1	12/15/2022 10:45:25 PM	CCV @ 5ppb,IWST221111A,R221115B
63	CCB-5,CCB,1	12/15/2022 10:56:49 PM	CCB,R221115B
64	N053873-006A-MS,MS,1	12/15/2022 11:08:13 PM	MS @ 1ppb,IWST221205A
65	N053873-007A,SAMP,1	12/15/2022 11:19:37 PM	SAMPLE
66	N053873-007A-MS,MS,1	12/15/2022 11:31:01 PM	MS @ 1ppb,IWST221205A
67	N053873-008A,SAMP,200	12/15/2022 11:42:25 PM	SAMPLE,0.05>10mL
68	N053873-008A-MS,MS,200	12/15/2022 11:53:50 PM	MS @ 5ppb,IWST221205A,0.05>10mL
69	N053873-010A,SAMP,1	12/16/2022 12:05:14 AM	SAMPLE
70	N053873-010A-MS,MS,1	12/16/2022 12:16:38 AM	MS @ 1ppb,IWST221205A
71	N053874-001A,SAMP,1	12/16/2022 12:28:02 AM	SAMPLE
72	N053874-001A-MS,MS,1	12/16/2022 12:39:26 AM	MS @ 1ppb,IWST221205A
73	N053874-001A,SAMP,5	12/16/2022 12:50:50 AM	SAMPLE,2>10mL
74	CCV-6,CCV1,1	12/16/2022 1:02:15 AM	CCV @ 10ppb,IWST221111A,R221115B
75	CCB-6,CCB,1	12/16/2022 1:13:39 AM	CCB,R221115B
76	N053874-001A-MS,MS,5	12/16/2022 1:25:03 AM	MS @ 1ppb,IWST221205A,2>10mL
77	N053874-002A,SAMP,5	12/16/2022 1:36:27 AM	SAMPLE,2>10mL
78	N053874-002A-MS,MS,5	12/16/2022 1:47:51 AM	MS @ 5ppb,IWST221205A,2>10mL
79	N053874-003A,SAMP,1	12/16/2022 1:59:15 AM	SAMPLE
80	N053874-003A-MS,MS,1	12/16/2022 2:10:39 AM	MS @ 1ppb,IWST221205A
81	LCS1-H2O,LCS,1	12/16/2022 2:22:03 AM	LCS @ 5ppb,IWST221205A,R221115B
82	MB1-H2O,MBLK,1	12/16/2022 2:33:27 AM	METHOD BLANK,R221115B

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
83	N053874-005A,SAMP,20	Unknown	83	CR6 Program	CR6 METHOD_221212A	Finished
84	N053874-005A-DUP,DUP,20	Unknown	84	CR6 Program	CR6 METHOD_221212A	Finished
85	N053874-005A-MS,MS,20	Unknown	85	CR6 Program	CR6 METHOD_221212A	Finished
86	CCV-7,CCV,1	Unknown	86	CR6 Program	CR6 METHOD_221212A	Finished
87	CCB-7,CCB,1	Unknown	87	CR6 Program	CR6 METHOD_221212A	Finished
88	N053874-005A-MSD,MSD,20	Unknown	88	CR6 Program	CR6 METHOD_221212A	Finished
89	N053874-004A,SAMP,1	Unknown	89	CR6 Program	CR6 METHOD_221212A	Finished
90	N053874-004A-MS,MS,1	Unknown	90	CR6 Program	CR6 METHOD_221212A	Finished
91	N053874-006A,SAMP,100	Unknown	91	CR6 Program	CR6 METHOD_221212A	Finished
92	N053874-006A-MS,MS,100	Unknown	92	CR6 Program	CR6 METHOD_221212A	Finished
93	N053874-007A,SAMP,200	Unknown	93	CR6 Program	CR6 METHOD_221212A	Finished
94	N053874-007A-MS,MS,200	Unknown	94	CR6 Program	CR6 METHOD_221212A	Finished
95	N053874-008A,SAMP,1	Unknown	95	CR6 Program	CR6 METHOD_221212A	Finished
96	N053874-008A-MS,MS,1	Unknown	96	CR6 Program	CR6 METHOD_221212A	Finished
97	CCV-8,CCV1,1	Unknown	97	CR6 Program	CR6 METHOD_221212A	Finished
98	CCB-8,CCB,1	Unknown	98	CR6 Program	CR6 METHOD_221212A	Finished
99	N053874-009A,SAMP,1	Unknown	99	CR6 Program	CR6 METHOD_221212A	Finished
100	N053874-009A-MS,MS,1	Unknown	100	CR6 Program	CR6 METHOD_221212A	Finished
101	N053874-010A,SAMP,5	Unknown	101	CR6 Program	CR6 METHOD_221212A	Finished
102	N053874-010A-MS,MS,5	Unknown	102	CR6 Program	CR6 METHOD_221212A	Finished
103	N053873-001A,SAMP,5	Unknown	103	CR6 Program	CR6 METHOD_221212A	Finished
104	N053873-001A-MS,MS,5	Unknown	104	CR6 Program	CR6 METHOD_221212A	Finished
105	N053873-008A,SAMP,1	Unknown	105	CR6 Program	CR6 METHOD_221212A	Finished
106	N053873-008A,SAMP,5	Unknown	106	CR6 Program	CR6 METHOD_221212A	Finished
107	N053873-008A-MS,MS,5	Unknown	107	CR6 Program	CR6 METHOD_221212A	Finished
108	N053874-001A-MS,MS,5	Unknown	108	CR6 Program	CR6 METHOD_221212A	Finished
109	CCV-9,CCV,1	Unknown	109	CR6 Program	CR6 METHOD_221212A	Finished
110	CCB-9,CCB,1	Unknown	110	CR6 Program	CR6 METHOD_221212A	Finished
111	N053874-004A-MS,MS,1	Unknown	111	CR6 Program	CR6 METHOD_221212A	Finished
112	N053874-007A,SAMP,10	Unknown	112	CR6 Program	CR6 METHOD_221212A	Finished
113	N053874-007A-MS,MS,10	Unknown	113	CR6 Program	CR6 METHOD_221212A	Finished
114	N053874-009A,SAMP,5	Unknown	114	CR6 Program	CR6 METHOD_221212A	Finished
115	N053874-009A-MS,MS,5	Unknown	115	CR6 Program	CR6 METHOD_221212A	Finished
116	N053874-010A,SAMP,1	Unknown	116	CR6 Program	CR6 METHOD_221212A	Finished
117	N053874-010A-MS,MS,1	Unknown	117	CR6 Program	CR6 METHOD_221212A	Finished
118	N053874-010A-MS,MS,5	Unknown	118	CR6 Program	CR6 METHOD_221212A	Finished
119	CCV-10,CCV1,1	Unknown	119	CR6 Program	CR6 METHOD_221212A	Finished
120	CCB-10,CCB,1	Unknown	120	CR6 Program	CR6 METHOD_221212A	Finished
121	Eluent: R221215A	Unknown	121	CR6 Program	CR6 METHOD_221212A	Finished
122	PCR: R221215B	Unknown	122	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Inj. Date/Time	Comment
83	N053874-005A,SAMP,20	12/16/2022 2:44:52 AM	SAMPLE,0.5>10mL
84	N053874-005A-DUP,DUP,20	12/16/2022 2:56:16 AM	DUPLICATE,0.5>10mL
85	N053874-005A-MS,MS,20	12/16/2022 3:07:40 AM	MS @ 5ppb,IWST221205A,0.5>10mL
86	CCV-7,CCV,1	12/16/2022 3:19:04 AM	CCV @ 5ppb,IWST221111A,R221115B
87	CCB-7,CCB,1	12/16/2022 3:30:29 AM	CCB,R221115B
88	N053874-005A-MSD,MSD,20	12/16/2022 3:41:53 AM	MSD @ 5ppb,IWST221205A,0.5>10mL
89	N053874-004A,SAMP,1	12/16/2022 3:53:17 AM	SAMPLE
90	N053874-004A-MS,MS,1	12/16/2022 4:04:41 AM	MS @ 1ppb,IWST221205A
91	N053874-006A,SAMP,100	12/16/2022 4:16:05 AM	SAMPLE,0.1>10mL
92	N053874-006A-MS,MS,100	12/16/2022 4:27:29 AM	MS @ 1ppb,IWST221205A,0.1>10mL
93	N053874-007A,SAMP,200	12/16/2022 4:38:53 AM	SAMPLE,0.05>10mL
94	N053874-007A-MS,MS,200	12/16/2022 4:50:17 AM	MS @ 5ppb,IWST221205A,0.05>10mL
95	N053874-008A,SAMP,1	12/16/2022 5:01:41 AM	SAMPLE
96	N053874-008A-MS,MS,1	12/16/2022 5:13:05 AM	MS @ 1ppb,IWST221205A
97	CCV-8,CCV1,1	12/16/2022 5:24:29 AM	CCV @ 10ppb,IWST221111A,R221115B
98	CCB-8,CCB,1	12/16/2022 5:35:53 AM	CCB,R221115B
99	N053874-009A,SAMP,1	12/16/2022 7:22:50 AM	SAMPLE
100	N053874-009A-MS,MS,1	12/16/2022 7:34:14 AM	MS @ 1ppb,IWST221205A
101	N053874-010A,SAMP,5	12/16/2022 7:45:38 AM	SAMPLE
102	N053874-010A-MS,MS,5	12/16/2022 7:57:02 AM	MS @ 1ppb,IWST221205A,2>10mL
103	N053873-001A,SAMP,5	12/16/2022 9:21:28 AM	SAMPLE,2>10mL
104	N053873-001A-MS,MS,5	12/16/2022 9:32:52 AM	MS @ 1ppb,IWST221205A,2>10mL
105	N053873-008A,SAMP,1	12/16/2022 9:44:17 AM	SAMPLE
106	N053873-008A,SAMP,5	12/16/2022 10:12:14 AM	SAMPLE,2>10mL
107	N053873-008A-MS,MS,5	12/16/2022 10:23:38 AM	MS @ 1ppb,IWST221205A,2>10mL
108	N053874-001A-MS,MS,5	12/16/2022 10:35:02 AM	MS @ 1ppb,IWST221205A,2>10mL
109	CCV-9,CCV,1	12/16/2022 10:46:27 AM	CCV @ 5ppb,IWST221111A,R221115B
110	CCB-9,CCB,1	12/16/2022 10:57:51 AM	CCB,R221115B
111	N053874-004A-MS,MS,1	12/16/2022 11:09:15 AM	MS @ 1ppb,IWST221205A
112	N053874-007A,SAMP,10	12/16/2022 12:06:37 PM	SAMPLE
113	N053874-007A-MS,MS,10	12/16/2022 12:29:24 PM	MS @ 5ppb,IWST221205A
114	N053874-009A,SAMP,5	12/16/2022 12:49:59 PM	SAMPLE,2>10mL
115	N053874-009A-MS,MS,5	12/16/2022 1:01:23 PM	MS @ 1ppb,IWST221205A,2>10mL
116	N053874-010A,SAMP,1	12/16/2022 1:12:47 PM	SAMPLE
117	N053874-010A-MS,MS,1	12/16/2022 1:38:07 PM	MS @ 1ppb,IWST221205A
118	N053874-010A-MS,MS,5	12/16/2022 1:54:00 PM	MS @ 1ppb,IWST221205A,2>10mL
119	CCV-10,CCV1,1	12/16/2022 2:05:24 PM	CCV @ 10ppb,IWST221111A,R221115B
120	CCB-10,CCB,1	12/16/2022 2:16:48 PM	CCB,R221115B
121	Eluent: R221215A		Eluent
122	PCR: R221215B		PCR

INJECTION LOG: 221217A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	ICV	ICV	1	Hexavalent Chromium	12/17/22 2:22 PM	Reported
10	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/17/22 2:32 PM	Reported
11	ICB	ICB	1	Hexavalent Chromium	12/17/22 2:41 PM	Reported
12	MB-H2O	MBLK	1	Hexavalent Chromium	12/17/22 2:51 PM	Reported
13	LCS-H2O	LCS	1	Hexavalent Chromium	12/17/22 3:00 PM	Reported
14	N053539-001A	SAMP	1	Hexavalent Chromium	12/17/22 3:10 PM	Reported
15	N053539-001AMS	MS	1	Hexavalent Chromium	12/17/22 3:19 PM	Reported
16	N053542-019A	SAMP	100	Hexavalent Chromium	12/17/22 3:29 PM	Reported
17	N053542-019AMS	MS	100	Hexavalent Chromium	12/17/22 3:38 PM	Reported
18	N053547-011A	SAMP	100	Hexavalent Chromium	12/17/22 3:48 PM	Reported
19	N053547-011AMS	MS	100	Hexavalent Chromium	12/17/22 3:57 PM	Reported
20	N053617-001A	SAMP	1	Hexavalent Chromium	12/17/22 4:06 PM	Reported
21	N053617-001AMS	MS	1	Hexavalent Chromium	12/17/22 4:16 PM	Reported
22	CCV-2	CCV1	1	Hexavalent Chromium	12/17/22 4:25 PM	Reported
23	CCB-2	CCB	1	Hexavalent Chromium	12/17/22 4:35 PM	Reported
24	N053617-002A	SAMP	1	Hexavalent Chromium	12/17/22 4:44 PM	Reported
25	N053617-002AMS	MS	1	Hexavalent Chromium	12/17/22 4:54 PM	Reported
26	N053664-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:03 PM	Reported
27	N053664-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:13 PM	Reported
28	N053664-011A	SAMP	1	Hexavalent Chromium	12/17/22 5:22 PM	Reported
29	N053664-011AMS	MS	1	Hexavalent Chromium	12/17/22 5:32 PM	Reported
30	N053688-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:41 PM	Reported
31	N053688-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:51 PM	Reported
32	CCV-3	CCV	1	Hexavalent Chromium	12/17/22 6:00 PM	Reported
33	CCB-3	CCB	1	Hexavalent Chromium	12/17/22 6:09 PM	Reported
34	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 6:19 PM	Not Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_221217A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**19/Dec/22 10:59:15**
No. of Injections:	**37**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	ICV,ICV,1,	9	1000	Unknown		12/17/2022 14:22	Finished	ICV @5ppb, IWST-221003B
10	PQL@0.2ppb,CCV2,1	10	1000	Unknown		12/17/2022 14:32	Finished	PQL @ 0.2ppb
11	ICB,ICB,1,	11	1000	Unknown		12/17/2022 14:41	Finished	ICB R221208A
12	MB-H2O,MBLK,1,	12	1000	Unknown		12/17/2022 14:51	Finished	MB R221129C
13	LCS-H2O,LCS,1,	13	1000	Unknown		12/17/2022 15:00	Finished	LCS @5ppb, IWST-221003B
14	N053539-001A,SAMP	14	1000	Unknown		12/17/2022 15:10	Finished	SAMP,10 mL
15	N053539-001AMS,MS	15	1000	Unknown		12/17/2022 15:19	Finished	MS (1ppb), IWST-221003B,10r
16	N053542-019A,SAMP	16	1000	Unknown		12/17/2022 15:29	Finished	SAMP,0.1>10 mL
17	N053542-019AMS,MS	17	1000	Unknown		12/17/2022 15:38	Finished	MS (5ppb), IWST-221003B,0.1
18	N053547-011A,SAMP	18	1000	Unknown		12/17/2022 15:48	Finished	SAMP,0.1>10 mL
19	N053547-011AMS,MS	19	1000	Unknown		12/17/2022 15:57	Finished	MS (5ppb), IWST-221003B,0.1
20	N053617-001A,SAMP	20	1000	Unknown		12/17/2022 16:06	Finished	SAMP,10 mL
21	N053617-001AMS,MS	21	1000	Unknown		12/17/2022 16:16	Finished	MS (1ppb), IWST-221003B,10r
22	CCV-2,CCV1,1,	22	1000	Unknown		12/17/2022 16:25	Finished	CCV @10ppb, IWST-221003A
23	CCB-2,CCB,1,	23	1000	Unknown		12/17/2022 16:35	Finished	CCB R221006C
24	N053617-002A,SAMP	24	1000	Unknown		12/17/2022 16:44	Finished	SAMP,10 mL
25	N053617-002AMS,MS	25	1000	Unknown		12/17/2022 16:54	Finished	MS (1ppb), IWST-221003B,10r
26	N053664-004A,SAMP	26	1000	Unknown		12/17/2022 17:03	Finished	SAMP,2>10 mL
27	N053664-004AMS,MS	27	1000	Unknown		12/17/2022 17:13	Finished	MS (1ppb), IWST-221003B,2>1
28	N053664-011A,SAMP	28	1000	Unknown		12/17/2022 17:22	Finished	SAMP,10 mL
29	N053664-011AMS,MS	29	1000	Unknown		12/17/2022 17:32	Finished	MS (1ppb), IWST-221003B,10r
30	N053688-004A,SAMP	30	1000	Unknown		12/17/2022 17:41	Finished	SAMP,2>10 mL
31	N053688-004AMS,MS	31	1000	Unknown		12/17/2022 17:51	Finished	MS (1ppb), IWST-221003B,2>1
32	CCV-3,CCV,1,	32	1000	Unknown		12/17/2022 18:00	Finished	CCV @5ppb, IWST-221003A
33	CCB-3,CCB,1,	33	1000	Unknown		12/17/2022 18:09	Finished	CCB R221006C
34	BLANK	34	1000	Unknown		12/17/2022 18:19	Finished	BLANK
35	SHUTDOWN	35	1000	Unknown		12/17/2022 18:28	Finished	
36	Eluent: R221213A	36	1000	Unknown		n.a.	Finished	
37	PCR: R221213B	37	1000	Unknown		n.a.	Finished	

INJECTION LOG: 221221A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	BLANK	BLANK	1	Hexavalent Chromium	12/21/22 10:50 AM	Not Reported
10	CCV-1	CCV	1	Hexavalent Chromium	12/21/22 11:01 AM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/21/22 11:17 AM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	12/21/22 11:30 AM	Reported
13	MB-R168413	MBLK	1	Hexavalent Chromium	12/21/22 11:39 AM	Reported
14	LCS-R168413	LCS	1	Hexavalent Chromium	12/21/22 11:49 AM	Reported
15	N053874-018A	SAMP	1	Hexavalent Chromium	12/21/22 12:16 PM	Not Reported
16	N053874-011A	SAMP	1	Hexavalent Chromium	12/21/22 12:30 PM	Reported
17	N053874-012A	SAMP	50	Hexavalent Chromium	12/21/22 12:39 PM	Reported
18	N053874-012AMS	MS	50	Hexavalent Chromium	12/21/22 12:49 PM	Reported
19	N053874-018A	SAMP	50	Hexavalent Chromium	12/21/22 12:58 PM	Not Reported
20	N053874-013A	SAMP	1000	Hexavalent Chromium	12/21/22 1:08 PM	Reported
21	N053874-013ADUP	DUP	1000	Hexavalent Chromium	12/21/22 1:17 PM	Reported
22	N053874-013AMS	MS	1000	Hexavalent Chromium	12/21/22 1:27 PM	Reported
23	CCV-2	CCV1	1	Hexavalent Chromium	12/21/22 1:36 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	12/21/22 1:45 PM	Reported
25	N053874-018AMS	MS	50	Hexavalent Chromium	12/21/22 1:55 PM	Not Reported
26	N053874-018AMSD	MSD	50	Hexavalent Chromium	12/21/22 2:04 PM	Not Reported
27	N053874-014A	SAMP	50	Hexavalent Chromium	12/21/22 2:14 PM	Reported
28	N053874-014AMS	MS	50	Hexavalent Chromium	12/21/22 2:23 PM	Reported
29	N053874-015A	SAMP	50	Hexavalent Chromium	12/21/22 2:33 PM	Reported
30	N053874-015AMS	MS	50	Hexavalent Chromium	12/21/22 2:42 PM	Reported
31	N053874-016A	SAMP	5	Hexavalent Chromium	12/21/22 2:52 PM	Not Reported
32	N053874-016AMS	MS	5	Hexavalent Chromium	12/21/22 3:01 PM	Not Reported
33	N053874-017A	SAMP	1	Hexavalent Chromium	12/21/22 3:11 PM	Reported
34	N053874-017AMS	MS	1	Hexavalent Chromium	12/21/22 3:20 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	12/21/22 3:30 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	12/21/22 3:39 PM	Reported
37	N053874-019A	SAMP	1	Hexavalent Chromium	12/21/22 3:48 PM	Not Reported
38	N053874-019AMS	MS	1	Hexavalent Chromium	12/21/22 3:58 PM	Not Reported
39	N053874-020A	SAMP	1	Hexavalent Chromium	12/21/22 4:07 PM	Not Reported
40	N053874-020AMS	MS	1	Hexavalent Chromium	12/21/22 4:17 PM	Not Reported
41	N053874-018AMSD	MSD	50	Hexavalent Chromium	12/21/22 4:26 PM	Not Reported
42	N053874-011AMS	MS	1	Hexavalent Chromium	12/21/22 4:36 PM	Reported

INJECTION LOG: 221221A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N053874-022A	SAMP	1	Hexavalent Chromium	12/21/22 4:45 PM	Not Reported
44	N053874-022AMS	MS	1	Hexavalent Chromium	12/21/22 4:55 PM	Not Reported
45	N053874-018A	SAMP	50	Hexavalent Chromium	12/21/22 5:04 PM	Reported
46	N053874-018AMS	MS	50	Hexavalent Chromium	12/21/22 5:18 PM	Reported
47	CCV-4	CCV1	1	Hexavalent Chromium	12/21/22 5:30 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	12/21/22 5:40 PM	Reported
49	N053874-022A	SAMP	5	Hexavalent Chromium	12/21/22 5:49 PM	Reported
50	N053874-018AMSD	MSD	50	Hexavalent Chromium	12/21/22 5:59 PM	Reported
51	N053874-021A	SAMP	1	Hexavalent Chromium	12/21/22 6:08 PM	Reported
52	N053874-021AMS	MS	1	Hexavalent Chromium	12/21/22 6:18 PM	Reported
53	N053874-019AMS	MS	5	Hexavalent Chromium	12/21/22 6:27 PM	Reported
54	N053874-019A	SAMP	5	Hexavalent Chromium	12/21/22 6:37 PM	Reported
55	N053874-022AMS	MS	5	Hexavalent Chromium	12/21/22 6:46 PM	Reported
56	N053885-001A	SAMP	1	Hexavalent Chromium	12/21/22 6:55 PM	Reported
57	N053885-001AMS	MS	1	Hexavalent Chromium	12/21/22 7:05 PM	Reported
58	N053885-002A	SAMP	1	Hexavalent Chromium	12/21/22 7:14 PM	Reported
59	CCV-5	CCV	1	Hexavalent Chromium	12/21/22 7:24 PM	Reported
60	CCB-5	CCB	1	Hexavalent Chromium	12/21/22 7:33 PM	Reported
61	N053885-002AMS	MS	1	Hexavalent Chromium	12/21/22 7:43 PM	Reported
62	N053885-003A	SAMP	1	Hexavalent Chromium	12/21/22 7:52 PM	Reported
63	N053885-003AMS	MS	1	Hexavalent Chromium	12/21/22 8:02 PM	Reported
64	N053885-004A	SAMP	1	Hexavalent Chromium	12/21/22 8:11 PM	Reported
65	N053885-004AMS	MS	1	Hexavalent Chromium	12/21/22 8:21 PM	Reported
66	N053885-005A	SAMP	1	Hexavalent Chromium	12/21/22 8:30 PM	Reported
67	N053885-005AMS	MS	1	Hexavalent Chromium	12/21/22 8:40 PM	Reported
68	N053874-016A	SAMP	5	Hexavalent Chromium	12/21/22 8:49 PM	Reported
69	N053874-016AMS	MS	5	Hexavalent Chromium	12/21/22 8:58 PM	Reported
70	N053886-001A	SAMP	1	Hexavalent Chromium	12/21/22 9:08 PM	Not Reported
71	CCV-6	CCV1	1	Hexavalent Chromium	12/21/22 9:17 PM	Reported
72	CCB-6	CCB	1	Hexavalent Chromium	12/21/22 9:27 PM	Reported
73	N053886-001AMS	MS	1	Hexavalent Chromium	12/21/22 9:36 PM	Not Reported
74	N053886-002A	SAMP	1	Hexavalent Chromium	12/21/22 9:46 PM	Not Reported
75	N053886-002AMS	MS	1	Hexavalent Chromium	12/21/22 9:55 PM	Not Reported
76	N053886-003A	SAMP	1	Hexavalent Chromium	12/21/22 10:05 PM	Not Reported
77	N053886-003AMS	MS	1	Hexavalent Chromium	12/21/22 10:14 PM	Not Reported
78	N053886-001A	SAMP	5	Hexavalent Chromium	12/21/22 10:24 PM	Reported
79	N053886-001AMS	MS	5	Hexavalent Chromium	12/21/22 10:33 PM	Reported
80	N053886-002A	SAMP	5	Hexavalent Chromium	12/21/22 10:43 PM	Reported
81	N053886-002AMS	MS	5	Hexavalent Chromium	12/21/22 10:52 PM	Reported
82	N053886-003A	SAMP	5	Hexavalent Chromium	12/21/22 11:04 PM	Reported
83	CCV-7	CCV	1	Hexavalent Chromium	12/21/22 11:15 PM	Reported
84	CCB-7	CCB	1	Hexavalent Chromium	12/21/22 11:25 PM	Reported

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Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
85	N053874-020A	SAMP	5	Hexavalent Chromium	12/21/22 11:34 PM	Reported
86	N053874-020AMS	MS	5	Hexavalent Chromium	12/21/22 11:44 PM	Reported
87	N053886-003AMS	MS	5	Hexavalent Chromium	12/21/22 11:53 PM	Reported
88	LCS-R168414	LCS	1	Hexavalent Chromium	12/22/22 12:03 AM	Reported
89	MB-R168414	MBLK	1	Hexavalent Chromium	12/22/22 12:12 AM	Reported
90	N053994-006A	SAMP	500	Hexavalent Chromium	12/22/22 12:22 AM	Reported
91	N053994-006AMS	MS	500	Hexavalent Chromium	12/22/22 12:31 AM	Reported
92	N053994-006AMSD	MSD	500	Hexavalent Chromium	12/22/22 12:40 AM	Reported
93	N053994-005A	SAMP	10	Hexavalent Chromium	12/22/22 12:50 AM	Reported
94	N053994-005AMS	MS	10	Hexavalent Chromium	12/22/22 12:59 AM	Reported
95	CCV-8	CCV1	1	Hexavalent Chromium	12/22/22 1:09 AM	Reported
96	CCB-8	CCB	1	Hexavalent Chromium	12/22/22 1:18 AM	Reported
97	N053991-001A	SAMP	400	Hexavalent Chromium	12/22/22 1:28 AM	Reported
98	N053991-001AMS	MS	400	Hexavalent Chromium	12/22/22 1:37 AM	Reported
99	N053994-008A	SAMP	1	Hexavalent Chromium	12/22/22 1:47 AM	Not Reported
100	N053994-008AMS	MS	1	Hexavalent Chromium	12/22/22 1:56 AM	Not Reported
101	N053994-008A	SAMP	5	Hexavalent Chromium	12/22/22 2:06 AM	Reported
102	N053994-008AMS	MS	5	Hexavalent Chromium	12/22/22 2:15 AM	Reported
103	N053923-006A	SAMP	1	Hexavalent Chromium	12/22/22 2:25 AM	Reported
104	N053923-006ADUP	DUP	1	Hexavalent Chromium	12/22/22 2:34 AM	Reported
105	N053894-009B	SAMP	1	Hexavalent Chromium	12/22/22 2:43 AM	Not Reported
106	N053894-009BMS	MS	1	Hexavalent Chromium	12/22/22 2:53 AM	Not Reported
107	CCV-9	CCV	1	Hexavalent Chromium	12/22/22 3:02 AM	Reported
108	CCB-9	CCB	1	Hexavalent Chromium	12/22/22 3:12 AM	Reported
109	N053923-002A	SAMP	20	Hexavalent Chromium	12/22/22 3:21 AM	Reported
110	N053923-003A	SAMP	1	Hexavalent Chromium	12/22/22 3:31 AM	Not Reported
111	N053923-004A	SAMP	500	Hexavalent Chromium	12/22/22 3:40 AM	Reported
112	N053923-005A	SAMP	20	Hexavalent Chromium	12/22/22 3:50 AM	Reported
113	N053923-008A	SAMP	1	Hexavalent Chromium	12/22/22 3:59 AM	Reported
114	N054022-001A	SAMP	1	Hexavalent Chromium	12/22/22 4:09 AM	Reported
115	N054022-001AMS	MS	1	Hexavalent Chromium	12/22/22 4:18 AM	Reported
116	N054022-002A	SAMP	1	Hexavalent Chromium	12/22/22 4:27 AM	Reported
117	N054022-002AMS	MS	1	Hexavalent Chromium	12/22/22 4:37 AM	Reported
118	CCV-10	CCV1	1	Hexavalent Chromium	12/22/22 4:46 AM	Reported
119	CCB-10	CCB	1	Hexavalent Chromium	12/22/22 4:56 AM	Reported
120	N053886-004A	SAMP	5	Hexavalent Chromium	12/22/22 5:05 AM	Reported
121	N053886-004AMS	MS	5	Hexavalent Chromium	12/22/22 5:15 AM	Reported
122	N053886-005A	SAMP	10	Hexavalent Chromium	12/22/22 5:24 AM	Not Reported
123	N053886-005AMS	MS	10	Hexavalent Chromium	12/22/22 5:34 AM	Not Reported
124	N053886-006A	SAMP	10	Hexavalent Chromium	12/22/22 5:43 AM	Reported
125	N053886-006AMS	MS	10	Hexavalent Chromium	12/22/22 5:53 AM	Reported
126	N053886-007A	SAMP	1	Hexavalent Chromium	12/22/22 6:02 AM	Reported

INJECTION LOG: 221221A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
127	N053886-007AMS	MS	1	Hexavalent Chromium	12/22/22 6:12 AM	Reported
128	CCV-11	CCV	1	Hexavalent Chromium	12/22/22 6:21 AM	Reported
129	CCB-11	CCB	1	Hexavalent Chromium	12/22/22 6:30 AM	Reported
130	BLANK	BLANK	1	Hexavalent Chromium	12/22/22 6:40 AM	Not Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_221221A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**22/Dec/22 07:10:44**
No. of Injections:	**133**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	BLANK	1	1000	Unknown		12/21/2022 10:50	Finished	BLANK
10	CCV-1,CCV,1,	2	1000	Unknown		12/21/2022 11:01	Finished	CCV @5ppb, IWST-221003A
11	PQL@0.2ppb,CCV2,1	3	1000	Unknown		12/21/2022 11:17	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1,	4	1000	Unknown		12/21/2022 11:30	Finished	CCB R221208A
13	MB-H2O,MBLK,1,	5	1000	Unknown		12/21/2022 11:39	Finished	MB R221129C
14	LCS-H2O,LCS,1,	6	1000	Unknown		12/21/2022 11:49	Finished	LCS @5ppb, IWST-221003B
15	N053874-018A,SAMP	1	1000	Unknown		12/21/2022 12:16	Finished	SAMP,10 mL
16	N053874-011A,SAMP	2	1000	Unknown		12/21/2022 12:30	Finished	SAMP,10 mL
17	N053874-012A,SAMP	3	1000	Unknown		12/21/2022 12:39	Finished	SAMP,0.2>10 mL
18	N053874-012AMS,MS	4	1000	Unknown		12/21/2022 12:49	Finished	MS (5ppb), IWST-221003B,0.2
19	N053874-018A,SAMP	5	1000	Unknown		12/21/2022 12:58	Finished	SAMP,0.2>10 mL
20	N053874-013A,SAMP	6	1000	Unknown		12/21/2022 13:08	Finished	SAMP,0.01>10 mL
21	N053874-013ADUP,D	7	1000	Unknown		12/21/2022 13:17	Finished	DUP,0.01>10 mL
22	N053874-013AMS,MS	8	1000	Unknown		12/21/2022 13:27	Finished	MS (5ppb), IWST-221003B,0.0
23	CCV-2,CCV1,1,	9	1000	Unknown		12/21/2022 13:36	Finished	CCV @10ppb, IWST-221003A
24	CCB-2,CCB,1,	10	1000	Unknown		12/21/2022 13:45	Finished	CCB R221129C
25	N053874-018AMS,MS	11	1000	Unknown		12/21/2022 13:55	Finished	MS (5ppb), IWST-221003B,0.2
26	N053874-018AMSD,M	12	1000	Unknown		12/21/2022 14:04	Finished	MSD (5ppb), IWST-221003B,0
27	N053874-014A,SAMP	13	1000	Unknown		12/21/2022 14:14	Finished	SAMP,0.2>10 mL
28	N053874-014AMS,MS	14	1000	Unknown		12/21/2022 14:23	Finished	MS (5ppb), IWST-221003B,0.2
29	N053874-015A,SAMP	15	1000	Unknown		12/21/2022 14:33	Finished	SAMP,0.2>10 mL
30	N053874-015AMS,MS	16	1000	Unknown		12/21/2022 14:42	Finished	MS (5ppb), IWST-221003B,0.2
31	N053874-016A,SAMP	17	1000	Unknown		12/21/2022 14:52	Finished	SAMP,2>10 mL
32	N053874-016AMS,MS	18	1000	Unknown		12/21/2022 15:01	Finished	MS (5ppb), IWST-221003B,2>1
33	N053874-017A,SAMP	19	1000	Unknown		12/21/2022 15:11	Finished	SAMP,10 mL
34	N053874-017AMS,MS	20	1000	Unknown		12/21/2022 15:20	Finished	MS (1ppb), IWST-221003B,10r
35	CCV-3,CCV,1,	21	1000	Unknown		12/21/2022 15:30	Finished	CCV @5ppb, IWST-221003A
36	CCB-3,CCB,1,	22	1000	Unknown		12/21/2022 15:39	Finished	CCB R221208A
37	N053874-019A,SAMP	23	1000	Unknown		12/21/2022 15:48	Finished	SAMP,10 mL
38	N053874-019AMS,MS	24	1000	Unknown		12/21/2022 15:58	Finished	MS (5ppb), IWST-221003B,10r
39	N053874-020A,SAMP	25	1000	Unknown		12/21/2022 16:07	Finished	SAMP,10 mL
40	N053874-020AMS,MS	26	1000	Unknown		12/21/2022 16:17	Finished	MS (1ppb), IWST-221003B,10r
41	N053874-018AMSD,M	27	1000	Unknown		12/21/2022 16:26	Finished	MSD (5ppb), IWST-221003B,0
42	N053874-011AMS,MS	28	1000	Unknown		12/21/2022 16:36	Finished	MS (1ppb), IWST-221003B,10r
43	N053874-022A,SAMP	29	1000	Unknown		12/21/2022 16:45	Finished	SAMP,10 mL
44	N053874-022AMS,MS	30	1000	Unknown		12/21/2022 16:55	Finished	MS (1ppb), IWST-221003B,10r
45	N053874-018A,SAMP	31	1000	Unknown		12/21/2022 17:04	Finished	SAMP,0.2>10 mL
46	N053874-018AMS,MS	1	1000	Unknown		12/21/2022 17:18	Finished	MS (5ppb), IWST-221003B,0.2
47	CCV-4,CCV1,1,	2	1000	Unknown		12/21/2022 17:30	Finished	CCV @10ppb, IWST-221003A
48	CCB-4,CCB,1,	3	1000	Unknown		12/21/2022 17:40	Finished	CCB R221208A
49	N053874-022A,SAMP	4	1000	Unknown		12/21/2022 17:49	Finished	SAMP,2>10 mL
50	N053874-018AMSD,M	5	1000	Unknown		12/21/2022 17:59	Finished	MSD (5ppb), IWST-221003B,0
51	N053874-021A,SAMP	6	1000	Unknown		12/21/2022 18:08	Finished	SAMP,10 mL
52	N053874-021AMS,MS	7	1000	Unknown		12/21/2022 18:18	Finished	MS (1ppb), IWST-221003B,10r
53	N053874-019AMS,MS	8	1000	Unknown		12/21/2022 18:27	Finished	MS (1ppb), IWST-221003B,2>1
54	N053874-019A,SAMP	9	1000	Unknown		12/21/2022 18:37	Finished	SAMP,2>10 mL
55	N053874-022AMS,MS	10	1000	Unknown		12/21/2022 18:46	Finished	MS (1ppb), IWST-221003B,2>1
56	N053885-001A,SAMP	11	1000	Unknown		12/21/2022 18:55	Finished	SAMP,10 mL
57	N053885-001AMS,MS	12	1000	Unknown		12/21/2022 19:05	Finished	MS (1ppb), IWST-221003B,10r
58	N053885-002A,SAMP	13	1000	Unknown		12/21/2022 19:14	Finished	SAMP,10 mL
59	CCV-5,CCV,1,	14	1000	Unknown		12/21/2022 19:24	Finished	CCV @5ppb, IWST-221003A
60	CCB-5,CCB,1,	15	1000	Unknown		12/21/2022 19:33	Finished	CCB R221208A

61	N053885-002AMS,MS	16	1000	Unknown		12/21/2022 19:43	Finished	MS (1ppb), IWST-221003B,10r
62	N053885-003A,SAMF	17	1000	Unknown		12/21/2022 19:52	Finished	SAMP,10 mL
63	N053885-003AMS,MS	18	1000	Unknown		12/21/2022 20:02	Finished	MS (1ppb), IWST-221003B,10r
64	N053885-004A,SAMF	19	1000	Unknown		12/21/2022 20:11	Finished	SAMP,10 mL
65	N053885-004AMS,MS	20	1000	Unknown		12/21/2022 20:21	Finished	MS (1ppb), IWST-221003B,10r
66	N053885-005A,SAMF	21	1000	Unknown		12/21/2022 20:30	Finished	SAMP,10 mL
67	N053885-005AMS,MS	22	1000	Unknown		12/21/2022 20:40	Finished	MS (1ppb), IWST-221003B,10r
68	N053874-016A,SAMF	23	1000	Unknown		12/21/2022 20:49	Finished	SAMP,2>10 mL
69	N053874-016AMS,MS	24	1000	Unknown		12/21/2022 20:58	Finished	MS (5ppb), IWST-221003B,2>1
70	N053886-001A,SAMF	25	1000	Unknown		12/21/2022 21:08	Finished	SAMP,10 mL
71	CCV-6,CCV1,1,	26	1000	Unknown		12/21/2022 21:17	Finished	CCV @10ppb, IWST-221003A
72	CCB-6,CCB,1,	27	1000	Unknown		12/21/2022 21:27	Finished	CCB R221208A
73	N053886-001AMS,MS	28	1000	Unknown		12/21/2022 21:36	Finished	MS (1ppb), IWST-221003B,10r
74	N053886-002A,SAMF	29	1000	Unknown		12/21/2022 21:46	Finished	SAMP,10 mL
75	N053886-002AMS,MS	30	1000	Unknown		12/21/2022 21:55	Finished	MS (1ppb), IWST-221003B,10r
76	N053886-003A,SAMF	31	1000	Unknown		12/21/2022 22:05	Finished	SAMP,10 mL
77	N053886-003AMS,MS	32	1000	Unknown		12/21/2022 22:14	Finished	MS (1ppb), IWST-221003B,10r
78	N053886-001A,SAMF	33	1000	Unknown		12/21/2022 22:24	Finished	SAMP,2>10 mL
79	N053886-001AMS,MS	34	1000	Unknown		12/21/2022 22:33	Finished	MS (1ppb), IWST-221003B,2>1
80	N053886-002A,SAMF	35	1000	Unknown		12/21/2022 22:43	Finished	SAMP,2>10 mL
81	N053886-002AMS,MS	36	1000	Unknown		12/21/2022 22:52	Finished	MS (1ppb), IWST-221003B,2>1
82	N053886-003A,SAMF	1	1000	Unknown		12/21/2022 23:04	Finished	SAMP,2>10 mL
83	CCV-7,CCV,1,	2	1000	Unknown		12/21/2022 23:15	Finished	CCV @5ppb, IWST-221003A
84	CCB-7,CCB,1,	3	1000	Unknown		12/21/2022 23:25	Finished	CCB R221208A
85	N053874-020A,SAMF	4	1000	Unknown		12/21/2022 23:34	Finished	SAMP,2>10 mL
86	N053874-020AMS,MS	5	1000	Unknown		12/21/2022 23:44	Finished	MS (5ppb), IWST-221003B,2>1
87	N053886-003AMS,MS	6	1000	Unknown		12/21/2022 23:53	Finished	MS (1ppb), IWST-221003B,2>1
88	LCS-H2O,LCS,1,	7	1000	Unknown		12/22/2022 00:03	Finished	LCS @5ppb, IWST-221003B
89	MB-H2O,MBLK,1,	8	1000	Unknown		12/22/2022 00:12	Finished	MB R221208A
90	N053994-006A,SAMF	9	1000	Unknown		12/22/2022 00:22	Finished	SAMP,0.02>10 mL
91	N053994-006AMS,MS	10	1000	Unknown		12/22/2022 00:31	Finished	MS (5ppb), IWST-221003B,0.0
92	N053994-006AMSD,M	11	1000	Unknown		12/22/2022 00:40	Finished	MSD (5ppb), IWST-221003B,0.
93	N053994-005A,SAMF	12	1000	Unknown		12/22/2022 00:50	Finished	SAMP,1>10 mL
94	N053994-005AMS,MS	13	1000	Unknown		12/22/2022 00:59	Finished	MS (5ppb), IWST-221003B,1>1
95	CCV-8,CCV1,1,	14	1000	Unknown		12/22/2022 01:09	Finished	CCV @10ppb, IWST-221003A
96	CCB-8,CCB,1,	15	1000	Unknown		12/22/2022 01:18	Finished	CCB R221129C
97	N053991-001A,SAMF	16	1000	Unknown		12/22/2022 01:28	Finished	SAMP,0.025>10 mL
98	N053991-001AMS,MS	17	1000	Unknown		12/22/2022 01:37	Finished	MS (1ppb), IWST-221003B,0.0
99	N053994-008A,SAMF	18	1000	Unknown		12/22/2022 01:47	Finished	SAMP,10 mL
100	N053994-008AMS,MS	19	1000	Unknown		12/22/2022 01:56	Finished	MS (1ppb), IWST-221003B,10r
101	N053994-008A,SAMF	20	1000	Unknown		12/22/2022 02:06	Finished	SAMP,2>10 mL
102	N053994-008AMS,MS	21	1000	Unknown		12/22/2022 02:15	Finished	MS (1ppb), IWST-221003B,2>1
103	N053923-006A,SAMF	22	1000	Unknown		12/22/2022 02:25	Finished	SAMP,10 mL
104	N053923-006ADUP,D	23	1000	Unknown		12/22/2022 02:34	Finished	DUP,10 mL
105	N053894-009B,SAMF	24	1000	Unknown		12/22/2022 02:43	Finished	SAMP,10 mL
106	N053894-009BMS,MS	25	1000	Unknown		12/22/2022 02:53	Finished	MS (1ppb), IWST-221003B,10r
107	CCV-9,CCV,1,	26	1000	Unknown		12/22/2022 03:02	Finished	CCV @5ppb, IWST-221003A
108	CCB-9,CCB,1,	27	1000	Unknown		12/22/2022 03:12	Finished	CCB R221129C
109	N053923-002A,SAMF	28	1000	Unknown		12/22/2022 03:21	Finished	SAMP,0.5>10 mL
110	N053923-003A,SAMF	29	1000	Unknown		12/22/2022 03:31	Finished	SAMP,10 mL
111	N053923-004A,SAMF	30	1000	Unknown		12/22/2022 03:40	Finished	SAMP,0.02>10 mL
112	N053923-005A,SAMF	31	1000	Unknown		12/22/2022 03:50	Finished	SAMP,0.5>10 mL
113	N053923-008A,SAMF	32	1000	Unknown		12/22/2022 03:59	Finished	SAMP,10 mL
114	N054022-001A,SAMF	33	1000	Unknown		12/22/2022 04:09	Finished	SAMP,10 mL
115	N054022-001AMS,MS	34	1000	Unknown		12/22/2022 04:18	Finished	MS (1ppb), IWST-221003B,10r
116	N054022-002A,SAMF	35	1000	Unknown		12/22/2022 04:27	Finished	SAMP,10 mL
117	N054022-002AMS,MS	36	1000	Unknown		12/22/2022 04:37	Finished	MS (1ppb), IWST-221003B,10r
118	CCV-10,CCV1,1,	37	1000	Unknown		12/22/2022 04:46	Finished	CCV @10ppb, IWST-221003A
119	CCB-10,CCB,1,	38	1000	Unknown		12/22/2022 04:56	Finished	CCB R221129C
120	N053886-004A,SAMF	39	1000	Unknown		12/22/2022 05:05	Finished	SAMP,2>10 mL
121	N053886-004AMS,MS	40	1000	Unknown		12/22/2022 05:15	Finished	MS (5ppb), IWST-221003B,2>1
122	N053886-005A,SAMF	41	1000	Unknown		12/22/2022 05:24	Finished	SAMP,1>10 mL
123	N053886-005AMS,MS	42	1000	Unknown		12/22/2022 05:34	Finished	MS (5ppb), IWST-221003B,1>1
124	N053886-006A,SAMF	43	1000	Unknown		12/22/2022 05:43	Finished	SAMP,1>10 mL
125	N053886-006AMS,MS	44	1000	Unknown		12/22/2022 05:53	Finished	MS (5ppb), IWST-221003B,1>1
126	N053886-007A,SAMF	45	1000	Unknown		12/22/2022 06:02	Finished	SAMP,1>10 mL
127	N053886-007AMS,MS	46	1000	Unknown		12/22/2022 06:12	Finished	MS (5ppb), IWST-221003B,1>1
128	CCV-11,CCV,1,	47	1000	Unknown		12/22/2022 06:21	Finished	CCV @5ppb, IWST-221003A
129	CCB-11,CCB,1,	48	1000	Unknown		12/22/2022 06:30	Finished	CCB R221129C
130	BLANK	49	1000	Unknown		12/22/2022 06:40	Finished	BLANK
131	SHUTDOWN	50	1000	Unknown		12/22/2022 06:49	Finished	
132	Eluent: R221219A	51	1000	Unknown		n.a.	Finished	
133	PCR: R221219B	CurrentVial	1000	Unknown		n.a.	Finished	

1>10
1>10

12/27/2022
MS first report/Overview
for RBA

Chromeleon (c) Dionex
Version 7.1.1.1127

61	N053885-002AMS,MS	16	1000	Unknown		12/21/2022 19:43	Finished	MS (1ppb), IWST-221003B,10r
62	N053885-003A,SAMP	17	1000	Unknown		12/21/2022 19:52	Finished	SAMP,10 mL
63	N053885-003AMS,MS	18	1000	Unknown		12/21/2022 20:02	Finished	MS (1ppb), IWST-221003B,10r
64	N053885-004A,SAMP	19	1000	Unknown		12/21/2022 20:11	Finished	SAMP,10 mL
65	N053885-004AMS,MS	20	1000	Unknown		12/21/2022 20:21	Finished	MS (1ppb), IWST-221003B,10r
66	N053885-005A,SAMP	21	1000	Unknown		12/21/2022 20:30	Finished	SAMP,10 mL
67	N053885-005AMS,MS	22	1000	Unknown		12/21/2022 20:40	Finished	MS (1ppb), IWST-221003B,10r
68	N053874-016A,SAMP	23	1000	Unknown		12/21/2022 20:49	Finished	SAMP,2>10 mL
69	N053874-016AMS,MS	24	1000	Unknown		12/21/2022 20:58	Finished	MS (5ppb), IWST-221003B,2>1
70	N053886-001A,SAMP	25	1000	Unknown		12/21/2022 21:08	Finished	SAMP,10 mL
71	CCV-6,CCV1,1,	26	1000	Unknown		12/21/2022 21:17	Finished	CCV @10ppb, IWST-221003A
72	CCB-6,CCB,1,	27	1000	Unknown		12/21/2022 21:27	Finished	CCB R221208A
73	N053886-001AMS,MS	28	1000	Unknown		12/21/2022 21:36	Finished	MS (1ppb), IWST-221003B,10r
74	N053886-002A,SAMP	29	1000	Unknown		12/21/2022 21:46	Finished	SAMP,10 mL
75	N053886-002AMS,MS	30	1000	Unknown		12/21/2022 21:55	Finished	MS (1ppb), IWST-221003B,10r
76	N053886-003A,SAMP	31	1000	Unknown		12/21/2022 22:05	Finished	SAMP,10 mL
77	N053886-003AMS,MS	32	1000	Unknown		12/21/2022 22:14	Finished	MS (1ppb), IWST-221003B,10r
78	N053886-001A,SAMP	33	1000	Unknown		12/21/2022 22:24	Finished	SAMP,2>10 mL
79	N053886-001AMS,MS	34	1000	Unknown		12/21/2022 22:33	Finished	MS (1ppb), IWST-221003B,2>1
80	N053886-002A,SAMP	35	1000	Unknown		12/21/2022 22:43	Finished	SAMP,2>10 mL
81	N053886-002AMS,MS	36	1000	Unknown		12/21/2022 22:52	Finished	MS (1ppb), IWST-221003B,2>1
82	N053886-003A,SAMP	1	1000	Unknown		12/21/2022 23:04	Finished	SAMP,2>10 mL
83	CCV-7,CCV,1,	2	1000	Unknown		12/21/2022 23:15	Finished	CCV @5ppb, IWST-221003A
84	CCB-7,CCB,1,	3	1000	Unknown		12/21/2022 23:25	Finished	CCB R221208A
85	N053874-020A,SAMP	4	1000	Unknown		12/21/2022 23:34	Finished	SAMP,2>10 mL
86	N053874-020AMS,MS	5	1000	Unknown		12/21/2022 23:44	Finished	MS (5ppb), IWST-221003B,2>1
87	N053886-003AMS,MS	6	1000	Unknown		12/21/2022 23:53	Finished	MS (1ppb), IWST-221003B,2>1
88	LCS-H2O,LCS,1,	7	1000	Unknown		12/22/2022 00:03	Finished	LCS @5ppb, IWST-221003B
89	MB-H2O,MBLK,1,	8	1000	Unknown		12/22/2022 00:12	Finished	MB R221208A
90	N053994-006A,SAMP	9	1000	Unknown		12/22/2022 00:22	Finished	SAMP,0.02>10 mL
91	N053994-006AMS,MS	10	1000	Unknown		12/22/2022 00:31	Finished	MS (5ppb), IWST-221003B,0.0
92	N053994-006AMSD,M	11	1000	Unknown		12/22/2022 00:40	Finished	MSD (5ppb), IWST-221003B,0.
93	N053994-005A,SAMP	12	1000	Unknown		12/22/2022 00:50	Finished	SAMP,1>10 mL
94	N053994-005AMS,MS	13	1000	Unknown		12/22/2022 00:59	Finished	MS (5ppb), IWST-221003B,1>1
95	CCV-8,CCV1,1,	14	1000	Unknown		12/22/2022 01:09	Finished	CCV @10ppb, IWST-221003A
96	CCB-8,CCB,1,	15	1000	Unknown		12/22/2022 01:18	Finished	CCB R221129C
97	N053991-001A,SAMP	16	1000	Unknown		12/22/2022 01:28	Finished	SAMP,0.025>10 mL
98	N053991-001AMS,MS	17	1000	Unknown		12/22/2022 01:37	Finished	MS (1ppb), IWST-221003B,0.0
99	N053994-008A,SAMP	18	1000	Unknown		12/22/2022 01:47	Finished	SAMP,10 mL
100	N053994-008AMS,MS	19	1000	Unknown		12/22/2022 01:56	Finished	MS (1ppb), IWST-221003B,10r
101	N053994-008A,SAMP	20	1000	Unknown		12/22/2022 02:06	Finished	SAMP,2>10 mL
102	N053994-008AMS,MS	21	1000	Unknown		12/22/2022 02:15	Finished	MS (1ppb), IWST-221003B,2>1
103	N053923-006A,SAMP	22	1000	Unknown		12/22/2022 02:25	Finished	SAMP,10 mL
104	N053923-006ADUP,D	23	1000	Unknown		12/22/2022 02:34	Finished	DUP,10 mL
105	N053894-009B,SAMP	24	1000	Unknown		12/22/2022 02:43	Finished	SAMP,10 mL
106	N053894-009BMS,MS	25	1000	Unknown		12/22/2022 02:53	Finished	MS (1ppb), IWST-221003B,10r
107	CCV-9,CCV,1,	26	1000	Unknown		12/22/2022 03:02	Finished	CCV @5ppb, IWST-221003A
108	CCB-9,CCB,1,	27	1000	Unknown		12/22/2022 03:12	Finished	CCB R221129C
109	N053923-002A,SAMP	28	1000	Unknown		12/22/2022 03:21	Finished	SAMP,0.5>10 mL
110	N053923-003A,SAMP	29	1000	Unknown		12/22/2022 03:31	Finished	SAMP,10 mL
111	N053923-004A,SAMP	30	1000	Unknown		12/22/2022 03:40	Finished	SAMP,0.02>10 mL
112	N053923-005A,SAMP	31	1000	Unknown		12/22/2022 03:50	Finished	SAMP,0.5>10 mL
113	N053923-008A,SAMP	32	1000	Unknown		12/22/2022 03:59	Finished	SAMP,10 mL
114	N054022-001A,SAMP	33	1000	Unknown		12/22/2022 04:09	Finished	SAMP,10 mL
115	N054022-001AMS,MS	34	1000	Unknown		12/22/2022 04:18	Finished	MS (1ppb), IWST-221003B,10r
116	N054022-002A,SAMP	35	1000	Unknown		12/22/2022 04:27	Finished	SAMP,10 mL
117	N054022-002AMS,MS	36	1000	Unknown		12/22/2022 04:37	Finished	MS (1ppb), IWST-221003B,10r
118	CCV-10,CCV1,1,	37	1000	Unknown		12/22/2022 04:46	Finished	CCV @10ppb, IWST-221003A
119	CCB-10,CCB,1,	38	1000	Unknown		12/22/2022 04:56	Finished	CCB R221129C
120	N053886-004A,SAMP	39	1000	Unknown		12/22/2022 05:05	Finished	SAMP,2>10 mL
121	N053886-004AMS,MS	40	1000	Unknown		12/22/2022 05:15	Finished	MS (5ppb), IWST-221003B,2>1
122	N053886-005A,SAMP	41	1000	Unknown		12/22/2022 05:24	Finished	SAMP,1>10 mL
123	N053886-005AMS,MS	42	1000	Unknown		12/22/2022 05:34	Finished	MS (5ppb), IWST-221003B,1>1
124	N053886-006A,SAMP	43	1000	Unknown		12/22/2022 05:43	Finished	SAMP,1>10 mL
125	N053886-006AMS,MS	44	1000	Unknown		12/22/2022 05:53	Finished	MS (5ppb), IWST-221003B,1>1
126	N053886-007A,SAMP	45	1000	Unknown		12/22/2022 06:02	Finished	SAMP,1>10 mL
127	N053886-007AMS,MS	46	1000	Unknown		12/22/2022 06:12	Finished	MS (5ppb), IWST-221003B,1>1
128	CCV-11,CCV,1,	47	1000	Unknown		12/22/2022 06:21	Finished	CCV @5ppb, IWST-221003A
129	CCB-11,CCB,1,	48	1000	Unknown		12/22/2022 06:30	Finished	CCB R221129C
130	BLANK	49	1000	Unknown		12/22/2022 06:40	Finished	BLANK
131	SHUTDOWN	50	1000	Unknown		12/22/2022 06:49	Finished	
132	Eluent: R221219A	51	1000	Unknown		n.a.	Finished	
133	PCR: R221219B	CurrentVial	1000	Unknown		n.a.	Finished	

SAMPLE PREPARATION LOG

Hexavalent Chromium Preparation and Runlog

Sample Preparation

Date Prepared: 12/8/22
Time Prepared: 1200
Prepared By: AG for AD

Reagent ID:
Sulfuric Acid: LIMS# 13854
Diphenylcarbazide: CLCA221007A
NH4OH + NH4SO4 eluent: R221215A
NH4OH + NH4SO4 buffer: R221115B(LV)

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	NO53873-1A	9.45	-	250mL	250mL	-	NaOH 6N
2)	NO53873-2A	9.12	9.57	250mL	250mL	5 drops	R220720B
3)	NO53873-3A	8.96	9.63	250mL	250mL	7 drops	
4)	NO53873-4A	9.52	-	250mL	250mL	-	
5)	NO53873-5A	8.97	9.64	250mL	250mL	7 drops	
6)	NO53873-6A	9.44	-	250mL	250mL	-	
7)	NO53873-7A	9.16	9.58	250mL	250mL	3 drops	
8)	NO53873-8A	9.18	9.49	250mL	250mL	2 drops	
9)	NO53873-9A	8.78	9.57	250mL	250mL	7 drops	
10)	NO53873-10A	9.48	-	250mL	250mL	-	
11)	NO53874-1A	9.10	9.60	250mL	250mL	3 drops	
12)	NO53874-2A	9.10	9.54	250mL	250mL	4 drops	
13)	NO53874-3A	9.30	-	250mL	250mL	-	
14)	NO53874-4A	9.31	-	250mL	250mL	-	
15)	NO53874-5A	9.34	-	250mL	250mL	-	
	NO53874-6A	9.45	-	250mL	250mL	-	

Sample Preparation

Date Prepared: 12/8/22
Time Prepared: 1200
Prepared By: AG/AD

Reagent ID:
Sulfuric Acid: LIMS# 13854
Diphenylcarbazide: CLCA221007A
NH4OH + NH4SO4 eluent: R221219A
NH4OH + NH4SO4 buffer: R221115B(LV)

	Sample ID.	pH of sample	pH after treatment	Initial Volume of sample	Final Volume after buffer add'n	Volume of buffer added	Comments
1)	NO53874-7A	9.32	-	250mL	250mL	-	NaOH 6N
2)	NO53874-8A	9.49	-	250mL	250mL	-	R220720B
3)	NO53874-9A	9.08	9.49	250mL	250mL	4 drops	
4)	NO53874-10A	9.41	-	250mL	250mL	-	
5)	NO53874-11A	9.55	-	250mL	250mL	-	
6)	NO53874-12A	9.04	9.65	250 mL	250mL	4 drops	
7)	NO53874-13A	9.45	-	250 mL	250mL	-	
8)	NO53874-14A	9.44	-	250 mL	250mL	-	
9)	NO53874-15A	8.70	9.65	250mL	250mL	7 drops	
10)	NO53874-16A	7.97	9.33	250 mL	250mL	10 drops	
11)	NO53874-17A	7.88	9.57	250 mL	250mL	12 drops	
12)	NO53874-18A	8.21	9.67	250 mL	250mL	7 drops	
13)	NO53874-19A	8.48	9.40	250 mL	250mL	7 drops	
14)	NO53874-20A	8.06	9.61	250mL	250mL	10 drops	
15)	NO53874-21A	9.31	-	250 mL	250mL	-	
	NO53874-22A	8.58	9.36	250 mL	250mL	10 drops	

Logbook No. 1

INITIAL CALIBRATION DATA SUMMARY

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-01
Date Calibrated: 12/12/2022

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.1115	0.4853	2.4979	4.9831	7.4547	9.9893	1.0000

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST-220502A	IWST221111A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

(EPA 218.6) - INITIAL CALIBRATION

Instrument ID: IC-07
Date Calibrated: 12/17/2022

Initial Calibration:

Hexavalent Chromium	STD1	STD2	STD3	STD4	STD5	STD6	
COMPOUND, in ug/L	0.2	1	5	10	15	20	R^2
Area,mAU*min	0.0381	0.1987	1.0142	2.0450	3.0952	4.1087	1.0000

	Stock	Working
Standard Concentration:	1,000,000 PPB	1,000 PPB
Standard ID:	ISST-220322A	IWST-221003A

Calibration Acceptance Criteria: > 0.999 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **ICV-1**	SampType: **ICV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ICV**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4973709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.818	0.20	5.000	0	96.4	90	110				

Sample ID: **PQL-0.2ppb**	SampType: **CCV2**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4973710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.232	0.20	0.2000	0	116	80	120				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCV**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.051	0.20	5.000	0	101	95	105				

Sample ID: **PQL-0.2ppb**	SampType: **CCV2**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.190	0.20	0.2000	0	95.2	80	120				

Sample ID: **CCV-2**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.202	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCV**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.073	0.20	5.000	0	101	95	105				

Sample ID: **CCV-4**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973749**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.238	0.20	10.00	0	102	95	105				

Sample ID: **CCV-5**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCV**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.089	0.20	5.000	0	102	95	105				

Sample ID: **CCV-6**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.197	0.20	10.00	0	102	95	105				

Sample ID: **CCV-7**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCV**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.089	0.20	5.000	0	102	95	105				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCV-8**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.251	0.20	10.00	0	103	95	105				

Sample ID: **CCV-9**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCV**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.129	0.20	5.000	0	103	95	105				

Sample ID: **CCV-10**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ZZZZZZ**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.163	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **ICV-1**	SampType: **ICV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ICV**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4973794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.818	0.20	5.000	0	96.4	90	110				

Sample ID: **PQL-0.2ppb**	SampType: **CCV2**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4973795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.232	0.20	0.2000	0	116	80	120				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCV**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.051	0.20	5.000	0	101	95	105				

Sample ID: **PQL-0.2ppb**	SampType: **CCV2**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.190	0.20	0.2000	0	95.2	80	120				

Sample ID: **CCV-2**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.202	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCV**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.073	0.20	5.000	0	101	95	105				

Sample ID: **CCV-4**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.238	0.20	10.00	0	102	95	105				

Sample ID: **CCV-5**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCV**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.089	0.20	5.000	0	102	95	105				

Sample ID: **CCV-6**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.197	0.20	10.00	0	102	95	105				

Sample ID: **CCV-7**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCV**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973815**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.089	0.20	5.000	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCV-8**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.251	0.20	10.00	0	103	95	105				

Sample ID: **CCV-9**	SampType: **CCV**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCV**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973832**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.129	0.20	5.000	0	103	95	105				

Sample ID: **CCV-10**	SampType: **CCV1**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ZZZZZZ**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.163	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **ICV**	SampType: **ICV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ICV**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/17/2022**	SeqNo: **4983582**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	0.20	5.000	0	98.1	90	110				

Sample ID: **PQL@0.2ppb**	SampType: **CCV2**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/17/2022**	SeqNo: **4983583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.185	0.20	0.2000	0	92.6	80	120				

Sample ID: **CCV-1**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCV**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983585**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.857	0.20	5.000	0	97.1	95	105				

Sample ID: **PQL@0.2ppb**	SampType: **CCV2**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.210	0.20	0.2000	0	105	80	120				

Sample ID: **CCV-2**	SampType: **CCV1**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.147	0.20	10.00	0	101	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **CCV-3**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCV**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.903	0.20	5.000	0	98.1	95	105				

Sample ID: **CCV-4**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCV**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983611**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.900	0.20	5.000	0	98.0	95	105				

Sample ID: **CCV-5**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCV**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	0.20	5.000	0	103	95	105				

Sample ID: **CCV-6**	SampType: **CCV1**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.146	0.20	10.00	0	101	95	105				

Sample ID: **CCV-7**	SampType: **CCV**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCV**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.107	0.20	5.000	0	102	95	105				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **CCV-8**	SampType: **CCV1**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.241	0.20	10.00	0	102	95	105				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **ICB-1**	SampType: **ICB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **ICB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4973711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCB-5**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-6**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-7**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-8**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-9**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCB-10**	SampType: **CCB**	TestCode: **CA_218.6_WP** Units: **µg/L**	Prep Date:	RunNo: **168252**
Client ID: **CCB**	Batch ID: **R168252**	TestNo: **EPA 218.6**	Analysis Date: **12/16/2022**	SeqNo: **4973793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **ICB-1**	SampType: **ICB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **ICB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/12/2022**	SeqNo: **4973796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-1**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-2**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-3**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-4**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCB-5**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/15/2022**	SeqNo: **4973807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-6**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-7**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-8**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-9**	SampType: **CCB**	TestCode: **CA_218.6_WP**	Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**		Analysis Date: **12/16/2022**	SeqNo: **4973833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **CCB-10**	SampType: **CCB**	TestCode: **CA_218.6_WP** Units: **µg/L**	Prep Date:	RunNo: **168253**
Client ID: **CCB**	Batch ID: **R168253**	TestNo: **EPA 218.6**	Analysis Date: **12/16/2022**	SeqNo: **4973843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **ICB** SampType: **ICB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ICB** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/17/2022** SeqNo: **4983584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-1** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **CCB** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-2** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **CCB** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-3** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **CCB** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-4** SampType: **CCB** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **CCB** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **CCB-5**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCB**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-6**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCB**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983635**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-7**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCB**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **CCB-8**	SampType: **CCB**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **CCB**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983647**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-01

Analytical Sequence

Date Analyzed: 12/15/2022

Sample Name	Retention Time	Evaluation
ICV	5.447	
CCV-1	5.447	
CCV-2	5.460	
CCV-3	5.460	
CCV-4	5.453	
CCV-5	5.454	
CCV-6	5.454	
CCV-7	5.454	
CCV-8	5.467	
CCV-9	5.447	
CCV-10	5.460	
Average	5.456	
Actual RT Window	5.376 - 5.536	
Applied RT Window	5.256 - 5.656	
LCS1-R168252	5.460	PASS
MB1-R168252	N.A.	N.A.
N053989-001A	5.447	PASS
N053989-001A-DUP	5.447	PASS
N053989-001A-MS	5.447	PASS
N053989-001A-MSD	5.447	PASS
N053816-009A	5.434	PASS
N053816-009A-MS	5.440	PASS
N053816-012A	N.A.	N.A.
N053816-012A-MS	N.A.	N.A.
N053817-009A	5.387	PASS
N053817-009A-MS	5.387	PASS
N053817-010A	5.433	PASS
N053817-010A-MS	5.433	PASS
N053817-011A	N.A.	N.A.
N053817-011A-MS	N.A.	N.A.
N053817-012A	N.A.	N.A.
N053817-012A-MS	N.A.	N.A.

Reviewed by:

dMRocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-01

Analytical Sequence

Date Analyzed: 12/15/2022

Sample Name	Retention Time	Evaluation
ICV	5.447	
CCV-1	5.447	
CCV-2	5.460	
CCV-3	5.460	
CCV-4	5.453	
CCV-5	5.454	
CCV-6	5.454	
CCV-7	5.454	
CCV-8	5.467	
CCV-9	5.447	
CCV-10	5.460	
Average	5.456	
Actual RT Window	5.376 - 5.536	
Applied RT Window	5.256 - 5.656	
N053816-012A	N.A.	N.A.
N053816-012A-MS	5.413	PASS
N053817-010A-MS	5.434	PASS
N053817-011A	N.A.	N.A.
N053817-011A-MS	5.407	PASS
N053817-012A	N.A.	N.A.
N053817-012A-MS	5.400	PASS
N053873-001A	N.A.	N.A.
N053873-001A-MS	N.A.	N.A.
N053873-002A	5.247	FAIL
N053873-002A-MS	5.247	FAIL
N053873-003A	5.254	FAIL
N053873-003A-MS	5.260	PASS
N053873-009A	5.447	PASS
N053873-009A-DUP	5.454	PASS
N053873-009A-MS	5.453	PASS
N053873-009A-MSD	5.447	PASS
N053873-004A	5.254	FAIL

Reviewed by:

dMocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-01

Analytical Sequence

Date Analyzed: 12/15/2022

Sample Name	Retention Time	Evaluation
ICV	5.447	
CCV-1	5.447	
CCV-2	5.460	
CCV-3	5.460	
CCV-4	5.453	
CCV-5	5.454	
CCV-6	5.454	
CCV-7	5.454	
CCV-8	5.467	
CCV-9	5.447	
CCV-10	5.460	
Average	5.456	
Actual RT Window	5.376 - 5.536	
Applied RT Window	5.256 - 5.656	
N053873-004A-MS	5.253	FAIL
N053873-005A	5.320	PASS
N053873-005A-MS	5.320	PASS
N053873-006A	5.247	FAIL
N053873-006A-MS	5.247	FAIL
N053873-007A	5.247	FAIL
N053873-007A-MS	5.247	FAIL
N053873-008A	5.467	PASS
N053873-008A-MS	5.467	PASS
N053873-010A	N.A.	N.A.
N053873-010A-MS	5.447	PASS
N053874-001A	N.A.	N.A.
N053874-001A-MS	N.A.	N.A.
N053874-001A	5.394	PASS
N053874-001A-MS	5.394	PASS
N053874-002A	5.447	PASS
N053874-002A-MS	5.447	PASS
N053874-003A	5.433	PASS

Reviewed by:

dMRocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-01

Analytical Sequence

Date Analyzed: 12/15/2022

Sample Name	Retention Time	Evaluation
ICV	5.447	
CCV-1	5.447	
CCV-2	5.460	
CCV-3	5.460	
CCV-4	5.453	
CCV-5	5.454	
CCV-6	5.454	
CCV-7	5.454	
CCV-8	5.467	
CCV-9	5.447	
CCV-10	5.460	
Average	5.456	
Actual RT Window	5.376 - 5.536	
Applied RT Window	5.256 - 5.656	
N053874-003A-MS	5.440	PASS
LCS1-R168253	5.447	PASS
MB1-R168253	N.A.	N.A.
N053874-005A	5.460	PASS
N053874-005A-DUP	5.454	PASS
N053874-005A-MS	5.460	PASS
N053874-005A-MSD	5.460	PASS
N053874-004A	5.440	PASS
N053874-004A-MS	5.440	PASS
N053874-006A	5.460	PASS
N053874-006A-MS	5.460	PASS
N053874-007A	5.467	PASS
N053874-007A-MS	5.460	PASS
N053874-008A	5.414	PASS
N053874-008A-MS	5.454	PASS
N053874-009A	N.A.	N.A.
N053874-009A-MS	N.A.	N.A.
N053874-010A	5.427	PASS

Reviewed by:

dMRocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-01

Analytical Sequence

Date Analyzed: 12/15/2022

Sample Name	Retention Time	Evaluation
ICV	5.447	
CCV-1	5.447	
CCV-2	5.460	
CCV-3	5.460	
CCV-4	5.453	
CCV-5	5.454	
CCV-6	5.454	
CCV-7	5.454	
CCV-8	5.467	
CCV-9	5.447	
CCV-10	5.460	
Average	5.456	
Actual RT Window	5.376 - 5.536	
Applied RT Window	5.256 - 5.656	
N053874-010A-MS	5.427	PASS
N053873-001A	5.427	PASS
N053873-001A-MS	5.420	PASS
N053873-008A	N.A.	N.A.
N053873-008A	5.420	PASS
N053873-008A-MS	5.427	PASS
N053874-001A-MS	5.400	PASS
N053874-004A-MS	5.440	PASS
N053874-007A	5.433	PASS
N053874-007A-MS	5.427	PASS
N053874-009A	~~542.70%~~ 5.427	N.A.
N053874-009A-MS	5.427	PASS
N053874-010A	5.247	FAIL
N053874-010A-MS	N.A.	N.A.
N053874-010A-MS	5.434	PASS

Reviewed by:

dMRocha 1/4/2023

1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/21/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.115	
CCV-2	4.148	
CCV-3	4.140	
CCV-4	4.181	
CCV-5	4.181	
CCV-6	4.181	
CCV-7	4.190	
CCV-8	4.198	
CCV-9	4.273	
CCV-10	4.265	
CCV-11	4.256	

Average	4.193
Actual RT Window	4.113 - 4.273
Applied RT Window	3.993 - 4.393

MB-R168413	N.A.	N.A.
LCS-R168413	4.131	PASS
N053874-011A	4.031	PASS
N053874-012A	4.256	PASS
N053874-012AMS	4.131	PASS
N053874-018A	4.131	PASS
N053874-013A	4.140	PASS
N053874-013ADUP	4.148	PASS
N053874-013AMS	4.148	PASS
N053874-018AMS	4.148	PASS
N053874-018AMSD	4.223	PASS
N053874-014A	4.156	PASS
N053874-014AMS	4.148	PASS
N053874-015A	4.148	PASS
N053874-015AMS	4.148	PASS
N053874-016A	4.140	PASS
N053874-016AMS	4.140	PASS

Reviewed by:

dMRocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/21/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.115	
CCV-2	4.148	
CCV-3	4.140	
CCV-4	4.181	
CCV-5	4.181	
CCV-6	4.181	
CCV-7	4.190	
CCV-8	4.198	
CCV-9	4.273	
CCV-10	4.265	
CCV-11	4.256	
Average	4.193	
Actual RT Window	4.113 - 4.273	
Applied RT Window	3.993 - 4.393	
N053874-017A	4.206	PASS
N053874-017AMS	4.148	PASS
N053874-020A	4.031	PASS
N053874-020AMS	4.031	PASS
N053874-018AMSD	4.173	PASS
N053874-011AMS	4.048	PASS
N053874-022A	N.A.	N.A.
N053874-018A	4.173	PASS
N053874-018AMS	4.173	PASS
N053874-022A	N.A.	N.A.
N053874-018AMSD	4.173	PASS
N053874-021A	N.A.	N.A.
N053874-021AMS	4.181	PASS
N053874-019AMS	4.148	PASS
N053874-019A	4.148	PASS
N053874-022AMS	4.123	PASS
N053885-001A	4.048	PASS

Reviewed by:

dMocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/21/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.115	
CCV-2	4.148	
CCV-3	4.140	
CCV-4	4.181	
CCV-5	4.181	
CCV-6	4.181	
CCV-7	4.190	
CCV-8	4.198	
CCV-9	4.273	
CCV-10	4.265	
CCV-11	4.256	
Average	4.193	
Actual RT Window	4.113 - 4.273	
Applied RT Window	3.993 - 4.393	
N053885-001AMS	4.048	PASS
N053885-002A	4.040	PASS
N053885-002AMS	4.048	PASS
N053885-003A	4.040	PASS
N053885-003AMS	4.048	PASS
N053885-004A	4.048	PASS
N053885-004AMS	4.048	PASS
N053885-005A	N.A.	N.A.
N053885-005AMS	4.181	PASS
N053874-016A	4.173	PASS
N053874-016AMS	4.173	PASS
N053886-001A	N.A.	N.A.
N053886-002A	N.A.	N.A.
N053886-002AMS	N.A.	N.A.
N053886-003A	N.A.	N.A.
N053886-003AMS	N.A.	N.A.
N053886-001A	N.A.	N.A.

Reviewed by:

dMocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/21/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.115	
CCV-2	4.148	
CCV-3	4.140	
CCV-4	4.181	
CCV-5	4.181	
CCV-6	4.181	
CCV-7	4.190	
CCV-8	4.198	
CCV-9	4.273	
CCV-10	4.265	
CCV-11	4.256	
Average	4.193	
Actual RT Window	4.113 - 4.273	
Applied RT Window	3.993 - 4.393	
N053886-001AMS	4.131	PASS
N053886-002A	N.A.	N.A.
N053886-002AMS	4.131	PASS
N053886-003A	4.123	PASS
N053874-020A	4.173	PASS
N053874-020AMS	4.165	PASS
N053886-003AMS	4.131	PASS
LCS-R168414	4.198	PASS
MB-R168414	N.A.	N.A.
N053994-006A	4.198	PASS
N053994-006AMS	4.198	PASS
N053994-006AMSD	4.198	PASS
N053994-005A	4.190	PASS
N053994-005AMS	4.181	PASS
N053991-001A	N.A.	N.A.
N053991-001AMS	4.206	PASS
N053994-008A	4.173	PASS

Reviewed by:

dMocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/21/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.115	
CCV-2	4.148	
CCV-3	4.140	
CCV-4	4.181	
CCV-5	4.181	
CCV-6	4.181	
CCV-7	4.190	
CCV-8	4.198	
CCV-9	4.273	
CCV-10	4.265	
CCV-11	4.256	
Average	4.193	
Actual RT Window	4.113 - 4.273	
Applied RT Window	3.993 - 4.393	
N053994-008AMS	4.173	PASS
N053923-006A	4.215	PASS
N053923-006ADUP	4.248	PASS
N053894-009B	N.A.	N.A.
N053894-009BMS	4.273	PASS
N053923-002A	4.273	PASS
N053923-003A	4.248	PASS
N053923-004A	4.240	PASS
N053923-005A	4.231	PASS
N053923-008A	N.A.	N.A.
N054022-001A	4.056	PASS
N054022-001AMS	4.073	PASS
N054022-002A	4.206	PASS
N054022-002AMS	4.240	PASS
N053886-004A	4.248	PASS
N053886-004AMS	4.248	PASS
N053886-005A	4.256	PASS

Reviewed by:

dMRocha 1/4/2023

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-07

Analytical Sequence

Date Analyzed: 12/21/2022

Sample Name	Retention Time	Evaluation
ICV	4.148	
CCV-1	4.115	
CCV-2	4.148	
CCV-3	4.140	
CCV-4	4.181	
CCV-5	4.181	
CCV-6	4.181	
CCV-7	4.190	
CCV-8	4.198	
CCV-9	4.273	
CCV-10	4.265	
CCV-11	4.256	
Average	4.193	
Actual RT Window	4.113 - 4.273	
Applied RT Window	3.993 - 4.393	
N053886-005AMS	4.248	PASS
N053886-006A	4.256	PASS
N053886-006AMS	4.248	PASS
N053886-007A	N.A.	N.A.
N053886-007AMS	4.256	PASS

Reviewed by:

dMRocha 1/4/2023

MDL STUDY

METHOD DETECTION LIMIT (Spiked)

Method Name: **HEXAVALENT CHROMIUM by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 10/2/2021, 10/14/2021, 1/19/2022, 2/17/2022, 4/1/2022, 5/17/2022, 7/7/2022, 7/13/2022
Analyst: Andrew Garaniel, Carla Realubit, Ashley DaSilva

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-01**

Datafile: 211002A\9 211014B\13 220119A\9 220217A\13 220401A\17 220517A\13 220713A\13 220707A\13

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	Spike Conc., ug/L	SD	$t_{(n-1)}$ value	MDLs	PQL
Hexavalent Chromium	0.1877	0.1947	0.2081	0.2014	0.1597	0.1587	0.2437	0.2283	0.20	0.0299	2.998	**0.0896**	**0.20**

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

METHOD DETECTION LIMIT (Blanks)

Method Name: **HEXAVAL HEXAVALENT CHROMIUM by Ion Chromatography**
Method Number: EPA 218.6 EPA 218.6 / EPA 7199
Analysis Date(s): Pooled from Method Blank (MB) results from August 1, 2020 to August 31, 2022

Analyte	MDLb
Hexavalent Chromium	0.047

MDL **0.0896**

***Note higher value between MDLs and MDLb will be used.**

METHOD DETECTION LIMIT (Spiked)

Method Name: **HEXAVALENT CHROMIUM by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): 8/10/2021, 8/23/2021, 10/27/2021, 11/17/2021, 1/4/2022; 2/3/2022; 3/3/2022; 5/3/2022; 6/1/2022; 8/1/2022
Analyst: Ria Abes

Matrix: **WATER**
Unit: ug/L

Instrument Name: **IC-07**

Datafile 210810A D39 211027A D20 210823A D57 211117A D38 220104A D15 220203A D12 220303A D11 220503A D12 220601A D12 220801A D10

Analyte	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	Spike Conc., mg/L	SD	$t_{(n-1)}$ value	MDLs	PQL
Hexavalent Chromium	0.206	0.192	0.189	0.189	0.191	0.196	0.214	0.198	0.192	0.190	0.20	0.0085	2.821	**0.0239**	**0.20**

METHOD DETECTION LIMIT (Blanks)

Method Name: **HEXAVALENT CHROMIUM by Ion Chromatography**
Method Number: EPA 218.6 / EPA 7199
Analysis Date(s): Pooled from August 1, 2020 to August 31, 2022

Instrument Name: **IC-07**

Analyte	MDLb	#of Records
Hexavalent Chromium	**0.00**	565

Note: Higher value between **MDLs** and **MDLb** will be used.

Students' **t** Values at 99% CL

#	$t_{(n-1)}$
10	2.821
9	2.896
8	2.998
7	3.143

RAW DATA

INITIAL CALIBRATION

INJECTION LOG: 221212A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	iBLANK	iBLANK	1	Hexavalent Chromium	12/12/22 12:42 PM	Reported
2	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/12/22 12:54 PM	Reported
3	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:05 PM	Not Reported
4	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:17 PM	Reported
5	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:28 PM	Reported
6	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:39 PM	Reported
7	STD- 20.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:51 PM	Reported
8	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 2:05 PM	Reported
9	ICV-1	ICV	1	Hexavalent Chromium	12/12/22 2:17 PM	Reported
10	PQL-0.2ppb	CCV2	1	Hexavalent Chromium	12/12/22 2:28 PM	Reported
11	ICB-1	ICB	1	Hexavalent Chromium	12/12/22 2:39 PM	Reported
12	LCS1-R168151	LCS	1	Hexavalent Chromium	12/12/22 2:51 PM	Reported
13	MB1-R168151	MBLK	1	Hexavalent Chromium	12/12/22 3:02 PM	Reported
14	N053788-002A	SAMP	5	Hexavalent Chromium	12/12/22 3:14 PM	Reported
15	N053788-002A-DUP	DUP	5	Hexavalent Chromium	12/12/22 3:26 PM	Reported
16	N053788-002A-MS	MS	5	Hexavalent Chromium	12/12/22 3:38 PM	Reported
17	N053788-002A-MSD	MSD	5	Hexavalent Chromium	12/12/22 3:49 PM	Reported
18	N053788-003A	SAMP	5	Hexavalent Chromium	12/12/22 4:01 PM	Reported
19	N053788-003A-MS	MS	5	Hexavalent Chromium	12/12/22 4:12 PM	Reported
20	N053788-004A	SAMP	5	Hexavalent Chromium	12/12/22 4:23 PM	Reported
21	N053788-004A-MS	MS	5	Hexavalent Chromium	12/12/22 4:35 PM	Reported
22	CCV-1	CCV	1	Hexavalent Chromium	12/12/22 4:46 PM	Reported
23	CCB-1	CCB	1	Hexavalent Chromium	12/12/22 4:58 PM	Reported
24	N054019-001A	SAMP	1	Hexavalent Chromium	12/12/22 5:09 PM	Not Reported
25	N054019-001A-MS	MS	1	Hexavalent Chromium	12/12/22 5:20 PM	Not Reported
26	N053856-004B	SAMP	1	Hexavalent Chromium	12/12/22 5:32 PM	Reported
27	N053856-004B-MS	MS	1	Hexavalent Chromium	12/12/22 5:43 PM	Not Reported
28	N053856-004B-MS	MS	1	Hexavalent Chromium	12/12/22 5:58 PM	Reported
29	N053852-001A	SAMP	1	Hexavalent Chromium	12/12/22 6:09 PM	Not Reported
30	N053852-001A-MS	MS	1	Hexavalent Chromium	12/12/22 6:20 PM	Not Reported
31	N053852-001A	SAMP	5	Hexavalent Chromium	12/12/22 6:32 PM	Reported
32	N053852-001A-MS	MS	5	Hexavalent Chromium	12/12/22 6:43 PM	Reported
33	N053852-002A	SAMP	1	Hexavalent Chromium	12/12/22 6:55 PM	Not Reported
34	CCV-2	CCV1	1	Hexavalent Chromium	12/12/22 7:07 PM	Reported
35	CCB-2	CCB	1	Hexavalent Chromium	12/12/22 7:19 PM	Reported
36	N053852-003A	SAMP	1	Hexavalent Chromium	12/12/22 7:30 PM	Not Reported
37	N053852-003A-MS	MS	1	Hexavalent Chromium	12/12/22 7:42 PM	Not Reported
38	N053852-004A	SAMP	1	Hexavalent Chromium	12/12/22 7:53 PM	Reported
39	N053852-004A-MS	MS	1	Hexavalent Chromium	12/12/22 8:04 PM	Reported
40	N053852-005A	SAMP	5	Hexavalent Chromium	12/12/22 8:16 PM	Not Reported
41	N053852-005A-MS	MS	5	Hexavalent Chromium	12/12/22 8:27 PM	Not Reported
42	N053852-006A	SAMP	20	Hexavalent Chromium	12/12/22 8:39 PM	Reported

INJECTION LOG: 221212A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N053852-006A-DUP	DUP	20	Hexavalent Chromium	12/12/22 8:50 PM	Reported
44	N053852-006A-MS	MS	20	Hexavalent Chromium	12/12/22 9:01 PM	Reported
45	N053852-006A-MSD	MSD	20	Hexavalent Chromium	12/12/22 9:13 PM	Reported
46	CCV-3	CCV	1	Hexavalent Chromium	12/12/22 9:24 PM	Reported
47	CCB-3	CCB	1	Hexavalent Chromium	12/12/22 9:36 PM	Reported
48	N053852-007A	SAMP	20	Hexavalent Chromium	12/12/22 9:47 PM	Reported
49	N053852-007A-MS	MS	20	Hexavalent Chromium	12/12/22 9:58 PM	Reported
50	N053852-008A	SAMP	20	Hexavalent Chromium	12/12/22 10:10 PM	Not Reported
51	N053852-008A-MS	MS	20	Hexavalent Chromium	12/12/22 10:21 PM	Not Reported
52	N053852-009A	SAMP	5	Hexavalent Chromium	12/12/22 10:33 PM	Not Reported
53	N053852-009A-MS	MS	5	Hexavalent Chromium	12/12/22 10:44 PM	Not Reported
54	N053852-010A	SAMP	1	Hexavalent Chromium	12/12/22 10:55 PM	Not Reported
55	N053852-010A-MS	MS	1	Hexavalent Chromium	12/12/22 11:07 PM	Not Reported
56	N053852-011A	SAMP	5	Hexavalent Chromium	12/12/22 11:18 PM	Reported
57	N053852-011A-MS	MS	5	Hexavalent Chromium	12/12/22 11:30 PM	Reported
58	CCV-4	CCV1	1	Hexavalent Chromium	12/12/22 11:41 PM	Reported
59	CCB-4	CCB	1	Hexavalent Chromium	12/12/22 11:52 PM	Reported
60	N053852-012A	SAMP	200	Hexavalent Chromium	12/13/22 12:04 AM	Reported
61	N053852-012A-MS	MS	200	Hexavalent Chromium	12/13/22 12:15 AM	Reported
62	N053852-013A	SAMP	1	Hexavalent Chromium	12/13/22 12:27 AM	Reported
63	N053852-013A-MS	MS	1	Hexavalent Chromium	12/13/22 12:38 AM	Reported
64	N053852-014A	SAMP	1	Hexavalent Chromium	12/13/22 12:49 AM	Not Reported
65	N053852-014A-MS	MS	1	Hexavalent Chromium	12/13/22 1:01 AM	Not Reported
66	N053852-014A	SAMP	5	Hexavalent Chromium	12/13/22 1:12 AM	Not Reported
67	N053852-014A-MS	MS	5	Hexavalent Chromium	12/13/22 1:24 AM	Not Reported
68	N053852-015A	SAMP	1	Hexavalent Chromium	12/13/22 1:35 AM	Not Reported
69	N053852-015A-MS	MS	1	Hexavalent Chromium	12/13/22 1:46 AM	Not Reported
70	CCV-5	CCV	1	Hexavalent Chromium	12/13/22 1:58 AM	Reported
71	CCB-5	CCB	1	Hexavalent Chromium	12/13/22 2:09 AM	Reported
72	N053852-002A	SAMP	5	Hexavalent Chromium	12/13/22 2:21 AM	Reported
73	N053852-002A-MS	MS	5	Hexavalent Chromium	12/13/22 2:32 AM	Reported
74	CCV-6	CCV1	1	Hexavalent Chromium	12/13/22 2:43 AM	Reported
75	CCB-6	CCB	1	Hexavalent Chromium	12/13/22 2:55 AM	Reported

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
1	iBLANK	Unknown	1	CR6 Program	CR6 METHOD_221212A	Finished
2	STD-0.2 ppb	Standard	2	CR6 Program	CR6 METHOD_221212A	Finished
3	STD-1.0 ppb	Unknown	3	CR6 Program	CR6 METHOD_221212A	Finished
4	STD-5.0 ppb	Standard	4	CR6 Program	CR6 METHOD_221212A	Finished
5	STD-10.0 ppb	Standard	5	CR6 Program	CR6 METHOD_221212A	Finished
6	STD-15.0 ppb	Standard	6	CR6 Program	CR6 METHOD_221212A	Finished
7	STD- 20.0 ppb	Standard	7	CR6 Program	CR6 METHOD_221212A	Finished
8	STD-1.0 ppb	Standard	8	CR6 Program	CR6 METHOD_221212A	Finished
9	ICV-1,ICV,1	Unknown	9	CR6 Program	CR6 METHOD_221212A	Finished
10	PQL-0.2ppb,CCV2,1	Unknown	10	CR6 Program	CR6 METHOD_221212A	Finished
11	ICB-1,ICB,1	Unknown	11	CR6 Program	CR6 METHOD_221212A	Finished
12	LCS1-H2O,LCS,1	Unknown	12	CR6 Program	CR6 METHOD_221212A	Finished
13	MB1-H2O,MBLK,1	Unknown	13	CR6 Program	CR6 METHOD_221212A	Finished
14	N053788-002A,SAMP,5	Unknown	14	CR6 Program	CR6 METHOD_221212A	Finished
15	N053788-002A-DUP,DUP,5	Unknown	15	CR6 Program	CR6 METHOD_221212A	Finished
16	N053788-002A-MS,MS,5	Unknown	16	CR6 Program	CR6 METHOD_221212A	Finished
17	N053788-002A-MSD,MSD,5	Unknown	17	CR6 Program	CR6 METHOD_221212A	Finished
18	N053788-003A,SAMP,5	Unknown	18	CR6 Program	CR6 METHOD_221212A	Finished
19	N053788-003A-MS,MS,5	Unknown	19	CR6 Program	CR6 METHOD_221212A	Finished
20	N053788-004A,SAMP,5	Unknown	20	CR6 Program	CR6 METHOD_221212A	Finished
21	N053788-004A-MS,MS,5	Unknown	21	CR6 Program	CR6 METHOD_221212A	Finished
22	CCV-1,CCV,1	Unknown	22	CR6 Program	CR6 METHOD_221212A	Finished
23	CCB-1,CCB,1	Unknown	23	CR6 Program	CR6 METHOD_221212A	Finished
24	N054019-001A,SAMP,1	Unknown	24	CR6 Program	CR6 METHOD_221212A	Finished
25	N054019-001A-MS,MS,1	Unknown	25	CR6 Program	CR6 METHOD_221212A	Finished
26	N053856-004B,SAMP,1	Unknown	26	CR6 Program	CR6 METHOD_221212A	Finished
27	N053856-004B-MS,MS,1	Unknown	27	CR6 Program	CR6 METHOD_221212A	Finished
28	N053856-004B-MS,MS,1	Unknown	28	CR6 Program	CR6 METHOD_221212A	Finished
29	N053852-001A,SAMP,1	Unknown	29	CR6 Program	CR6 METHOD_221212A	Finished
30	N053852-001A-MS,MS,1	Unknown	30	CR6 Program	CR6 METHOD_221212A	Finished
31	N053852-001A,SAMP,5	Unknown	31	CR6 Program	CR6 METHOD_221212A	Finished
32	N053852-001A-MS,MS,5	Unknown	32	CR6 Program	CR6 METHOD_221212A	Finished
33	N053852-002A,SAMP,1	Unknown	33	CR6 Program	CR6 METHOD_221212A	Finished
34	CCV-2,CCV1,1	Unknown	34	CR6 Program	CR6 METHOD_221212A	Finished
35	CCB-2,CCB,1	Unknown	35	CR6 Program	CR6 METHOD_221212A	Finished
36	N053852-003A,SAMP,1	Unknown	36	CR6 Program	CR6 METHOD_221212A	Finished
37	N053852-003A-MS,MS,1	Unknown	37	CR6 Program	CR6 METHOD_221212A	Finished
38	N053852-004A,SAMP,1	Unknown	38	CR6 Program	CR6 METHOD_221212A	Finished
39	N053852-004A-MS,MS,1	Unknown	39	CR6 Program	CR6 METHOD_221212A	Finished
40	N053852-005A,SAMP,5	Unknown	40	CR6 Program	CR6 METHOD_221212A	Finished
41	N053852-005A-MS,MS,5	Unknown	41	CR6 Program	CR6 METHOD_221212A	Finished
42	N053852-006A,SAMP,20	Unknown	42	CR6 Program	CR6 METHOD_221212A	Finished
43	N053852-006A-DUP,DUP,20	Unknown	43	CR6 Program	CR6 METHOD_221212A	Finished
44	N053852-006A-MS,MS,20	Unknown	44	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Inj. Date/Time	Comment
1	iBLANK	12/12/2022 12:42:48 PM	Instrument Blank,R221115B
2	STD-0.2 ppb	12/12/2022 12:54:12 PM	0.2 ppb,IWST221111A,R220920A
3	STD-1.0 ppb	12/12/2022 1:05:36 PM	1.0 ppb,IWST221111A,R221115B
4	STD-5.0 ppb	12/12/2022 1:17:00 PM	5.0 ppb,IWST221111A,R221115B
5	STD-10.0 ppb	12/12/2022 1:28:24 PM	10 ppb,IWST221111A,R221115B
6	STD-15.0 ppb	12/12/2022 1:39:48 PM	15 ppb,IWST221111A,R221115B
7	STD- 20.0 ppb	12/12/2022 1:51:13 PM	20 ppb,IWST221111A,R221115B
8	STD-1.0 ppb	12/12/2022 2:05:01 PM	1.0 ppb,IWST221111A,R221115B
9	ICV-1,ICV,1	12/12/2022 2:17:05 PM	ICV @ 5ppb,IWST221111B,R221115B
10	PQL-0.2ppb,CCV2,1	12/12/2022 2:28:29 PM	PQL @ 0.2ppb,IWST221111A,R221115B
11	ICB-1,ICB,1	12/12/2022 2:39:54 PM	ICB,R221115B
12	LCS1-H2O,LCS,1	12/12/2022 2:51:18 PM	LCS @ 5ppb,IWST221205A,R221115B
13	MB1-H2O,MBLK,1	12/12/2022 3:02:42 PM	METHOD BLANK,R221115B
14	N053788-002A,SAMP,5	12/12/2022 3:14:06 PM	SAMPLE,2>10mL
15	N053788-002A-DUP,DUP,5	12/12/2022 3:26:52 PM	DUPLICATE,2>10mL
16	N053788-002A-MS,MS,5	12/12/2022 3:38:16 PM	MS @ 1ppb,IWST221205A,2>10mL
17	N053788-002A-MSD,MSD,5	12/12/2022 3:49:40 PM	MSD @ 1ppb,IWST221205A,2>10mL
18	N053788-003A,SAMP,5	12/12/2022 4:01:05 PM	SAMPLE,2>10mL
19	N053788-003A-MS,MS,5	12/12/2022 4:12:29 PM	MS @ 5ppb,IWST221205A,2>10mL
20	N053788-004A,SAMP,5	12/12/2022 4:23:53 PM	SAMPLE,2>10mL
21	N053788-004A-MS,MS,5	12/12/2022 4:35:17 PM	MS @ 5ppb,IWST221205A,2>10mL
22	CCV-1,CCV,1	12/12/2022 4:46:41 PM	CCV @ 5ppb,IWST221111A,R221115B
23	CCB-1,CCB,1	12/12/2022 4:58:06 PM	CCB,R221115B
24	N054019-001A,SAMP,1	12/12/2022 5:09:30 PM	SAMPLE
25	N054019-001A-MS,MS,1	12/12/2022 5:20:54 PM	MS @ 1ppb,IWST221205A
26	N053856-004B,SAMP,1	12/12/2022 5:32:18 PM	SAMPLE
27	N053856-004B-MS,MS,1	12/12/2022 5:43:42 PM	MS @ 1ppb,IWST221205A
28	N053856-004B-MS,MS,1	12/12/2022 5:58:08 PM	MS @ 1ppb,IWST221205A
29	N053852-001A,SAMP,1	12/12/2022 6:09:32 PM	SAMPLE
30	N053852-001A-MS,MS,1	12/12/2022 6:20:56 PM	MS @ 1ppb,IWST221205A
31	N053852-001A,SAMP,5	12/12/2022 6:32:20 PM	SAMPLE,2>10mL
32	N053852-001A-MS,MS,5	12/12/2022 6:43:44 PM	MS @ 1ppb,IWST221205A,2>10mL
33	N053852-002A,SAMP,1	12/12/2022 6:55:08 PM	SAMPLE
34	CCV-2,CCV1,1	12/12/2022 7:07:48 PM	CCV @ 10ppb,IWST221111A,R221115B
35	CCB-2,CCB,1	12/12/2022 7:19:12 PM	CCB,R221115B
36	N053852-003A,SAMP,1	12/12/2022 7:30:36 PM	SAMPLE
37	N053852-003A-MS,MS,1	12/12/2022 7:42:00 PM	MS @ 5ppb,IWST221205A
38	N053852-004A,SAMP,1	12/12/2022 7:53:24 PM	SAMPLE
39	N053852-004A-MS,MS,1	12/12/2022 8:04:49 PM	MS @ 1ppb,IWST221205A
40	N053852-005A,SAMP,5	12/12/2022 8:16:13 PM	SAMPLE,2>10mL
41	N053852-005A-MS,MS,5	12/12/2022 8:27:37 PM	MS @ 5ppb,IWST221205A,2>10mL
42	N053852-006A,SAMP,20	12/12/2022 8:39:01 PM	SAMPLE,0.5>10mL
43	N053852-006A-DUP,DUP,20	12/12/2022 8:50:25 PM	DUPLICATE,0.5>10mL
44	N053852-006A-MS,MS,20	12/12/2022 9:01:49 PM	MS @ 5ppb,IWST221205A,0.5>10mL

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
45	N053852-006A-MSD,MSD,20	Unknown	45	CR6 Program	CR6 METHOD_221212A	Finished
46	CCV-3,CCV,1	Unknown	46	CR6 Program	CR6 METHOD_221212A	Finished
47	CCB-3,CCB,1	Unknown	47	CR6 Program	CR6 METHOD_221212A	Finished
48	N053852-007A,SAMP,20	Unknown	48	CR6 Program	CR6 METHOD_221212A	Finished
49	N053852-007A-MS,MS,20	Unknown	49	CR6 Program	CR6 METHOD_221212A	Finished
50	N053852-008A,SAMP,20	Unknown	50	CR6 Program	CR6 METHOD_221212A	Finished
51	N053852-008A-MS,MS,20	Unknown	51	CR6 Program	CR6 METHOD_221212A	Finished
52	N053852-009A,SAMP,5	Unknown	52	CR6 Program	CR6 METHOD_221212A	Finished
53	N053852-009A-MS,MS,5	Unknown	53	CR6 Program	CR6 METHOD_221212A	Finished
54	N053852-010A,SAMP,1	Unknown	54	CR6 Program	CR6 METHOD_221212A	Finished
55	N053852-010A-MS,MS,1	Unknown	55	CR6 Program	CR6 METHOD_221212A	Finished
56	N053852-011A,SAMP,5	Unknown	56	CR6 Program	CR6 METHOD_221212A	Finished
57	N053852-011A-MS,MS,5	Unknown	57	CR6 Program	CR6 METHOD_221212A	Finished
58	CCV-4,CCV1,1	Unknown	58	CR6 Program	CR6 METHOD_221212A	Finished
59	CCB-4,CCB,1	Unknown	59	CR6 Program	CR6 METHOD_221212A	Finished
60	N053852-012A,SAMP,200	Unknown	60	CR6 Program	CR6 METHOD_221212A	Finished
61	N053852-012A-MS,MS,200	Unknown	61	CR6 Program	CR6 METHOD_221212A	Finished
62	N053852-013A,SAMP,1	Unknown	62	CR6 Program	CR6 METHOD_221212A	Finished
63	N053852-013A-MS,MS,1	Unknown	63	CR6 Program	CR6 METHOD_221212A	Finished
64	N053852-014A,SAMP,1	Unknown	64	CR6 Program	CR6 METHOD_221212A	Finished
65	N053852-014A-MS,MS,1	Unknown	65	CR6 Program	CR6 METHOD_221212A	Finished
66	N053852-014A,SAMP,5	Unknown	66	CR6 Program	CR6 METHOD_221212A	Finished
67	N053852-014A-MS,MS,5	Unknown	67	CR6 Program	CR6 METHOD_221212A	Finished
68	N053852-015A,SAMP,1	Unknown	68	CR6 Program	CR6 METHOD_221212A	Finished
69	N053852-015A-MS,MS,1	Unknown	69	CR6 Program	CR6 METHOD_221212A	Finished
70	CCV-5,CCV,1	Unknown	70	CR6 Program	CR6 METHOD_221212A	Finished
71	CCB-5,CCB,1	Unknown	71	CR6 Program	CR6 METHOD_221212A	Finished
72	N053852-002A,SAMP,5	Unknown	72	CR6 Program	CR6 METHOD_221212A	Finished
73	N053852-002A-MS,MS,5	Unknown	73	CR6 Program	CR6 METHOD_221212A	Finished
74	CCV-6,CCV1,1	Unknown	74	CR6 Program	CR6 METHOD_221212A	Finished
75	CCB-6,CCB,1	Unknown	75	CR6 Program	CR6 METHOD_221212A	Finished
76	Eluent: R221212A	Unknown	76	CR6 Program	CR6 METHOD_221212A	Finished
77	PCR: R221212B	Unknown	77	CR6 Program	CR6 METHOD_221212A	Finished

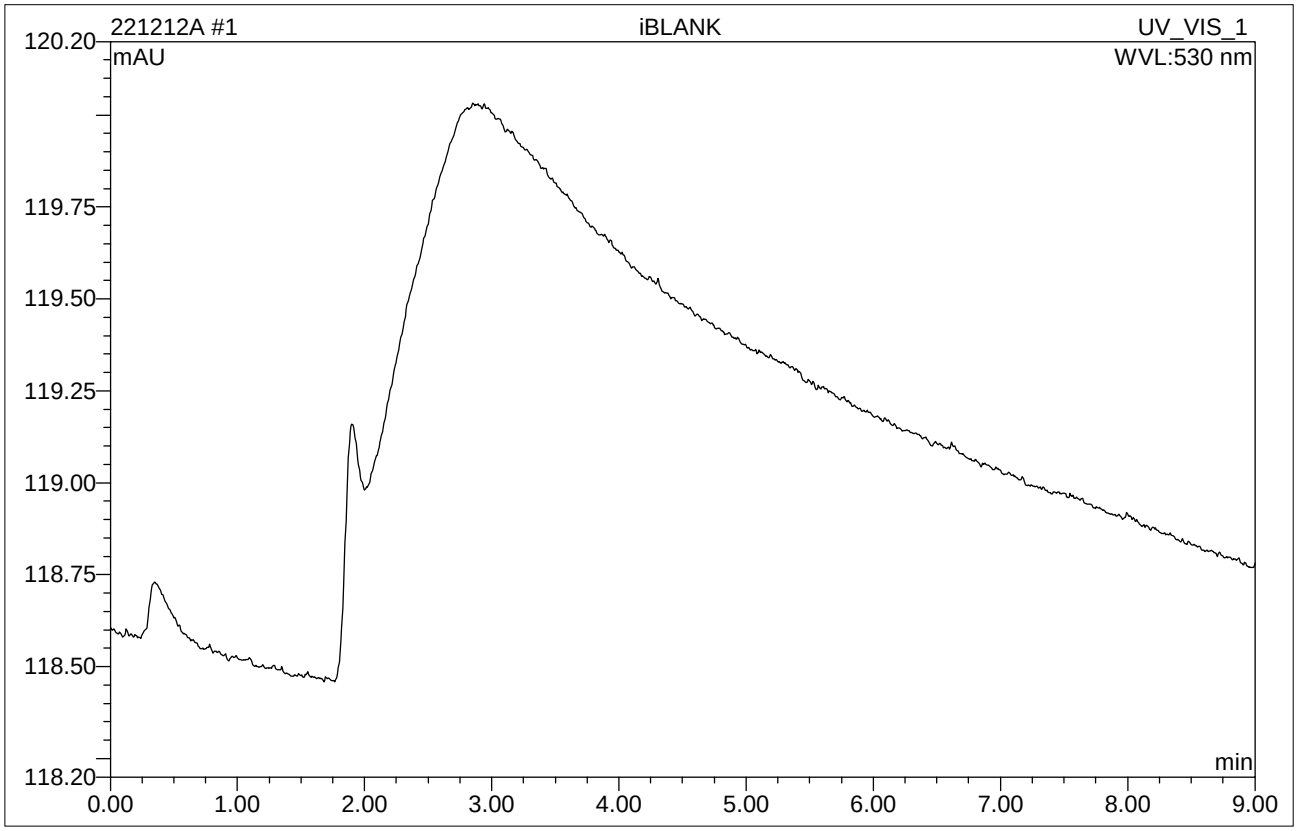
Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 77
Created: 12/12/2022 11:42:52 AM by Quennie
Last Update: 12/13/2022 6:07:53 PM by Quennie

No.	Name	Inj. Date/Time	Comment
45	N053852-006A-MSD,MSD,20	12/12/2022 9:13:13 PM	MSD @ 5ppb,IWST221205A,0.5>10mL
46	CCV-3,CCV,1	12/12/2022 9:24:37 PM	CCV @ 5ppb,IWST221111A,R221115B
47	CCB-3,CCB,1	12/12/2022 9:36:01 PM	CCB,R221115B
48	N053852-007A,SAMP,20	12/12/2022 9:47:25 PM	SAMPLE,0.5>10mL
49	N053852-007A-MS,MS,20	12/12/2022 9:58:49 PM	MS @ 5ppb,IWST221205A,0.5>10mL
50	N053852-008A,SAMP,20	12/12/2022 10:10:14 PM	SAMPLE,0.5>10mL
51	N053852-008A-MS,MS,20	12/12/2022 10:21:38 PM	MS @ 5ppb,IWST221205A,0.5>10mL
52	N053852-009A,SAMP,5	12/12/2022 10:33:02 PM	SAMPLE,2>10mL
53	N053852-009A-MS,MS,5	12/12/2022 10:44:26 PM	MS @ 5ppb,IWST221205A,2>10mL
54	N053852-010A,SAMP,1	12/12/2022 10:55:50 PM	SAMPLE
55	N053852-010A-MS,MS,1	12/12/2022 11:07:14 PM	MS @ 5ppb,IWST221205A
56	N053852-011A,SAMP,5	12/12/2022 11:18:38 PM	SAMPLE2>10mL
57	N053852-011A-MS,MS,5	12/12/2022 11:30:02 PM	MS @ 5ppb,IWST221205A2>10mL
58	CCV-4,CCV1,1	12/12/2022 11:41:27 PM	CCV @ 10ppb,IWST221111A,R221115B
59	CCB-4,CCB,1	12/12/2022 11:52:51 PM	CCB,R221115B
60	N053852-012A,SAMP,200	12/13/2022 12:04:15 AM	SAMPLE,0.05>10mL
61	N053852-012A-MS,MS,200	12/13/2022 12:15:39 AM	MS @ 5ppb,IWST221205A,0.05>10mL
62	N053852-013A,SAMP,1	12/13/2022 12:27:03 AM	SAMPLE
63	N053852-013A-MS,MS,1	12/13/2022 12:38:26 AM	MS @ 1ppb,IWST221205A
64	N053852-014A,SAMP,1	12/13/2022 12:49:51 AM	SAMPLE
65	N053852-014A-MS,MS,1	12/13/2022 1:01:15 AM	MS @ 1ppb,IWST221205A
66	N053852-014A,SAMP,5	12/13/2022 1:12:39 AM	SAMPLE,2>10mL
67	N053852-014A-MS,MS,5	12/13/2022 1:24:03 AM	MS @ 1ppb,IWST221205A,2>10mL
68	N053852-015A,SAMP,1	12/13/2022 1:35:27 AM	SAMPLE
69	N053852-015A-MS,MS,1	12/13/2022 1:46:51 AM	MS @ 1ppb,IWST221205A
70	CCV-5,CCV,1	12/13/2022 1:58:15 AM	CCV @ 5ppb,IWST221111A,R221115B
71	CCB-5,CCB,1	12/13/2022 2:09:39 AM	CCB,R221115B
72	N053852-002A,SAMP,5	12/13/2022 2:21:03 AM	SAMPLE,2>10mL
73	N053852-002A-MS,MS,5	12/13/2022 2:32:27 AM	MS @ 5ppb,IWST221205A,2>10mL
74	CCV-6,CCV1,1	12/13/2022 2:43:52 AM	CCV @ 10ppb,IWST221111A,R221115B
75	CCB-6,CCB,1	12/13/2022 2:55:16 AM	CCB,R221115B
76	Eluent: R221212A		Eluent
77	PCR: R221212B		PCR

1 iBLANK

Instrument Blank,R221115B

Sample Name:	**iBLANK**	*Injection Volume:*	**500.0**
Vial Number:	**1**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 12:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

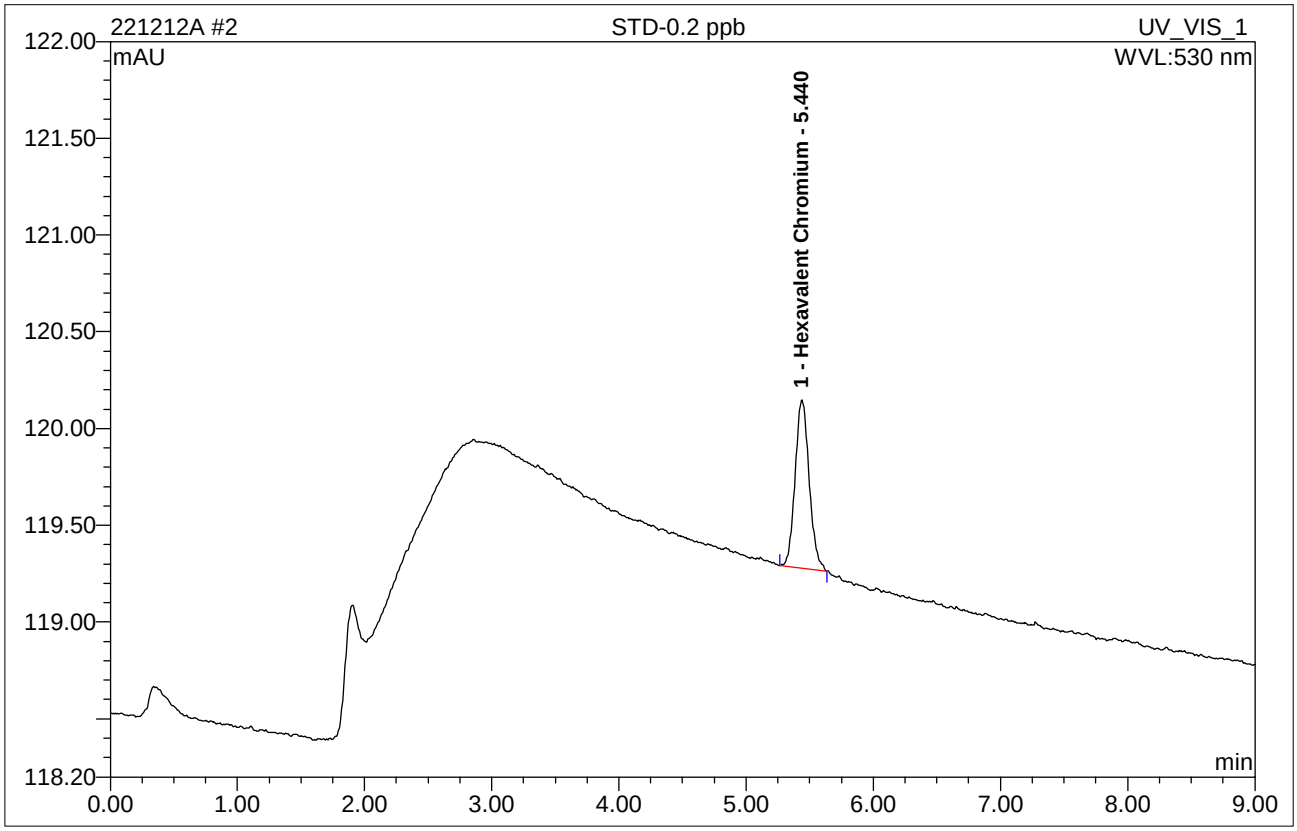


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 STD-0.2 ppb

0.2 ppb,IWST221111A,R220920A

Sample Name:	**STD-0.2 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**2**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 12:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

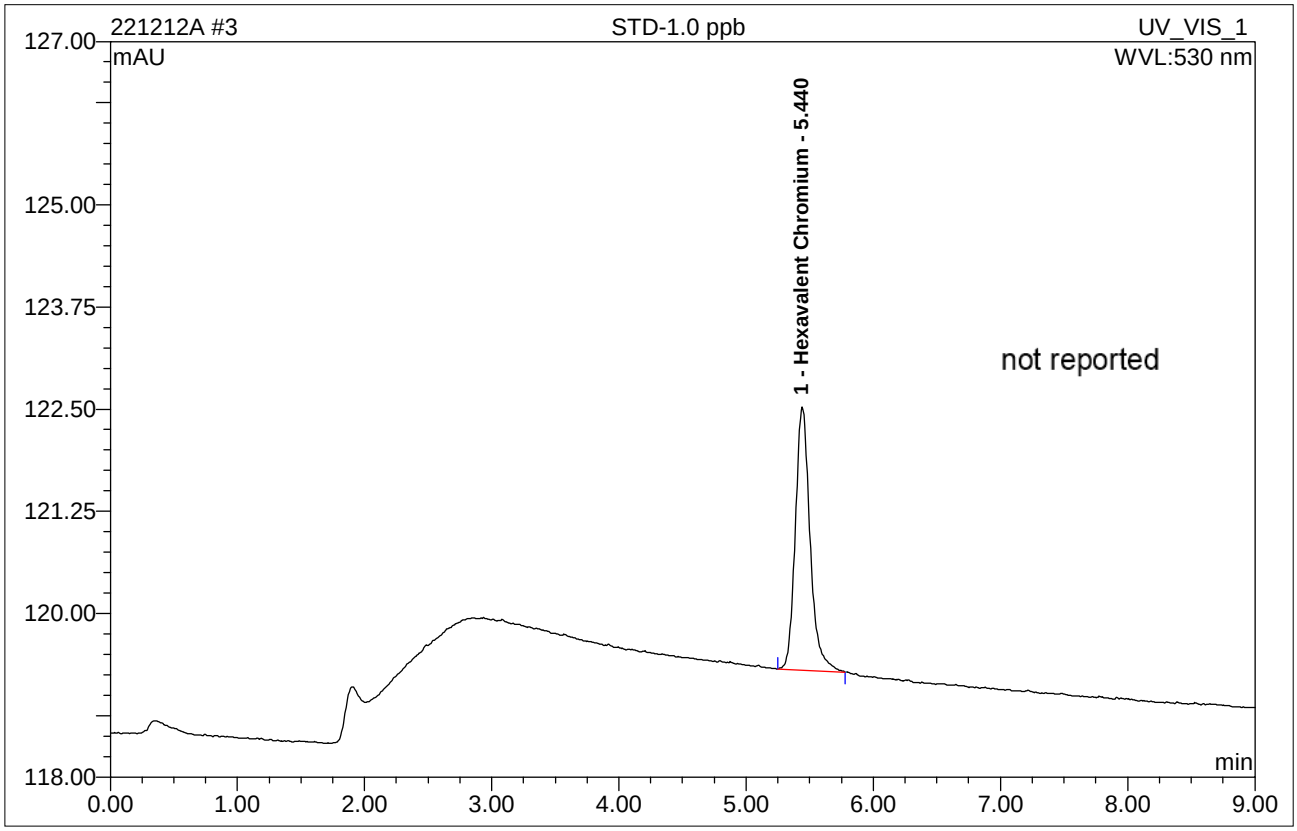


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	0.870	0.111	100.00	0.226929	BMB
Total:			0.870	0.111	100.00	0.227	

3 STD-1.0 ppb

1.0 ppb,IWST221111A,R221115B

Sample Name:	**STD-1.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**3**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 13:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

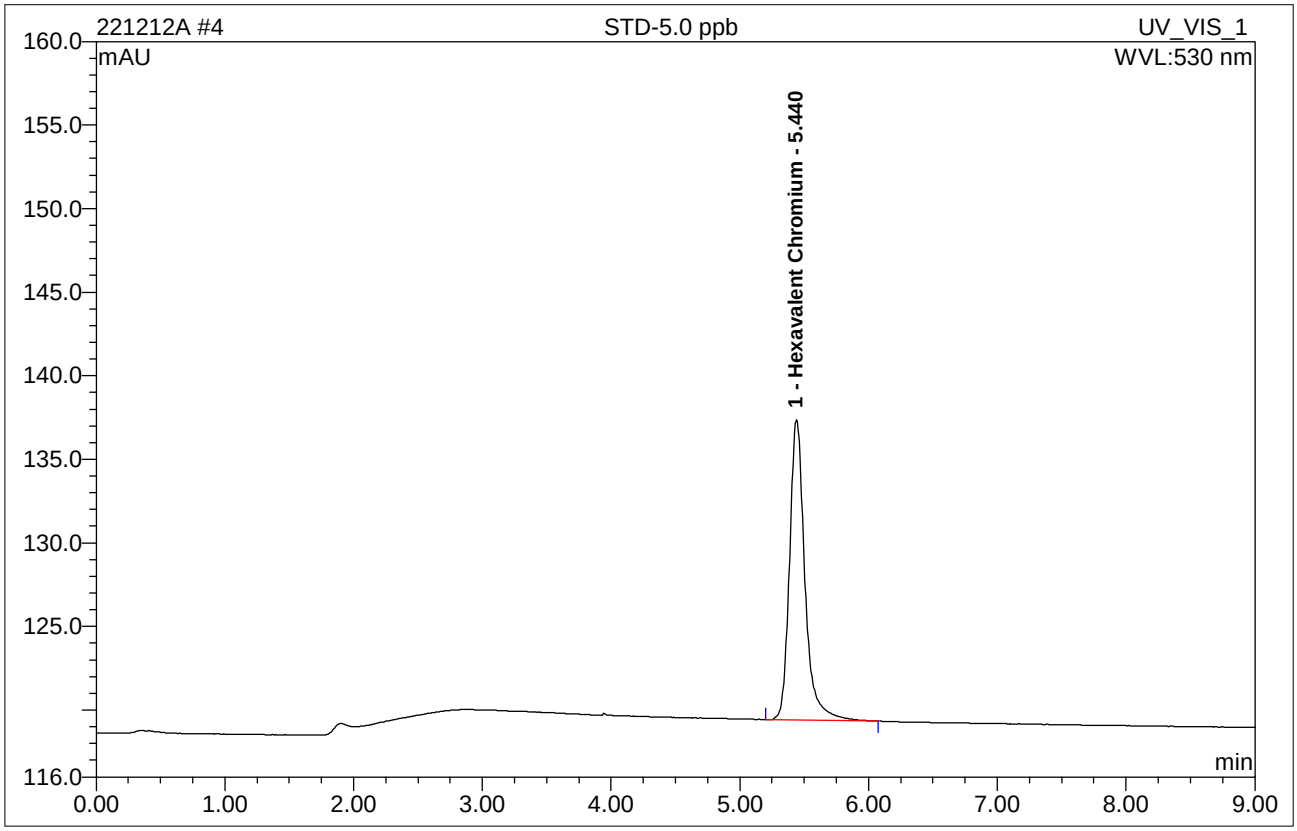


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	3.223	0.435	100.00	0.874947	BMB
Total:			3.223	0.435	100.00	0.875	

4 STD-5.0 ppb

5.0 ppb,IWST221111A,R221115B

Sample Name:	**STD-5.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**4**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 13:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

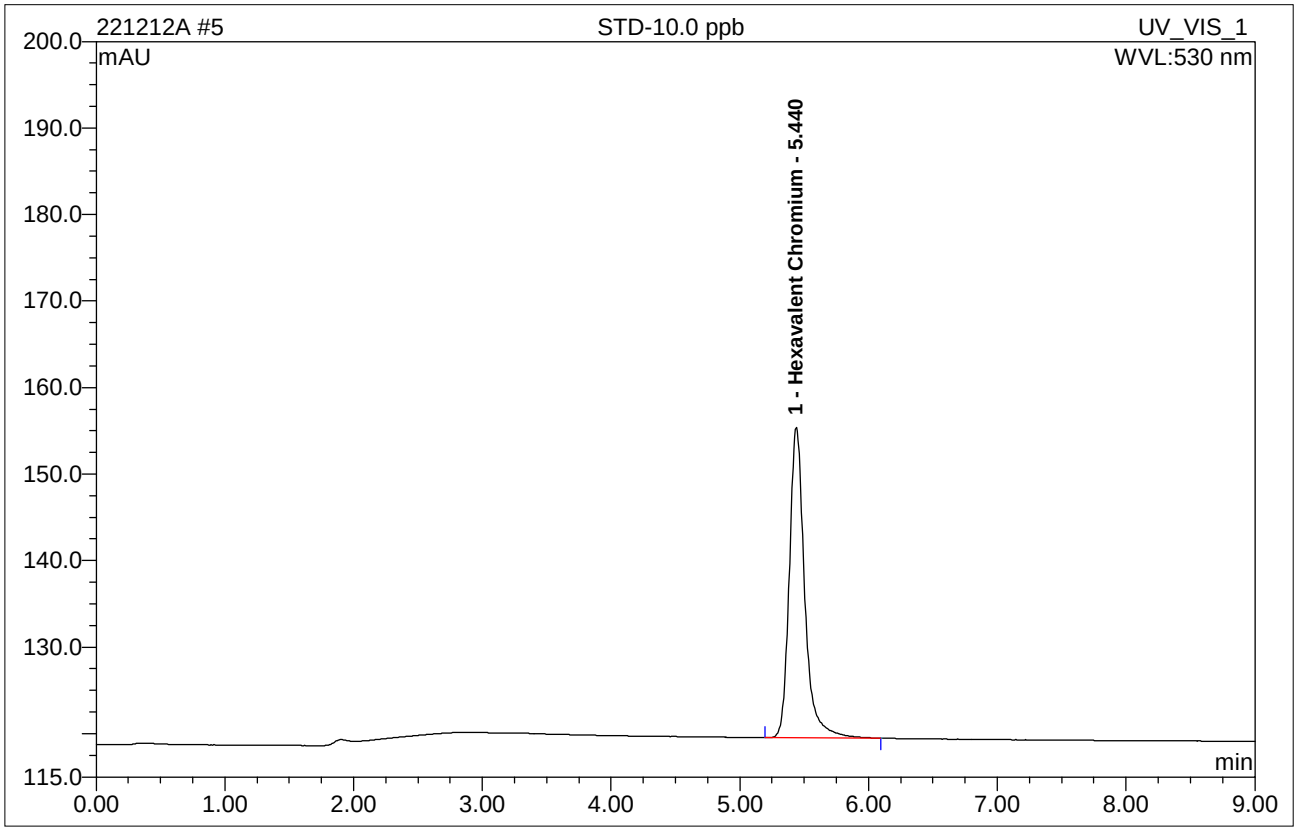


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	17.987	2.498	100.00	5.012586	BMB
Total:			17.987	2.498	100.00	5.013	

5 STD-10.0 ppb

10 ppb,IWST221111A,R221115B

Sample Name:	**STD-10.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**5**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 13:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

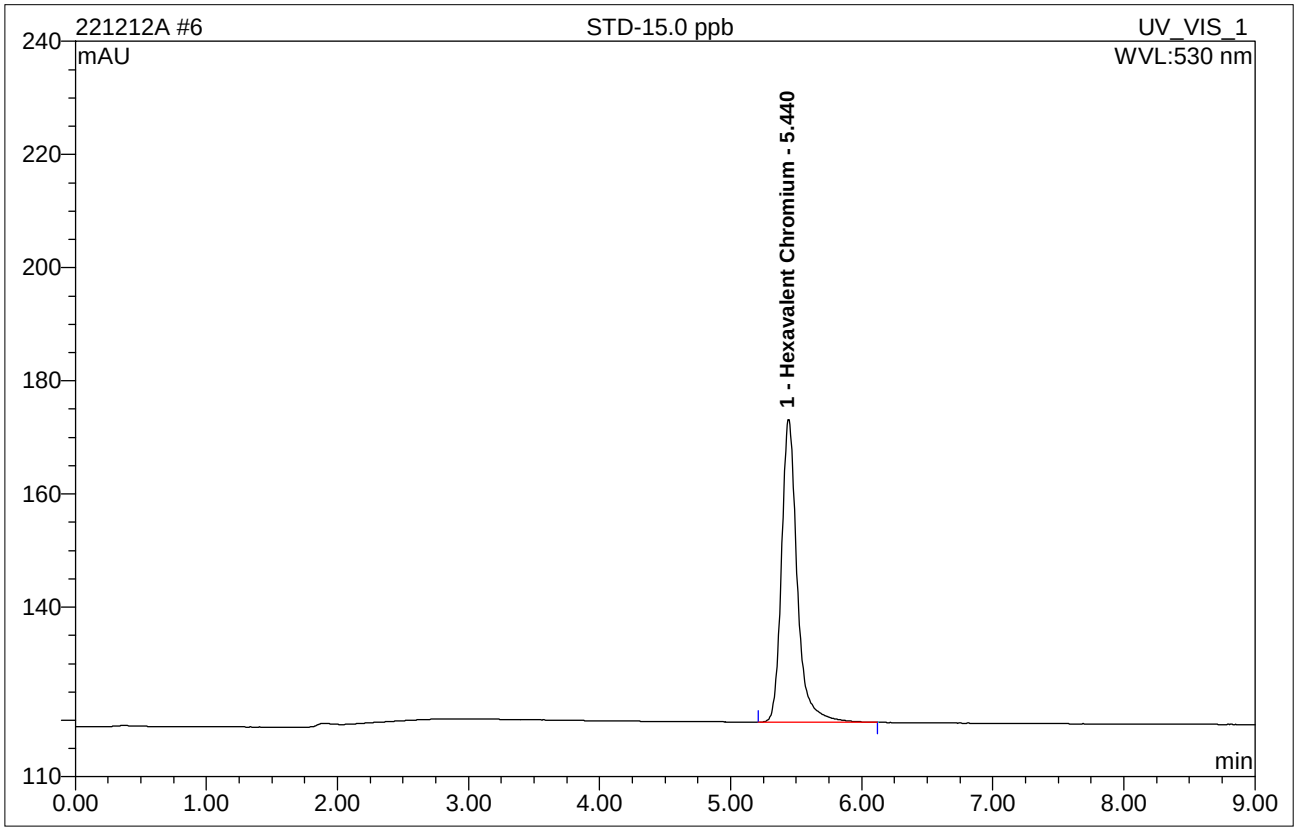


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	35.879	4.983	100.00	9.996115	BMB
Total:			35.879	4.983	100.00	9.996	

6 STD-15.0 ppb

15 ppb,IWST221111A,R221115B

Sample Name:	**STD-15.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**6**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 13:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

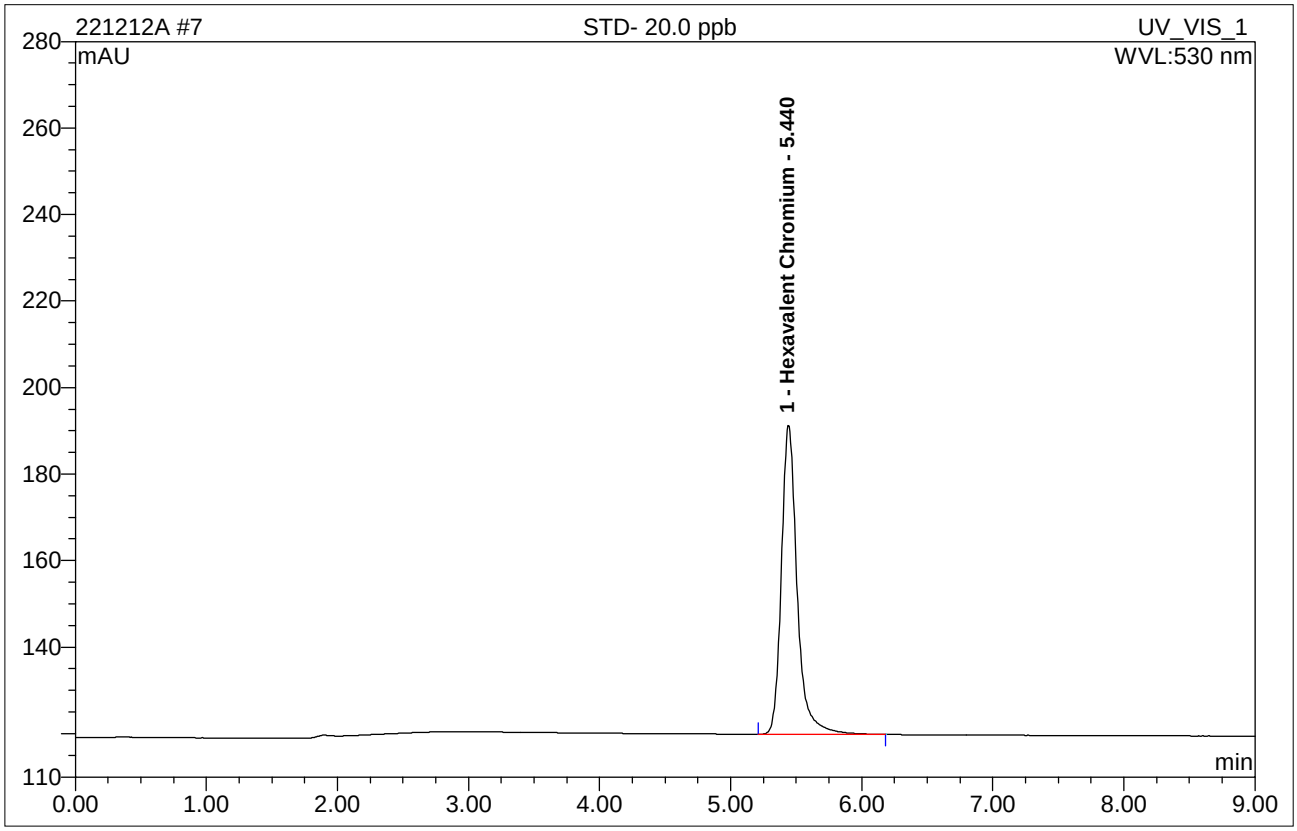


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	53.493	7.455	100.00	14.952479	BMB
Total:			53.493	7.455	100.00	14.952	

7 STD- 20.0 ppb

20 ppb,IWST221111A,R221115B

Sample Name:	**STD- 20.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**7**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 13:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

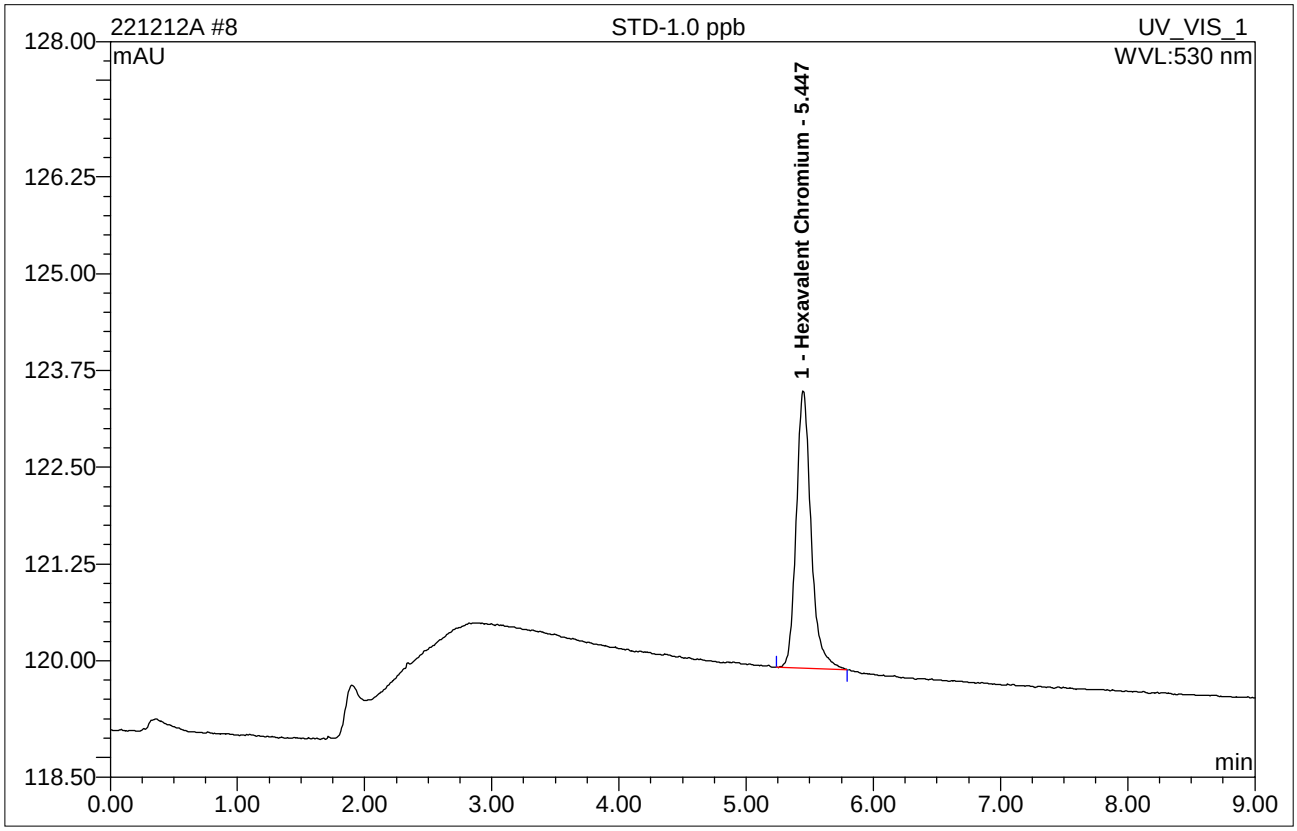


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	71.448	9.989	100.00	20.035340	BMB
Total:			71.448	9.989	100.00	20.035	

8 STD-1.0 ppb

1.0 ppb,IWST221111A,R221115B

Sample Name:	**STD-1.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**8**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

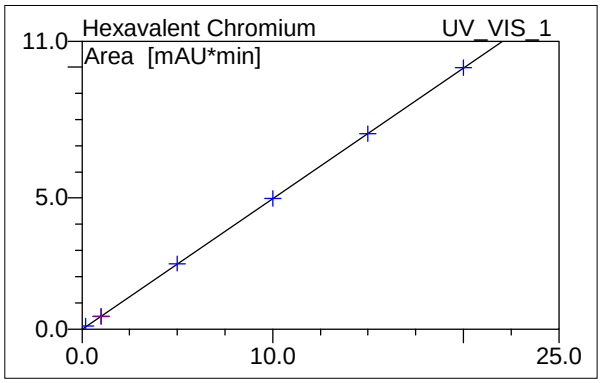


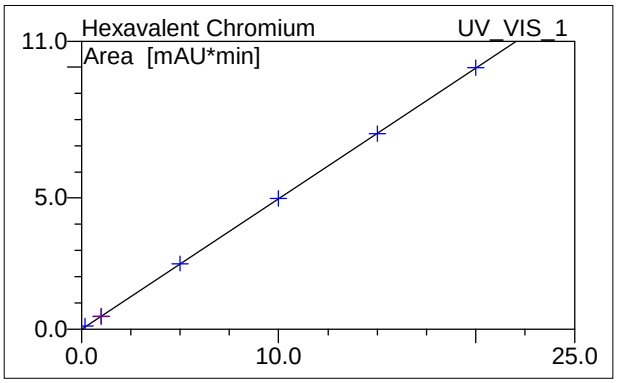
No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	3.581	0.485	100.00	0.976552	BMB
Total:			3.581	0.485	100.00	0.977	

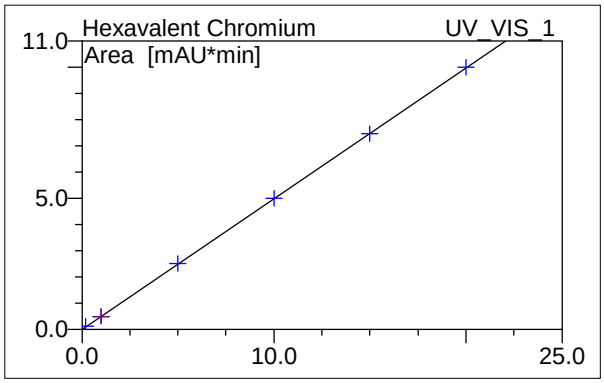
8 STD-1.0 ppb

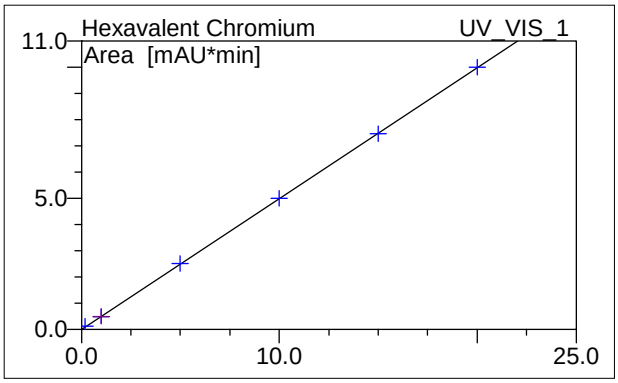
1.0 ppb,IWST221111A,R221115B

Sample Name:	**STD-1.0 ppb**	*Injection Volume:*	**500.0**
Vial Number:	**8**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**###############**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**







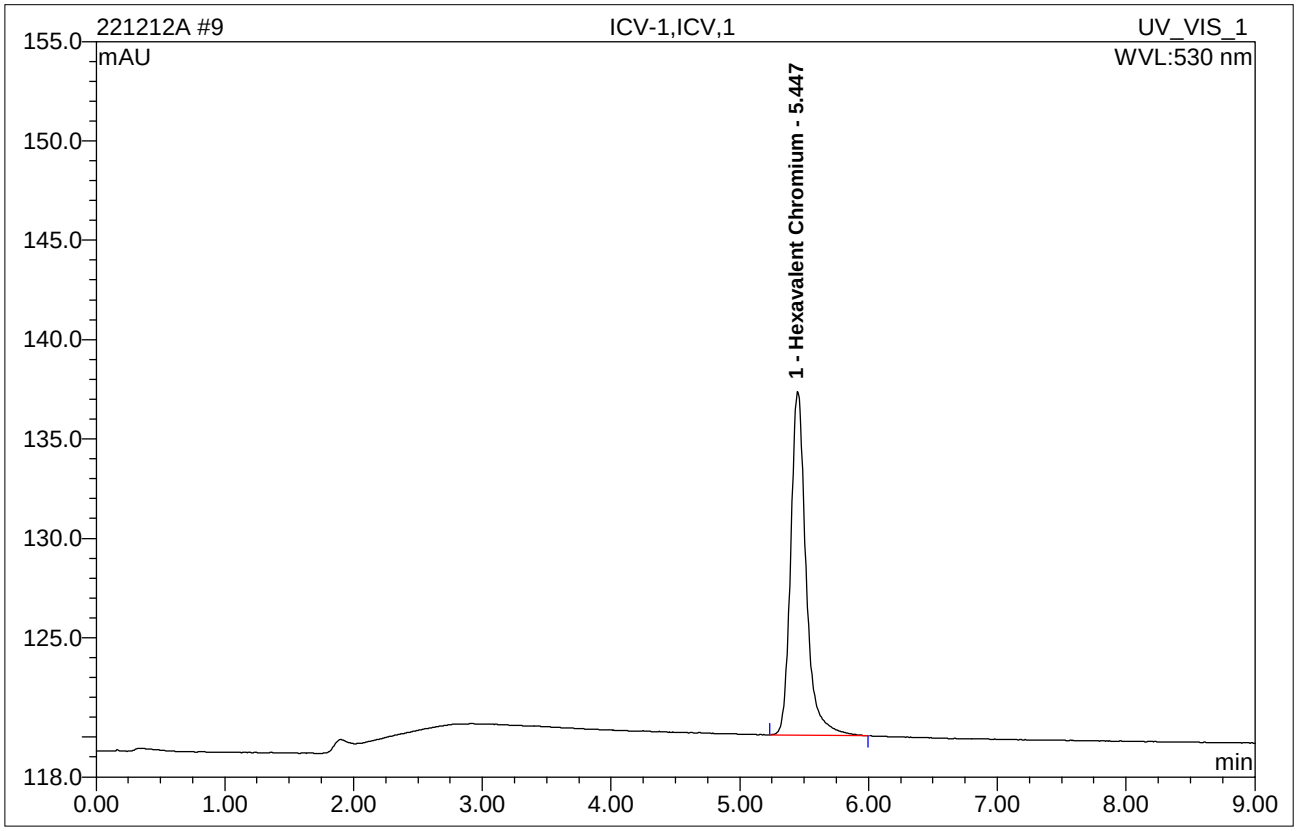


No.	Ret.Time min	Peak Name	Cal.Type	Points	Coeff.Det. %	Offset	Slope	Curve
1	5.45	Hexavalent Chror	LOff	6	99.9984	-0.0017	0.4987	0.0000
Average:					99.9984	-0.0017	0.4987	0.0000

9 ICV-1,ICV,1

ICV @ 5ppb,IWST221111B,R221115B

Sample Name:	**ICV-1,ICV,1**	*Injection Volume:*	**500.0**
Vial Number:	**9**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

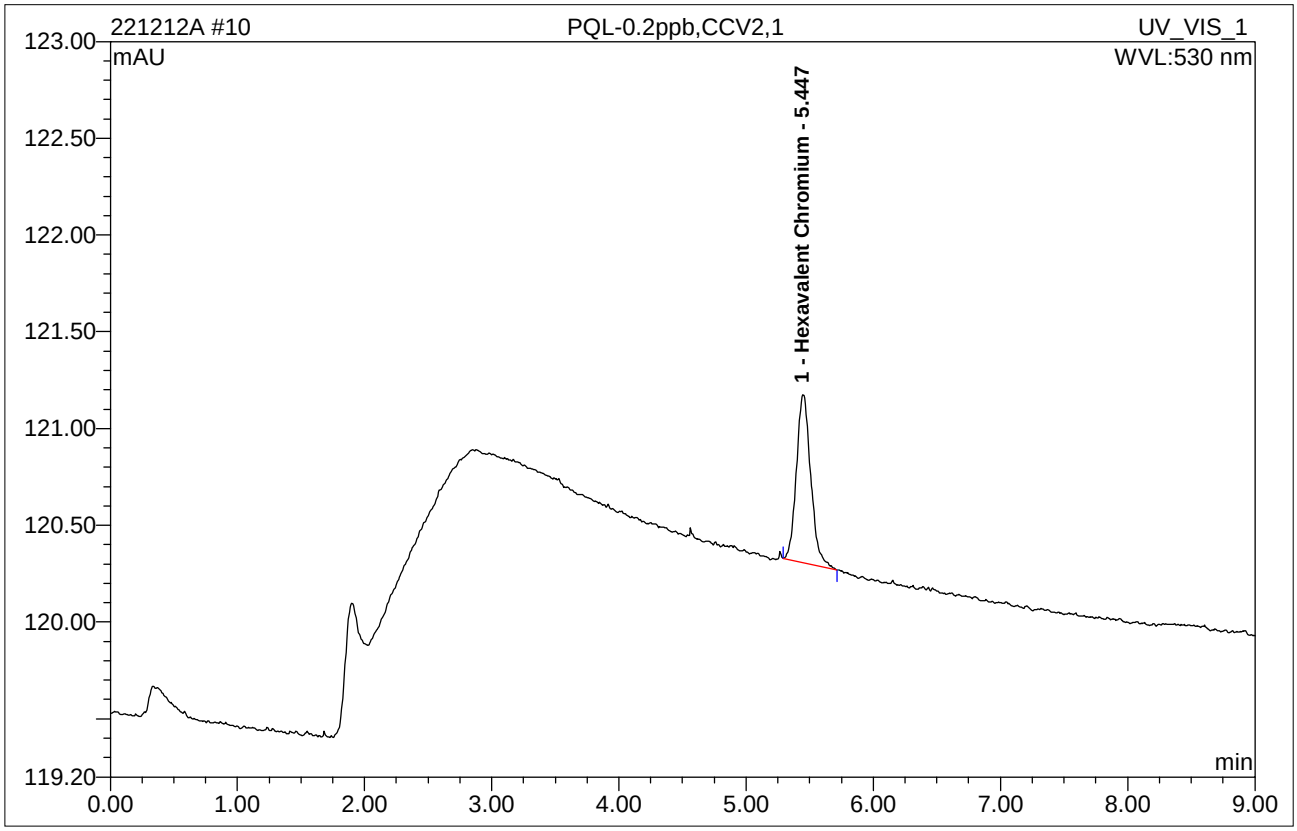


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	17.276	2.401	100.00	4.817508	BMB
Total:			17.276	2.401	100.00	4.818	

10 PQL-0.2ppb,CCV2,1

PQL @ 0.2ppb,IWST221111A,R221115B

Sample Name:	**PQL-0.2ppb,CCV2,1**	*Injection Volume:*	**500.0**
Vial Number:	**10**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

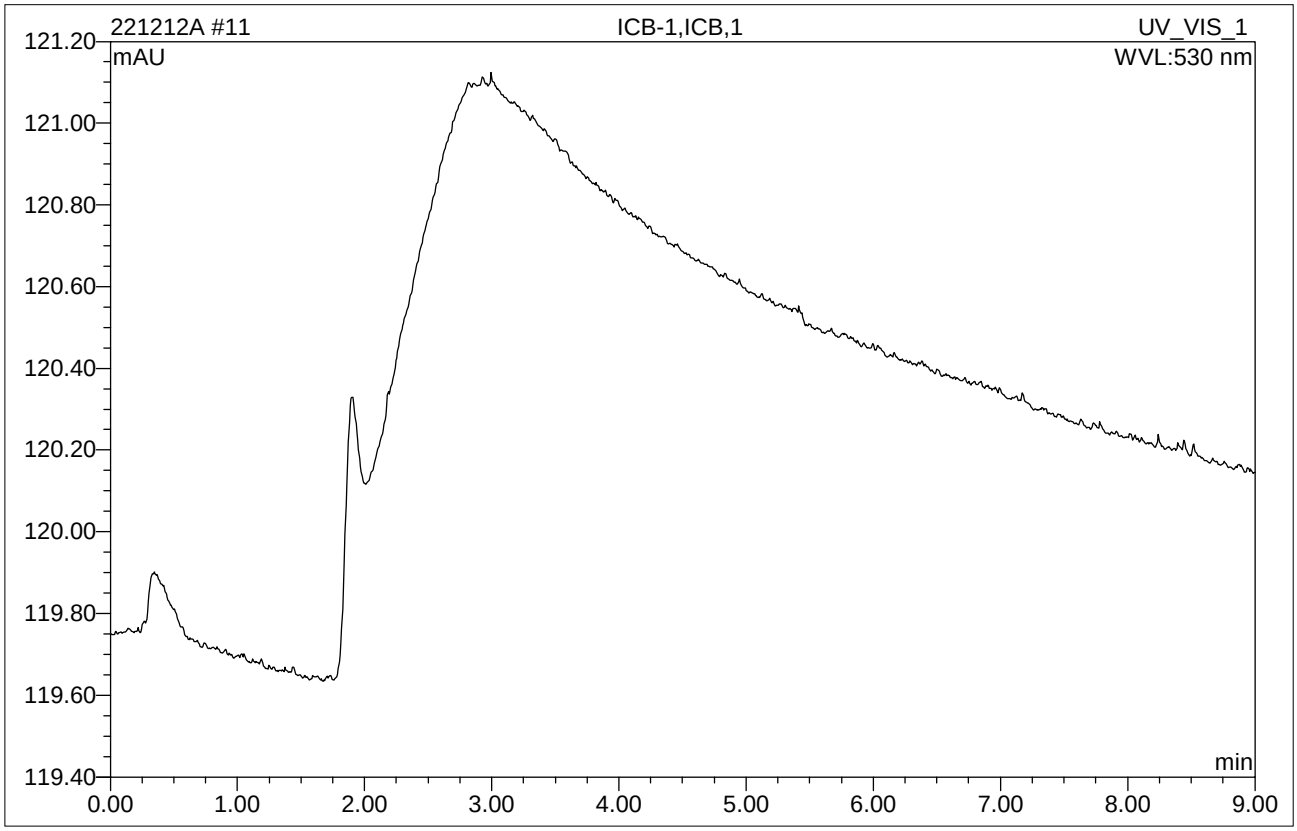


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	0.867	0.114	100.00	0.231634	BMB
Total:			0.867	0.114	100.00	0.232	

11 ICB-1,ICB,1

ICB,R221115B

Sample Name:	**ICB-1,ICB,1**	*Injection Volume:*	**500.0**
Vial Number:	**11**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

RAW DATA

INJECTION LOG: 221215A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	iBLANK	iBLANK	1	Hexavalent Chromium	12/12/22 12:42 PM	Reported
2	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/12/22 12:54 PM	Reported
3	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:05 PM	Not Reported
4	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:17 PM	Reported
5	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:28 PM	Reported
6	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:39 PM	Reported
7	STD- 20.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 1:51 PM	Reported
8	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/12/22 2:05 PM	Reported
9	ICV-1	ICV	1	Hexavalent Chromium	12/12/22 2:17 PM	Reported
10	PQL-0.2ppb	CCV2	1	Hexavalent Chromium	12/12/22 2:28 PM	Reported
11	ICB-1	ICB	1	Hexavalent Chromium	12/12/22 2:39 PM	Reported
12	iBLANK	iBLANK	1	Hexavalent Chromium	12/15/22 1:15 PM	Reported
13	CCV-1	CCV	1	Hexavalent Chromium	12/15/22 1:26 PM	Reported
14	PQL-0.2ppb	CCV2	1	Hexavalent Chromium	12/15/22 1:38 PM	Reported
15	CCB-1	CCB	1	Hexavalent Chromium	12/15/22 1:49 PM	Reported
16	LCS1-R168252	LCS	1	Hexavalent Chromium	12/15/22 2:00 PM	Reported
17	MB1-R168252	MBLK	1	Hexavalent Chromium	12/15/22 2:12 PM	Reported
18	N053989-001A	SAMP	1	Hexavalent Chromium	12/15/22 2:23 PM	Reported
19	N053989-001A-DUP	DUP	1	Hexavalent Chromium	12/15/22 2:35 PM	Reported
20	N053989-001A-MS	MS	1	Hexavalent Chromium	12/15/22 2:46 PM	Reported
21	N053989-001A-MSD	MSD	1	Hexavalent Chromium	12/15/22 2:57 PM	Reported
22	N053816-009A	SAMP	5	Hexavalent Chromium	12/15/22 3:09 PM	Reported
23	N053816-009A-MS	MS	5	Hexavalent Chromium	12/15/22 3:20 PM	Reported
24	N053816-012A	SAMP	1	Hexavalent Chromium	12/15/22 3:32 PM	Not Reported
25	N053816-012A-MS	MS	1	Hexavalent Chromium	12/15/22 3:43 PM	Not Reported
26	CCV-2	CCV1	1	Hexavalent Chromium	12/15/22 3:54 PM	Reported
27	CCB-2	CCB	1	Hexavalent Chromium	12/15/22 4:06 PM	Reported
28	N053817-009A	SAMP	5	Hexavalent Chromium	12/15/22 4:17 PM	Reported
29	N053817-009A-MS	MS	5	Hexavalent Chromium	12/15/22 4:29 PM	Reported
30	N053817-010A	SAMP	10	Hexavalent Chromium	12/15/22 4:40 PM	Reported
31	N053817-010A-MS	MS	10	Hexavalent Chromium	12/15/22 4:51 PM	Not Reported
32	N053817-011A	SAMP	1	Hexavalent Chromium	12/15/22 5:03 PM	Not Reported
33	N053817-011A-MS	MS	1	Hexavalent Chromium	12/15/22 5:14 PM	Not Reported
34	N053817-012A	SAMP	1	Hexavalent Chromium	12/15/22 5:26 PM	Not Reported
35	N053817-012A-MS	MS	1	Hexavalent Chromium	12/15/22 5:37 PM	Not Reported
36	N053816-012A	SAMP	5	Hexavalent Chromium	12/15/22 5:48 PM	Reported
37	N053816-012A-MS	MS	5	Hexavalent Chromium	12/15/22 6:00 PM	Reported
38	CCV-3	CCV	1	Hexavalent Chromium	12/15/22 6:11 PM	Reported
39	CCB-3	CCB	1	Hexavalent Chromium	12/15/22 6:23 PM	Reported
40	N053817-010A-MS	MS	10	Hexavalent Chromium	12/15/22 6:34 PM	Reported
41	N053817-011A	SAMP	5	Hexavalent Chromium	12/15/22 6:45 PM	Reported
42	N053817-011A-MS	MS	5	Hexavalent Chromium	12/15/22 6:57 PM	Reported

INJECTION LOG: 221215A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N053817-012A	SAMP	5	Hexavalent Chromium	12/15/22 7:08 PM	Reported
44	N053817-012A-MS	MS	5	Hexavalent Chromium	12/15/22 7:20 PM	Reported
45	N053873-001A	SAMP	1	Hexavalent Chromium	12/15/22 7:31 PM	Not Reported
46	N053873-001A-MS	MS	1	Hexavalent Chromium	12/15/22 7:42 PM	Not Reported
47	N053873-002A	SAMP	1	Hexavalent Chromium	12/15/22 7:54 PM	Reported
48	N053873-002A-MS	MS	1	Hexavalent Chromium	12/15/22 8:05 PM	Reported
49	N053873-003A	SAMP	1	Hexavalent Chromium	12/15/22 8:17 PM	Reported
50	CCV-4	CCV1	1	Hexavalent Chromium	12/15/22 8:28 PM	Reported
51	CCB-4	CCB	1	Hexavalent Chromium	12/15/22 8:39 PM	Reported
52	N053873-003A-MS	MS	1	Hexavalent Chromium	12/15/22 8:51 PM	Reported
53	N053873-009A	SAMP	5	Hexavalent Chromium	12/15/22 9:02 PM	Reported
54	N053873-009A-DUP	DUP	5	Hexavalent Chromium	12/15/22 9:14 PM	Reported
55	N053873-009A-MS	MS	5	Hexavalent Chromium	12/15/22 9:25 PM	Reported
56	N053873-009A-MSD	MSD	5	Hexavalent Chromium	12/15/22 9:36 PM	Reported
57	N053873-004A	SAMP	1	Hexavalent Chromium	12/15/22 9:48 PM	Reported
58	N053873-004A-MS	MS	1	Hexavalent Chromium	12/15/22 9:59 PM	Reported
59	N053873-005A	SAMP	1	Hexavalent Chromium	12/15/22 10:11 PM	Reported
60	N053873-005A-MS	MS	1	Hexavalent Chromium	12/15/22 10:22 PM	Reported
61	N053873-006A	SAMP	1	Hexavalent Chromium	12/15/22 10:34 PM	Reported
62	CCV-5	CCV	1	Hexavalent Chromium	12/15/22 10:45 PM	Reported
63	CCB-5	CCB	1	Hexavalent Chromium	12/15/22 10:56 PM	Reported
64	N053873-006A-MS	MS	1	Hexavalent Chromium	12/15/22 11:08 PM	Reported
65	N053873-007A	SAMP	1	Hexavalent Chromium	12/15/22 11:19 PM	Reported
66	N053873-007A-MS	MS	1	Hexavalent Chromium	12/15/22 11:31 PM	Reported
67	N053873-008A	SAMP	200	Hexavalent Chromium	12/15/22 11:42 PM	Not Reported
68	N053873-008A-MS	MS	200	Hexavalent Chromium	12/15/22 11:53 PM	Not Reported
69	N053873-010A	SAMP	1	Hexavalent Chromium	12/16/22 12:05 AM	Reported
70	N053873-010A-MS	MS	1	Hexavalent Chromium	12/16/22 12:16 AM	Reported
71	N053874-001A	SAMP	1	Hexavalent Chromium	12/16/22 12:28 AM	Not Reported
72	N053874-001A-MS	MS	1	Hexavalent Chromium	12/16/22 12:39 AM	Not Reported
73	N053874-001A	SAMP	5	Hexavalent Chromium	12/16/22 12:50 AM	Reported
74	CCV-6	CCV1	1	Hexavalent Chromium	12/16/22 1:02 AM	Reported
75	CCB-6	CCB	1	Hexavalent Chromium	12/16/22 1:13 AM	Reported
76	N053874-001A-MS	MS	5	Hexavalent Chromium	12/16/22 1:25 AM	Not Reported
77	N053874-002A	SAMP	5	Hexavalent Chromium	12/16/22 1:36 AM	Reported
78	N053874-002A-MS	MS	5	Hexavalent Chromium	12/16/22 1:47 AM	Reported
79	N053874-003A	SAMP	1	Hexavalent Chromium	12/16/22 1:59 AM	Reported
80	N053874-003A-MS	MS	1	Hexavalent Chromium	12/16/22 2:10 AM	Reported
81	LCS1-R168253	LCS	1	Hexavalent Chromium	12/16/22 2:22 AM	Reported
82	MB1-R168253	MBLK	1	Hexavalent Chromium	12/16/22 2:33 AM	Reported
83	N053874-005A	SAMP	20	Hexavalent Chromium	12/16/22 2:44 AM	Reported
84	N053874-005A-DUP	DUP	20	Hexavalent Chromium	12/16/22 2:56 AM	Reported

INJECTION LOG: 221215A

Instrument ID: IC-01

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
85	N053874-005A-MS	MS	20	Hexavalent Chromium	12/16/22 3:07 AM	Reported
86	CCV-7	CCV	1	Hexavalent Chromium	12/16/22 3:19 AM	Reported
87	CCB-7	CCB	1	Hexavalent Chromium	12/16/22 3:30 AM	Reported
88	N053874-005A-MSD	MSD	20	Hexavalent Chromium	12/16/22 3:41 AM	Reported
89	N053874-004A	SAMP	1	Hexavalent Chromium	12/16/22 3:53 AM	Reported
90	N053874-004A-MS	MS	1	Hexavalent Chromium	12/16/22 4:04 AM	Reported
91	N053874-006A	SAMP	100	Hexavalent Chromium	12/16/22 4:16 AM	Reported
92	N053874-006A-MS	MS	100	Hexavalent Chromium	12/16/22 4:27 AM	Reported
93	N053874-007A	SAMP	200	Hexavalent Chromium	12/16/22 4:38 AM	Reported
94	N053874-007A-MS	MS	200	Hexavalent Chromium	12/16/22 4:50 AM	Reported
95	N053874-008A	SAMP	1	Hexavalent Chromium	12/16/22 5:01 AM	Reported
96	N053874-008A-MS	MS	1	Hexavalent Chromium	12/16/22 5:13 AM	Reported
97	CCV-8	CCV1	1	Hexavalent Chromium	12/16/22 5:24 AM	Reported
98	CCB-8	CCB	1	Hexavalent Chromium	12/16/22 5:35 AM	Reported
99	N053874-009A	SAMP	1	Hexavalent Chromium	12/16/22 7:22 AM	Reported
100	N053874-009A-MS	MS	1	Hexavalent Chromium	12/16/22 7:34 AM	Reported
101	N053874-010A	SAMP	5	Hexavalent Chromium	12/16/22 7:45 AM	Reported
102	N053874-010A-MS	MS	5	Hexavalent Chromium	12/16/22 7:57 AM	Reported
103	N053873-001A	SAMP	5	Hexavalent Chromium	12/16/22 9:21 AM	Not Reported
104	N053873-001A-MS	MS	5	Hexavalent Chromium	12/16/22 9:32 AM	Not Reported
105	N053873-008A	SAMP	1	Hexavalent Chromium	12/16/22 9:44 AM	Not Reported
106	N053873-008A	SAMP	5	Hexavalent Chromium	12/16/22 10:12 AM	Not Reported
107	N053873-008A-MS	MS	5	Hexavalent Chromium	12/16/22 10:23 AM	Reported
108	N053874-001A-MS	MS	5	Hexavalent Chromium	12/16/22 10:35 AM	Reported
109	CCV-9	CCV	1	Hexavalent Chromium	12/16/22 10:46 AM	Reported
110	CCB-9	CCB	1	Hexavalent Chromium	12/16/22 10:57 AM	Reported
111	N053874-004A-MS	MS	1	Hexavalent Chromium	12/16/22 11:09 AM	Reported
112	N053874-007A	SAMP	10	Hexavalent Chromium	12/16/22 12:06 PM	Reported
113	N053874-007A-MS	MS	10	Hexavalent Chromium	12/16/22 12:29 PM	Reported
114	N053874-009A	SAMP	5	Hexavalent Chromium	12/16/22 12:49 PM	Reported
115	N053874-009A-MS	MS	5	Hexavalent Chromium	12/16/22 1:01 PM	Reported
116	N053874-010A	SAMP	1	Hexavalent Chromium	12/16/22 1:12 PM	Reported
117	N053874-010A-MS	MS	1	Hexavalent Chromium	12/16/22 1:38 PM	Reported
118	N053874-010A-MS	MS	5	Hexavalent Chromium	12/16/22 1:54 PM	Reported
119	CCV-10	CCV1	1	Hexavalent Chromium	12/16/22 2:05 PM	Reported
120	CCB-10	CCB	1	Hexavalent Chromium	12/16/22 2:16 PM	Reported

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
1	iBLANK	Unknown	1	CR6 Program	CR6 METHOD_221212A	Finished
2	STD-0.2 ppb	Standard	2	CR6 Program	CR6 METHOD_221212A	Finished
3	STD-1.0 ppb	Unknown	3	CR6 Program	CR6 METHOD_221212A	Finished
4	STD-5.0 ppb	Standard	4	CR6 Program	CR6 METHOD_221212A	Finished
5	STD-10.0 ppb	Standard	5	CR6 Program	CR6 METHOD_221212A	Finished
6	STD-15.0 ppb	Standard	6	CR6 Program	CR6 METHOD_221212A	Finished
7	STD- 20.0 ppb	Standard	7	CR6 Program	CR6 METHOD_221212A	Finished
8	STD-1.0 ppb	Standard	8	CR6 Program	CR6 METHOD_221212A	Finished
9	ICV-1,ICV,1	Unknown	9	CR6 Program	CR6 METHOD_221212A	Finished
10	PQL-0.2ppb,CCV2,1	Unknown	10	CR6 Program	CR6 METHOD_221212A	Finished
11	ICB-1,ICB,1	Unknown	11	CR6 Program	CR6 METHOD_221212A	Finished
12	iBLANK	Unknown	12	CR6 Program	CR6 METHOD_221212A	Finished
13	CCV-1,CCV,1	Unknown	13	CR6 Program	CR6 METHOD_221212A	Finished
14	PQL-0.2ppb,CCV2,1	Unknown	14	CR6 Program	CR6 METHOD_221212A	Finished
15	CCB-1,CCB,1	Unknown	15	CR6 Program	CR6 METHOD_221212A	Finished
16	LCS1-H2O,LCS,1	Unknown	16	CR6 Program	CR6 METHOD_221212A	Finished
17	MB1-H2O,MBLK,1	Unknown	17	CR6 Program	CR6 METHOD_221212A	Finished
18	N053989-001A,SAMP,1	Unknown	18	CR6 Program	CR6 METHOD_221212A	Finished
19	N053989-001A-DUP,DUP,1	Unknown	19	CR6 Program	CR6 METHOD_221212A	Finished
20	N053989-001A-MS,MS,1	Unknown	20	CR6 Program	CR6 METHOD_221212A	Finished
21	N053989-001A-MSD,MSD,1	Unknown	21	CR6 Program	CR6 METHOD_221212A	Finished
22	N053816-009A,SAMP,5	Unknown	22	CR6 Program	CR6 METHOD_221212A	Finished
23	N053816-009A-MS,MS,5	Unknown	23	CR6 Program	CR6 METHOD_221212A	Finished
24	N053816-012A,SAMP,1	Unknown	24	CR6 Program	CR6 METHOD_221212A	Finished
25	N053816-012A-MS,MS,1	Unknown	25	CR6 Program	CR6 METHOD_221212A	Finished
26	CCV-2,CCV1,1	Unknown	26	CR6 Program	CR6 METHOD_221212A	Finished
27	CCB-2,CCB,1	Unknown	27	CR6 Program	CR6 METHOD_221212A	Finished
28	N053817-009A,SAMP,5	Unknown	28	CR6 Program	CR6 METHOD_221212A	Finished
29	N053817-009A-MS,MS,5	Unknown	29	CR6 Program	CR6 METHOD_221212A	Finished
30	N053817-010A,SAMP,10	Unknown	30	CR6 Program	CR6 METHOD_221212A	Finished
31	N053817-010A-MS,MS,10	Unknown	31	CR6 Program	CR6 METHOD_221212A	Finished
32	N053817-011A,SAMP,1	Unknown	32	CR6 Program	CR6 METHOD_221212A	Finished
33	N053817-011A-MS,MS,1	Unknown	33	CR6 Program	CR6 METHOD_221212A	Finished
34	N053817-012A,SAMP,1	Unknown	34	CR6 Program	CR6 METHOD_221212A	Finished
35	N053817-012A-MS,MS,1	Unknown	35	CR6 Program	CR6 METHOD_221212A	Finished
36	N053816-012A,SAMP,5	Unknown	36	CR6 Program	CR6 METHOD_221212A	Finished
37	N053816-012A-MS,MS,5	Unknown	37	CR6 Program	CR6 METHOD_221212A	Finished
38	CCV-3,CCV,1	Unknown	38	CR6 Program	CR6 METHOD_221212A	Finished
39	CCB-3,CCB,1	Unknown	39	CR6 Program	CR6 METHOD_221212A	Finished
40	N053817-010A-MS,MS,10	Unknown	40	CR6 Program	CR6 METHOD_221212A	Finished
41	N053817-011A,SAMP,5	Unknown	41	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Inj. Date/Time	Comment
1	iBLANK	12/12/2022 12:42:48 PM	Instrument Blank,R221115B
2	STD-0.2 ppb	12/12/2022 12:54:12 PM	0.2 ppb,IWST221111A,R220920A
3	STD-1.0 ppb	12/12/2022 1:05:36 PM	1.0 ppb,IWST221111A,R221115B
4	STD-5.0 ppb	12/12/2022 1:17:00 PM	5.0 ppb,IWST221111A,R221115B
5	STD-10.0 ppb	12/12/2022 1:28:24 PM	10 ppb,IWST221111A,R221115B
6	STD-15.0 ppb	12/12/2022 1:39:48 PM	15 ppb,IWST221111A,R221115B
7	STD- 20.0 ppb	12/12/2022 1:51:13 PM	20 ppb,IWST221111A,R221115B
8	STD-1.0 ppb	12/12/2022 2:05:01 PM	1.0 ppb,IWST221111A,R221115B
9	ICV-1,ICV,1	12/12/2022 2:17:05 PM	ICV @ 5ppb,IWST221111B,R221115B
10	PQL-0.2ppb,CCV2,1	12/12/2022 2:28:29 PM	PQL @ 0.2ppb,IWST221111A,R221115B
11	ICB-1,ICB,1	12/12/2022 2:39:54 PM	ICB,R221115B
12	iBLANK	12/15/2022 1:15:19 PM	Instrument Blank,R221115B
13	CCV-1,CCV,1	12/15/2022 1:26:42 PM	CCV @ 5ppb, IWST221111A,R221115B
14	PQL-0.2ppb,CCV2,1	12/15/2022 1:38:07 PM	0.2ppb,IWST221111A,R221115B
15	CCB-1,CCB,1	12/15/2022 1:49:31 PM	CCB,R221115B
16	LCS1-H2O,LCS,1	12/15/2022 2:00:55 PM	LCS @ 5ppb,IWST221205A,R221115B
17	MB1-H2O,MBLK,1	12/15/2022 2:12:20 PM	METHOD BLANK,R221115B
18	N053989-001A,SAMP,1	12/15/2022 2:23:44 PM	SAMPLE
19	N053989-001A-DUP,DUP,1	12/15/2022 2:35:08 PM	DUPLICATE
20	N053989-001A-MS,MS,1	12/15/2022 2:46:32 PM	MS @ 5ppb,IWST221205A
21	N053989-001A-MSD,MSD,1	12/15/2022 2:57:56 PM	MSD @ 5ppb,IWST221205A
22	N053816-009A,SAMP,5	12/15/2022 3:09:20 PM	SAMPLE,2>10mL
23	N053816-009A-MS,MS,5	12/15/2022 3:20:44 PM	MS @ 1ppb,IWST221205A,2>10mL
24	N053816-012A,SAMP,1	12/15/2022 3:32:08 PM	SAMPLE
25	N053816-012A-MS,MS,1	12/15/2022 3:43:32 PM	MS @ 1ppb,IWST221205A
26	CCV-2,CCV1,1	12/15/2022 3:54:57 PM	CCV @ 10ppb,IWST221111A,R221115B
27	CCB-2,CCB,1	12/15/2022 4:06:21 PM	CCB,R221115B
28	N053817-009A,SAMP,5	12/15/2022 4:17:45 PM	SAMPLE,2>10mL
29	N053817-009A-MS,MS,5	12/15/2022 4:29:09 PM	MS @ 5ppb,IWST221205A,2>10mL
30	N053817-010A,SAMP,10	12/15/2022 4:40:33 PM	SAMPLE,1>10mL
31	N053817-010A-MS,MS,10	12/15/2022 4:51:57 PM	MS @ 5ppb,IWST221205A,1>10mL
32	N053817-011A,SAMP,1	12/15/2022 5:03:21 PM	SAMPLE
33	N053817-011A-MS,MS,1	12/15/2022 5:14:45 PM	MS @ 1ppb,IWST221205A
34	N053817-012A,SAMP,1	12/15/2022 5:26:09 PM	SAMPLE
35	N053817-012A-MS,MS,1	12/15/2022 5:37:33 PM	MS @ 1ppb,IWST221205A
36	N053816-012A,SAMP,5	12/15/2022 5:48:57 PM	SAMPLE,2>10mL
37	N053816-012A-MS,MS,5	12/15/2022 6:00:21 PM	MS @ 1ppb,IWST221205A,2>10mL
38	CCV-3,CCV,1	12/15/2022 6:11:45 PM	CCV @ 5ppb,IWST221111A,R221115B
39	CCB-3,CCB,1	12/15/2022 6:23:09 PM	CCB,R221115B
40	N053817-010A-MS,MS,10	12/15/2022 6:34:34 PM	MS @ 5ppb,IWST221205A,1>10mL
41	N053817-011A,SAMP,5	12/15/2022 6:45:57 PM	SAMPLE,2>10mL

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
42	N053817-011A-MS,MS,5	Unknown	42	CR6 Program	CR6 METHOD_221212A	Finished
43	N053817-012A,SAMP,5	Unknown	43	CR6 Program	CR6 METHOD_221212A	Finished
44	N053817-012A-MS,MS,5	Unknown	44	CR6 Program	CR6 METHOD_221212A	Finished
45	N053873-001A,SAMP,1	Unknown	45	CR6 Program	CR6 METHOD_221212A	Finished
46	N053873-001A-MS,MS,1	Unknown	46	CR6 Program	CR6 METHOD_221212A	Finished
47	N053873-002A,SAMP,1	Unknown	47	CR6 Program	CR6 METHOD_221212A	Finished
48	N053873-002A-MS,MS,1	Unknown	48	CR6 Program	CR6 METHOD_221212A	Finished
49	N053873-003A,SAMP,1	Unknown	49	CR6 Program	CR6 METHOD_221212A	Finished
50	CCV-4,CCV1,1	Unknown	50	CR6 Program	CR6 METHOD_221212A	Finished
51	CCB-4,CCB,1	Unknown	51	CR6 Program	CR6 METHOD_221212A	Finished
52	N053873-003A-MS,MS,1	Unknown	52	CR6 Program	CR6 METHOD_221212A	Finished
53	N053873-009A,SAMP,5	Unknown	53	CR6 Program	CR6 METHOD_221212A	Finished
54	N053873-009A-DUP,DUP,5	Unknown	54	CR6 Program	CR6 METHOD_221212A	Finished
55	N053873-009A-MS,MS,5	Unknown	55	CR6 Program	CR6 METHOD_221212A	Finished
56	N053873-009A-MSD,MSD,5	Unknown	56	CR6 Program	CR6 METHOD_221212A	Finished
57	N053873-004A,SAMP,1	Unknown	57	CR6 Program	CR6 METHOD_221212A	Finished
58	N053873-004A-MS,MS,1	Unknown	58	CR6 Program	CR6 METHOD_221212A	Finished
59	N053873-005A,SAMP,1	Unknown	59	CR6 Program	CR6 METHOD_221212A	Finished
60	N053873-005A-MS,MS,1	Unknown	60	CR6 Program	CR6 METHOD_221212A	Finished
61	N053873-006A,SAMP,1	Unknown	61	CR6 Program	CR6 METHOD_221212A	Finished
62	CCV-5,CCV,1	Unknown	62	CR6 Program	CR6 METHOD_221212A	Finished
63	CCB-5,CCB,1	Unknown	63	CR6 Program	CR6 METHOD_221212A	Finished
64	N053873-006A-MS,MS,1	Unknown	64	CR6 Program	CR6 METHOD_221212A	Finished
65	N053873-007A,SAMP,1	Unknown	65	CR6 Program	CR6 METHOD_221212A	Finished
66	N053873-007A-MS,MS,1	Unknown	66	CR6 Program	CR6 METHOD_221212A	Finished
67	N053873-008A,SAMP,200	Unknown	67	CR6 Program	CR6 METHOD_221212A	Finished
68	N053873-008A-MS,MS,200	Unknown	68	CR6 Program	CR6 METHOD_221212A	Finished
69	N053873-010A,SAMP,1	Unknown	69	CR6 Program	CR6 METHOD_221212A	Finished
70	N053873-010A-MS,MS,1	Unknown	70	CR6 Program	CR6 METHOD_221212A	Finished
71	N053874-001A,SAMP,1	Unknown	71	CR6 Program	CR6 METHOD_221212A	Finished
72	N053874-001A-MS,MS,1	Unknown	72	CR6 Program	CR6 METHOD_221212A	Finished
73	N053874-001A,SAMP,5	Unknown	73	CR6 Program	CR6 METHOD_221212A	Finished
74	CCV-6,CCV1,1	Unknown	74	CR6 Program	CR6 METHOD_221212A	Finished
75	CCB-6,CCB,1	Unknown	75	CR6 Program	CR6 METHOD_221212A	Finished
76	N053874-001A-MS,MS,5	Unknown	76	CR6 Program	CR6 METHOD_221212A	Finished
77	N053874-002A,SAMP,5	Unknown	77	CR6 Program	CR6 METHOD_221212A	Finished
78	N053874-002A-MS,MS,5	Unknown	78	CR6 Program	CR6 METHOD_221212A	Finished
79	N053874-003A,SAMP,1	Unknown	79	CR6 Program	CR6 METHOD_221212A	Finished
80	N053874-003A-MS,MS,1	Unknown	80	CR6 Program	CR6 METHOD_221212A	Finished
81	LCS1-H2O,LCS,1	Unknown	81	CR6 Program	CR6 METHOD_221212A	Finished
82	MB1-H2O,MBLK,1	Unknown	82	CR6 Program	CR6 METHOD_221212A	Finished

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Inj. Date/Time	Comment
42	N053817-011A-MS,MS,5	12/15/2022 6:57:21 PM	MS @ 1ppb,IWST221205A,2>10mL
43	N053817-012A,SAMP,5	12/15/2022 7:08:45 PM	SAMPLE,2>10mL
44	N053817-012A-MS,MS,5	12/15/2022 7:20:09 PM	MS @ 1ppb,IWST221205A,2>10mL
45	N053873-001A,SAMP,1	12/15/2022 7:31:34 PM	SAMPLE
46	N053873-001A-MS,MS,1	12/15/2022 7:42:58 PM	MS @ 1ppb,IWST221205A
47	N053873-002A,SAMP,1	12/15/2022 7:54:22 PM	SAMPLE
48	N053873-002A-MS,MS,1	12/15/2022 8:05:46 PM	MS @ 1ppb,IWST221205A
49	N053873-003A,SAMP,1	12/15/2022 8:17:11 PM	SAMPLE
50	CCV-4,CCV1,1	12/15/2022 8:28:35 PM	CCV @ 10ppb,IWST221111A,R221115B
51	CCB-4,CCB,1	12/15/2022 8:39:59 PM	CCB,R221115B
52	N053873-003A-MS,MS,1	12/15/2022 8:51:23 PM	MS @ 1ppb,IWST221205A
53	N053873-009A,SAMP,5	12/15/2022 9:02:47 PM	SAMPLE,2>10mL
54	N053873-009A-DUP,DUP,5	12/15/2022 9:14:11 PM	DUPLICATE,2>10mL
55	N053873-009A-MS,MS,5	12/15/2022 9:25:35 PM	MS @ 5ppb,IWST221205A,2>10mL
56	N053873-009A-MSD,MSD,5	12/15/2022 9:36:59 PM	MSD @ 5ppb,IWST221205A,2>10mL
57	N053873-004A,SAMP,1	12/15/2022 9:48:24 PM	SAMPLE
58	N053873-004A-MS,MS,1	12/15/2022 9:59:48 PM	MS @ 1ppb,IWST221205A
59	N053873-005A,SAMP,1	12/15/2022 10:11:12 PM	SAMPLE
60	N053873-005A-MS,MS,1	12/15/2022 10:22:36 PM	MS @ 5ppb,IWST221205A
61	N053873-006A,SAMP,1	12/15/2022 10:34:01 PM	SAMPLE
62	CCV-5,CCV,1	12/15/2022 10:45:25 PM	CCV @ 5ppb,IWST221111A,R221115B
63	CCB-5,CCB,1	12/15/2022 10:56:49 PM	CCB,R221115B
64	N053873-006A-MS,MS,1	12/15/2022 11:08:13 PM	MS @ 1ppb,IWST221205A
65	N053873-007A,SAMP,1	12/15/2022 11:19:37 PM	SAMPLE
66	N053873-007A-MS,MS,1	12/15/2022 11:31:01 PM	MS @ 1ppb,IWST221205A
67	N053873-008A,SAMP,200	12/15/2022 11:42:25 PM	SAMPLE,0.05>10mL
68	N053873-008A-MS,MS,200	12/15/2022 11:53:50 PM	MS @ 5ppb,IWST221205A,0.05>10mL
69	N053873-010A,SAMP,1	12/16/2022 12:05:14 AM	SAMPLE
70	N053873-010A-MS,MS,1	12/16/2022 12:16:38 AM	MS @ 1ppb,IWST221205A
71	N053874-001A,SAMP,1	12/16/2022 12:28:02 AM	SAMPLE
72	N053874-001A-MS,MS,1	12/16/2022 12:39:26 AM	MS @ 1ppb,IWST221205A
73	N053874-001A,SAMP,5	12/16/2022 12:50:50 AM	SAMPLE,2>10mL
74	CCV-6,CCV1,1	12/16/2022 1:02:15 AM	CCV @ 10ppb,IWST221111A,R221115B
75	CCB-6,CCB,1	12/16/2022 1:13:39 AM	CCB,R221115B
76	N053874-001A-MS,MS,5	12/16/2022 1:25:03 AM	MS @ 1ppb,IWST221205A,2>10mL
77	N053874-002A,SAMP,5	12/16/2022 1:36:27 AM	SAMPLE,2>10mL
78	N053874-002A-MS,MS,5	12/16/2022 1:47:51 AM	MS @ 5ppb,IWST221205A,2>10mL
79	N053874-003A,SAMP,1	12/16/2022 1:59:15 AM	SAMPLE
80	N053874-003A-MS,MS,1	12/16/2022 2:10:39 AM	MS @ 1ppb,IWST221205A
81	LCS1-H2O,LCS,1	12/16/2022 2:22:03 AM	LCS @ 5ppb,IWST221205A,R221115B
82	MB1-H2O,MBLK,1	12/16/2022 2:33:27 AM	METHOD BLANK,R221115B

Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Type	Pos.	Program	Method	Status
83	N053874-005A,SAMP,20	Unknown	83	CR6 Program	CR6 METHOD_221212A	Finished
84	N053874-005A-DUP,DUP,20	Unknown	84	CR6 Program	CR6 METHOD_221212A	Finished
85	N053874-005A-MS,MS,20	Unknown	85	CR6 Program	CR6 METHOD_221212A	Finished
86	CCV-7,CCV,1	Unknown	86	CR6 Program	CR6 METHOD_221212A	Finished
87	CCB-7,CCB,1	Unknown	87	CR6 Program	CR6 METHOD_221212A	Finished
88	N053874-005A-MSD,MSD,20	Unknown	88	CR6 Program	CR6 METHOD_221212A	Finished
89	N053874-004A,SAMP,1	Unknown	89	CR6 Program	CR6 METHOD_221212A	Finished
90	N053874-004A-MS,MS,1	Unknown	90	CR6 Program	CR6 METHOD_221212A	Finished
91	N053874-006A,SAMP,100	Unknown	91	CR6 Program	CR6 METHOD_221212A	Finished
92	N053874-006A-MS,MS,100	Unknown	92	CR6 Program	CR6 METHOD_221212A	Finished
93	N053874-007A,SAMP,200	Unknown	93	CR6 Program	CR6 METHOD_221212A	Finished
94	N053874-007A-MS,MS,200	Unknown	94	CR6 Program	CR6 METHOD_221212A	Finished
95	N053874-008A,SAMP,1	Unknown	95	CR6 Program	CR6 METHOD_221212A	Finished
96	N053874-008A-MS,MS,1	Unknown	96	CR6 Program	CR6 METHOD_221212A	Finished
97	CCV-8,CCV1,1	Unknown	97	CR6 Program	CR6 METHOD_221212A	Finished
98	CCB-8,CCB,1	Unknown	98	CR6 Program	CR6 METHOD_221212A	Finished
99	N053874-009A,SAMP,1	Unknown	99	CR6 Program	CR6 METHOD_221212A	Finished
100	N053874-009A-MS,MS,1	Unknown	100	CR6 Program	CR6 METHOD_221212A	Finished
101	N053874-010A,SAMP,5	Unknown	101	CR6 Program	CR6 METHOD_221212A	Finished
102	N053874-010A-MS,MS,5	Unknown	102	CR6 Program	CR6 METHOD_221212A	Finished
103	N053873-001A,SAMP,5	Unknown	103	CR6 Program	CR6 METHOD_221212A	Finished
104	N053873-001A-MS,MS,5	Unknown	104	CR6 Program	CR6 METHOD_221212A	Finished
105	N053873-008A,SAMP,1	Unknown	105	CR6 Program	CR6 METHOD_221212A	Finished
106	N053873-008A,SAMP,5	Unknown	106	CR6 Program	CR6 METHOD_221212A	Finished
107	N053873-008A-MS,MS,5	Unknown	107	CR6 Program	CR6 METHOD_221212A	Finished
108	N053874-001A-MS,MS,5	Unknown	108	CR6 Program	CR6 METHOD_221212A	Finished
109	CCV-9,CCV,1	Unknown	109	CR6 Program	CR6 METHOD_221212A	Finished
110	CCB-9,CCB,1	Unknown	110	CR6 Program	CR6 METHOD_221212A	Finished
111	N053874-004A-MS,MS,1	Unknown	111	CR6 Program	CR6 METHOD_221212A	Finished
112	N053874-007A,SAMP,10	Unknown	112	CR6 Program	CR6 METHOD_221212A	Finished
113	N053874-007A-MS,MS,10	Unknown	113	CR6 Program	CR6 METHOD_221212A	Finished
114	N053874-009A,SAMP,5	Unknown	114	CR6 Program	CR6 METHOD_221212A	Finished
115	N053874-009A-MS,MS,5	Unknown	115	CR6 Program	CR6 METHOD_221212A	Finished
116	N053874-010A,SAMP,1	Unknown	116	CR6 Program	CR6 METHOD_221212A	Finished
117	N053874-010A-MS,MS,1	Unknown	117	CR6 Program	CR6 METHOD_221212A	Finished
118	N053874-010A-MS,MS,5	Unknown	118	CR6 Program	CR6 METHOD_221212A	Finished
119	CCV-10,CCV1,1	Unknown	119	CR6 Program	CR6 METHOD_221212A	Finished
120	CCB-10,CCB,1	Unknown	120	CR6 Program	CR6 METHOD_221212A	Finished
121	Eluent: R221215A	Unknown	121	CR6 Program	CR6 METHOD_221212A	Finished
122	PCR: R221215B	Unknown	122	CR6 Program	CR6 METHOD_221212A	Finished

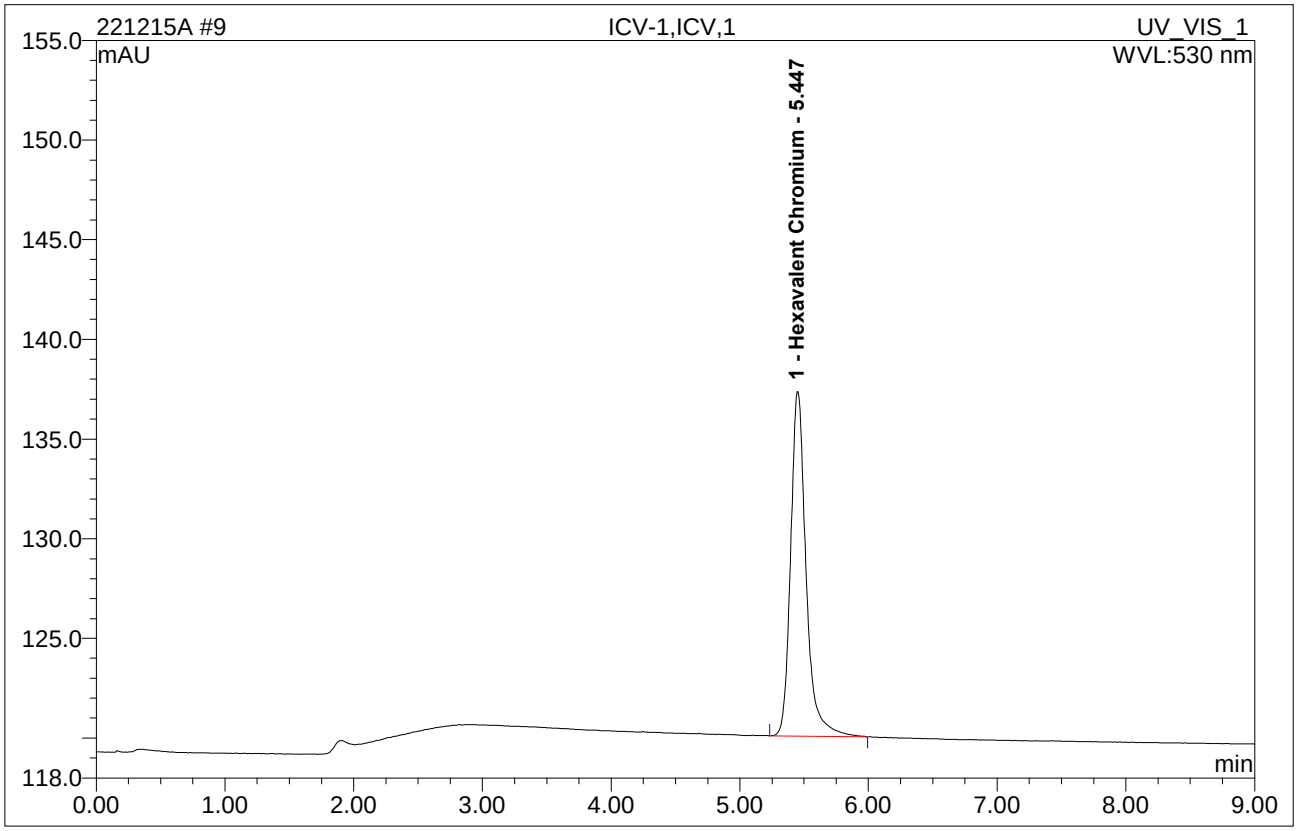
Title: Hexavalent Chromium
Datasource: D781GCC1_local
Location: ICS1500\DATA 2022
Timebase: ICS1500
#Samples: 122
Created: 12/15/2022 1:08:46 PM by Quennie
Last Update: 12/16/2022 2:17:00 PM by Quennie

No.	Name	Inj. Date/Time	Comment
83	N053874-005A,SAMP,20	12/16/2022 2:44:52 AM	SAMPLE,0.5>10mL
84	N053874-005A-DUP,DUP,20	12/16/2022 2:56:16 AM	DUPLICATE,0.5>10mL
85	N053874-005A-MS,MS,20	12/16/2022 3:07:40 AM	MS @ 5ppb,IWST221205A,0.5>10mL
86	CCV-7,CCV,1	12/16/2022 3:19:04 AM	CCV @ 5ppb,IWST221111A,R221115B
87	CCB-7,CCB,1	12/16/2022 3:30:29 AM	CCB,R221115B
88	N053874-005A-MSD,MSD,20	12/16/2022 3:41:53 AM	MSD @ 5ppb,IWST221205A,0.5>10mL
89	N053874-004A,SAMP,1	12/16/2022 3:53:17 AM	SAMPLE
90	N053874-004A-MS,MS,1	12/16/2022 4:04:41 AM	MS @ 1ppb,IWST221205A
91	N053874-006A,SAMP,100	12/16/2022 4:16:05 AM	SAMPLE,0.1>10mL
92	N053874-006A-MS,MS,100	12/16/2022 4:27:29 AM	MS @ 1ppb,IWST221205A,0.1>10mL
93	N053874-007A,SAMP,200	12/16/2022 4:38:53 AM	SAMPLE,0.05>10mL
94	N053874-007A-MS,MS,200	12/16/2022 4:50:17 AM	MS @ 5ppb,IWST221205A,0.05>10mL
95	N053874-008A,SAMP,1	12/16/2022 5:01:41 AM	SAMPLE
96	N053874-008A-MS,MS,1	12/16/2022 5:13:05 AM	MS @ 1ppb,IWST221205A
97	CCV-8,CCV1,1	12/16/2022 5:24:29 AM	CCV @ 10ppb,IWST221111A,R221115B
98	CCB-8,CCB,1	12/16/2022 5:35:53 AM	CCB,R221115B
99	N053874-009A,SAMP,1	12/16/2022 7:22:50 AM	SAMPLE
100	N053874-009A-MS,MS,1	12/16/2022 7:34:14 AM	MS @ 1ppb,IWST221205A
101	N053874-010A,SAMP,5	12/16/2022 7:45:38 AM	SAMPLE
102	N053874-010A-MS,MS,5	12/16/2022 7:57:02 AM	MS @ 1ppb,IWST221205A,2>10mL
103	N053873-001A,SAMP,5	12/16/2022 9:21:28 AM	SAMPLE,2>10mL
104	N053873-001A-MS,MS,5	12/16/2022 9:32:52 AM	MS @ 1ppb,IWST221205A,2>10mL
105	N053873-008A,SAMP,1	12/16/2022 9:44:17 AM	SAMPLE
106	N053873-008A,SAMP,5	12/16/2022 10:12:14 AM	SAMPLE,2>10mL
107	N053873-008A-MS,MS,5	12/16/2022 10:23:38 AM	MS @ 1ppb,IWST221205A,2>10mL
108	N053874-001A-MS,MS,5	12/16/2022 10:35:02 AM	MS @ 1ppb,IWST221205A,2>10mL
109	CCV-9,CCV,1	12/16/2022 10:46:27 AM	CCV @ 5ppb,IWST221111A,R221115B
110	CCB-9,CCB,1	12/16/2022 10:57:51 AM	CCB,R221115B
111	N053874-004A-MS,MS,1	12/16/2022 11:09:15 AM	MS @ 1ppb,IWST221205A
112	N053874-007A,SAMP,10	12/16/2022 12:06:37 PM	SAMPLE
113	N053874-007A-MS,MS,10	12/16/2022 12:29:24 PM	MS @ 5ppb,IWST221205A
114	N053874-009A,SAMP,5	12/16/2022 12:49:59 PM	SAMPLE,2>10mL
115	N053874-009A-MS,MS,5	12/16/2022 1:01:23 PM	MS @ 1ppb,IWST221205A,2>10mL
116	N053874-010A,SAMP,1	12/16/2022 1:12:47 PM	SAMPLE
117	N053874-010A-MS,MS,1	12/16/2022 1:38:07 PM	MS @ 1ppb,IWST221205A
118	N053874-010A-MS,MS,5	12/16/2022 1:54:00 PM	MS @ 1ppb,IWST221205A,2>10mL
119	CCV-10,CCV1,1	12/16/2022 2:05:24 PM	CCV @ 10ppb,IWST221111A,R221115B
120	CCB-10,CCB,1	12/16/2022 2:16:48 PM	CCB,R221115B
121	Eluent: R221215A		Eluent
122	PCR: R221215B		PCR

9 ICV-1,ICV,1

ICV @ 5ppb,IWST221111B,R221115B

Sample Name:	**ICV-1,ICV,1**	*Injection Volume:*	**500.0**
Vial Number:	**9**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

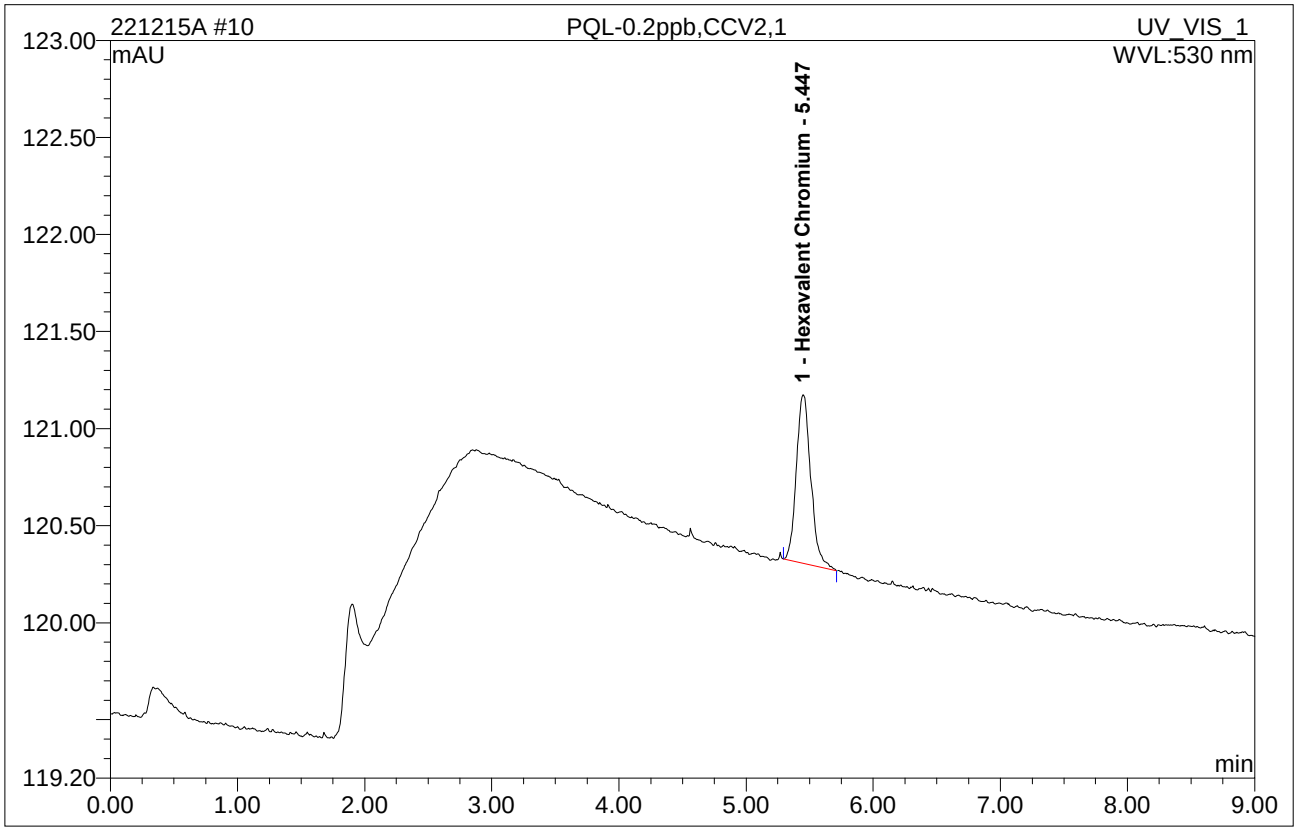


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	17.276	2.401	100.00	4.817508	BMB
Total:			17.276	2.401	100.00	4.818	

10 PQL-0.2ppb,CCV2,1

PQL @ 0.2ppb,IWST221111A,R221115B

Sample Name:	**PQL-0.2ppb,CCV2,1**	*Injection Volume:*	**500.0**
Vial Number:	**10**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

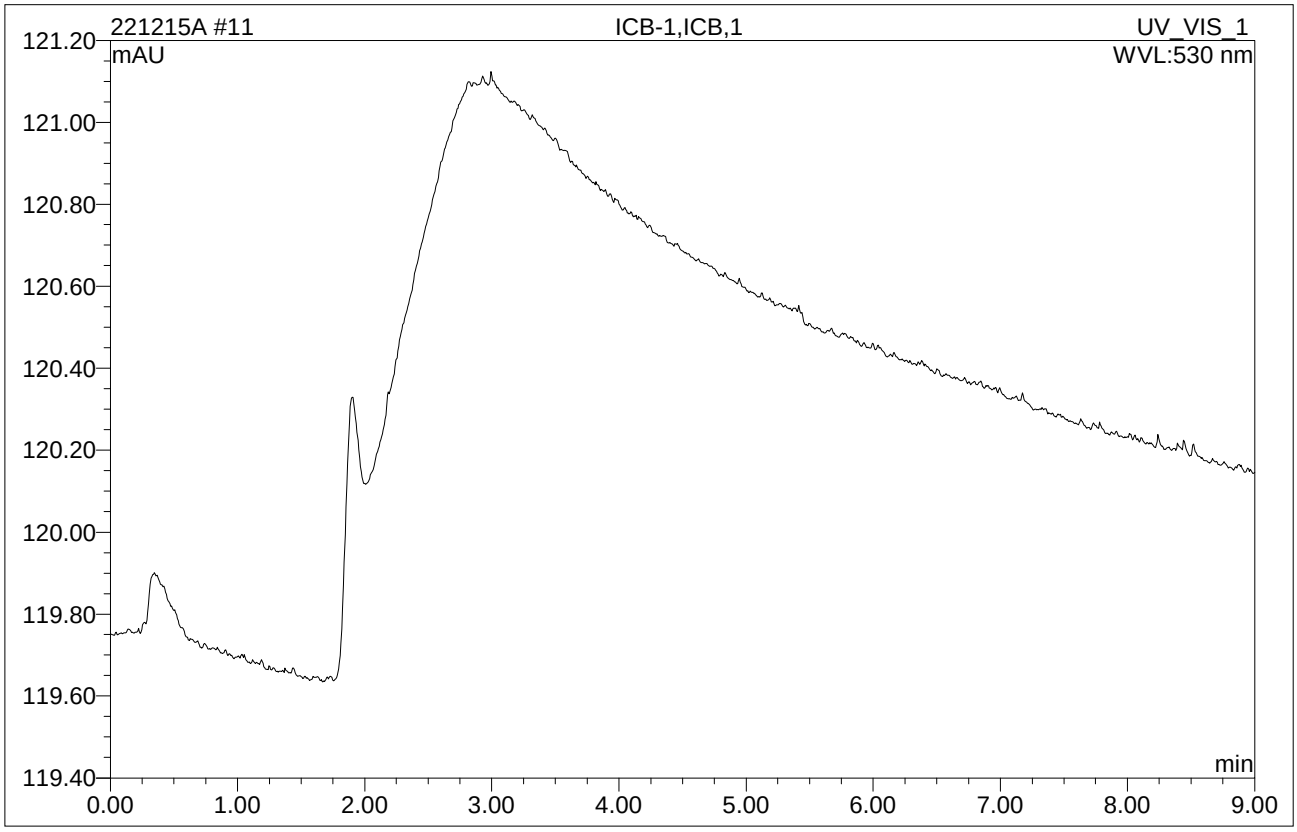


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	0.867	0.114	100.00	0.231634	BMB
Total:			0.867	0.114	100.00	0.232	

11 ICB-1,ICB,1

ICB,R221115B

Sample Name:	**ICB-1,ICB,1**	*Injection Volume:*	**500.0**
Vial Number:	**11**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/12/2022 14:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

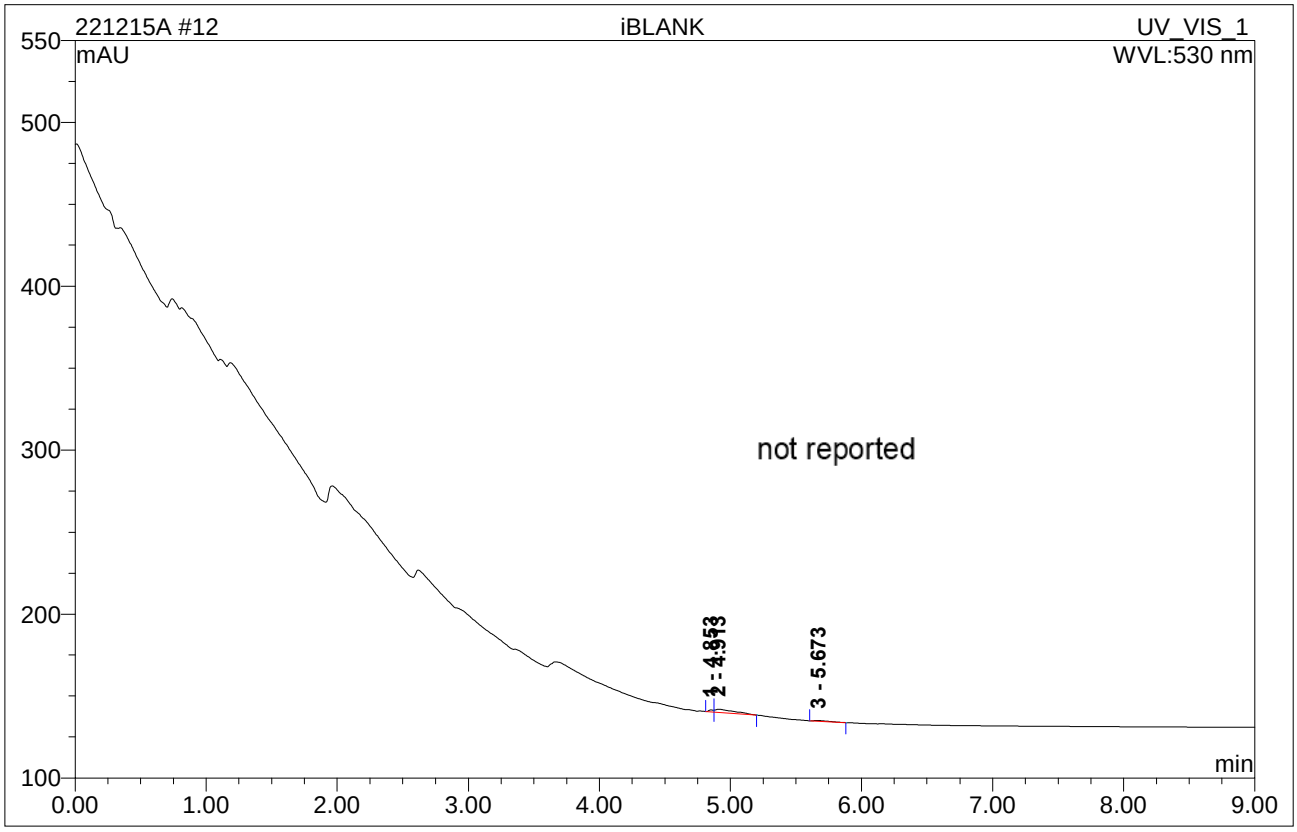


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

12 iBLANK

Instrument Blank,R221115B

Sample Name:	**iBLANK**	*Injection Volume:*	**500.0**
Vial Number:	**12**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 13:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

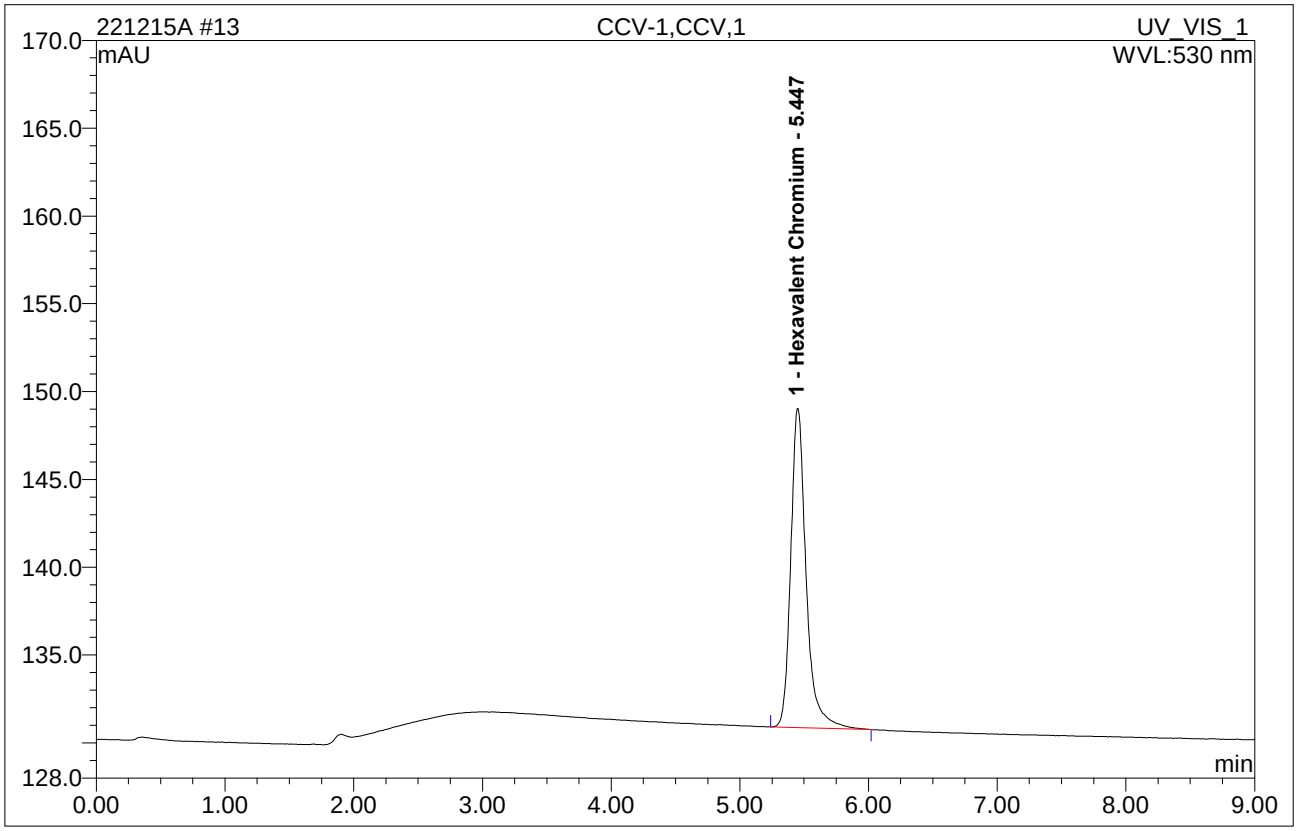


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.85	n.a.	1.228	0.051	10.57	n.a.	BM
2	4.91	n.a.	2.000	0.376	77.91	n.a.	MB
3	5.67	n.a.	0.411	0.056	11.52	n.a.	BMB
Total:			3.639	0.483	100.00	0.000	

13 CCV-1,CCV,1

CCV @ 5ppb, IWST221111A,R221115B

Sample Name:	**CCV-1,CCV,1**	*Injection Volume:*	**500.0**
Vial Number:	**13**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 13:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

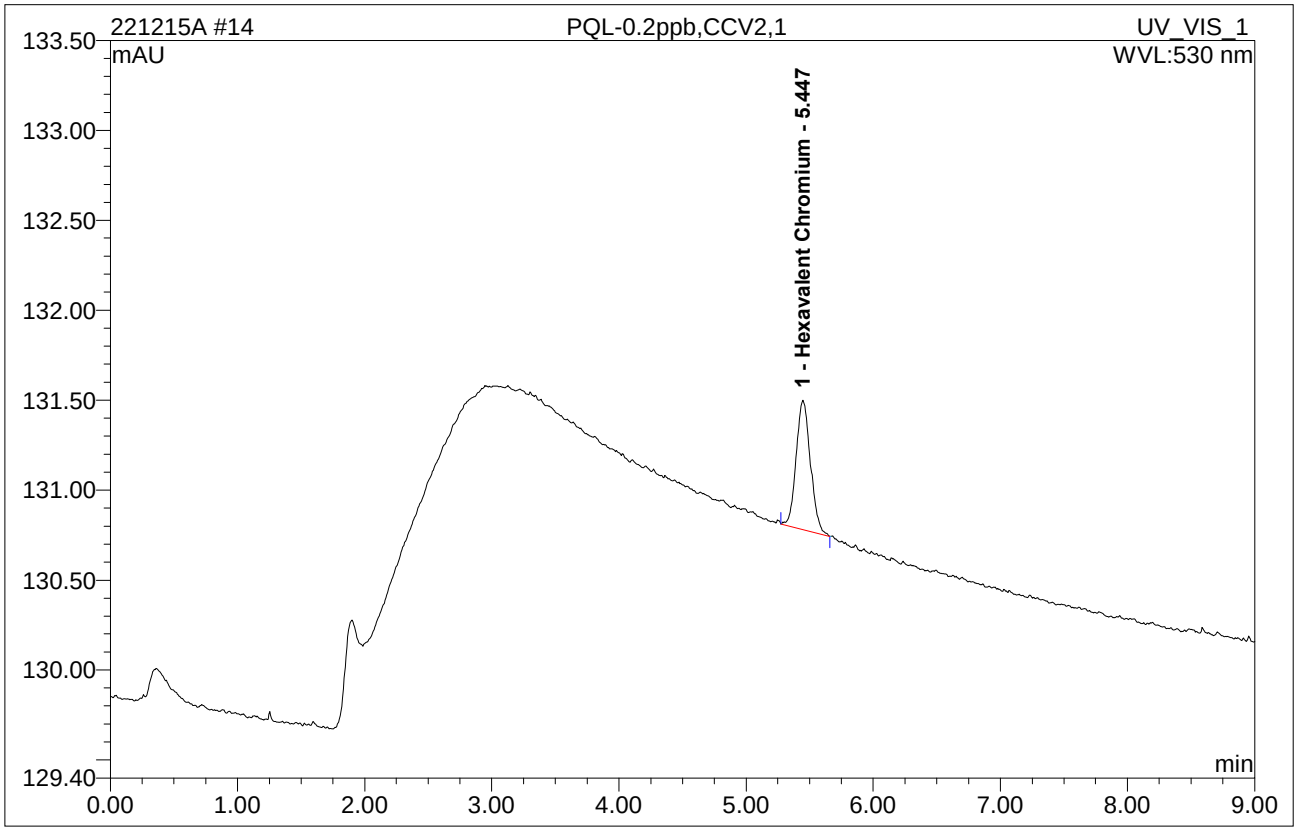


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	18.174	2.517	100.00	5.050848	BMB
Total:			18.174	2.517	100.00	5.051	

14 PQL-0.2ppb,CCV2,1

0.2ppb,IWST221111A,R221115B

Sample Name:	**PQL-0.2ppb,CCV2,1**	*Injection Volume:*	**500.0**
Vial Number:	**14**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 13:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

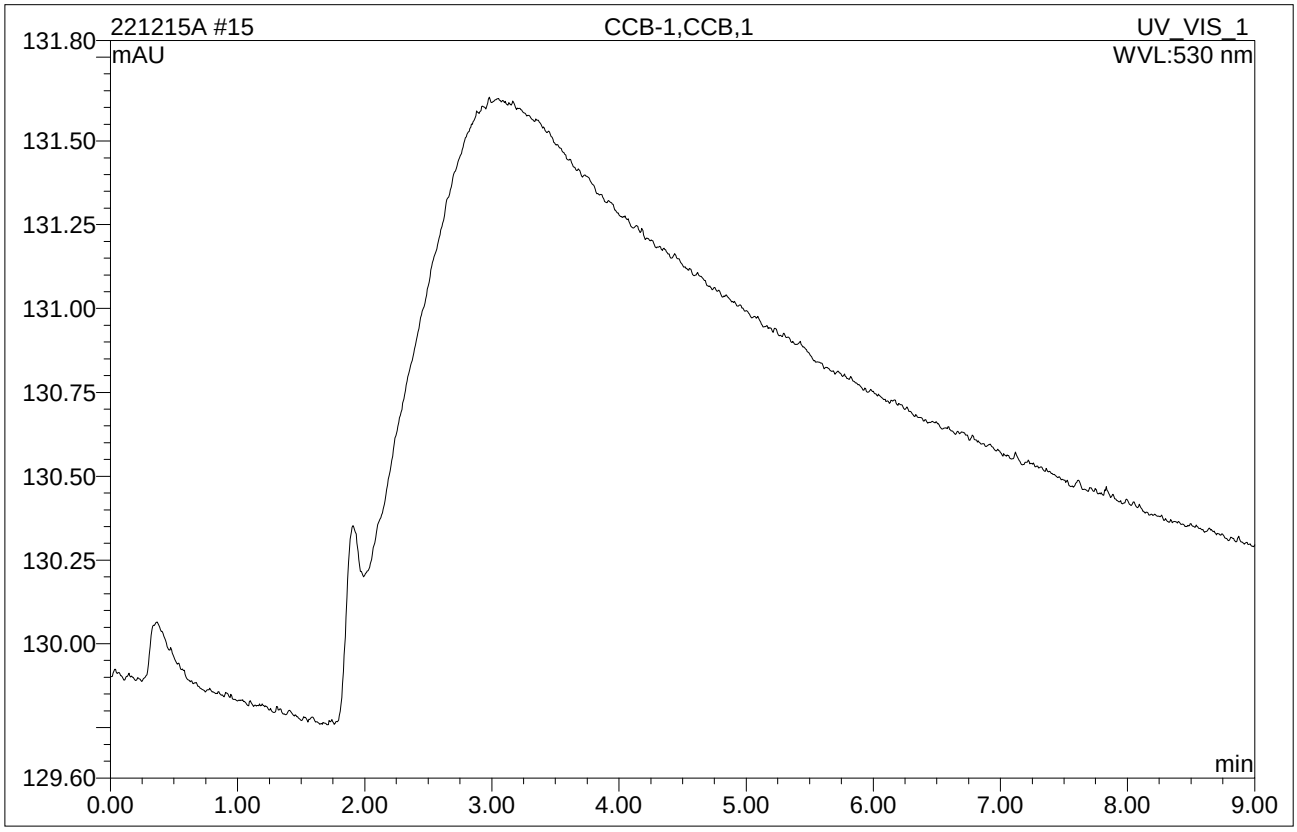


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	0.718	0.093	100.00	0.190309	BMB
Total:			0.718	0.093	100.00	0.190	

15 CCB-1,CCB,1

CCB,R221115B

Sample Name:	**CCB-1,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**15**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 13:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

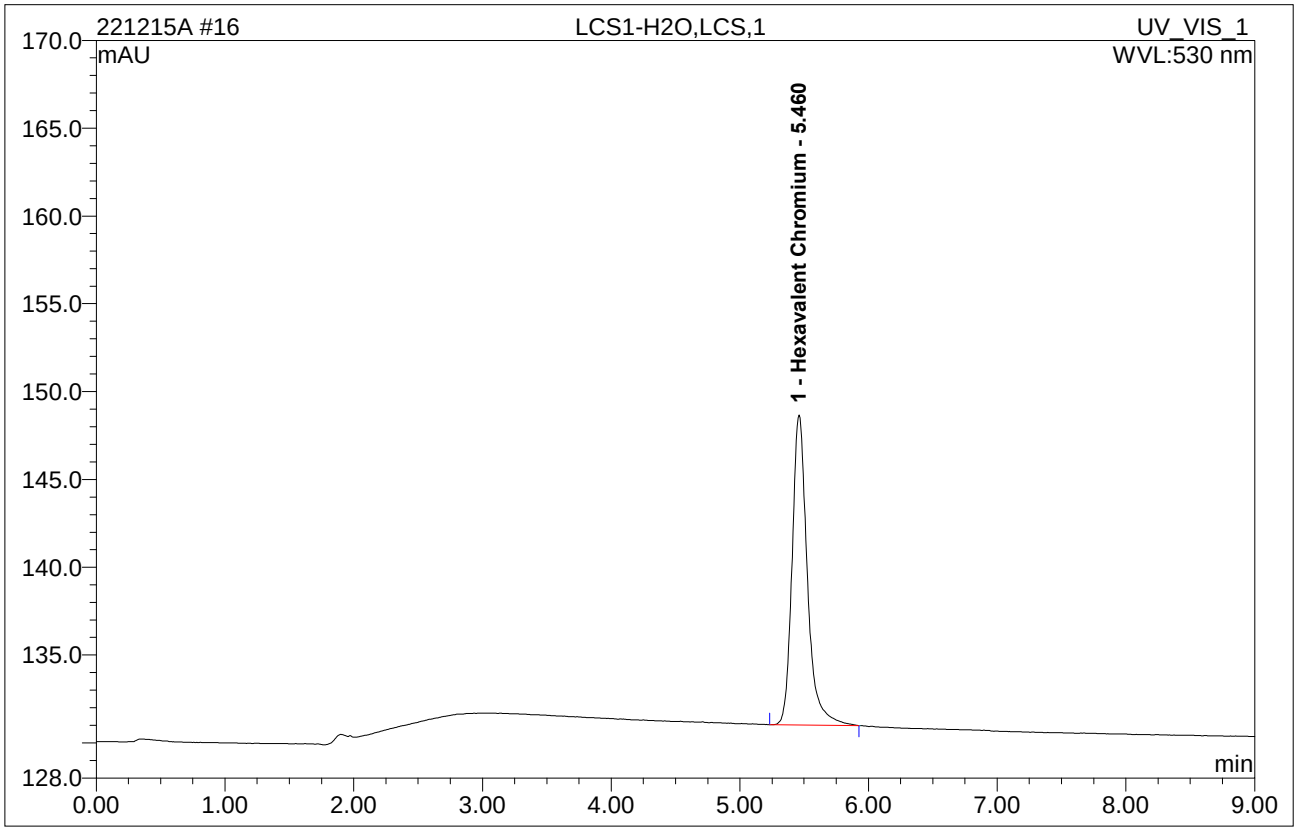


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

16 LCS1-H2O,LCS,1

LCS @ 5ppb,IWST221205A,R221115B

Sample Name:	**LCS1-H2O,LCS,1**	*Injection Volume:*	**500.0**
Vial Number:	**16**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 14:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

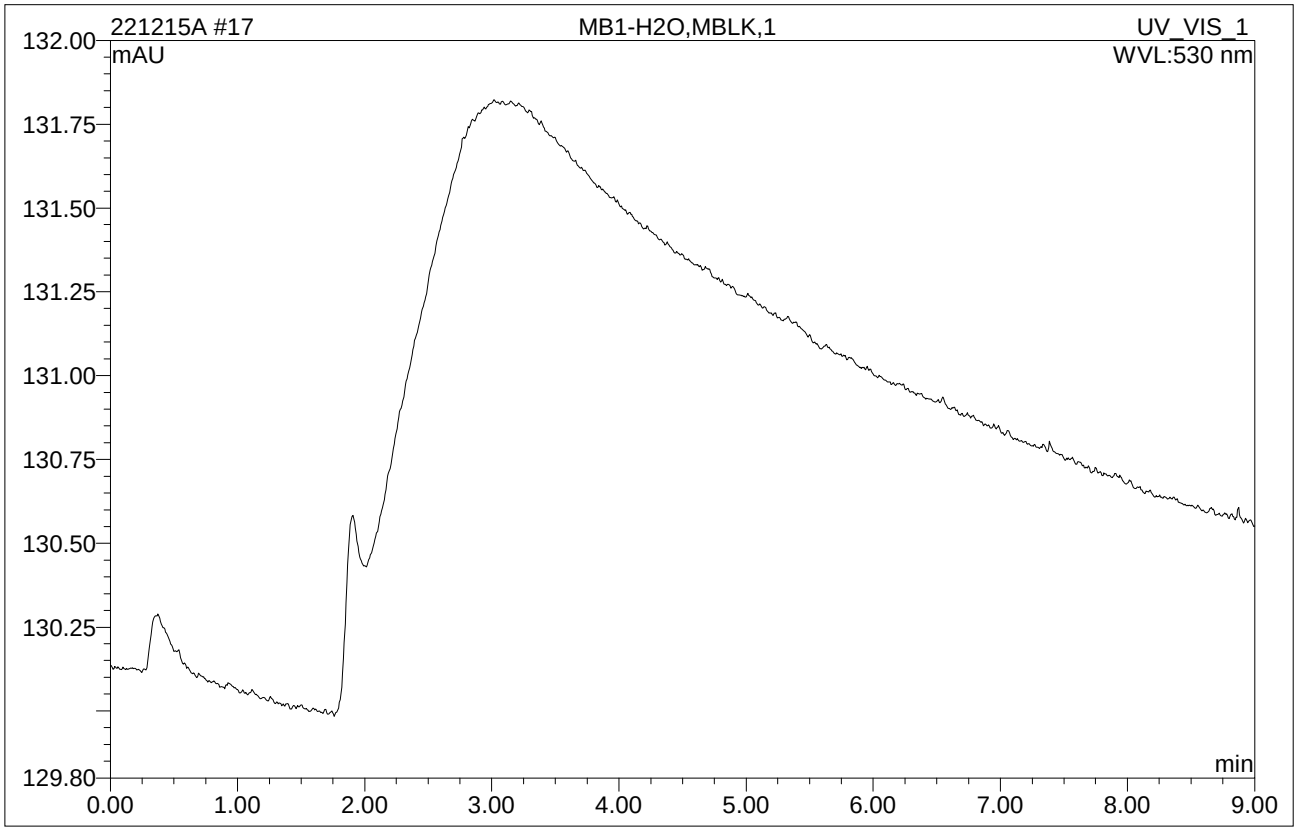


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	17.649	2.425	100.00	4.867206	BMB
Total:			17.649	2.425	100.00	4.867	

17 MB1-H2O,MBLK,1

METHOD BLANK,R221115B

Sample Name:	**MB1-H2O,MBLK,1**	*Injection Volume:*	**500.0**
Vial Number:	**17**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 14:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

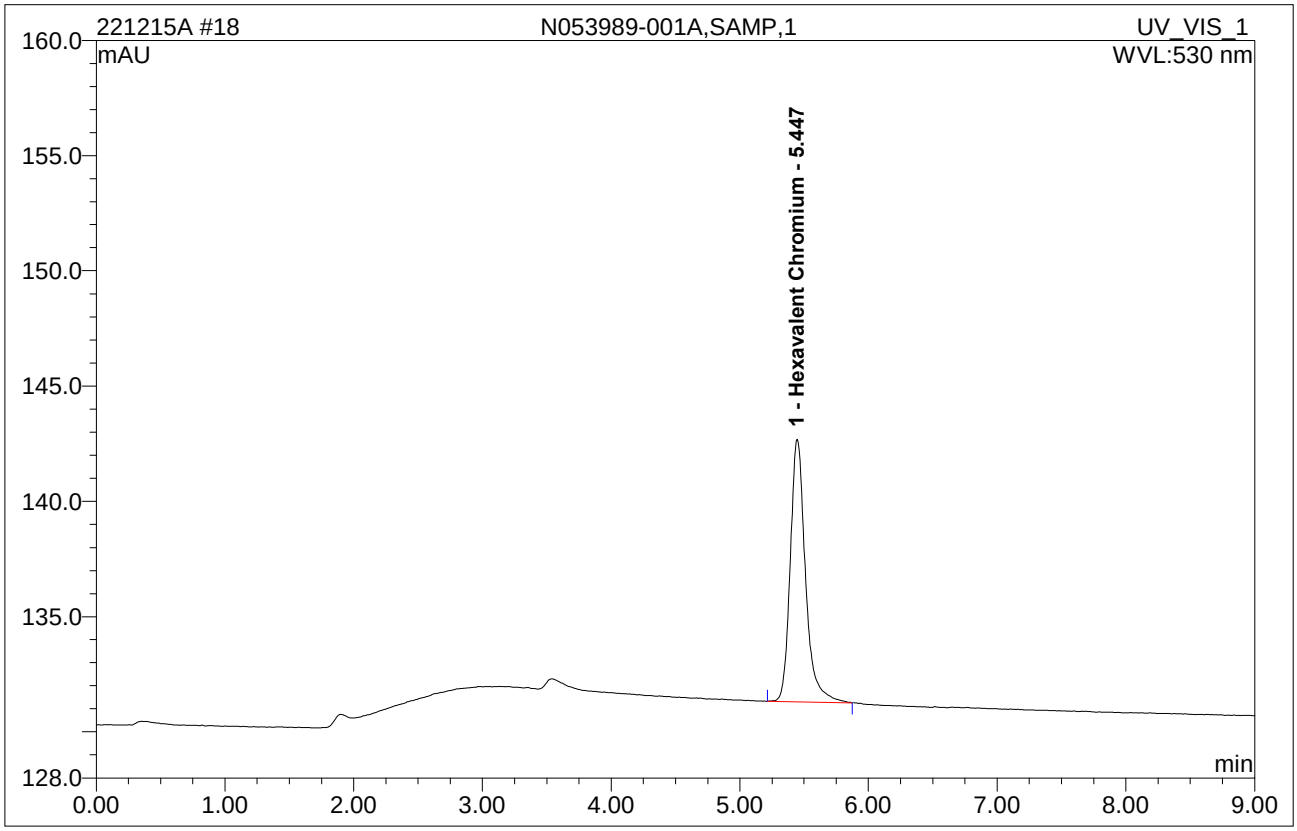


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

18 N053989-001A,SAMP,1

SAMPLE

Sample Name:	**N053989-001A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**18**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 14:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

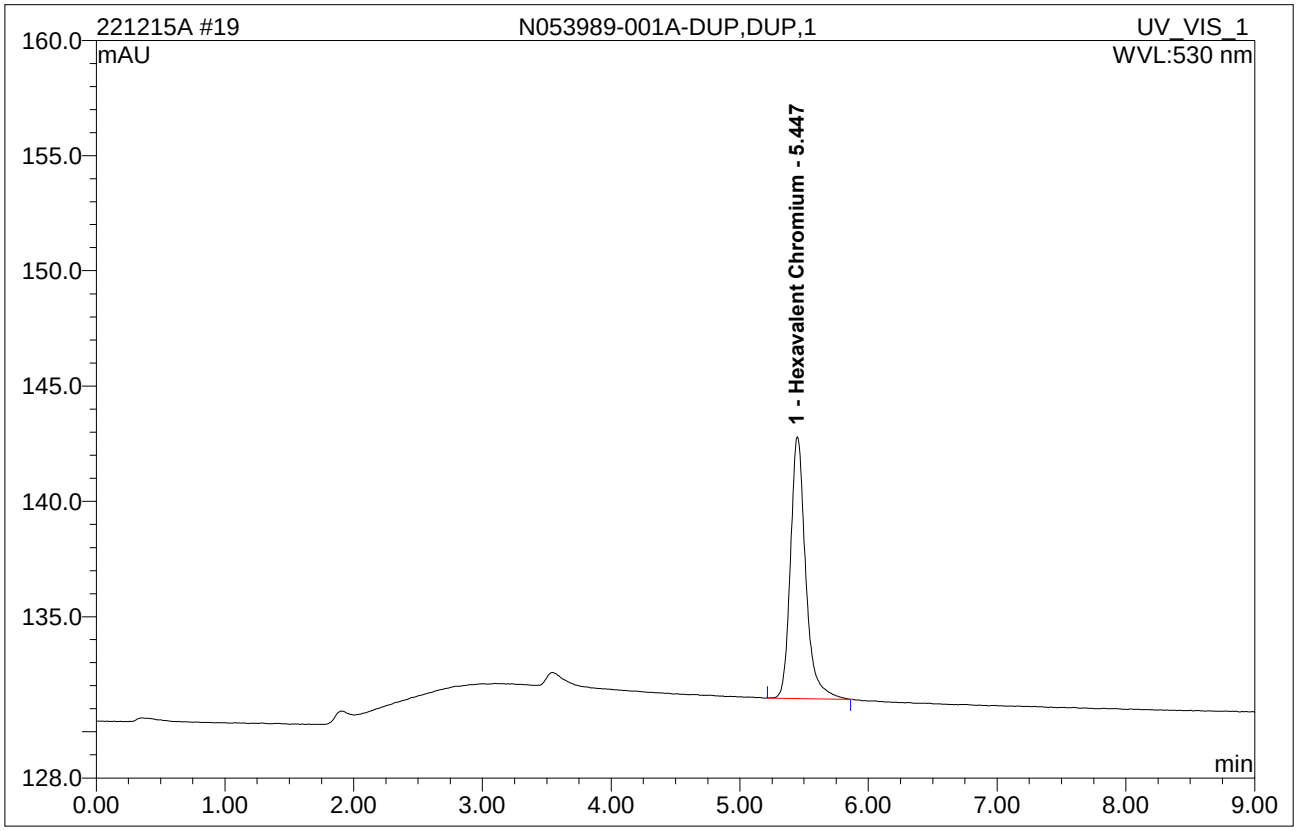


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	11.398	1.563	100.00	3.136778	BMB
Total:			11.398	1.563	100.00	3.137	

19 N053989-001A-DUP,DUP,1

DUPLICATE

Sample Name:	**N053989-001A-DUP,DUP,1**	*Injection Volume:*	**500.0**
Vial Number:	**19**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 14:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

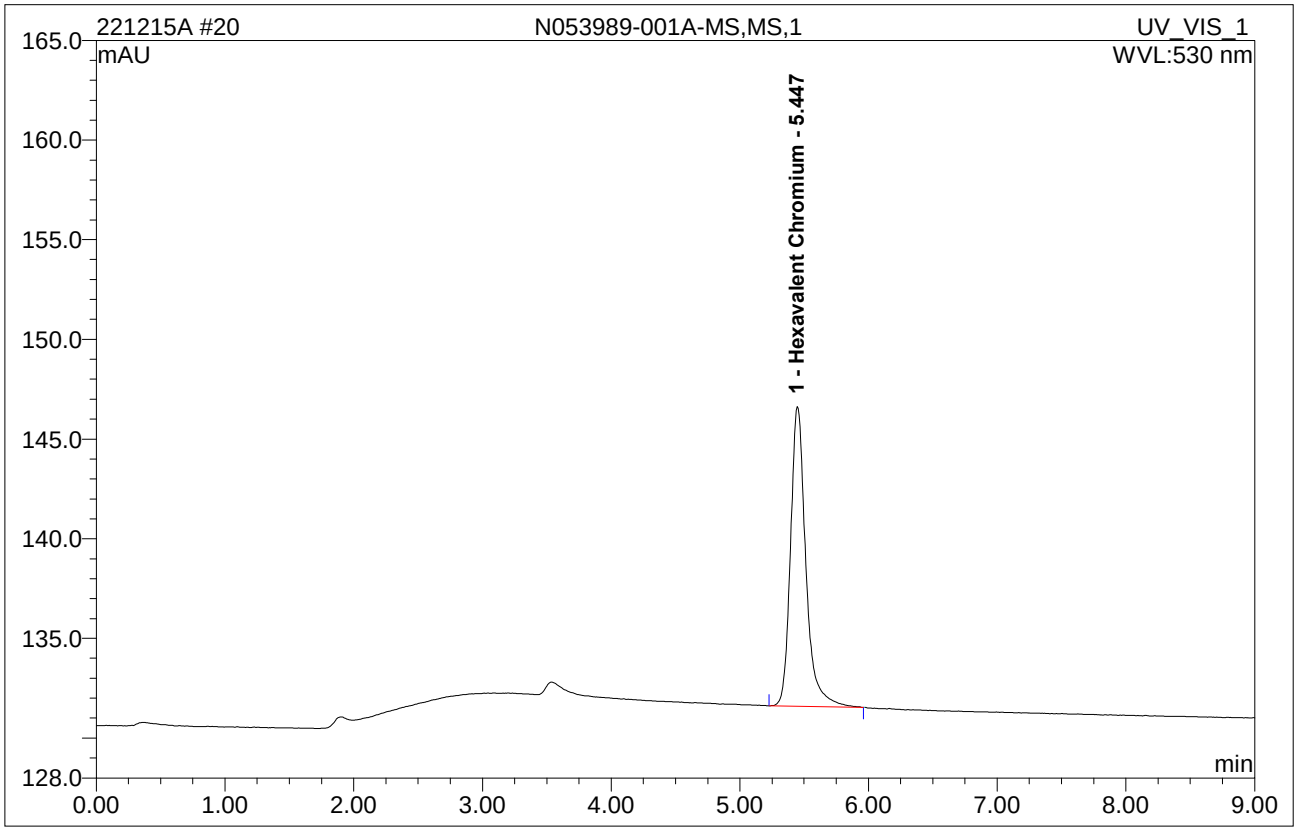


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	11.368	1.555	100.00	3.122451	BMB
Total:			11.368	1.555	100.00	3.122	

20 N053989-001A-MS,MS,1

MS @ 5ppb,IWST221205A

Sample Name:	**N053989-001A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**20**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 14:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

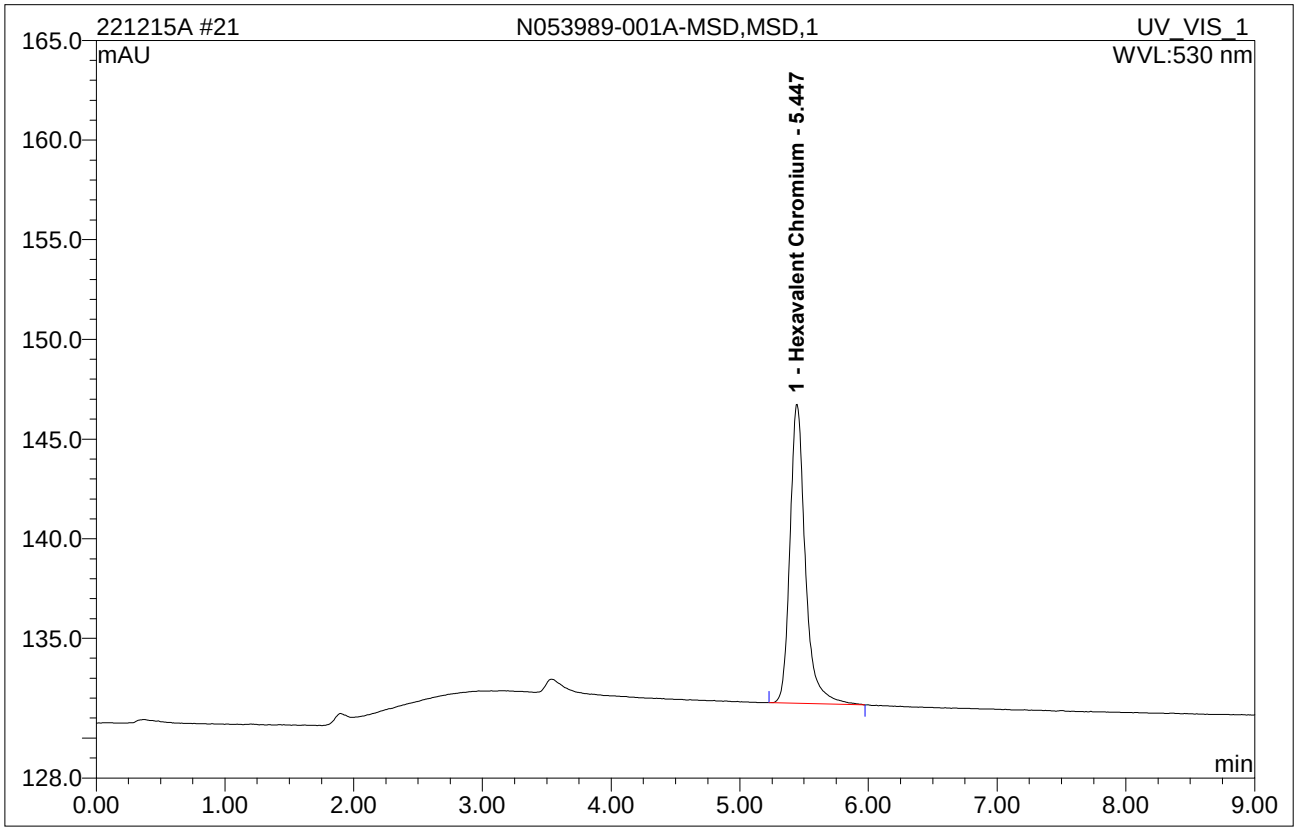


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	15.042	2.078	100.00	4.170400	BMB
Total:			15.042	2.078	100.00	4.170	

21 N053989-001A-MSD,MSD,1

MSD @ 5ppb,IWST221205A

Sample Name:	**N053989-001A-MSD,MSD,1**	*Injection Volume:*	**500.0**
Vial Number:	**21**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 14:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

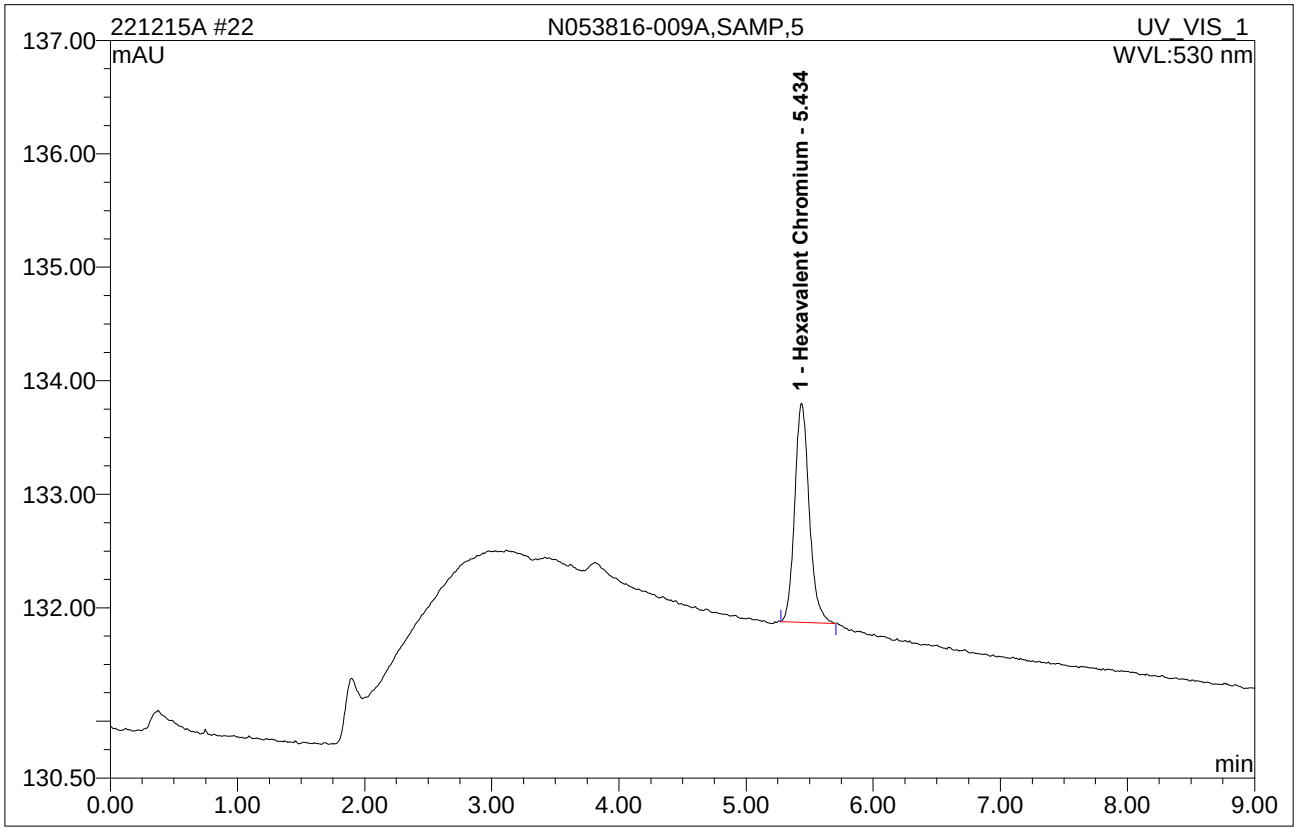


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	14.998	2.077	100.00	4.168164	BMB
Total:			14.998	2.077	100.00	4.168	

22 N053816-009A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053816-009A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**22**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 15:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

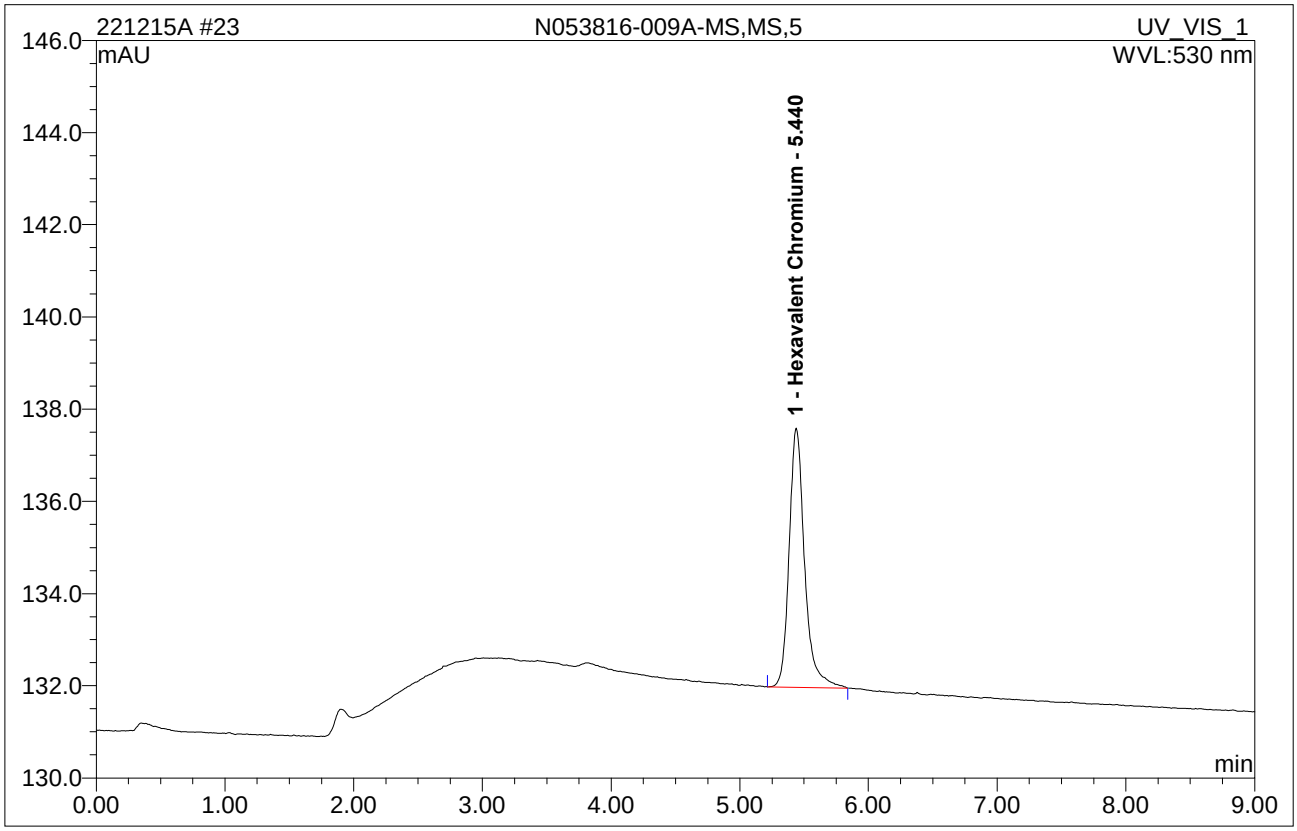


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	1.929	0.255	100.00	0.515623	BMB
Total:			1.929	0.255	100.00	0.516	

23 N053816-009A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053816-009A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**23**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 15:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

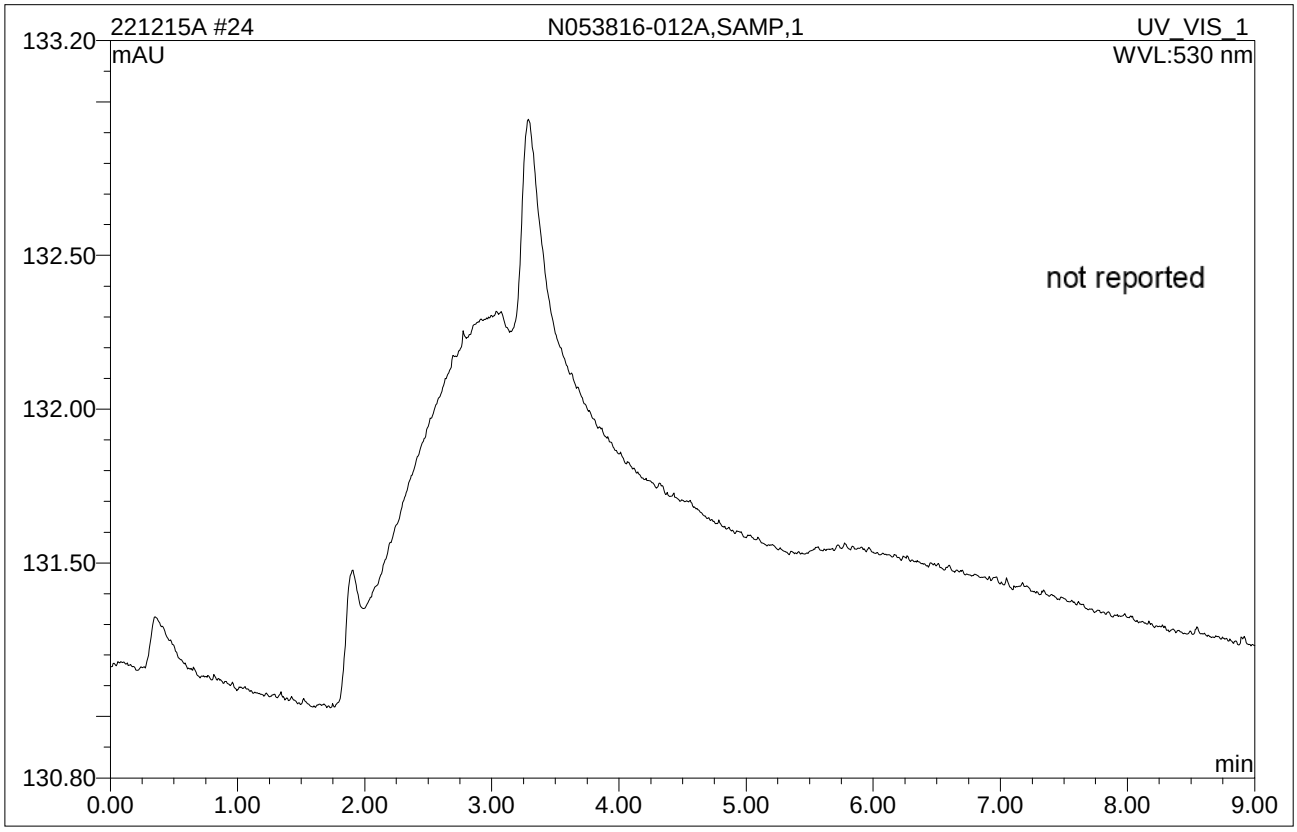


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	5.626	0.782	100.00	1.572549	BMB
Total:			5.626	0.782	100.00	1.573	

24 N053816-012A,SAMP,1

SAMPLE

Sample Name:	**N053816-012A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**24**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 15:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

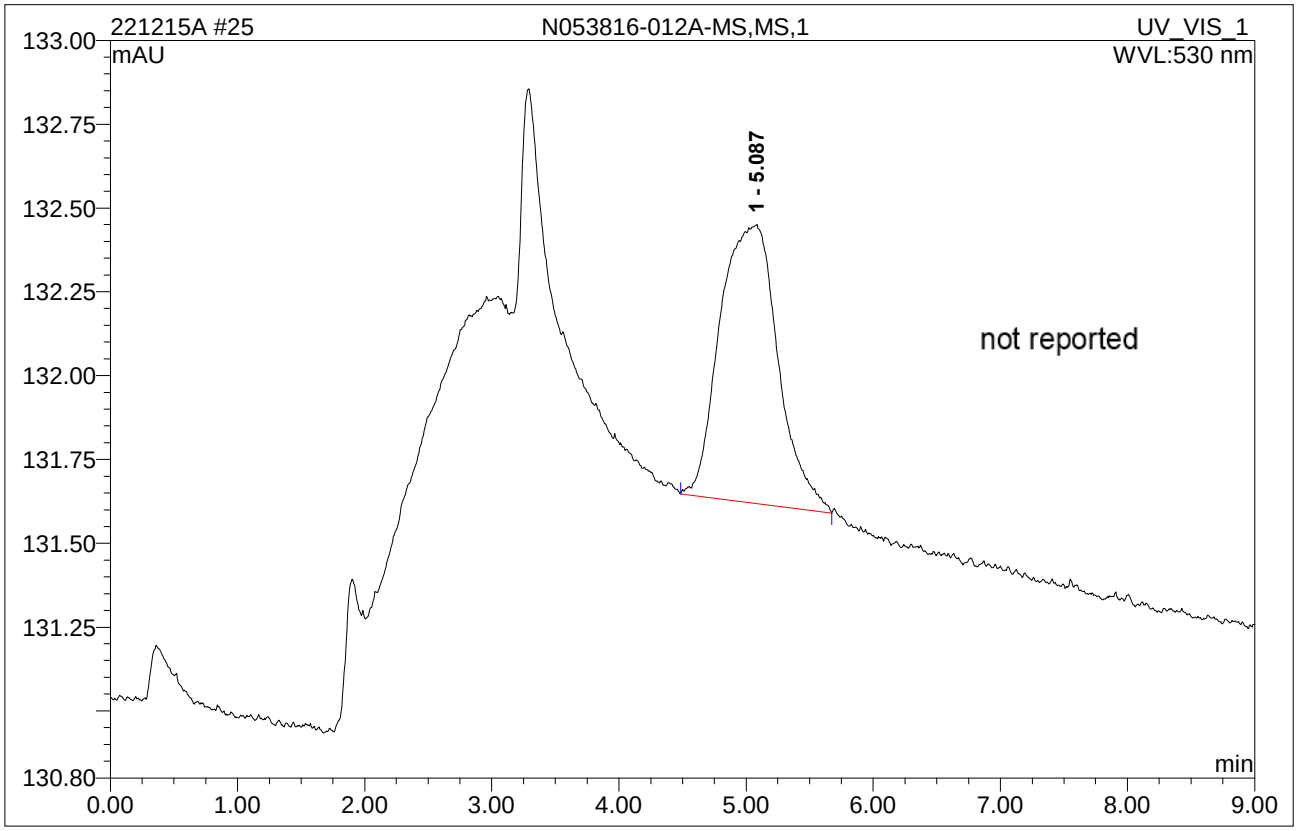


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

25 N053816-012A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053816-012A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**25**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 15:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

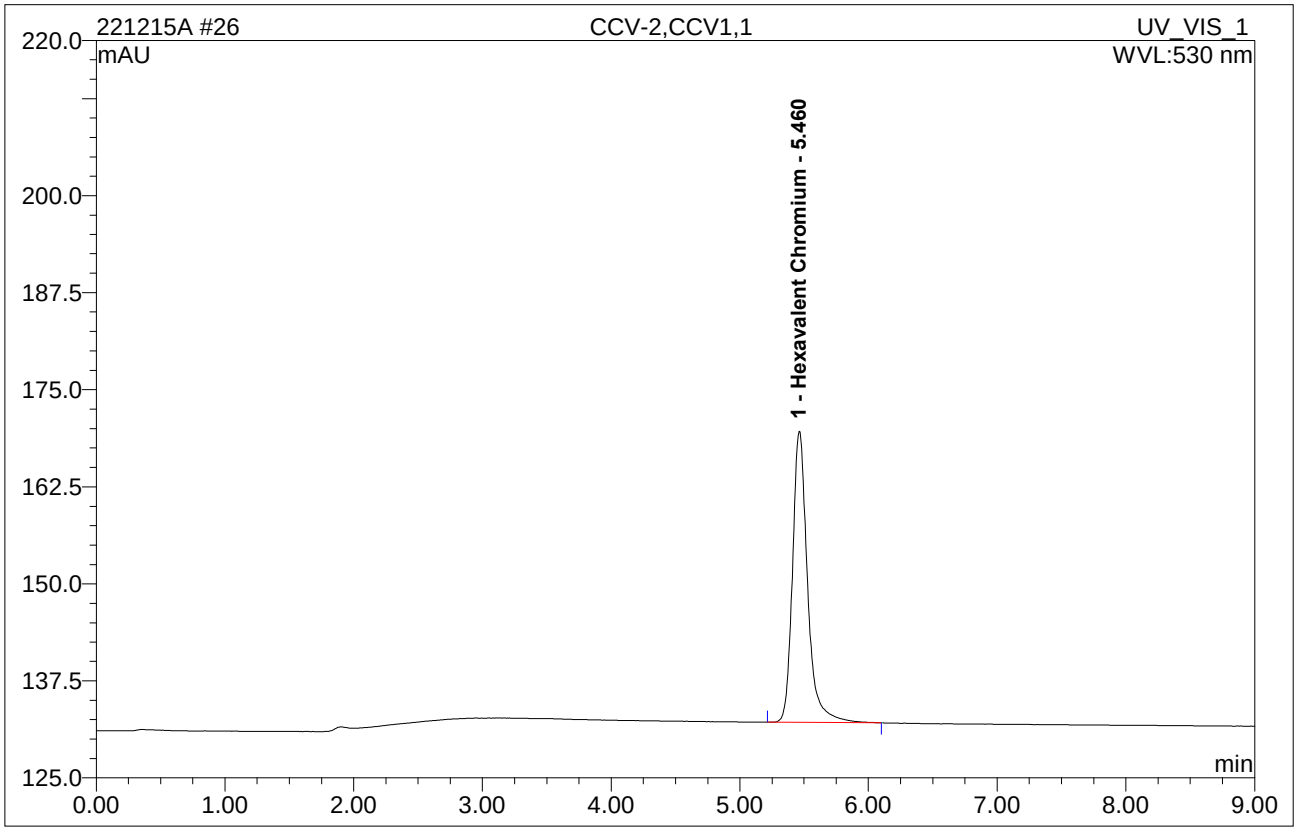


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.09	n.a.	0.832	0.439	100.00	n.a.	BMB
Total:			0.832	0.439	100.00	0.000	

26 CCV-2,CCV1,1

CCV @ 10ppb,IWST221111A,R221115B

Sample Name:	**CCV-2,CCV1,1**	*Injection Volume:*	**500.0**
Vial Number:	**26**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 15:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

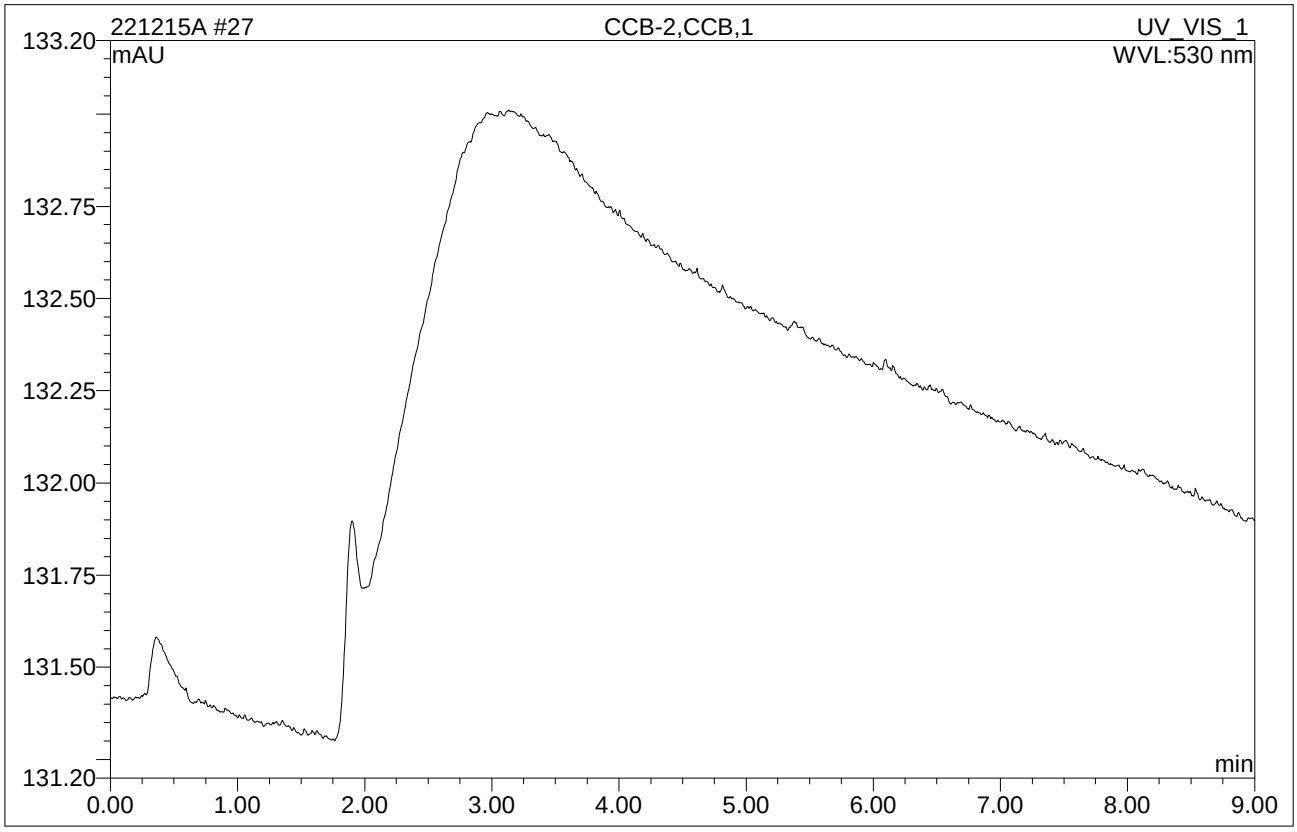


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	37.525	5.086	100.00	10.201851	BMB
Total:			37.525	5.086	100.00	10.202	

27 CCB-2,CCB,1

CCB,R221115B

Sample Name:	**CCB-2,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**27**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 16:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

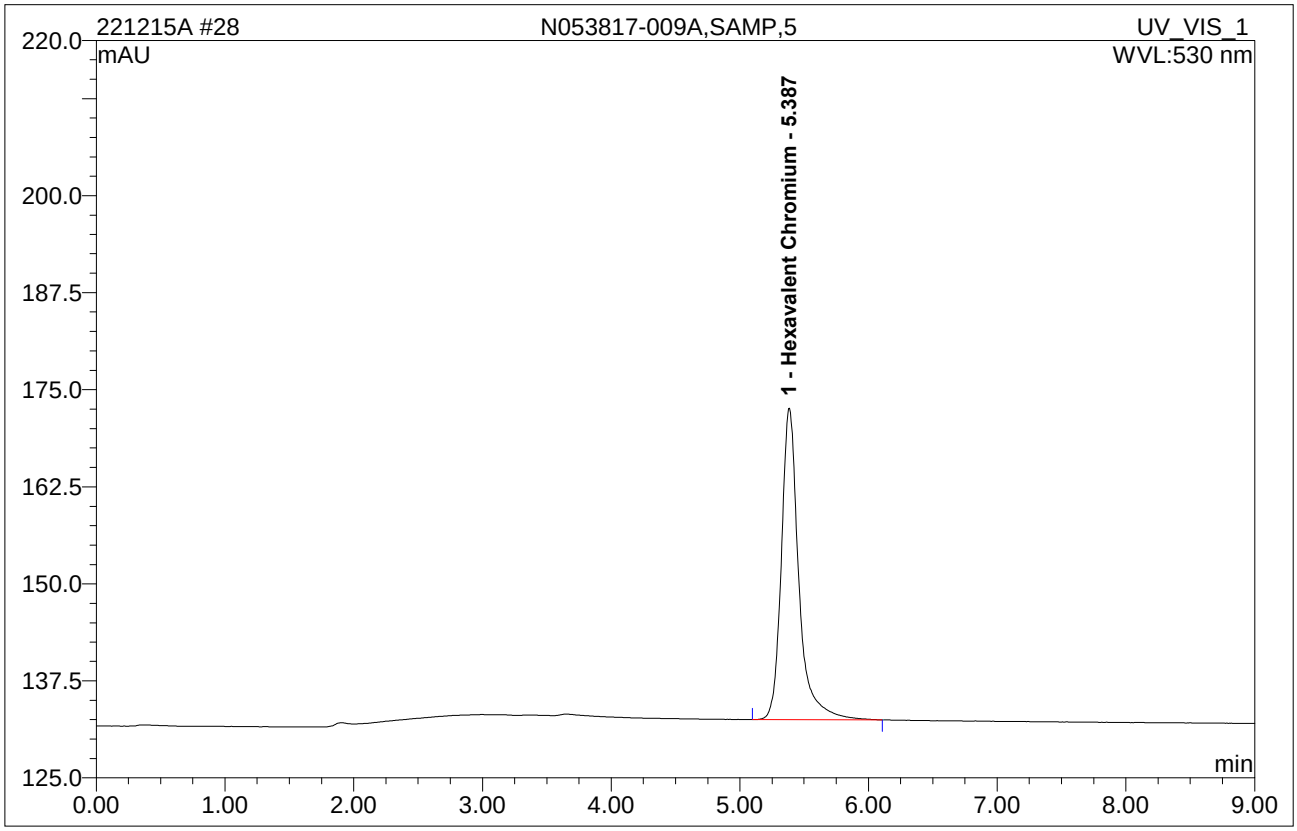


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

28 N053817-009A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053817-009A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**28**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 16:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

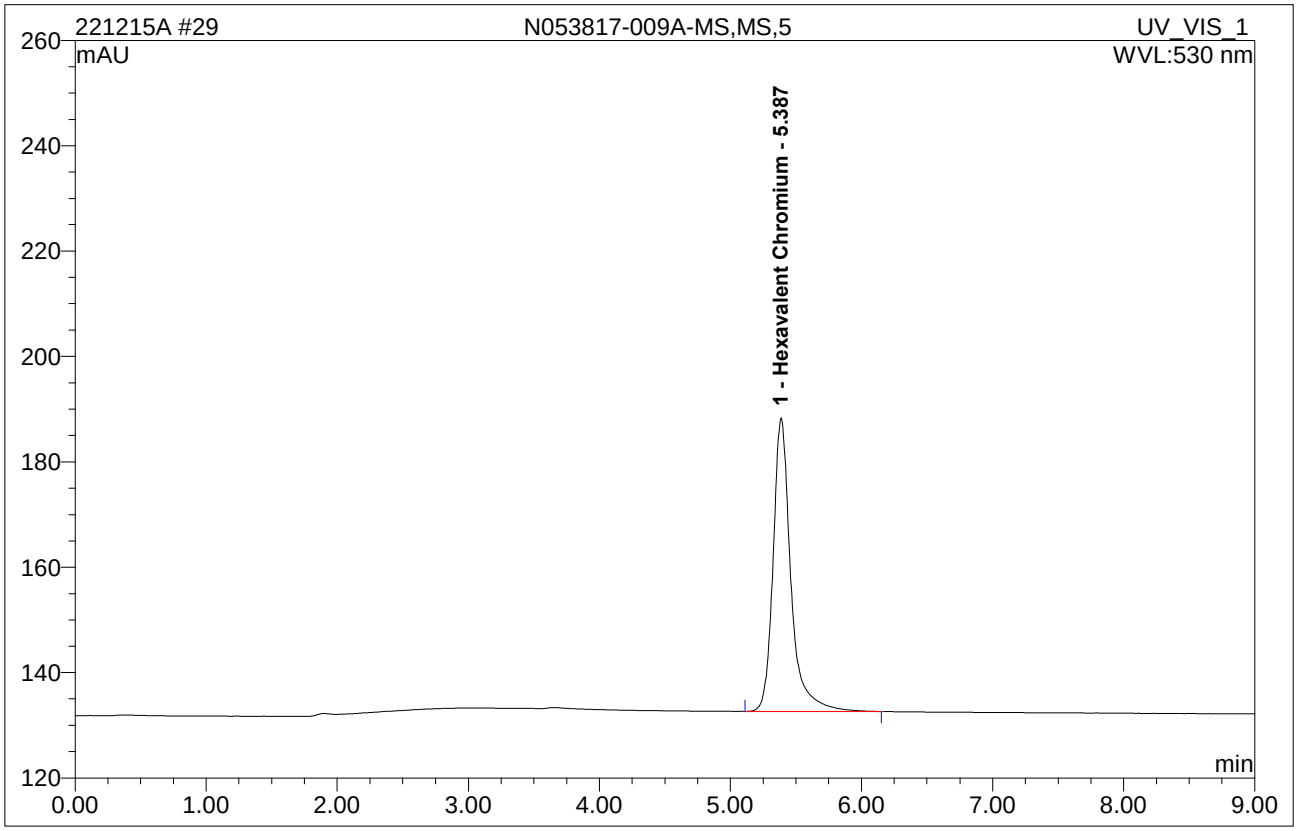


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.39	Hexavalent Chromium	40.140	6.323	100.00	12.683392	BMB
Total:			40.140	6.323	100.00	12.683	

29 N053817-009A-MS,MS,5

MS @ 5ppb,IWST221205A,2>10mL

Sample Name:	**N053817-009A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**29**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 16:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

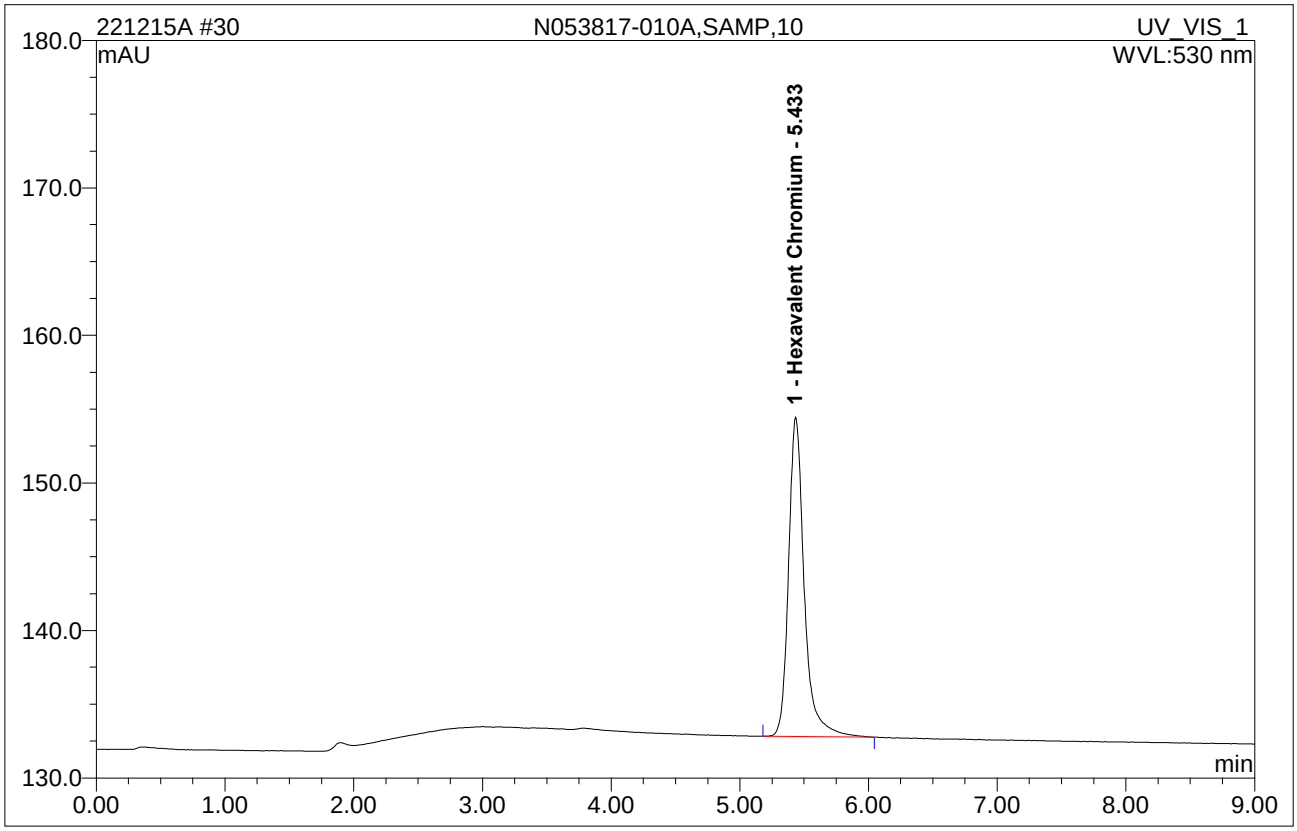


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.39	Hexavalent Chromium	55.735	8.762	100.00	17.574558	BMB
Total:			55.735	8.762	100.00	17.575	

30 N053817-010A,SAMP,10

SAMPLE,1>10mL

Sample Name:	**N053817-010A,SAMP,10**	*Injection Volume:*	**500.0**
Vial Number:	**30**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 16:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

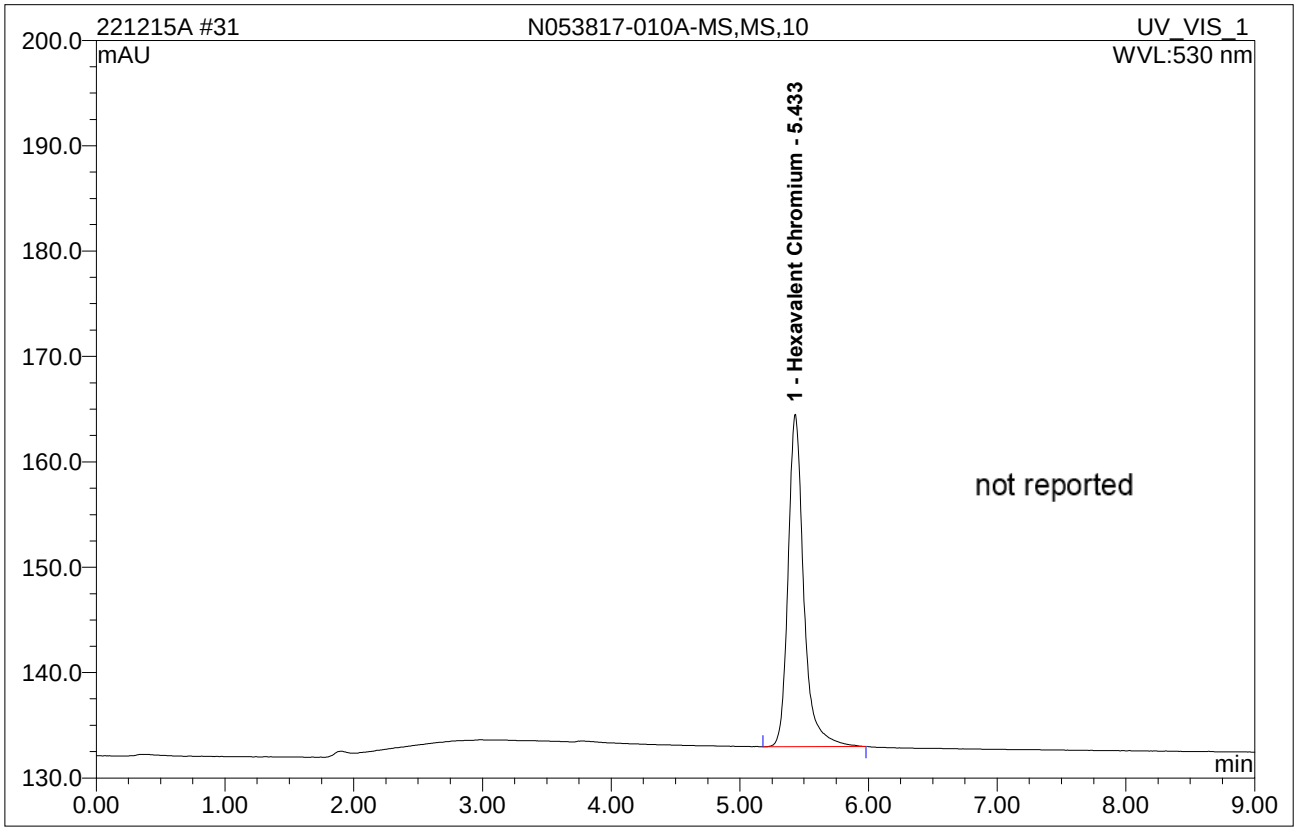


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	21.688	3.064	100.00	6.147654	BMB
Total:			21.688	3.064	100.00	6.148	

31 N053817-010A-MS,MS,10

MS @ 5ppb,IWST221205A,1>10mL

Sample Name:	**N053817-010A-MS,MS,10**	*Injection Volume:*	**500.0**
Vial Number:	**31**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 16:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

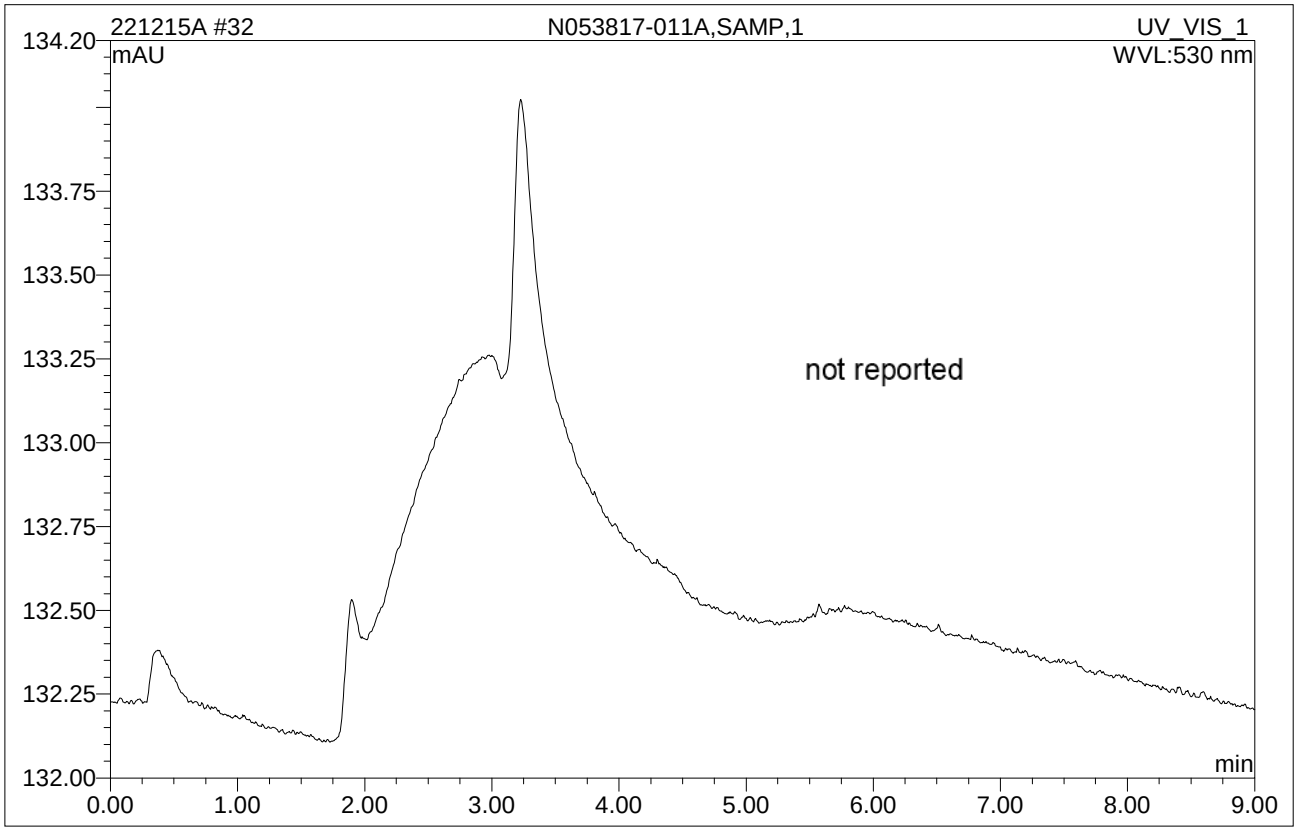


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	31.545	4.446	100.00	8.918885	BMB
Total:			31.545	4.446	100.00	8.919	

32 N053817-011A,SAMP,1

SAMPLE

Sample Name:	**N053817-011A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**32**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 17:03**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

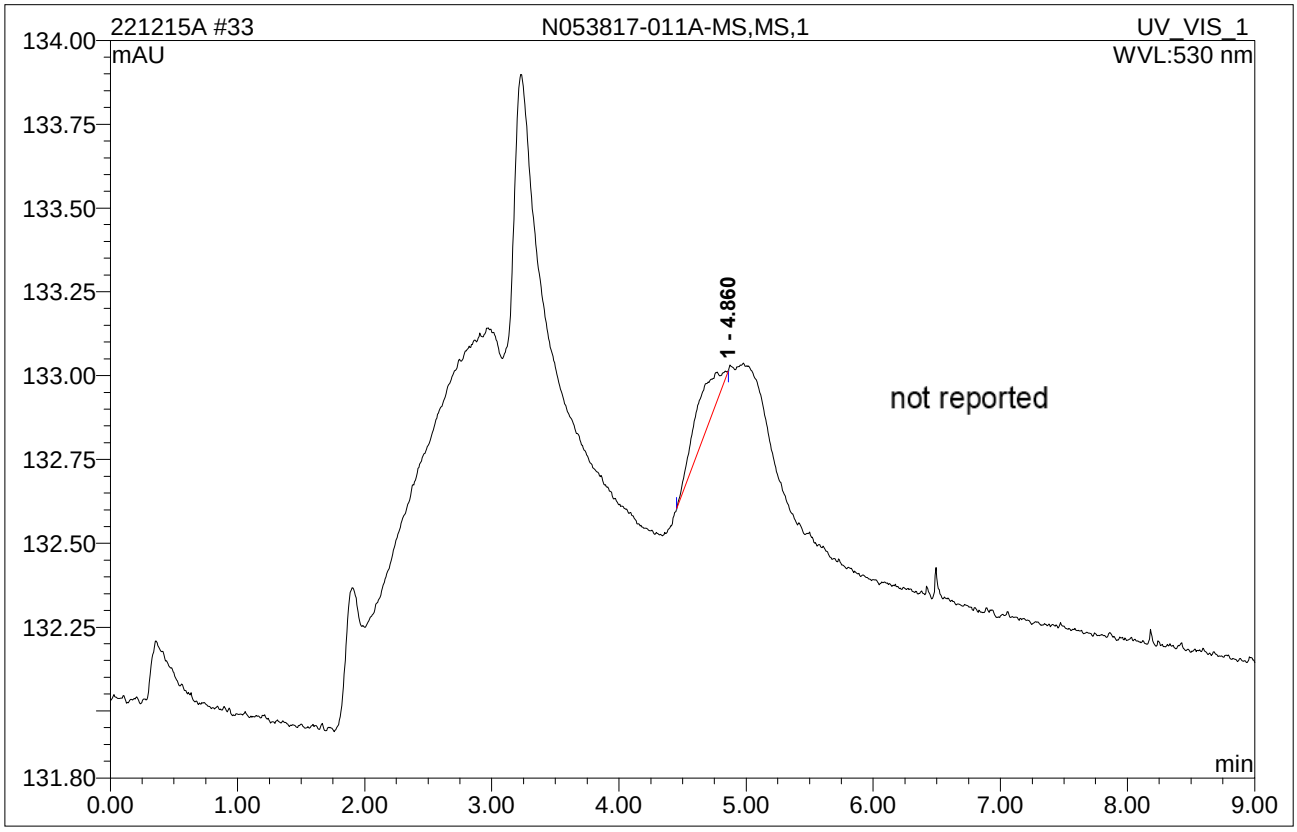


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

33 N053817-011A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053817-011A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**33**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 17:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

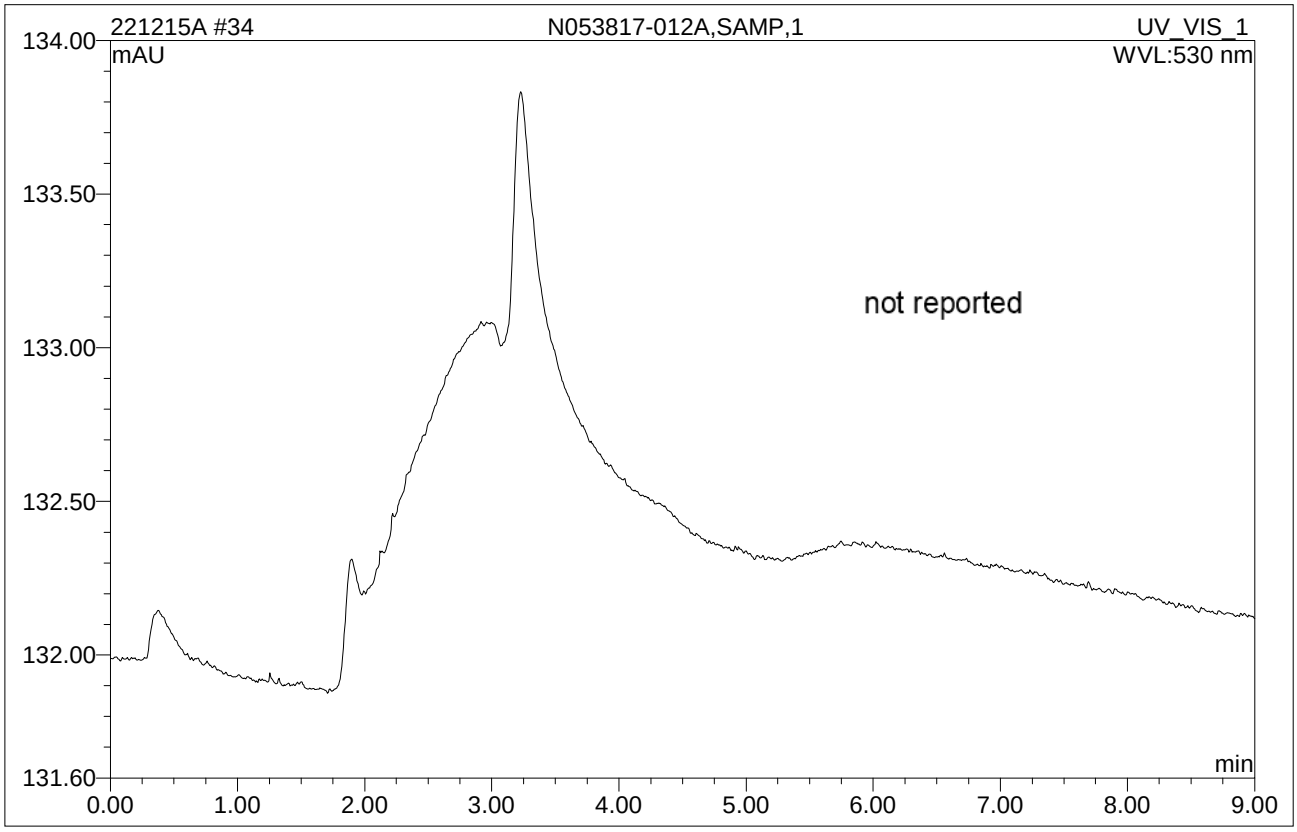


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.86	n.a.	0.000	0.033	100.00	n.a.	BMB
Total:			0.000	0.033	100.00	0.000	

34 N053817-012A,SAMP,1

SAMPLE

Sample Name:	**N053817-012A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**34**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 17:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

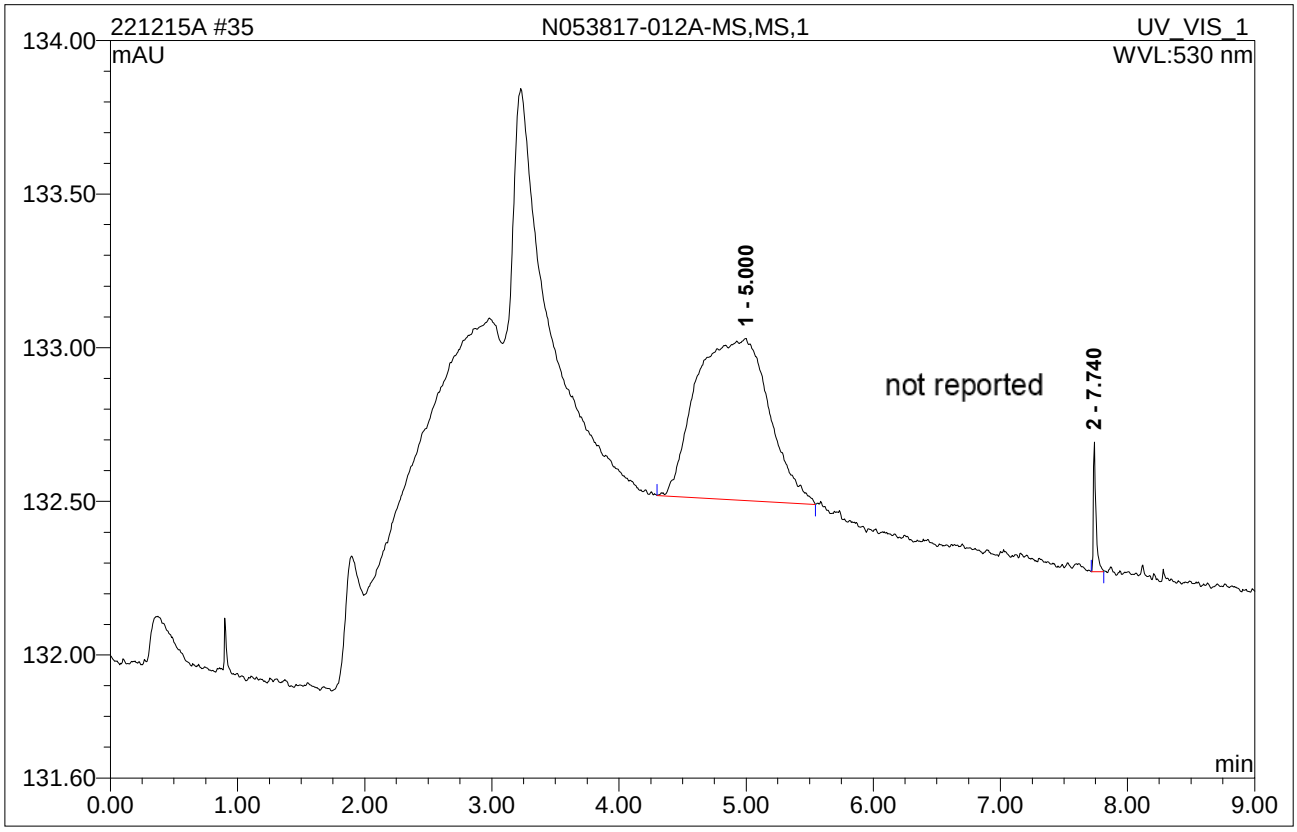


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

35 N053817-012A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053817-012A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**35**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 17:37**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

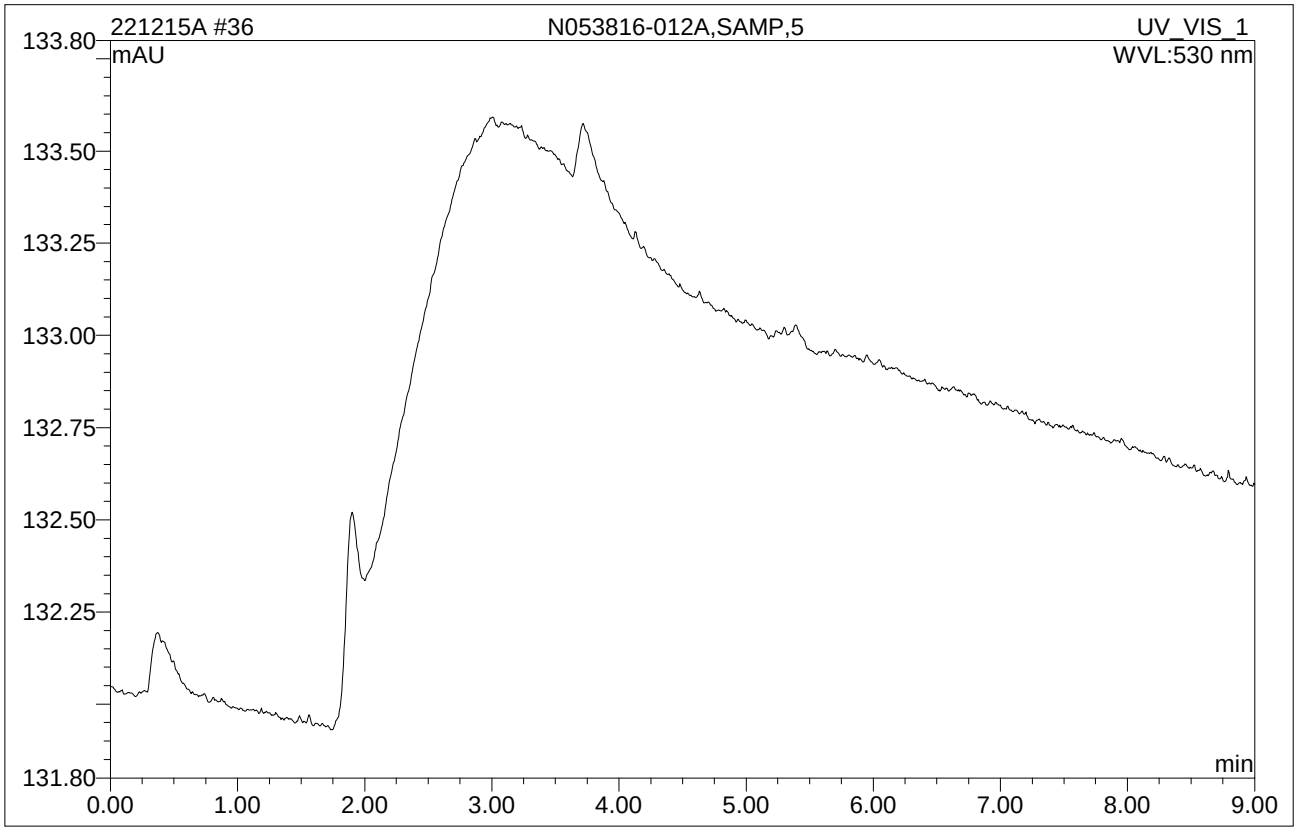


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.00	n.a.	0.527	0.349	97.18	n.a.	BMB
2	7.74	n.a.	0.422	0.010	2.82	n.a.	BMB
Total:			0.949	0.359	100.00	0.000	

36 N053816-012A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053816-012A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**36**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 17:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

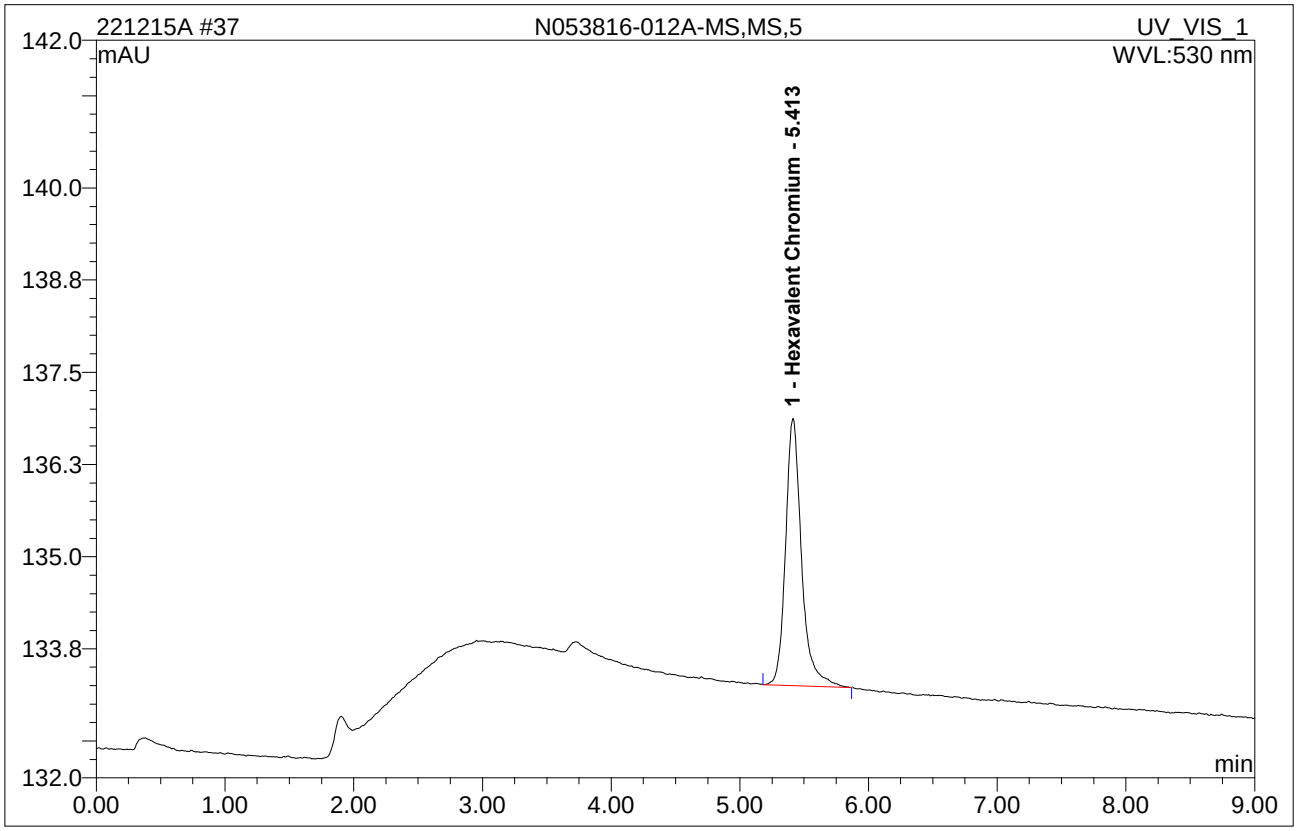


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

37 N053816-012A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053816-012A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**37**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 18:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

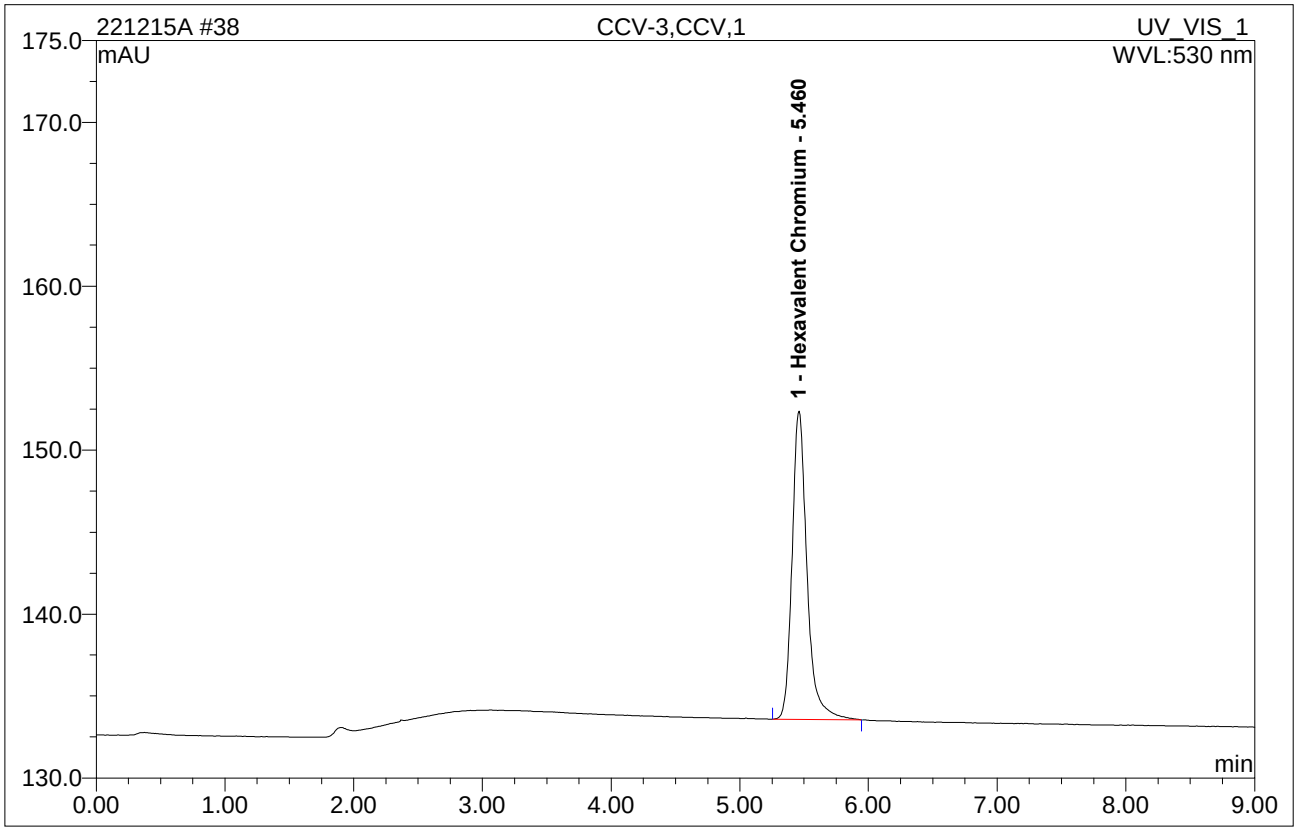


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.41	Hexavalent Chromium	3.624	0.522	100.00	1.050289	BMB
Total:			3.624	0.522	100.00	1.050	

38 CCV-3,CCV,1

CCV @ 5ppb,IWST221111A,R221115B

Sample Name:	**CCV-3,CCV,1**	*Injection Volume:*	**500.0**
Vial Number:	**38**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 18:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

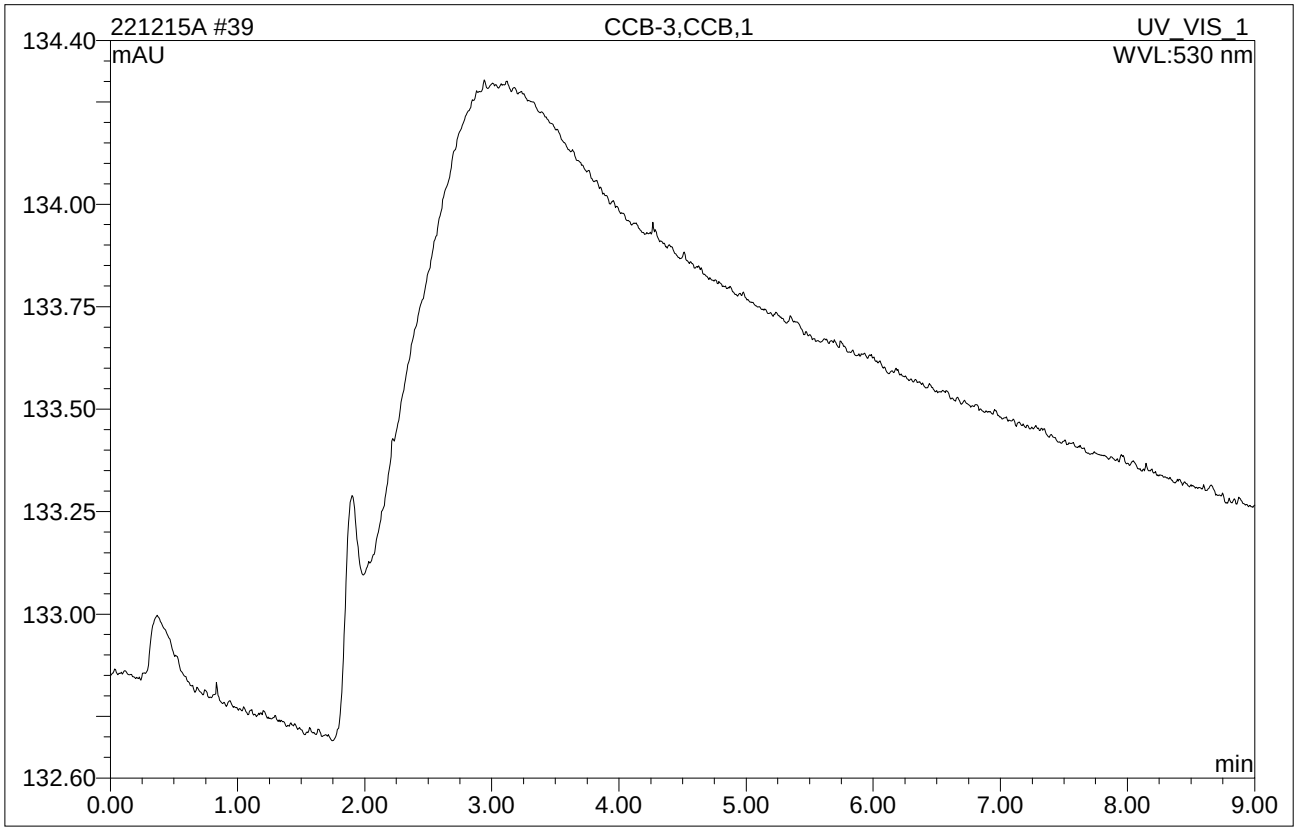


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	18.813	2.528	100.00	5.072820	BMB
Total:			18.813	2.528	100.00	5.073	

39 CCB-3,CCB,1

CCB,R221115B

Sample Name:	**CCB-3,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**39**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 18:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

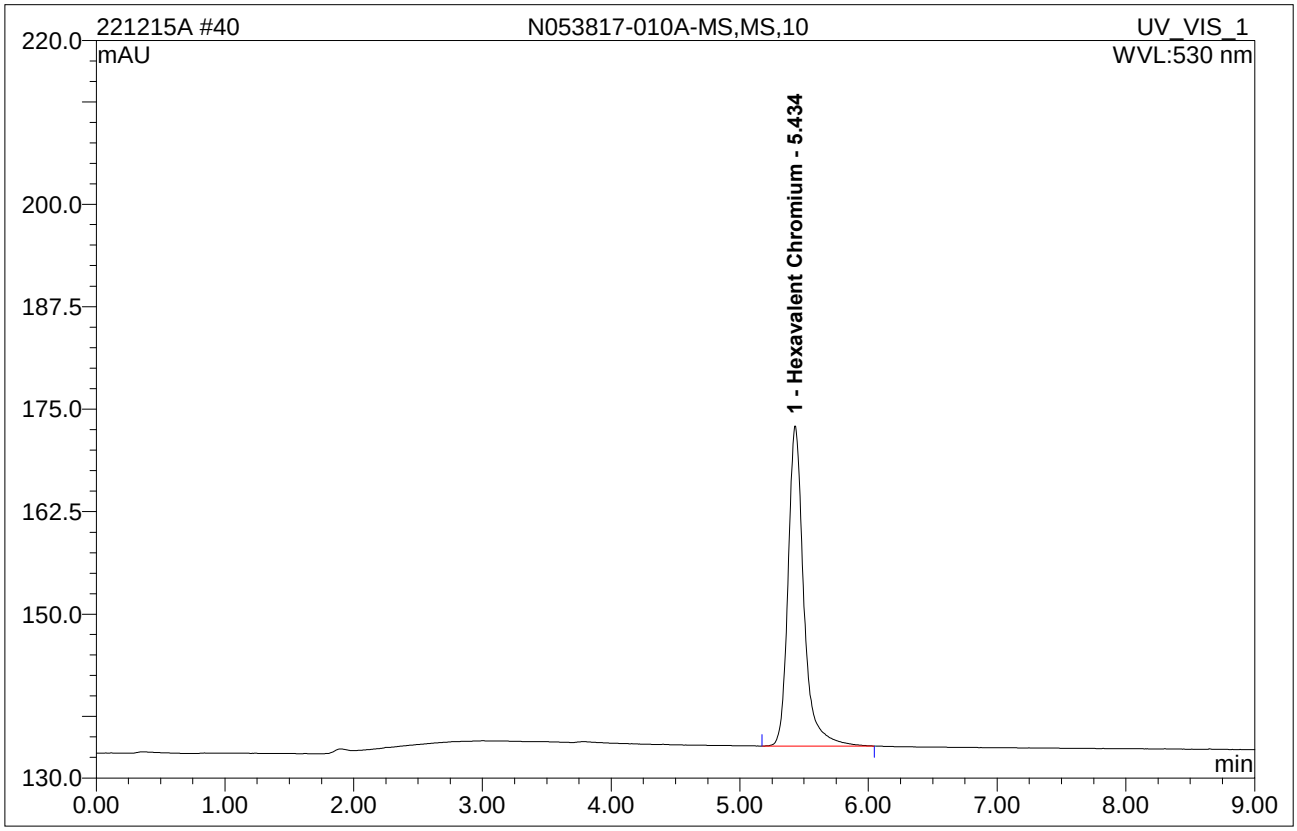


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

40 N053817-010A-MS,MS,10

MS @ 5ppb,IWST221205A,1>10mL

Sample Name:	**N053817-010A-MS,MS,10**	*Injection Volume:*	**500.0**
Vial Number:	**40**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 18:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

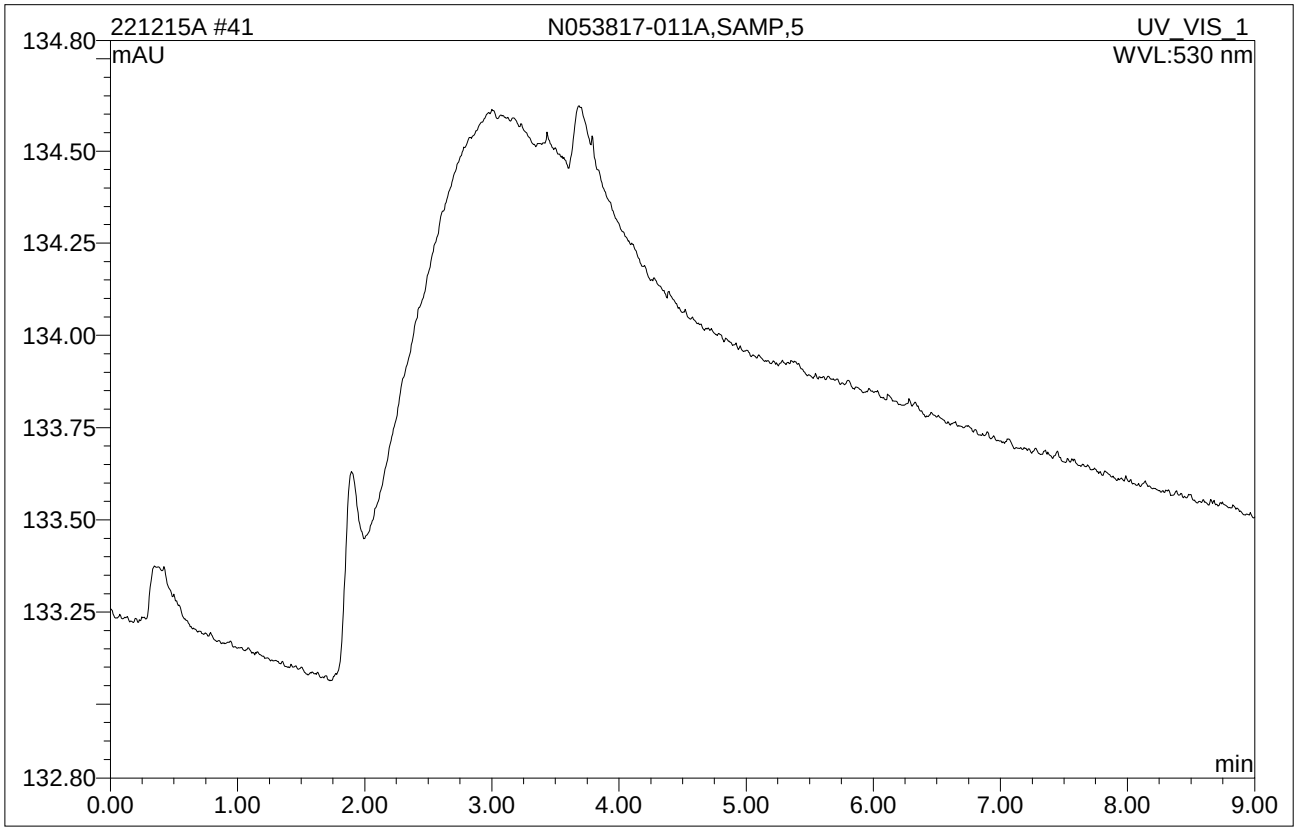


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	39.060	5.518	100.00	11.068318	BMB
Total:			39.060	5.518	100.00	11.068	

41 N053817-011A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053817-011A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**41**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 18:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

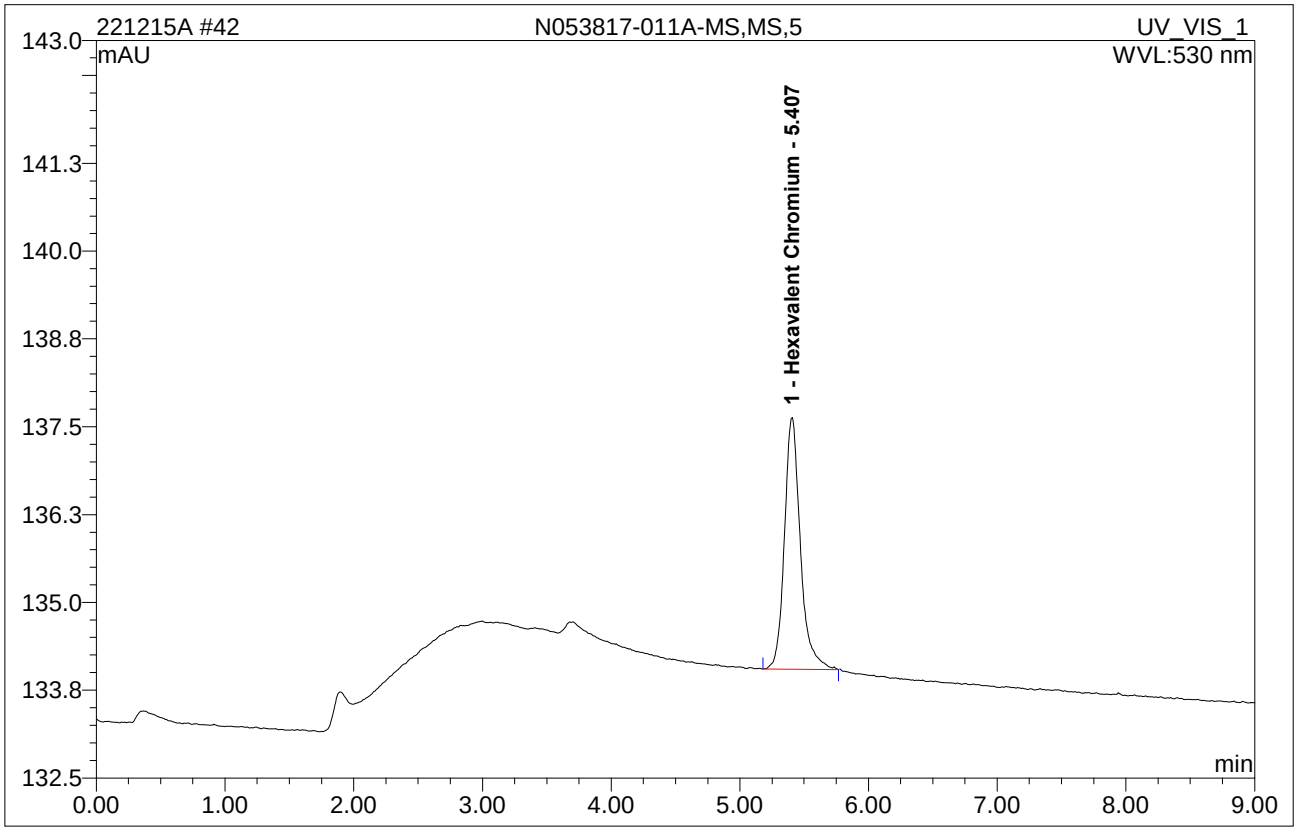


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

42 N053817-011A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053817-011A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**42**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 18:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

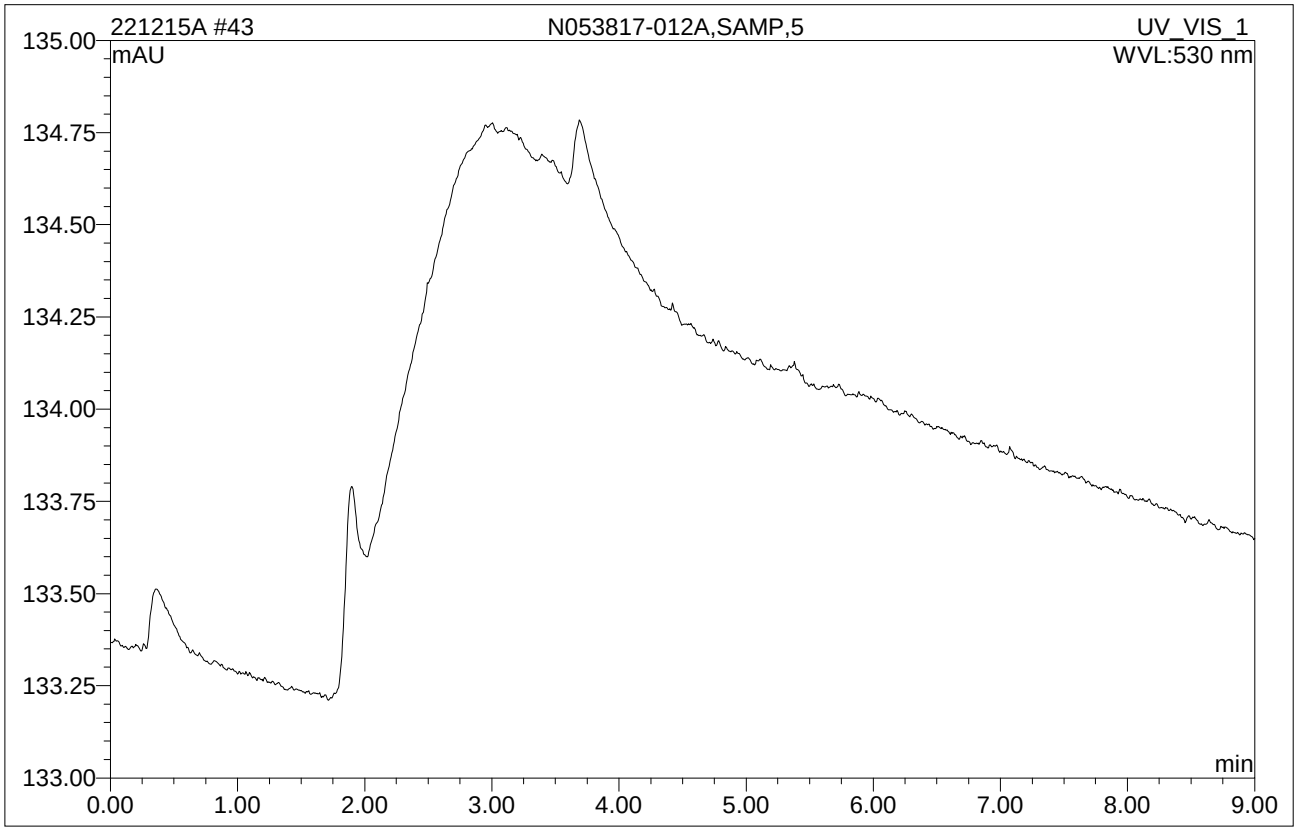


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.41	Hexavalent Chromium	3.586	0.516	100.00	1.038048	BMB
Total:			3.586	0.516	100.00	1.038	

43 N053817-012A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053817-012A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**43**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 19:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

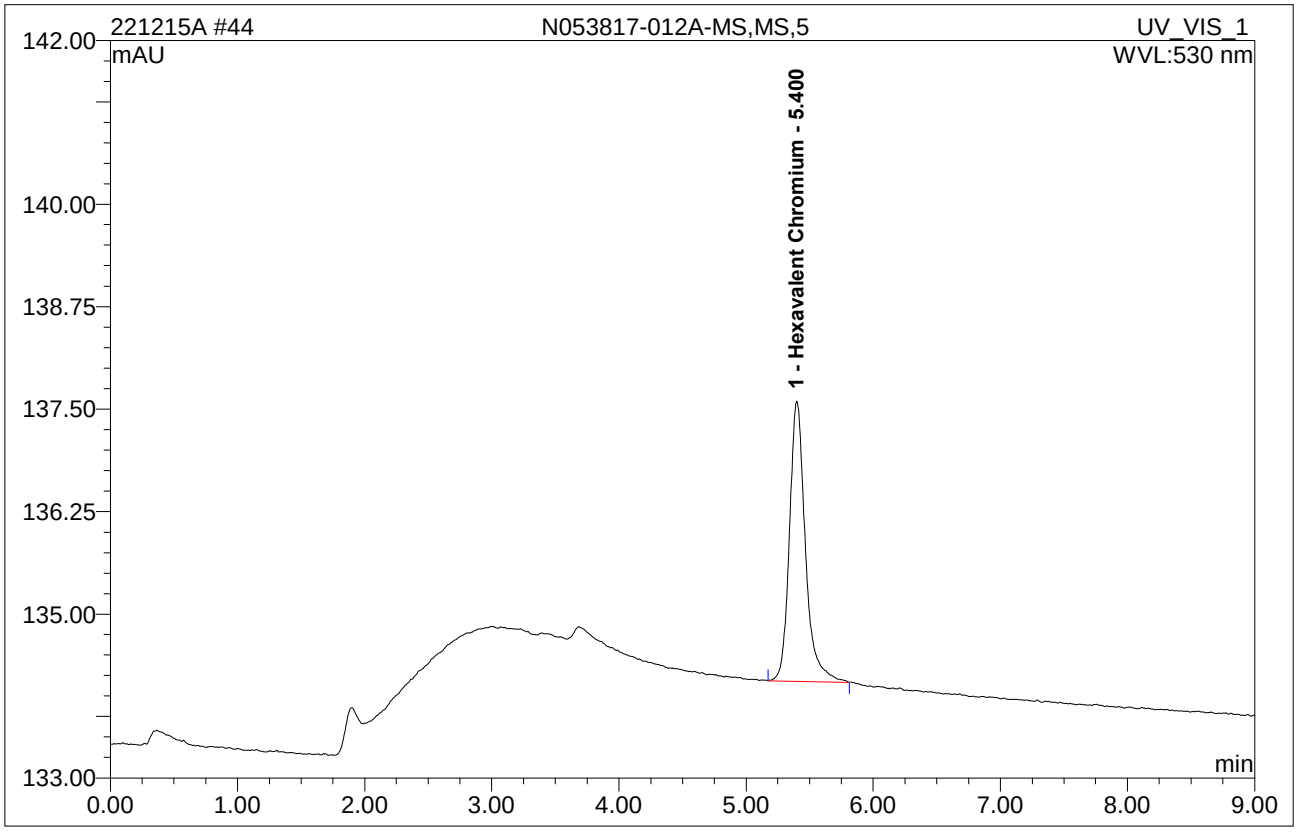


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

44 N053817-012A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053817-012A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**44**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 19:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

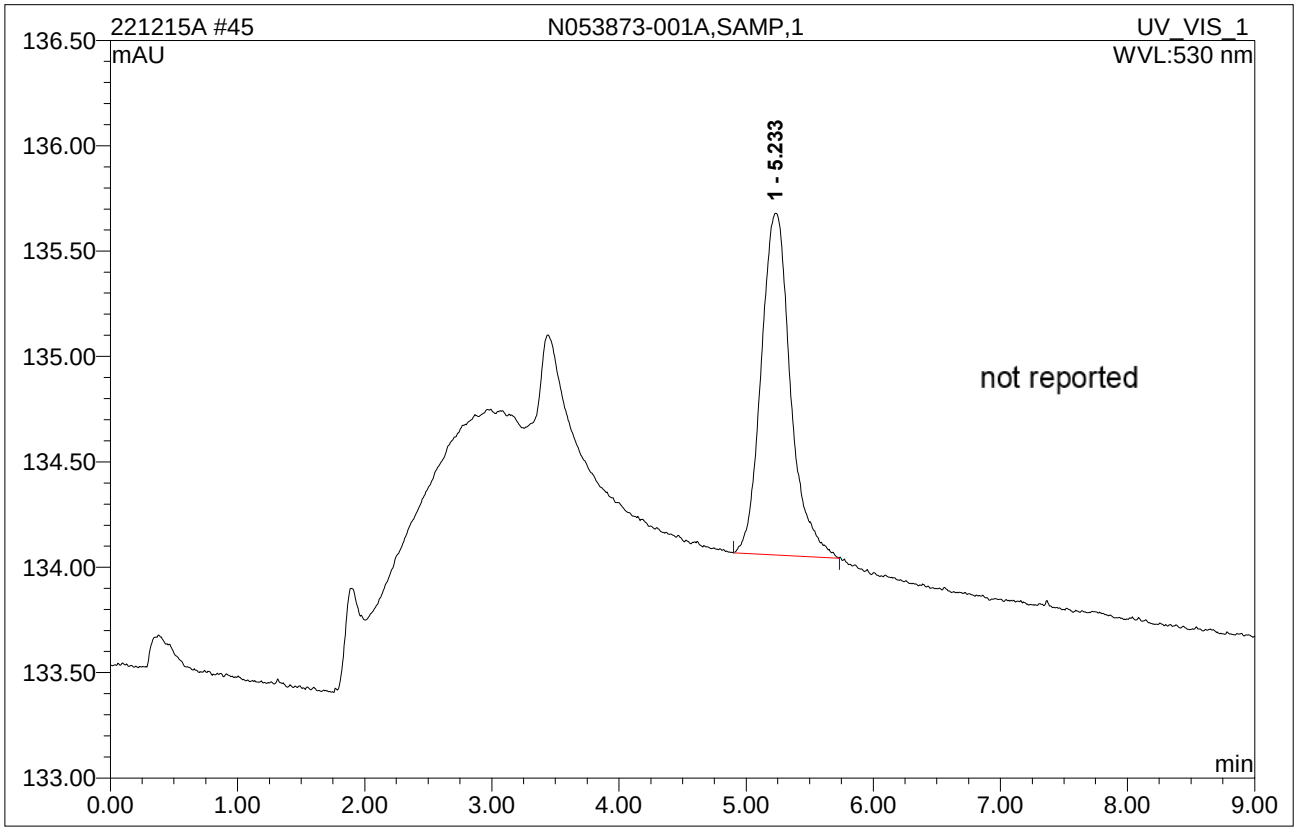


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.40	Hexavalent Chromium	3.421	0.498	100.00	1.001311	BMB
Total:			3.421	0.498	100.00	1.001	

45 N053873-001A,SAMP,1

SAMPLE

Sample Name:	**N053873-001A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**45**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 19:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

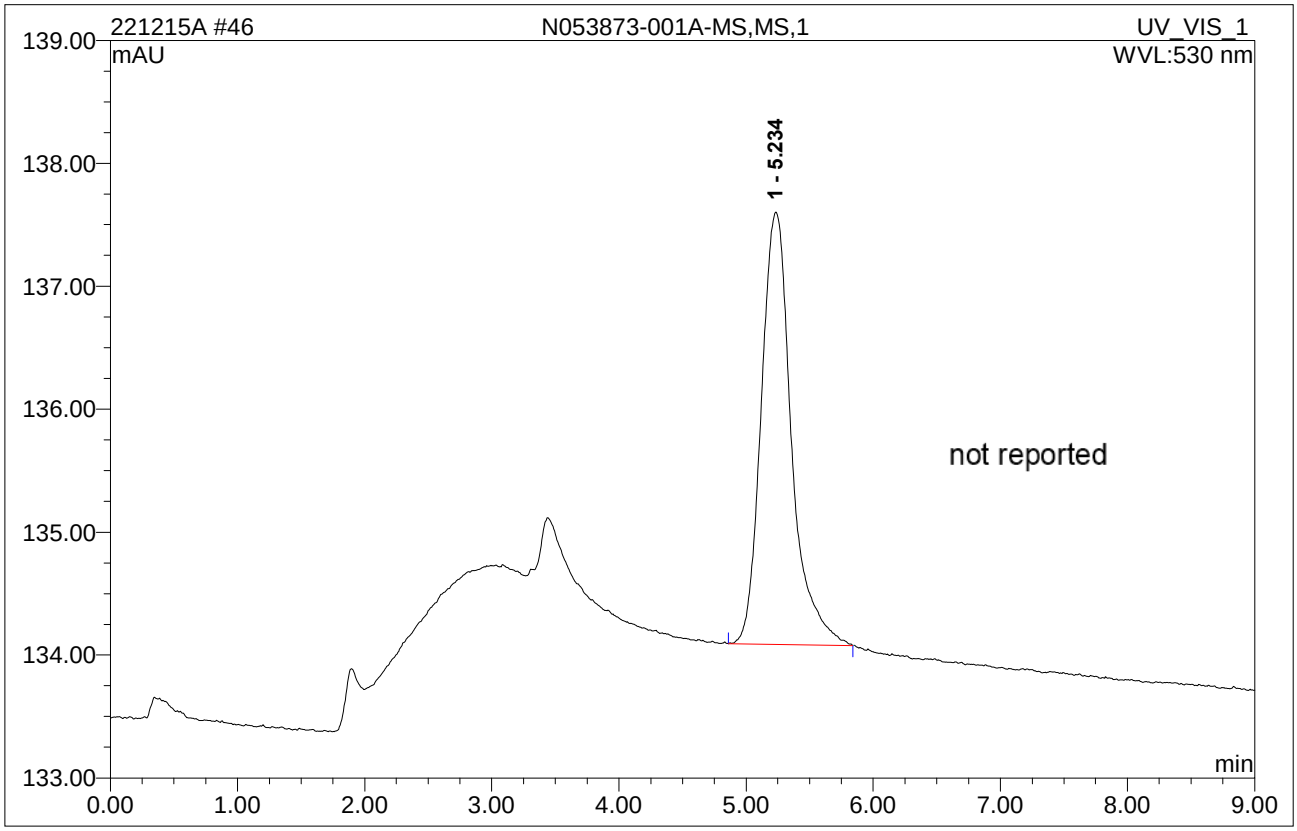


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.23	n.a.	1.622	0.434	100.00	n.a.	BMB
Total:			1.622	0.434	100.00	0.000	

46 N053873-001A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-001A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**46**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 19:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

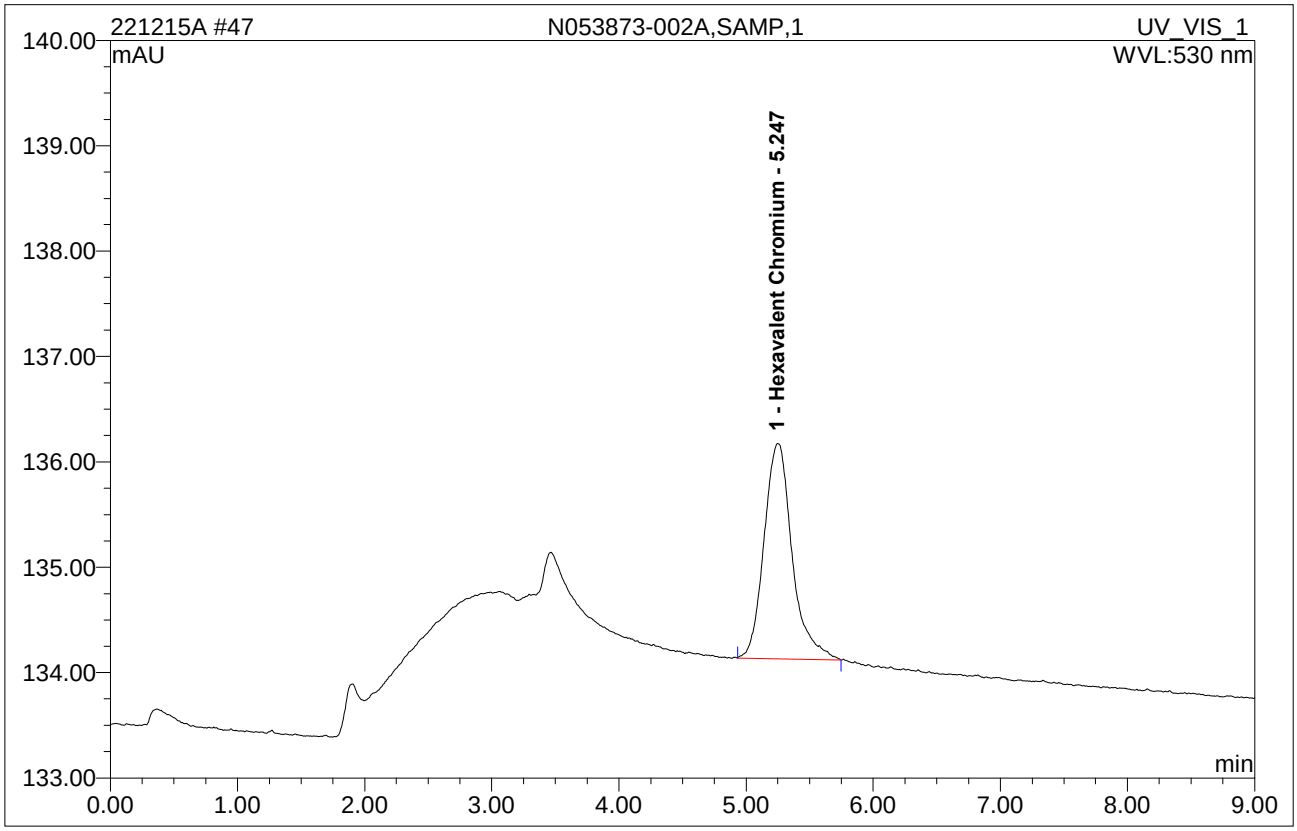


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.23	n.a.	3.519	0.970	100.00	n.a.	BMB
Total:			3.519	0.970	100.00	0.000	

47 N053873-002A,SAMP,1

SAMPLE

Sample Name:	**N053873-002A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**47**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 19:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

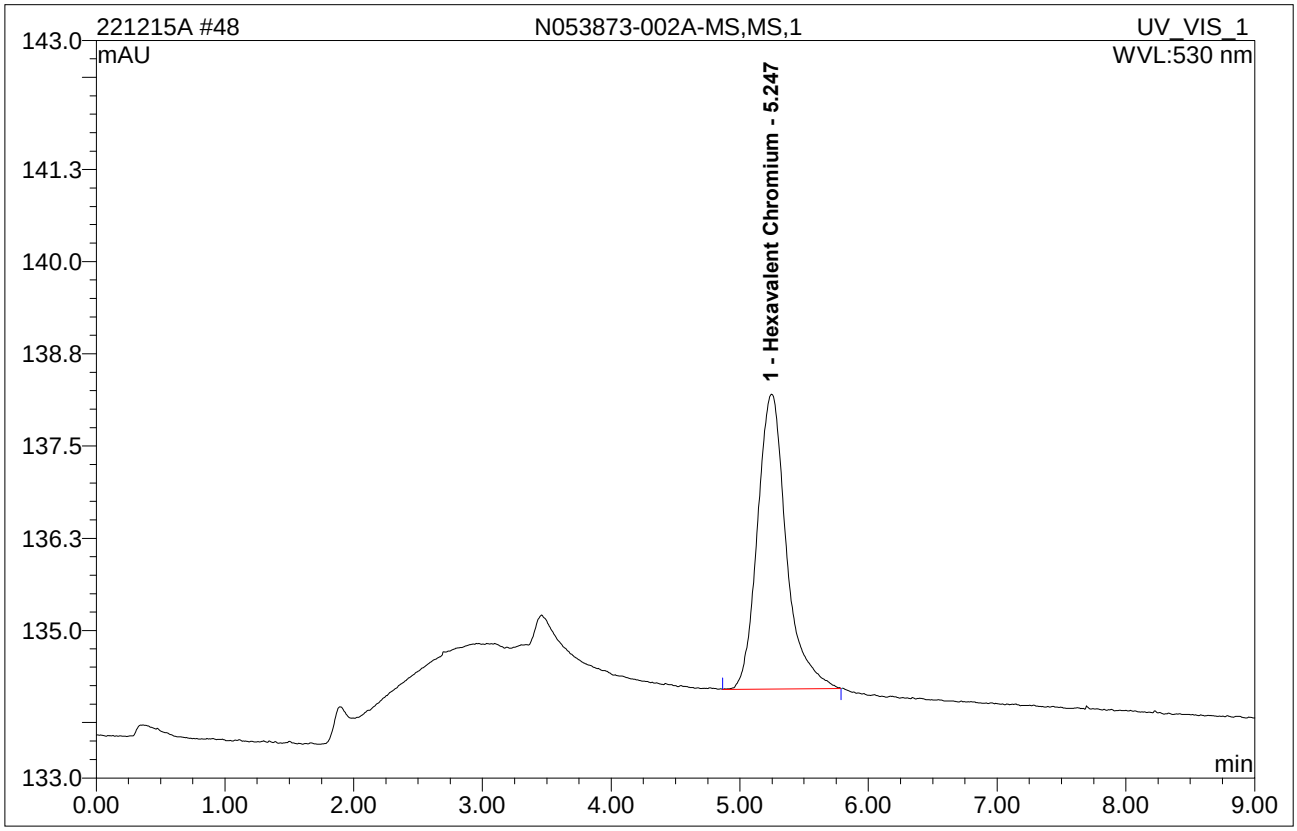


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	2.046	0.524	100.00	1.054951	BMB
Total:			2.046	0.524	100.00	1.055	

48 N053873-002A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-002A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**48**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 20:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

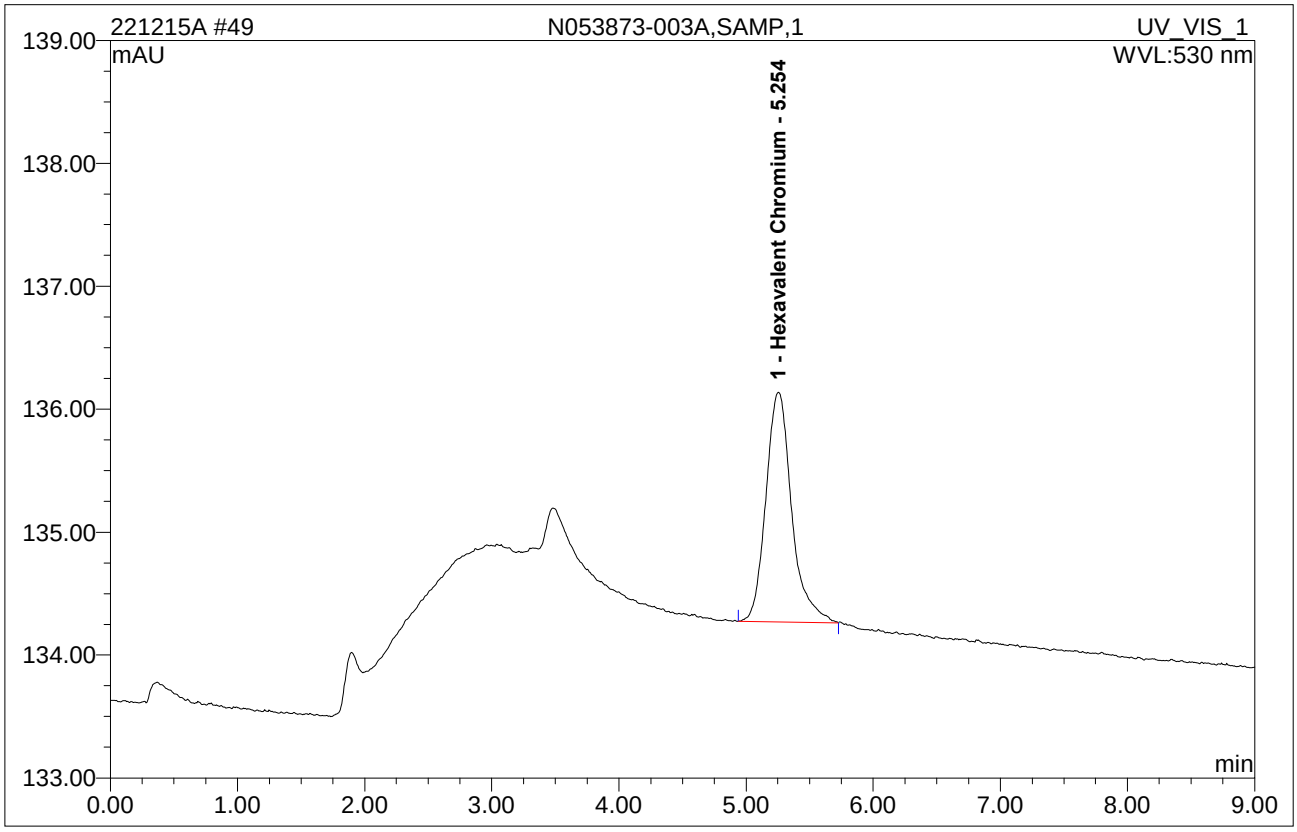


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	3.997	1.041	100.00	2.091590	BMB
Total:			3.997	1.041	100.00	2.092	

49 N053873-003A,SAMP,1

SAMPLE

Sample Name:	**N053873-003A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**49**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 20:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

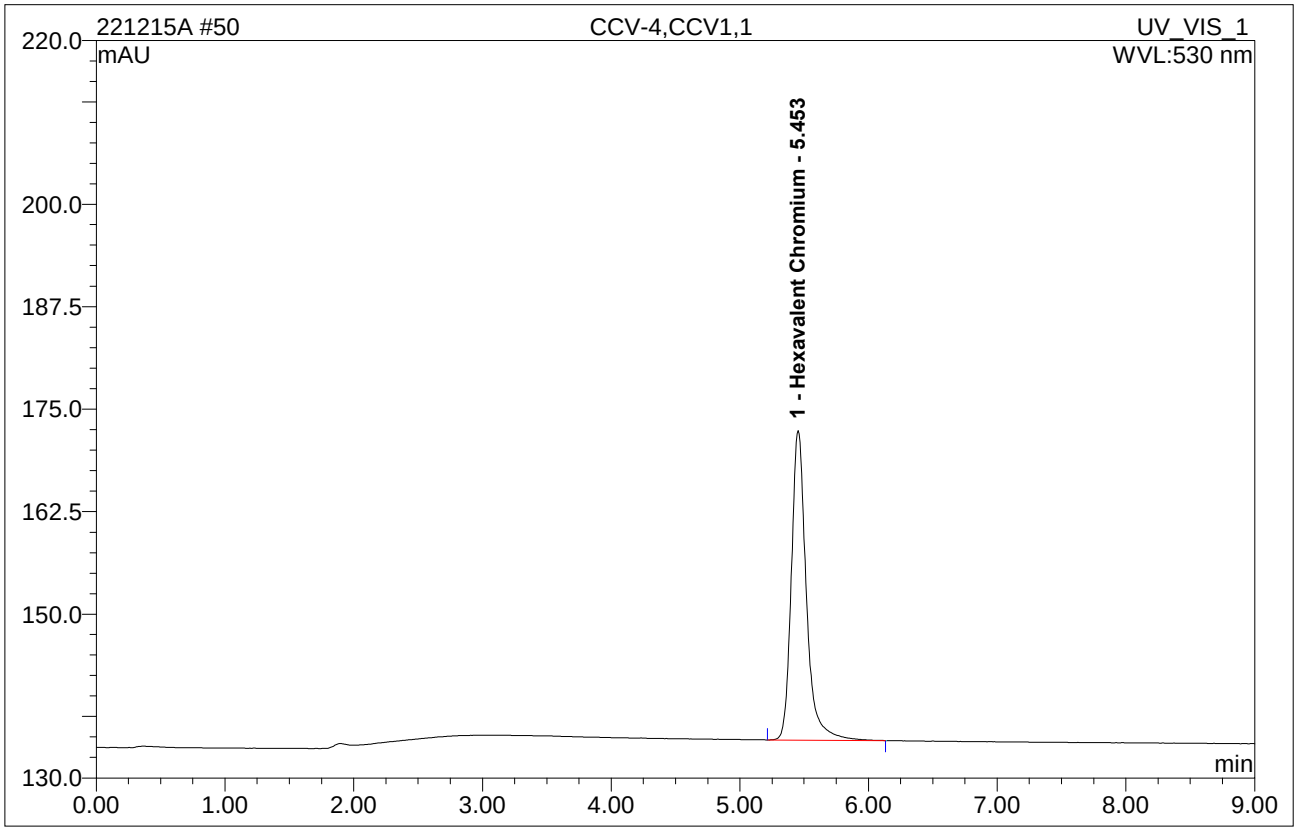


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	1.867	0.440	100.00	0.885022	BMB
Total:			1.867	0.440	100.00	0.885	

50 CCV-4,CCV1,1

CCV @ 10ppb,IWST221111A,R221115B

Sample Name:	**CCV-4,CCV1,1**	*Injection Volume:*	**500.0**
Vial Number:	**50**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 20:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

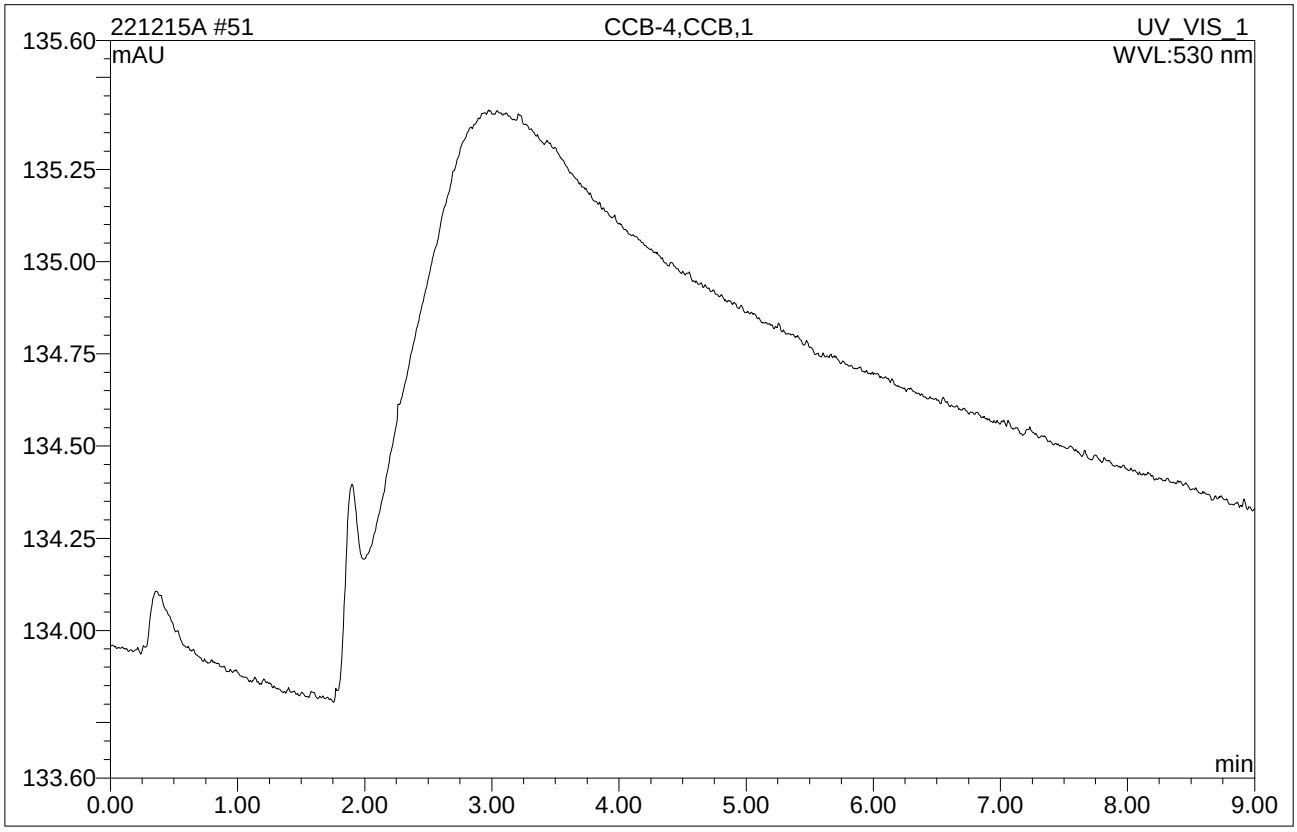


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	37.766	5.104	100.00	10.237884	BMB
Total:			37.766	5.104	100.00	10.238	

51 CCB-4,CCB,1

CCB,R221115B

Sample Name:	**CCB-4,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**51**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 20:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

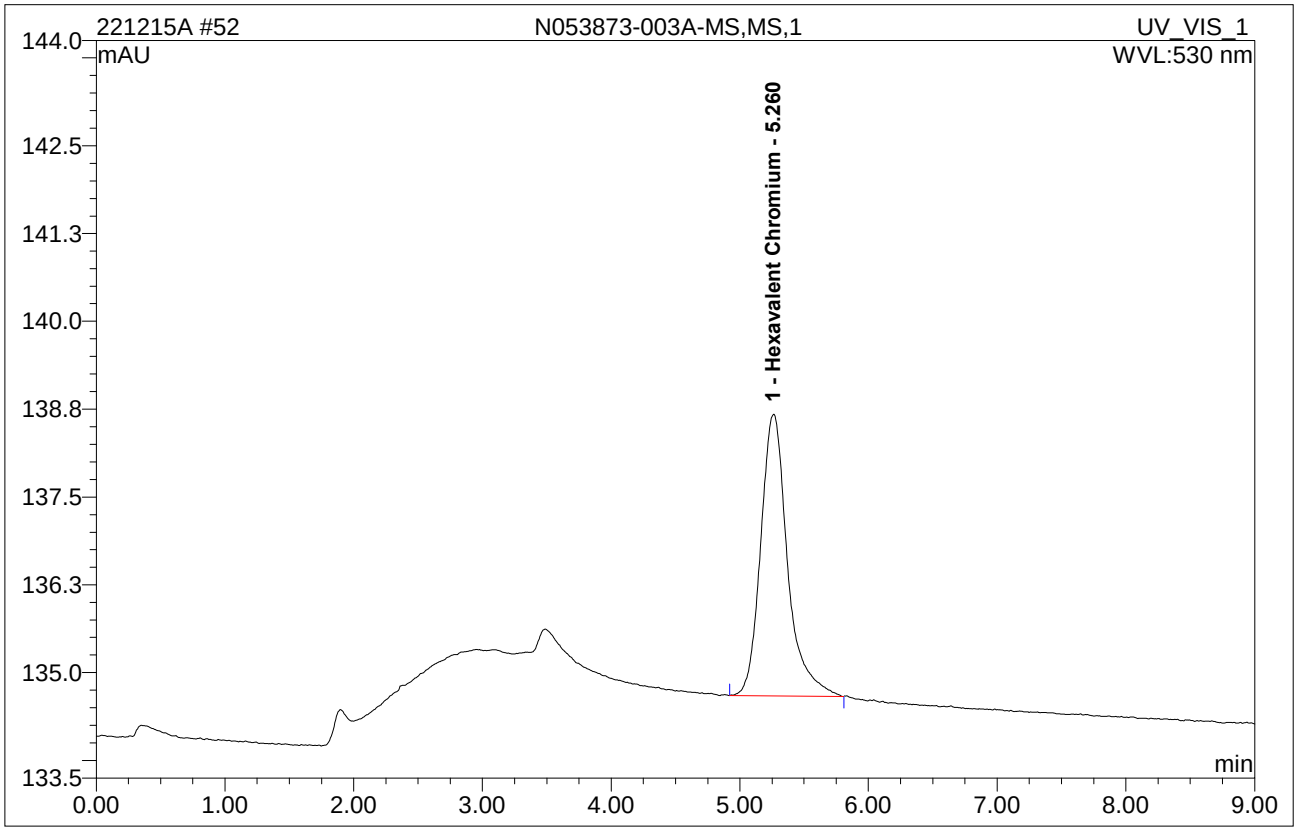


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

52 N053873-003A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-003A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**52**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 20:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

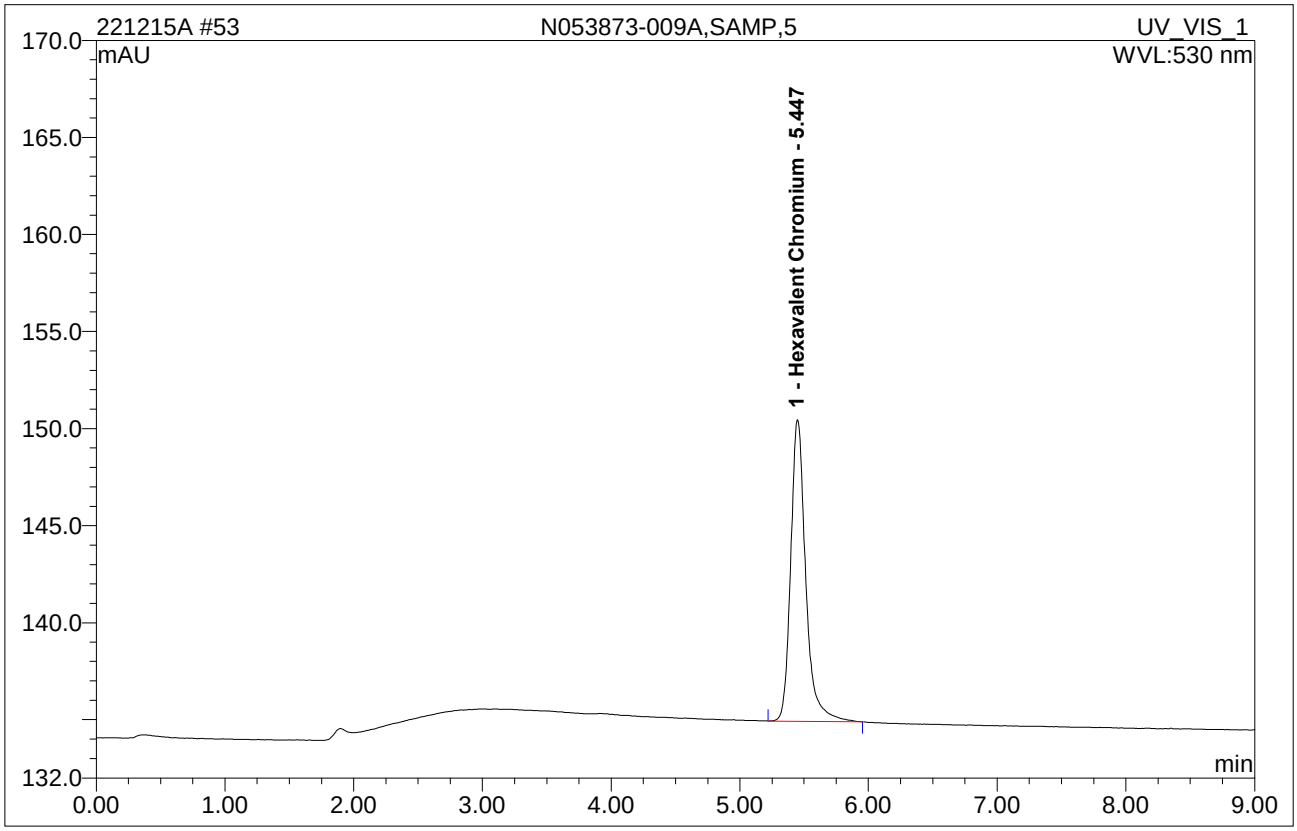


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.26	Hexavalent Chromium	4.012	0.970	100.00	1.948206	BMB
Total:			4.012	0.970	100.00	1.948	

53 N053873-009A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053873-009A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**53**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 21:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

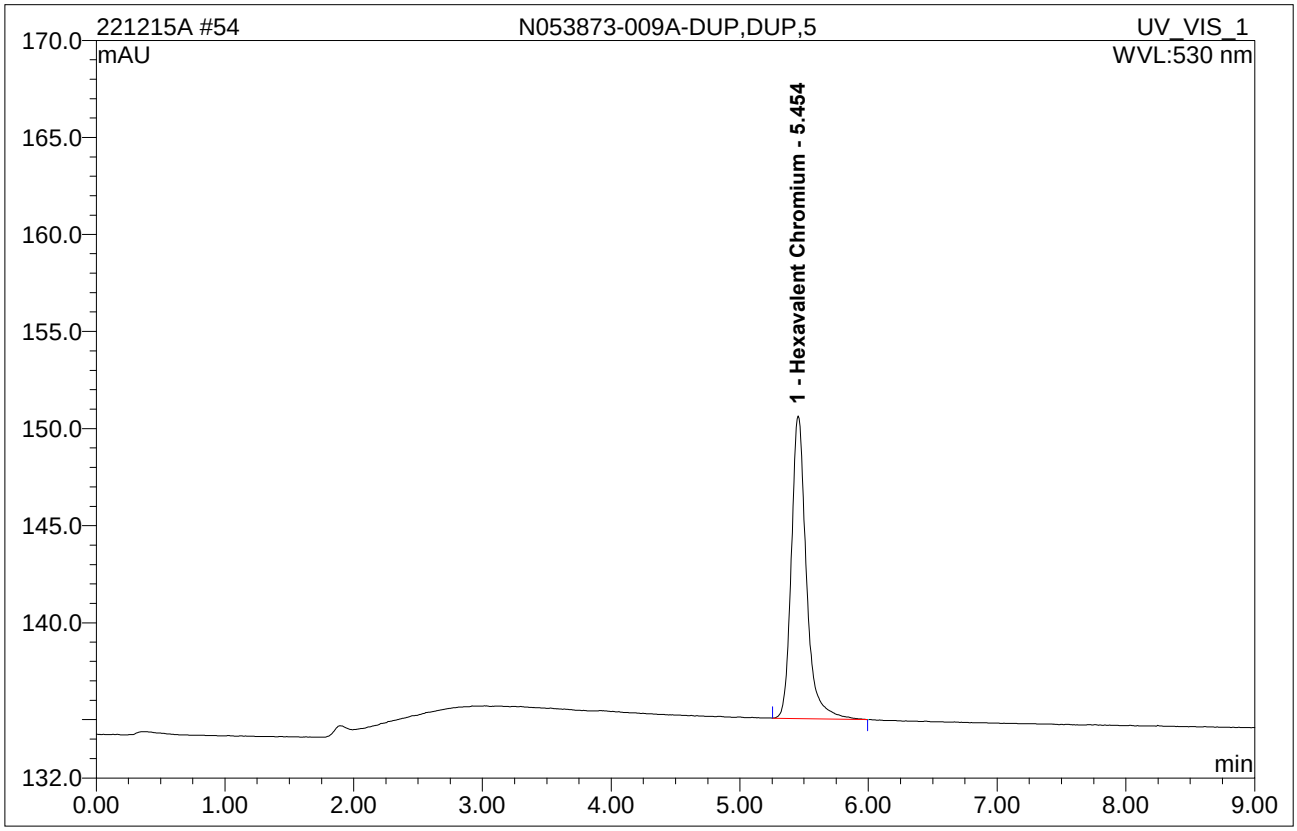


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	15.539	2.102	100.00	4.218144	BMB
Total:			15.539	2.102	100.00	4.218	

54 N053873-009A-DUP,DUP,5

DUPLICATE,2>10mL

Sample Name:	**N053873-009A-DUP,DUP,5**	*Injection Volume:*	**500.0**
Vial Number:	**54**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 21:14**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

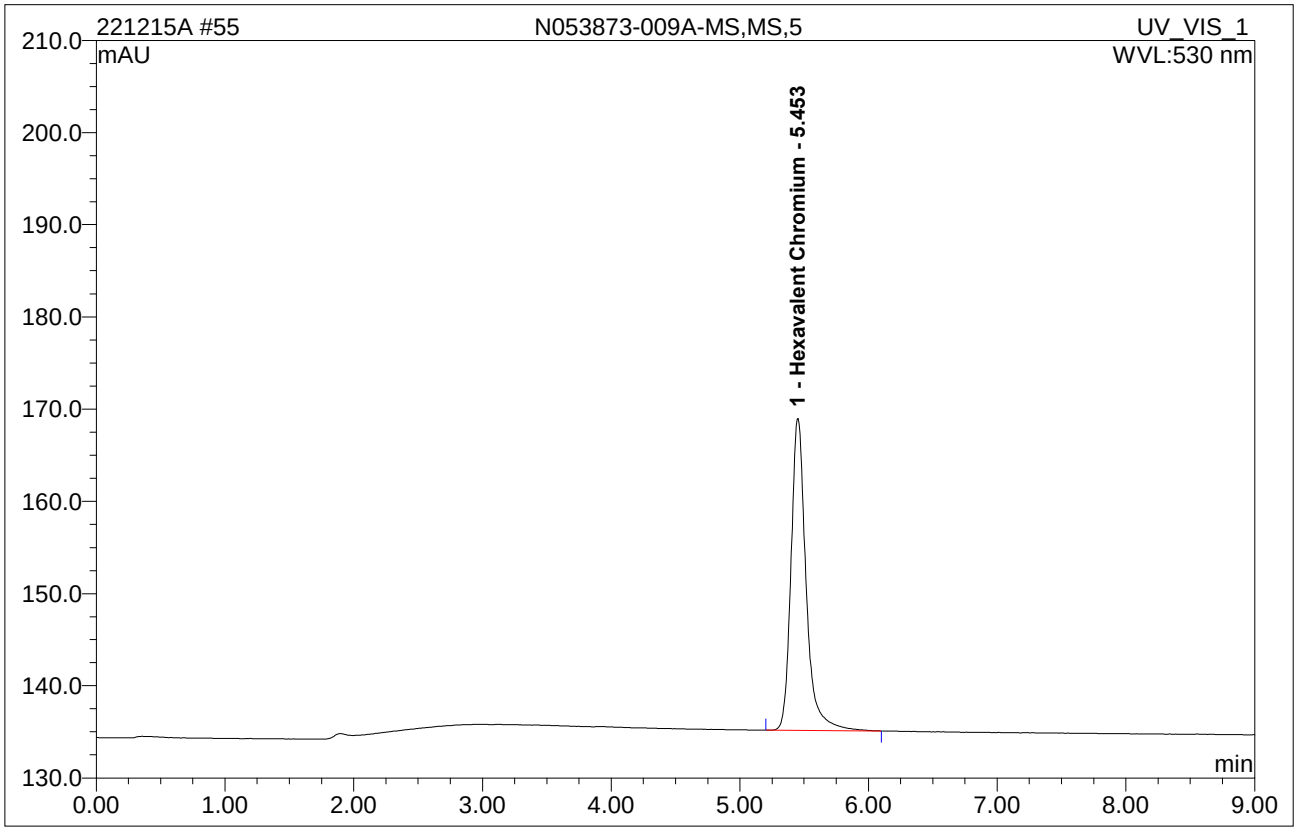


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	15.598	2.108	100.00	4.229813	BMB
Total:			15.598	2.108	100.00	4.230	

55 N053873-009A-MS,MS,5

MS @ 5ppb,IWST221205A,2>10mL

Sample Name:	**N053873-009A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**55**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 21:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

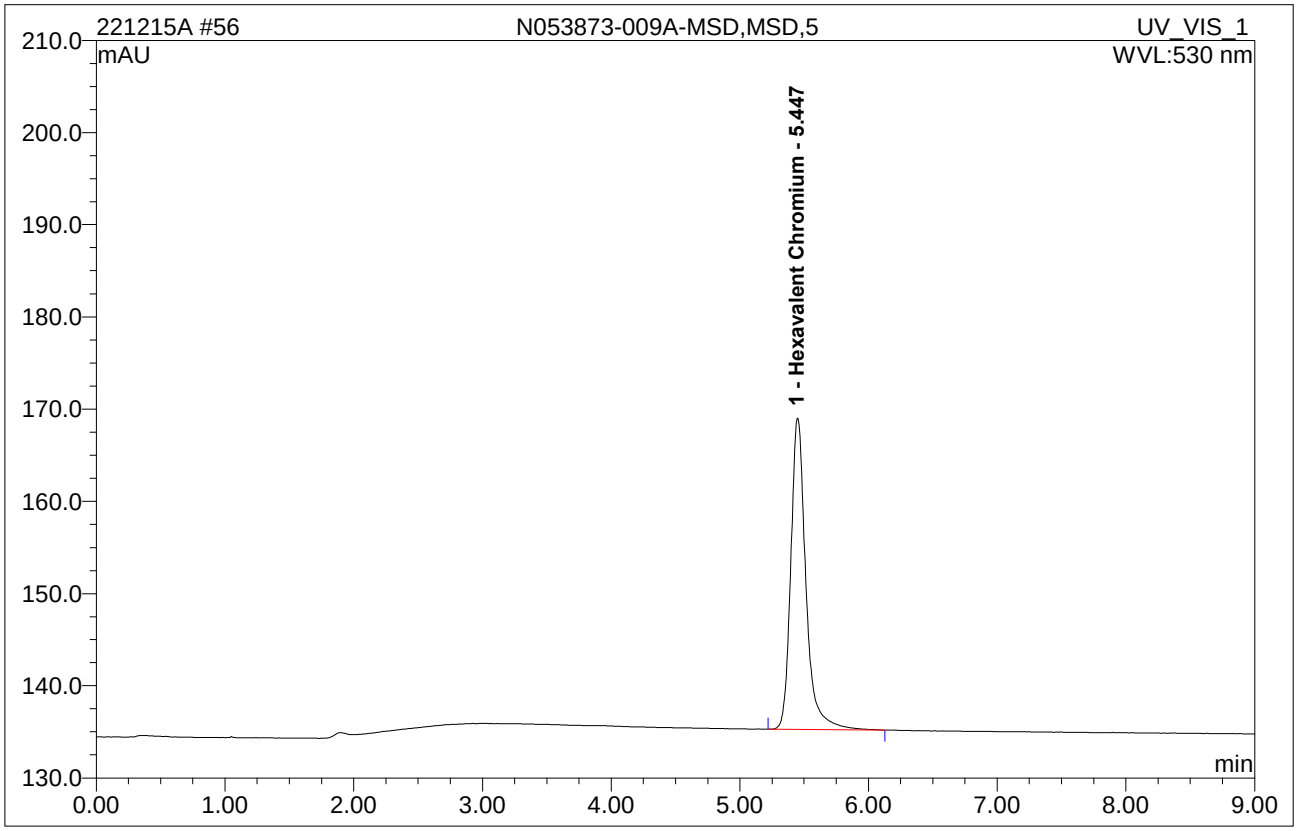


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	33.831	4.606	100.00	9.239272	BMB
Total:			33.831	4.606	100.00	9.239	

56 N053873-009A-MSD,MSD,5

MSD @ 5ppb,IWST221205A,2>10mL

Sample Name:	**N053873-009A-MSD,MSD,5**	*Injection Volume:*	**500.0**
Vial Number:	**56**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 21:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

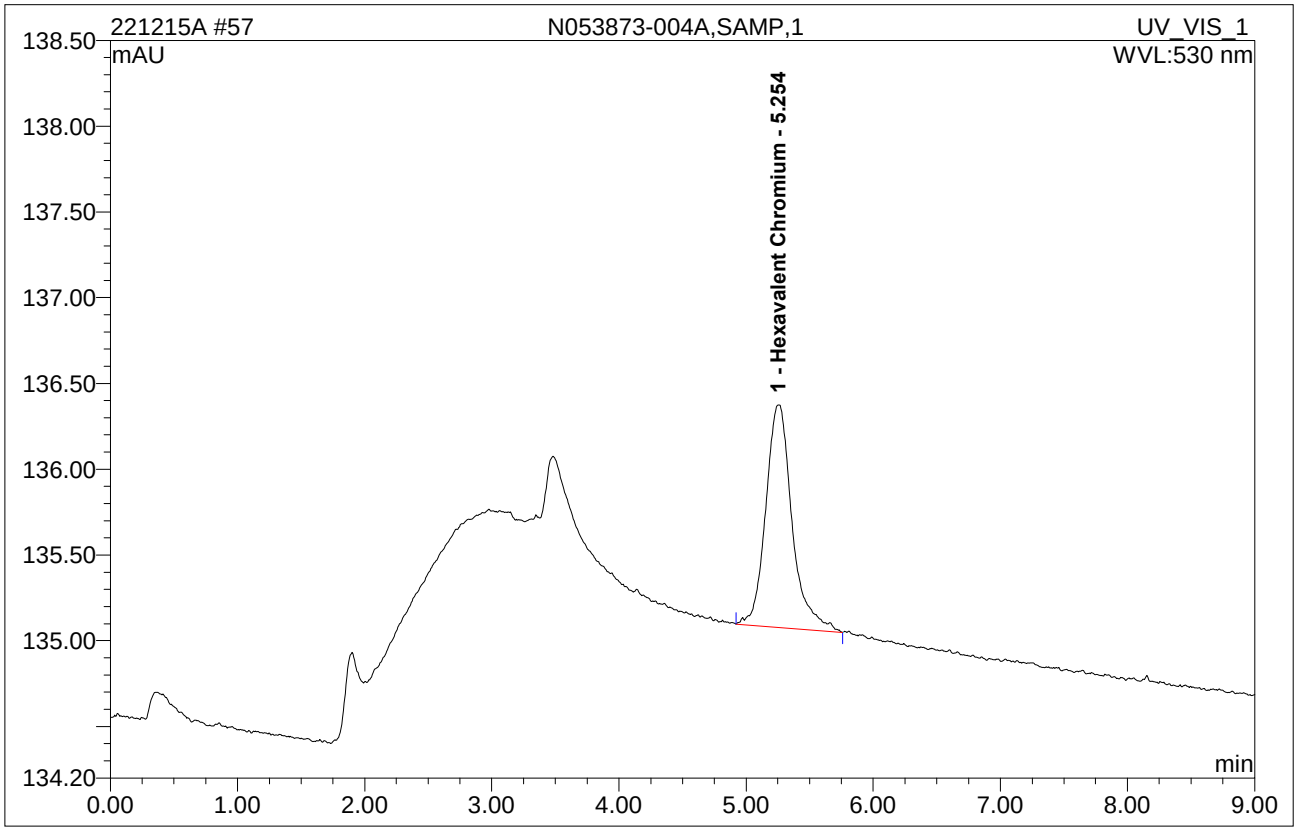


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	33.787	4.606	100.00	9.240086	BMB
Total:			33.787	4.606	100.00	9.240	

57 N053873-004A,SAMP,1

SAMPLE

Sample Name:	**N053873-004A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**57**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 21:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

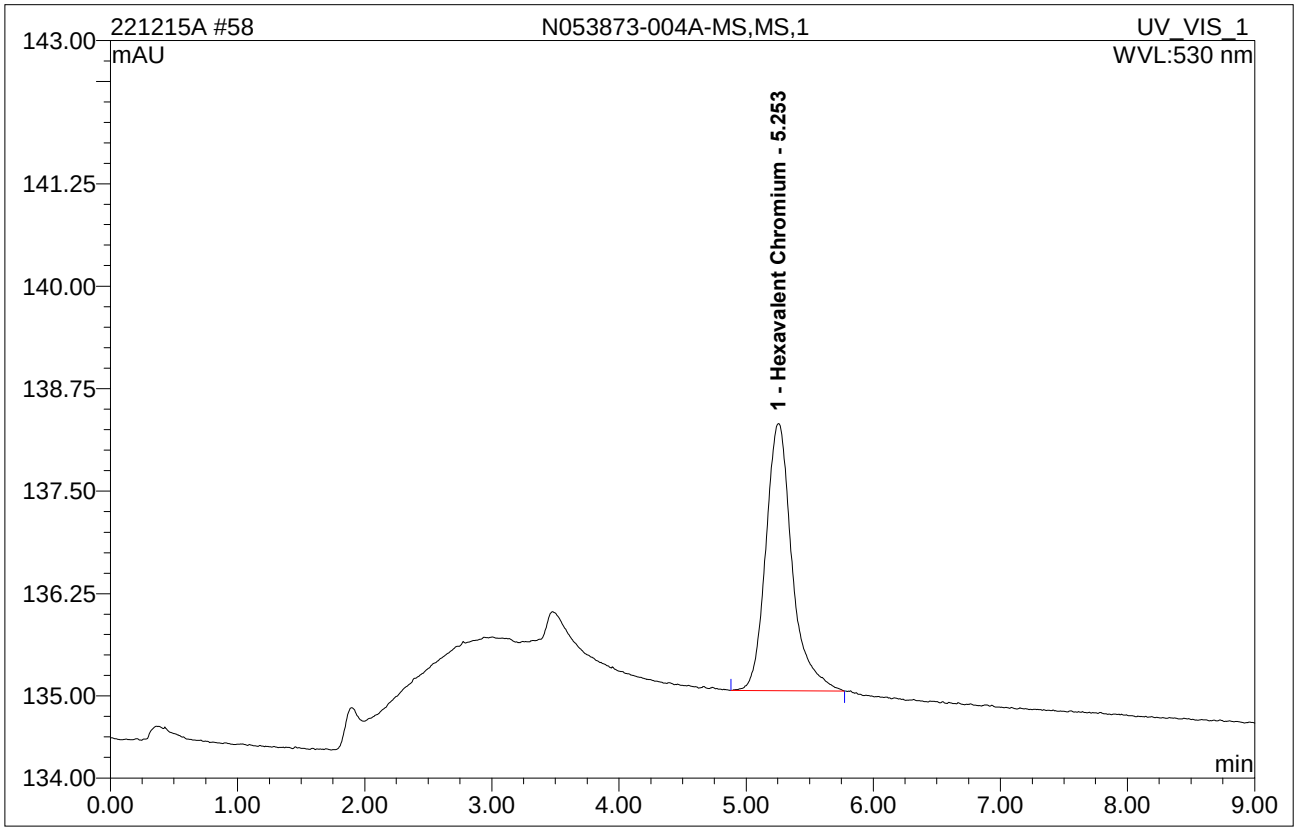


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	1.296	0.312	100.00	0.629184	BMB
Total:			1.296	0.312	100.00	0.629	

58 N053873-004A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-004A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**58**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 21:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

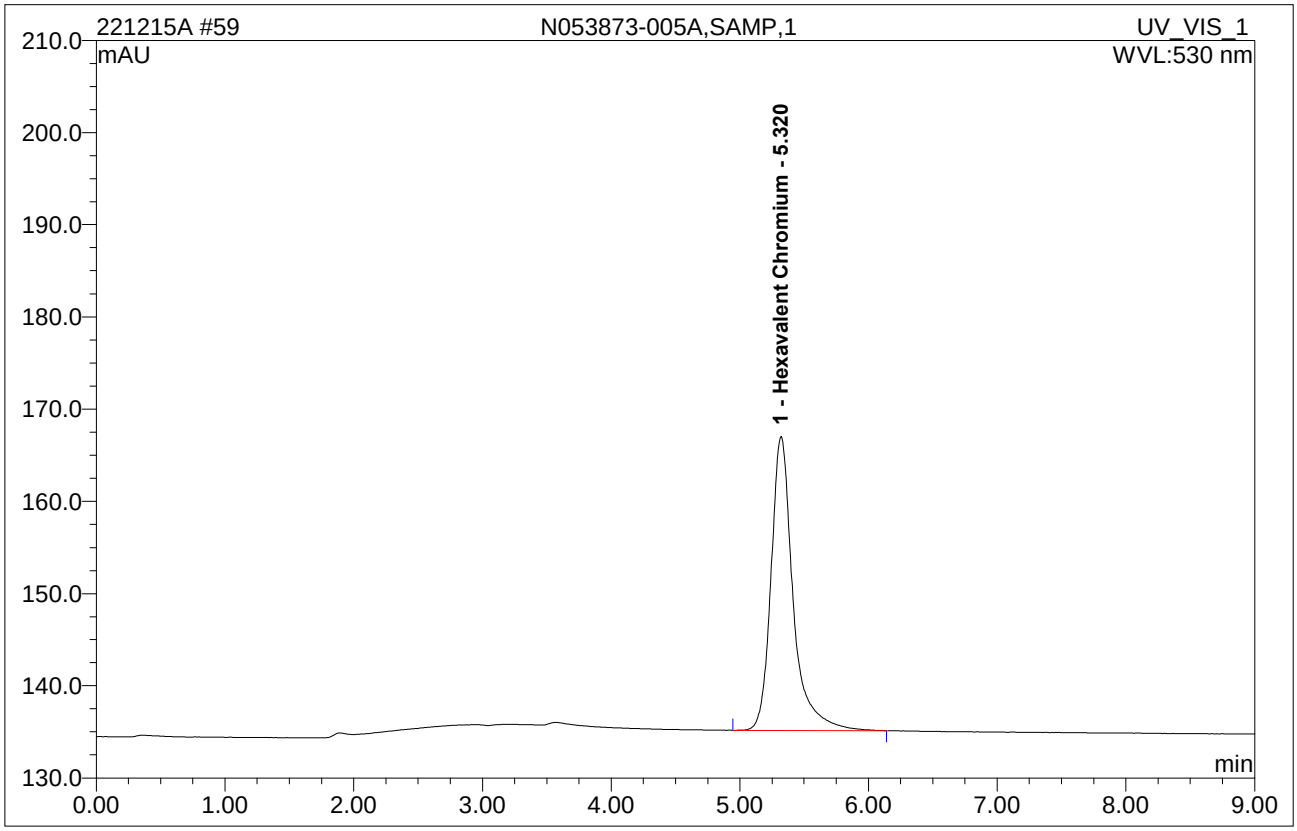


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	3.263	0.782	100.00	1.571483	BMB
Total:			3.263	0.782	100.00	1.571	

59 N053873-005A,SAMP,1

SAMPLE

Sample Name:	**N053873-005A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**59**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 22:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

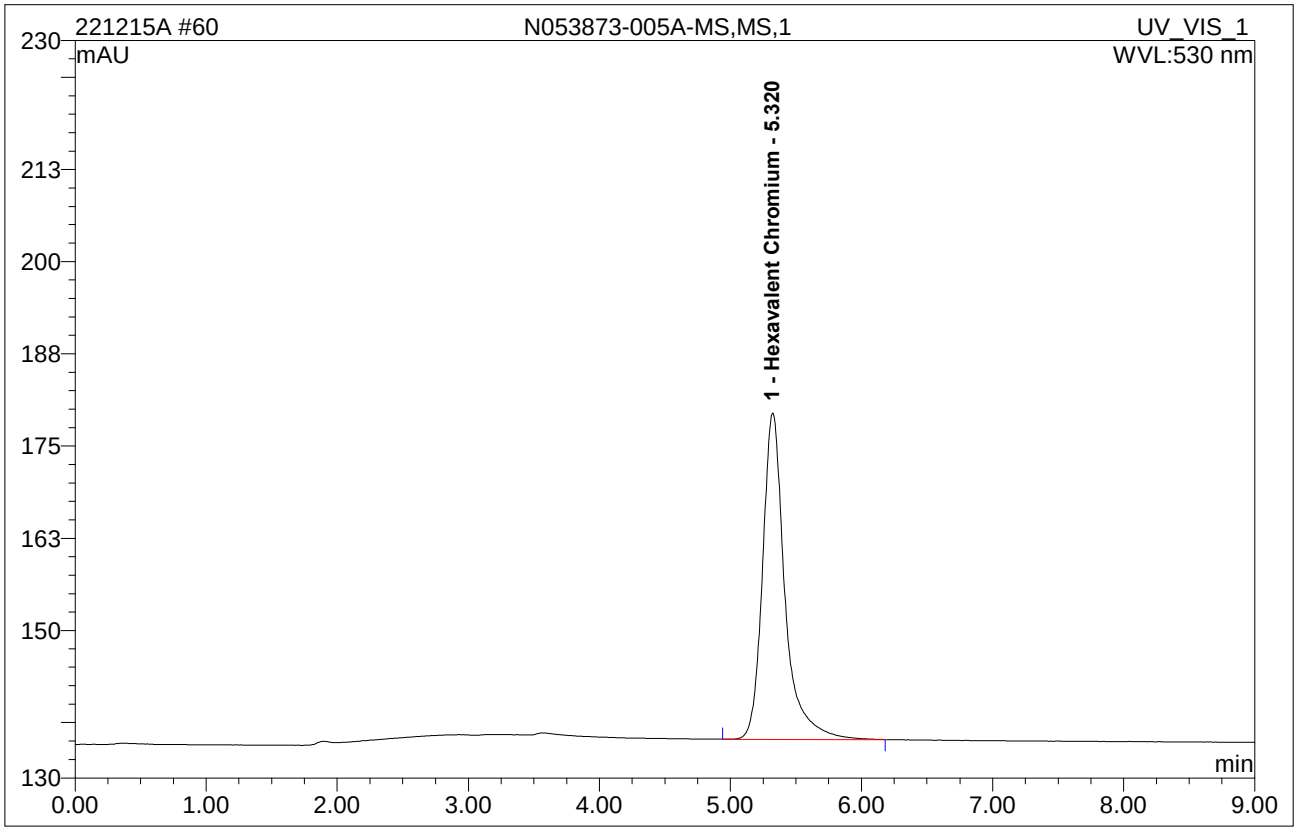


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.32	Hexavalent Chromium	31.890	6.338	100.00	12.712458	BMB
Total:			31.890	6.338	100.00	12.712	

60 N053873-005A-MS,MS,1

MS @ 5ppb,IWST221205A

Sample Name:	**N053873-005A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**60**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 22:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

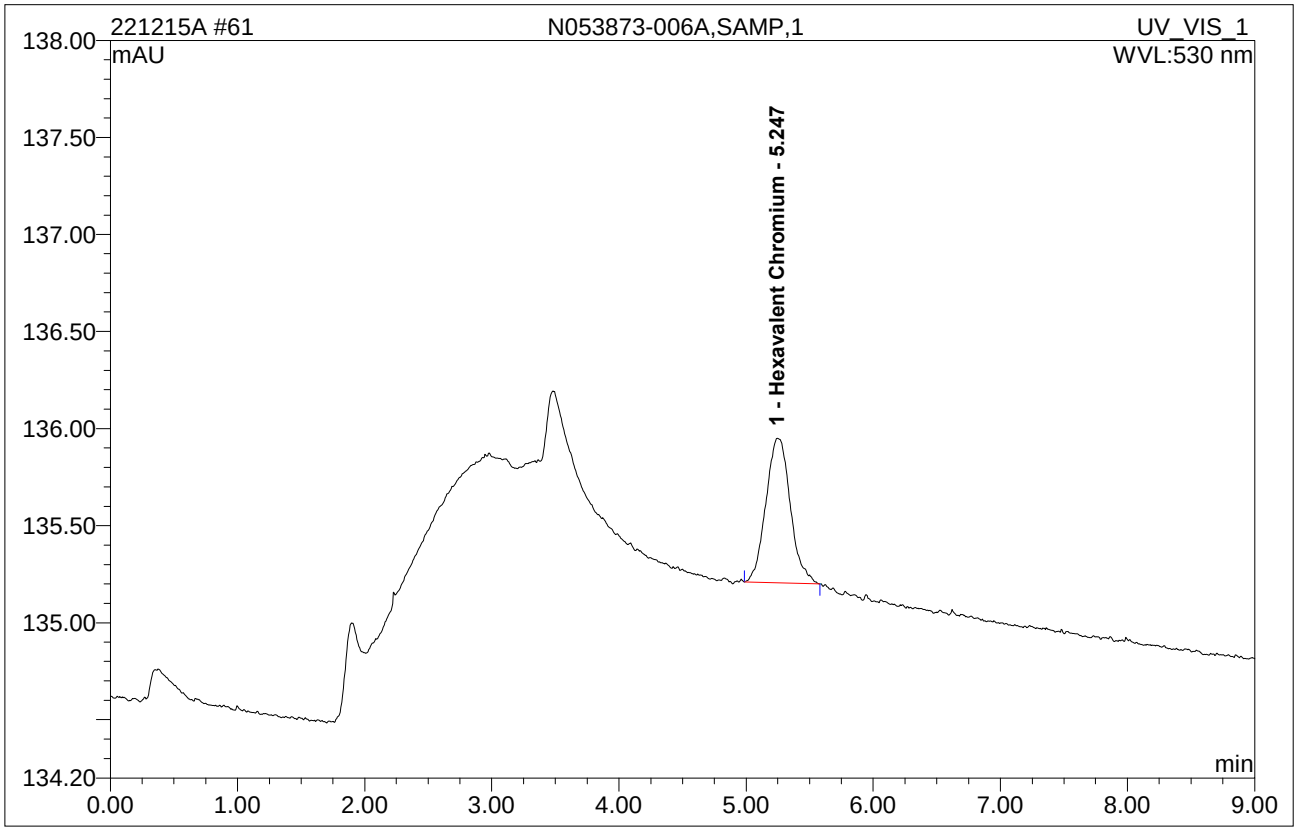


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.32	Hexavalent Chromium	44.234	8.761	100.00	17.572443	BMB
Total:			44.234	8.761	100.00	17.572	

61 N053873-006A,SAMP,1

SAMPLE

Sample Name:	**N053873-006A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**61**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 22:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

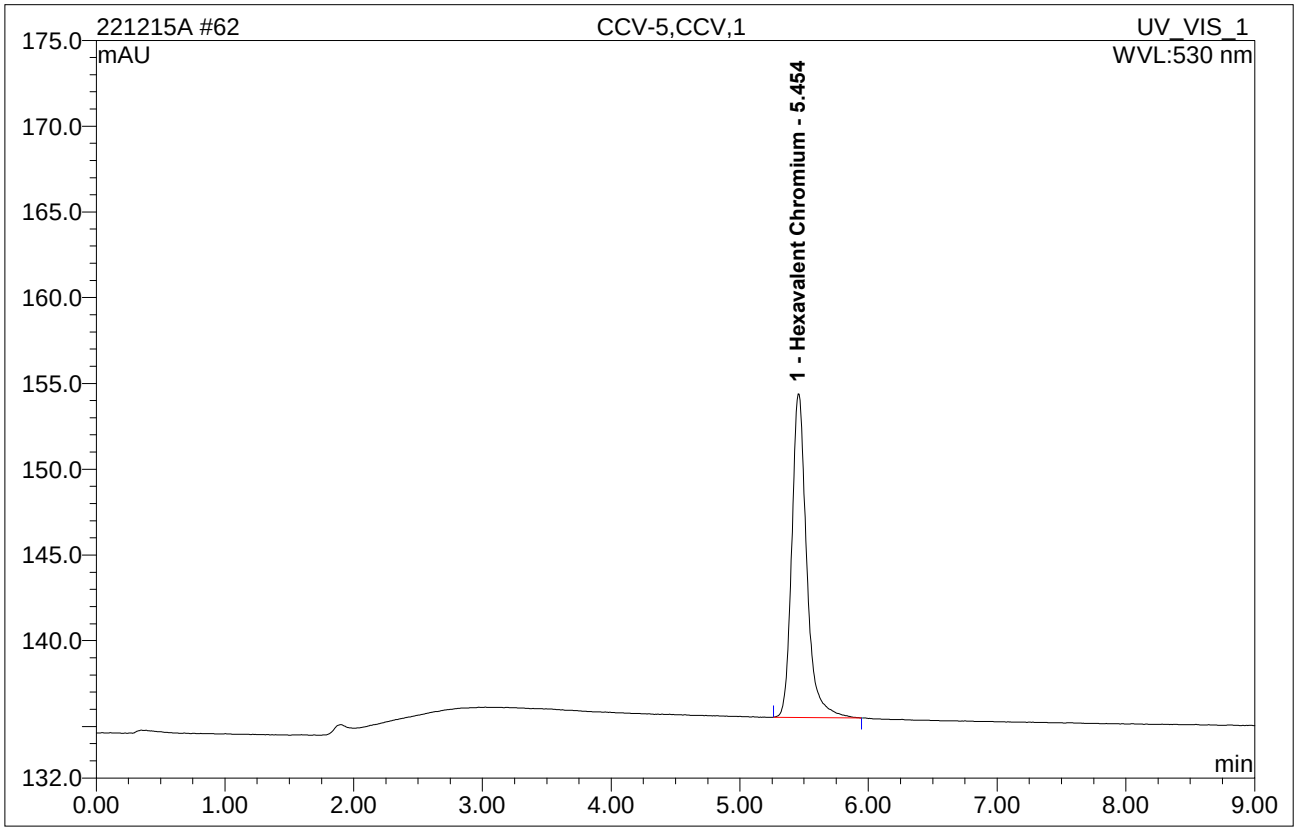


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	0.745	0.166	100.00	0.336466	BMB
Total:			0.745	0.166	100.00	0.336	

62 CCV-5,CCV,1

CCV @ 5ppb,IWST221111A,R221115B

Sample Name:	**CCV-5,CCV,1**	*Injection Volume:*	**500.0**
Vial Number:	**62**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 22:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

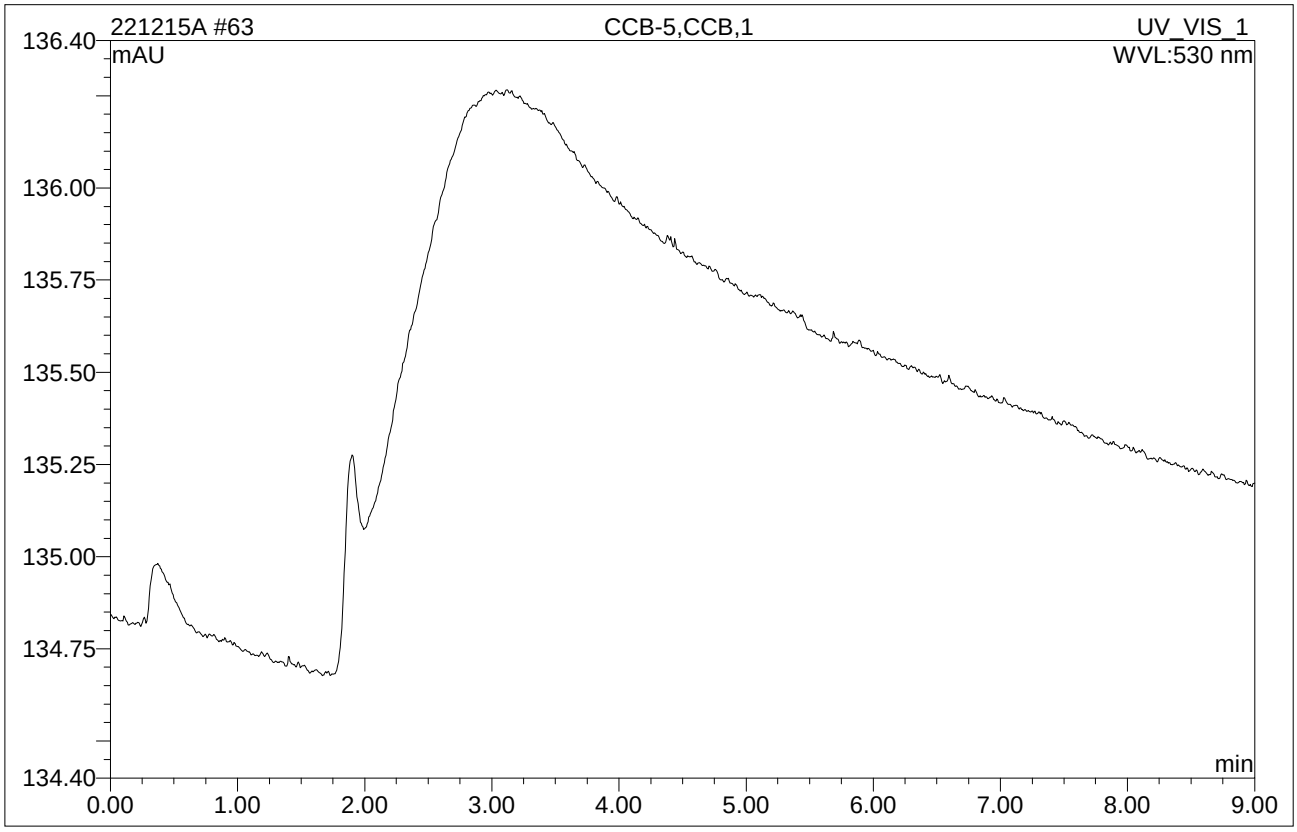


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	18.875	2.536	100.00	5.088811	BMB
Total:			18.875	2.536	100.00	5.089	

63 CCB-5,CCB,1

CCB,R221115B

Sample Name:	**CCB-5,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**63**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 22:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

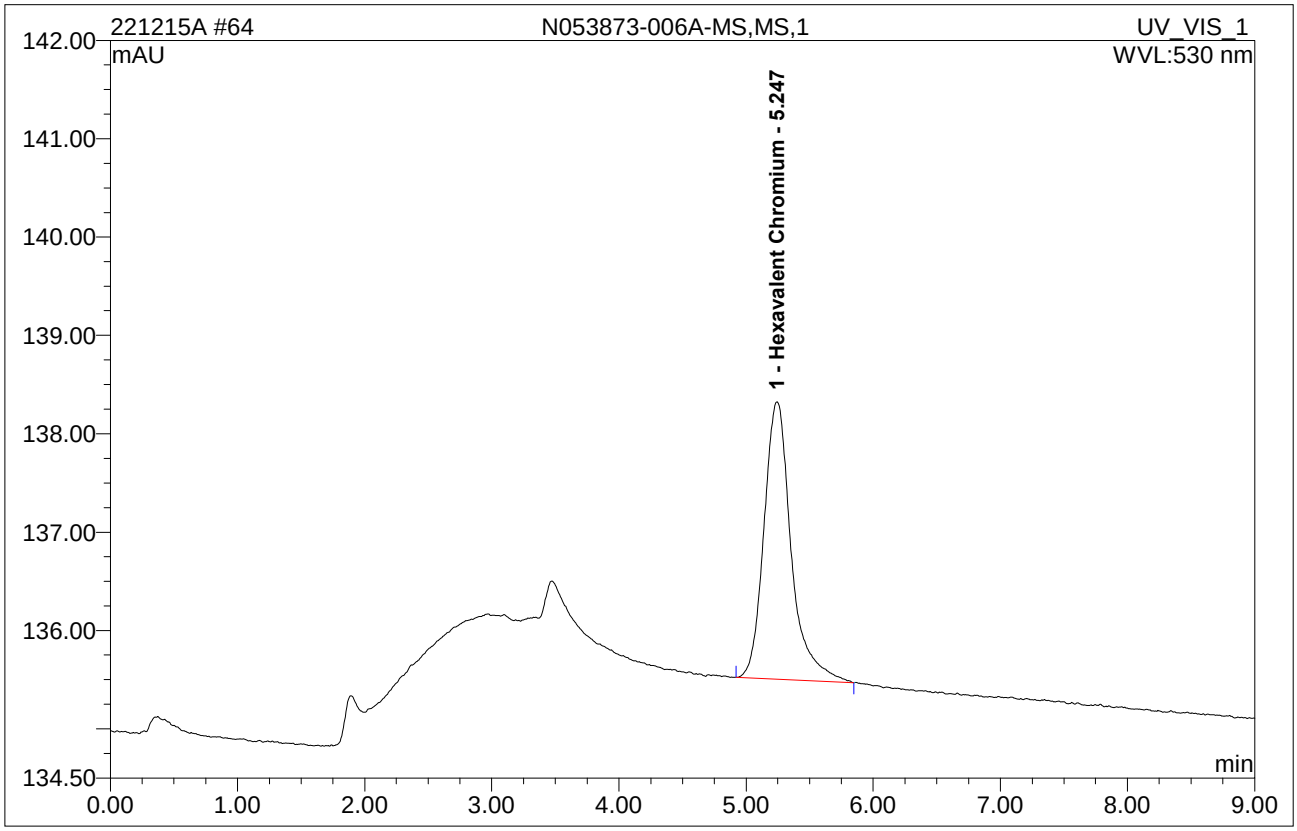


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

64 N053873-006A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-006A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**64**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 23:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

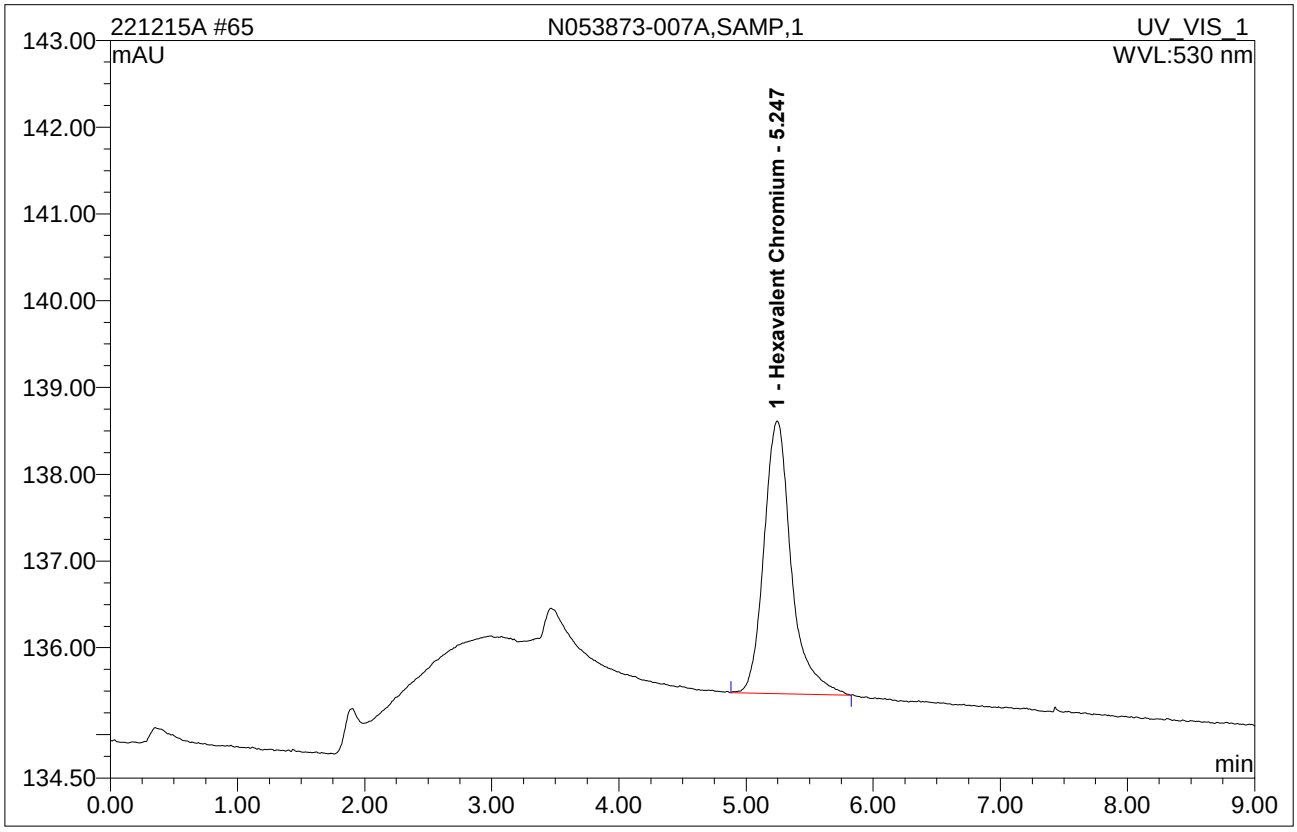


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	2.822	0.701	100.00	1.408406	BMB
Total:			2.822	0.701	100.00	1.408	

65 N053873-007A,SAMP,1

SAMPLE

Sample Name:	**N053873-007A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**65**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 23:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

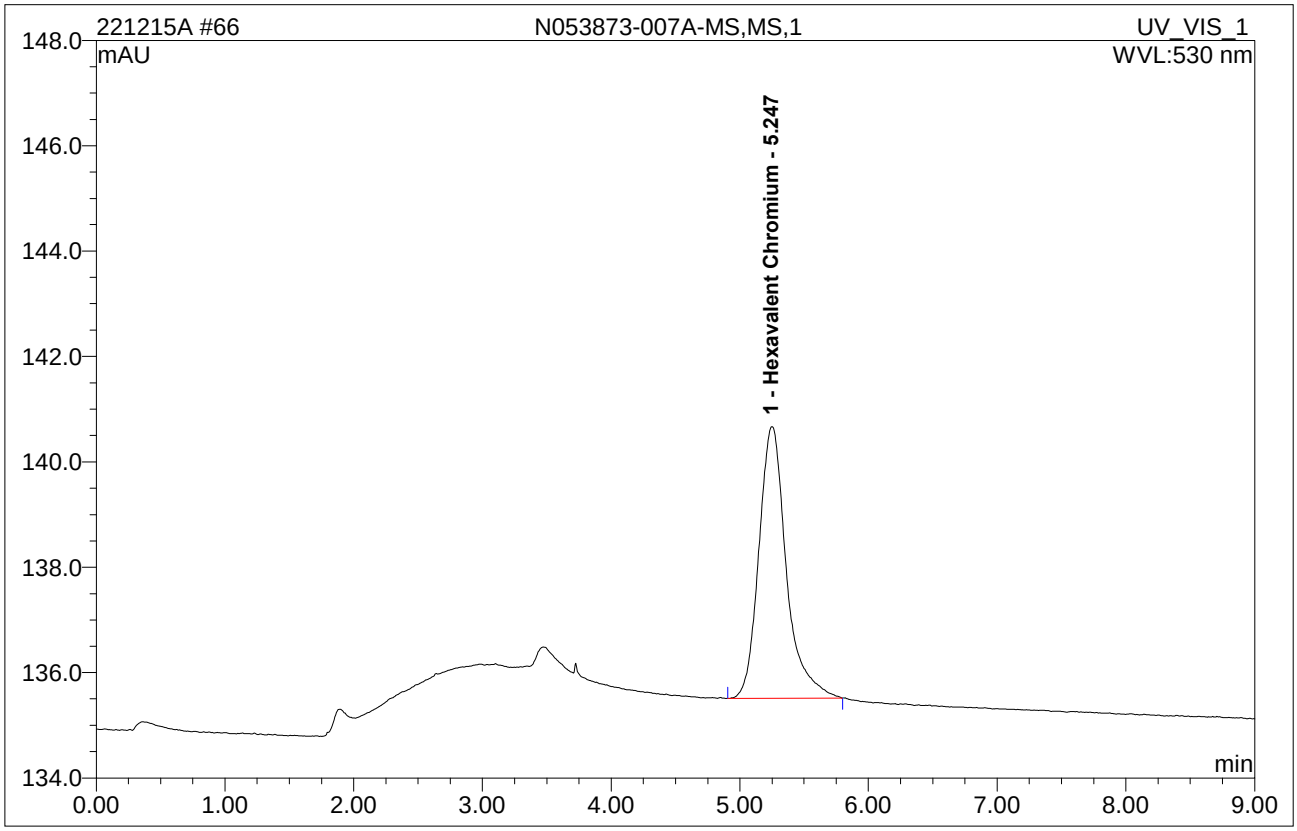


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	3.145	0.785	100.00	1.576763	BMB
Total:			3.145	0.785	100.00	1.577	

66 N053873-007A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-007A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**66**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 23:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

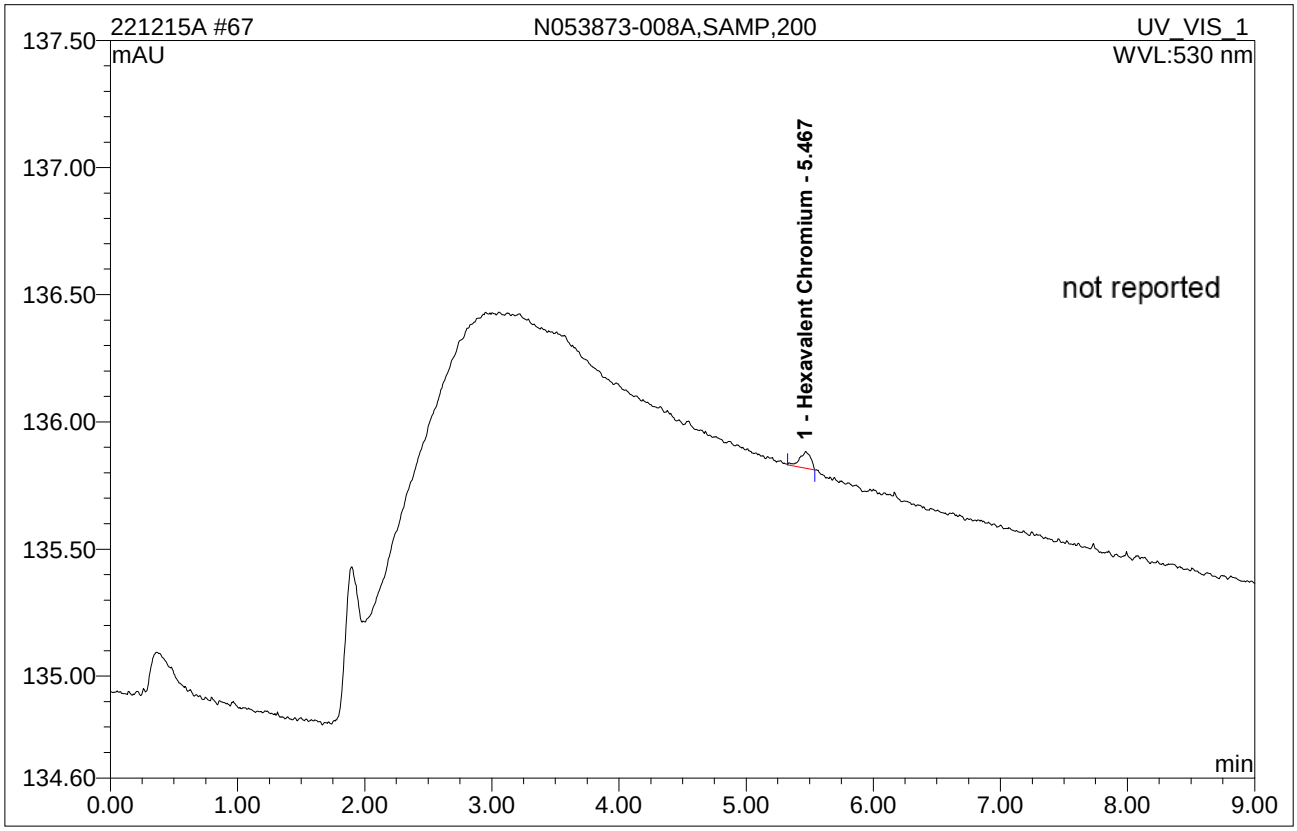


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	5.156	1.277	100.00	2.564519	BMB
Total:			5.156	1.277	100.00	2.565	

67 N053873-008A,SAMP,200

SAMPLE,0.05>10mL

Sample Name:	**N053873-008A,SAMP,200**	*Injection Volume:*	**500.0**
Vial Number:	**67**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 23:42**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

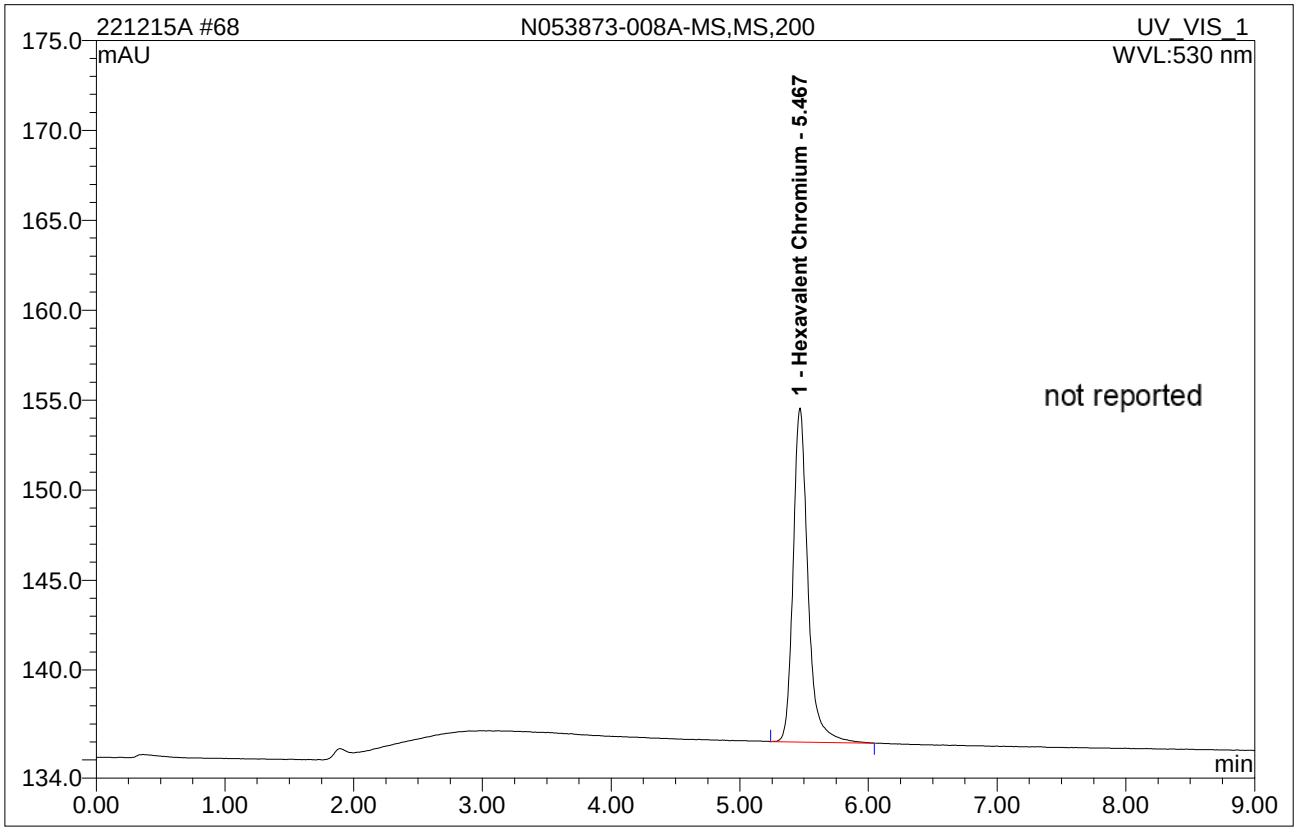


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.47	Hexavalent Chromium	0.066	0.007	100.00	0.016602	BMB
Total:			0.066	0.007	100.00	0.017	

68 N053873-008A-MS,MS,200

MS @ 5ppb,IWST221205A,0.05>10mL

Sample Name:	**N053873-008A-MS,MS,200**	*Injection Volume:*	**500.0**
Vial Number:	**68**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/15/2022 23:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

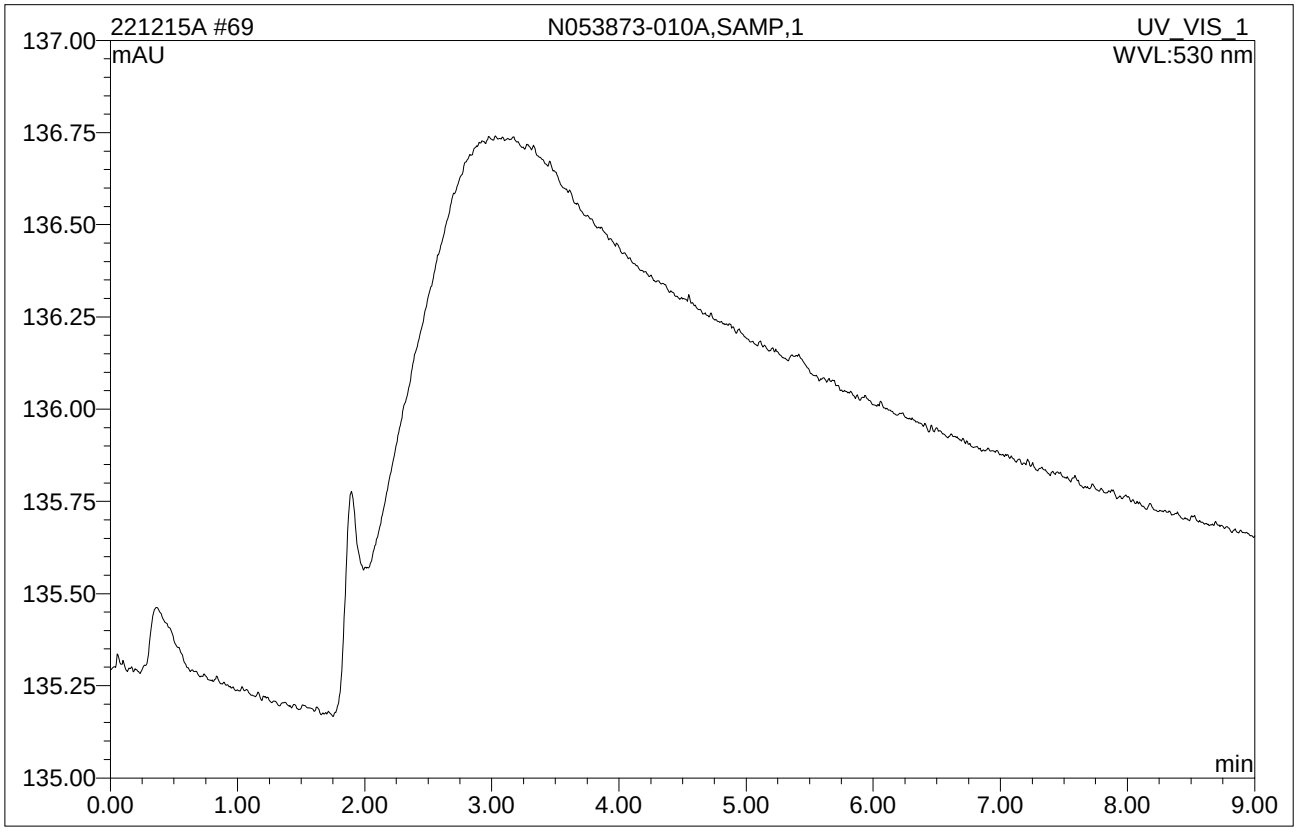


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.47	Hexavalent Chromium	18.579	2.479	100.00	4.975310	BMB
Total:			18.579	2.479	100.00	4.975	

69 N053873-010A,SAMP,1

SAMPLE

Sample Name:	**N053873-010A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**69**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 0:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

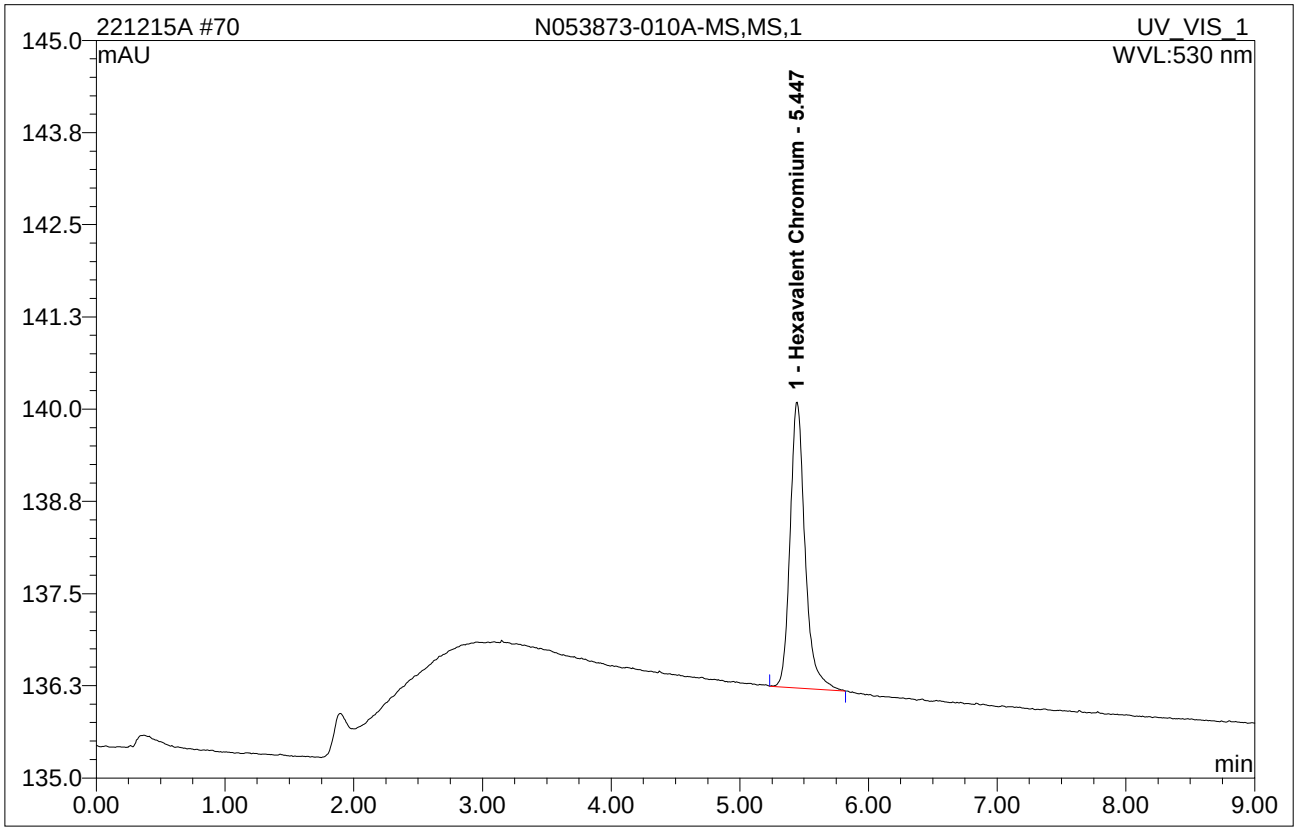


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

70 N053873-010A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053873-010A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**70**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 0:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

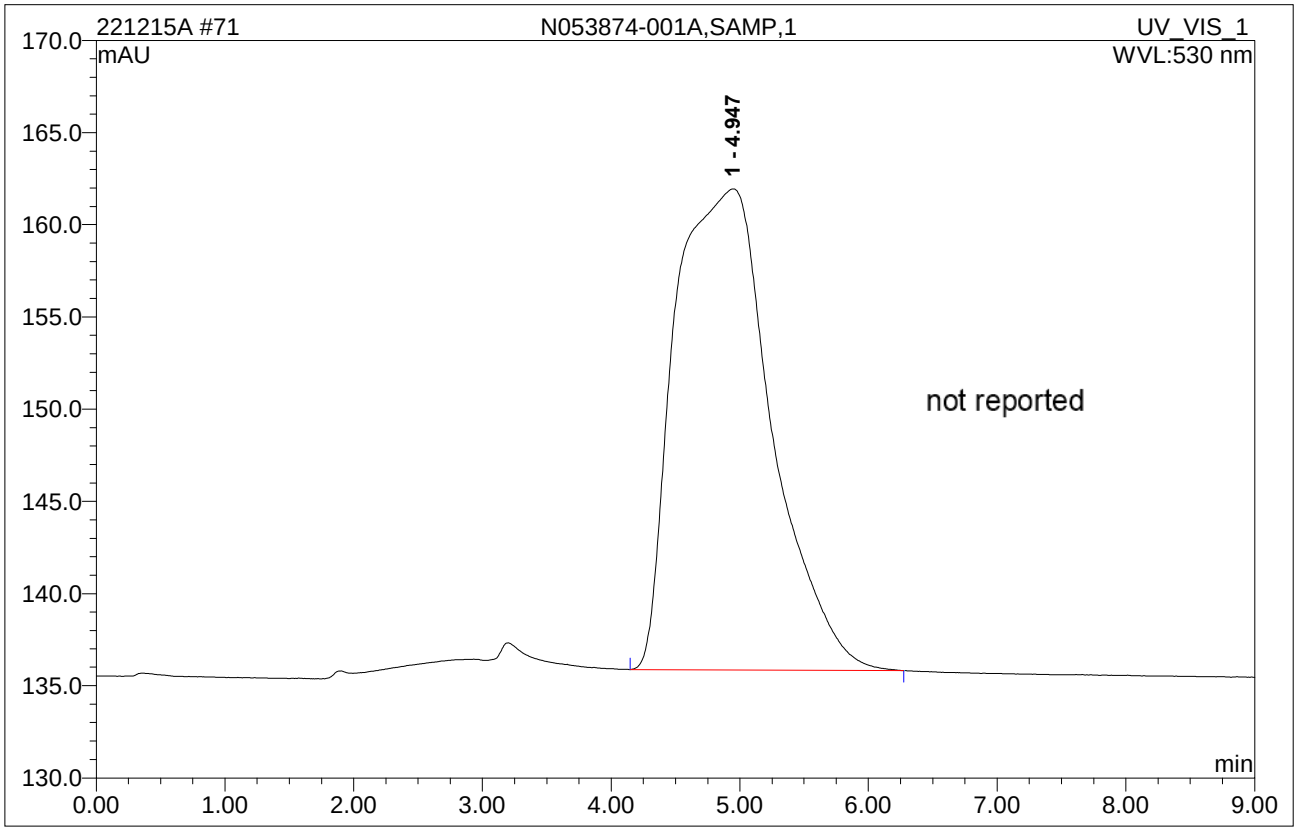


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	3.875	0.521	100.00	1.048121	BMB
Total:			3.875	0.521	100.00	1.048	

71 N053874-001A,SAMP,1

SAMPLE

Sample Name:	**N053874-001A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**71**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 0:28**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

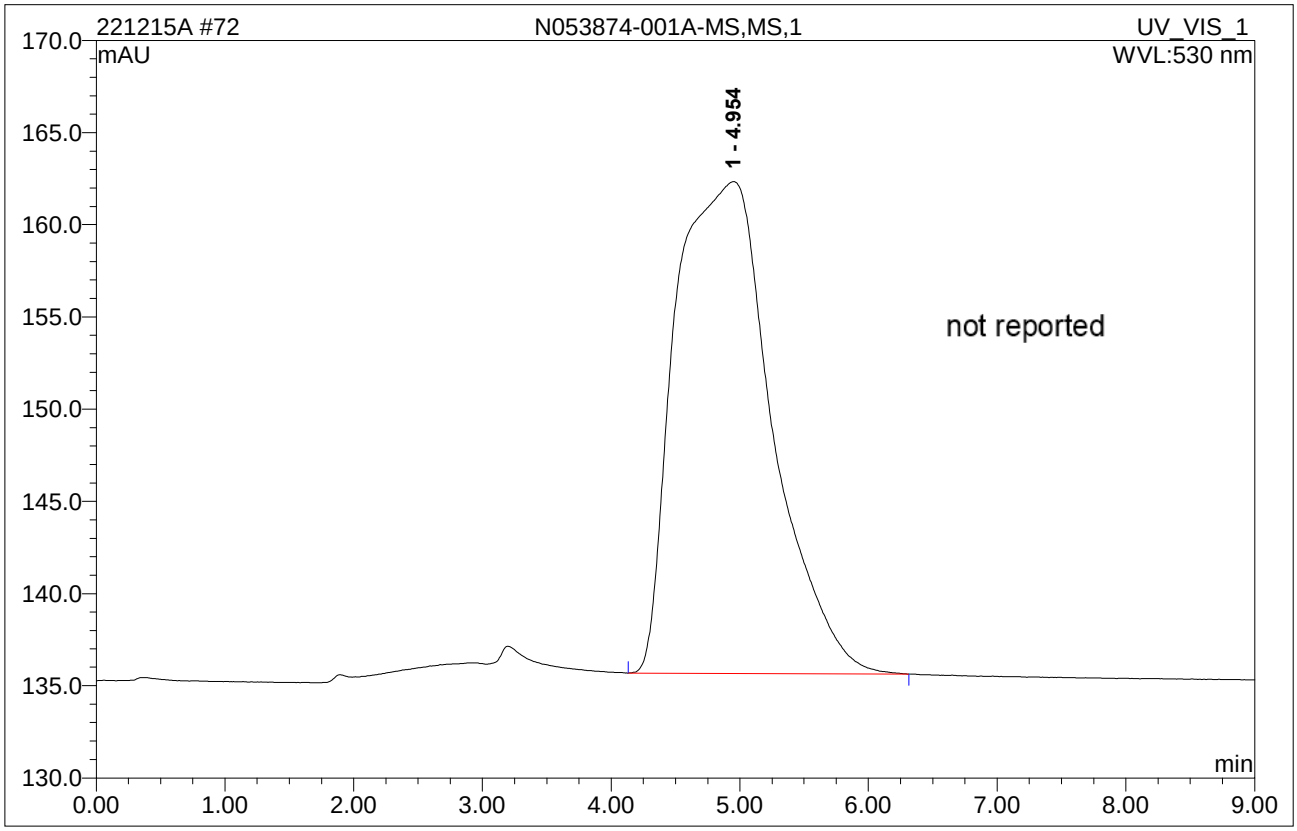


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.95	n.a.	26.100	22.810	100.00	n.a.	BMB
Total:			26.100	22.810	100.00	0.000	

72 N053874-001A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-001A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**72**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 0:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

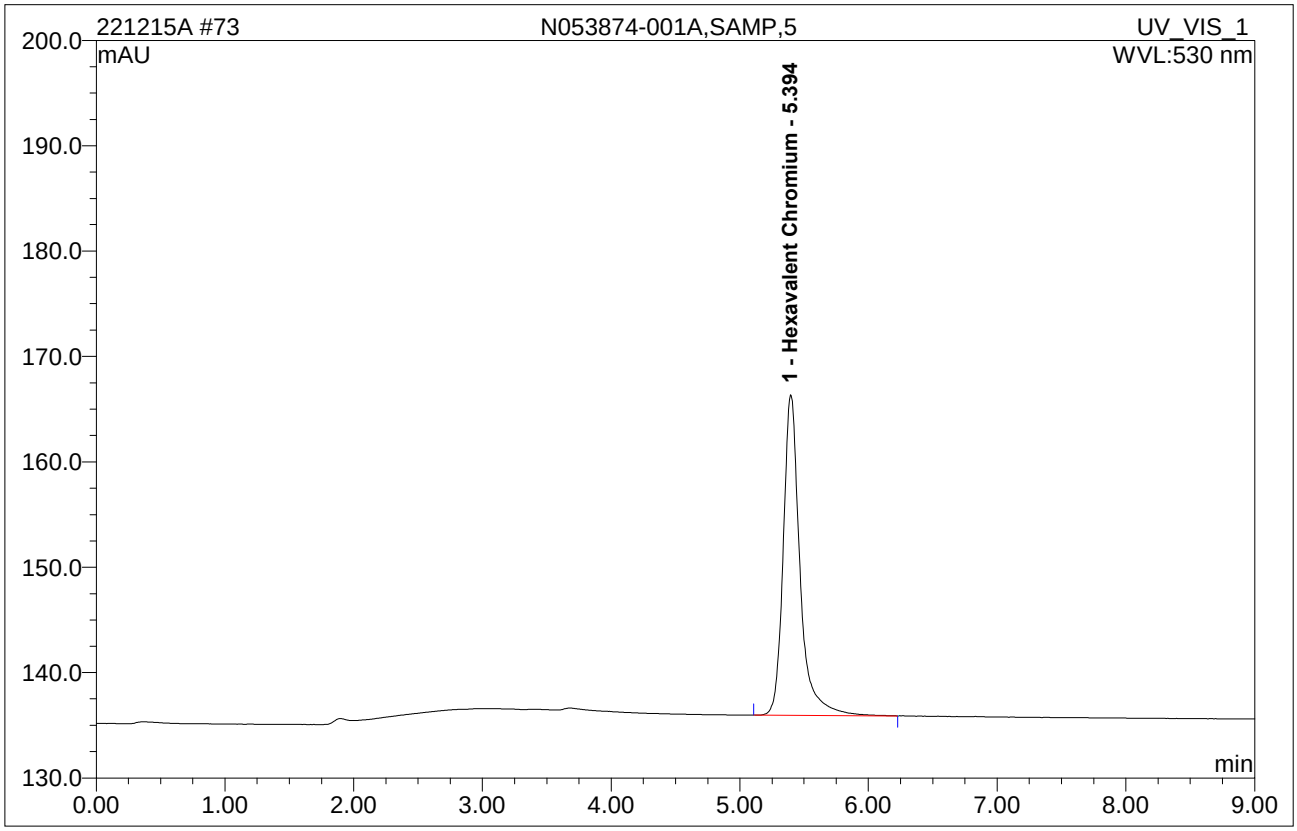


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.95	n.a.	26.683	23.330	100.00	n.a.	BMB
Total:			26.683	23.330	100.00	0.000	

73 N053874-001A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053874-001A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**73**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 0:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

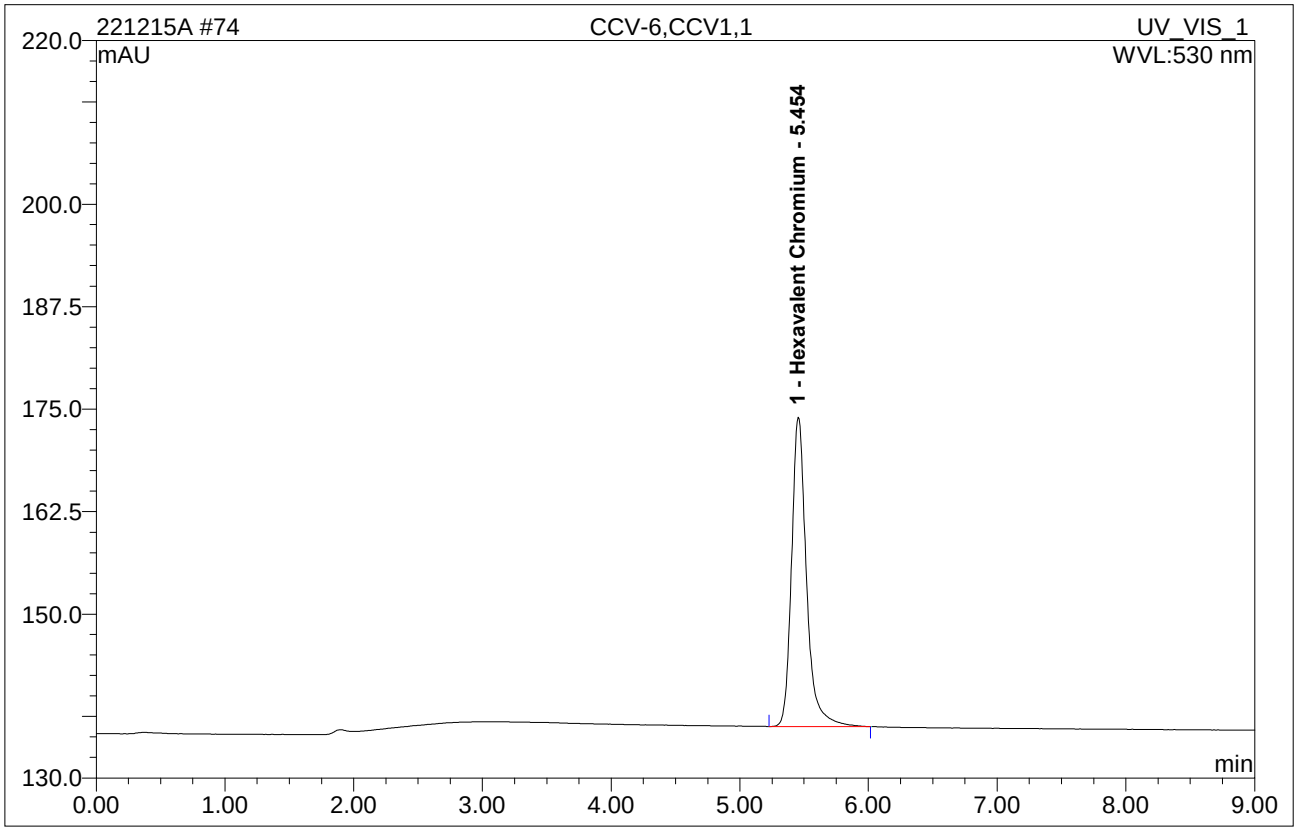


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.39	Hexavalent Chromium	30.421	4.610	100.00	9.247050	BMB
Total:			30.421	4.610	100.00	9.247	

74 CCV-6,CCV1,1

CCV @ 10ppb,IWST221111A,R221115B

Sample Name:	**CCV-6,CCV1,1**	*Injection Volume:*	**500.0**
Vial Number:	**74**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 1:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

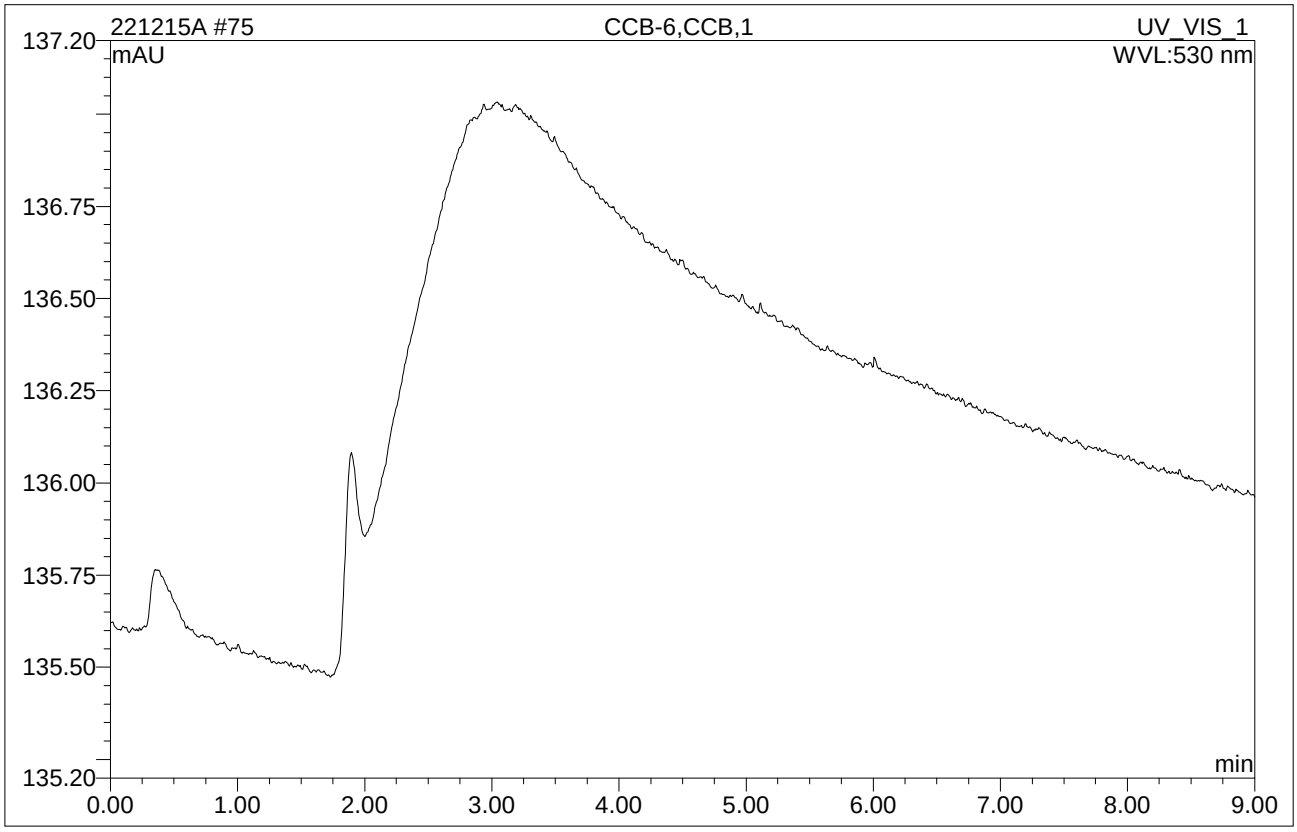


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	37.747	5.083	100.00	10.197116	BMB
Total:			37.747	5.083	100.00	10.197	

75 CCB-6,CCB,1

CCB,R221115B

Sample Name:	**CCB-6,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**75**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 1:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

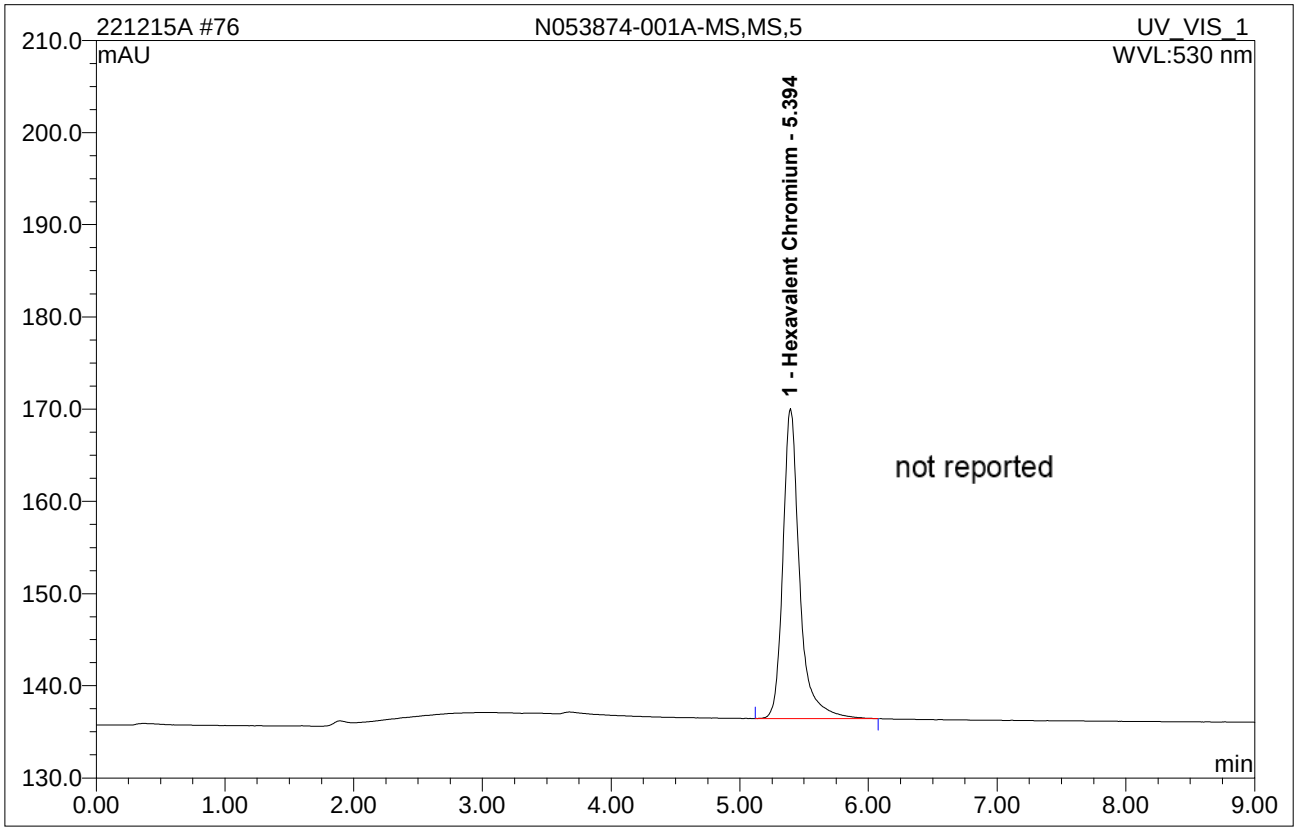


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

76 N053874-001A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053874-001A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**76**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 1:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

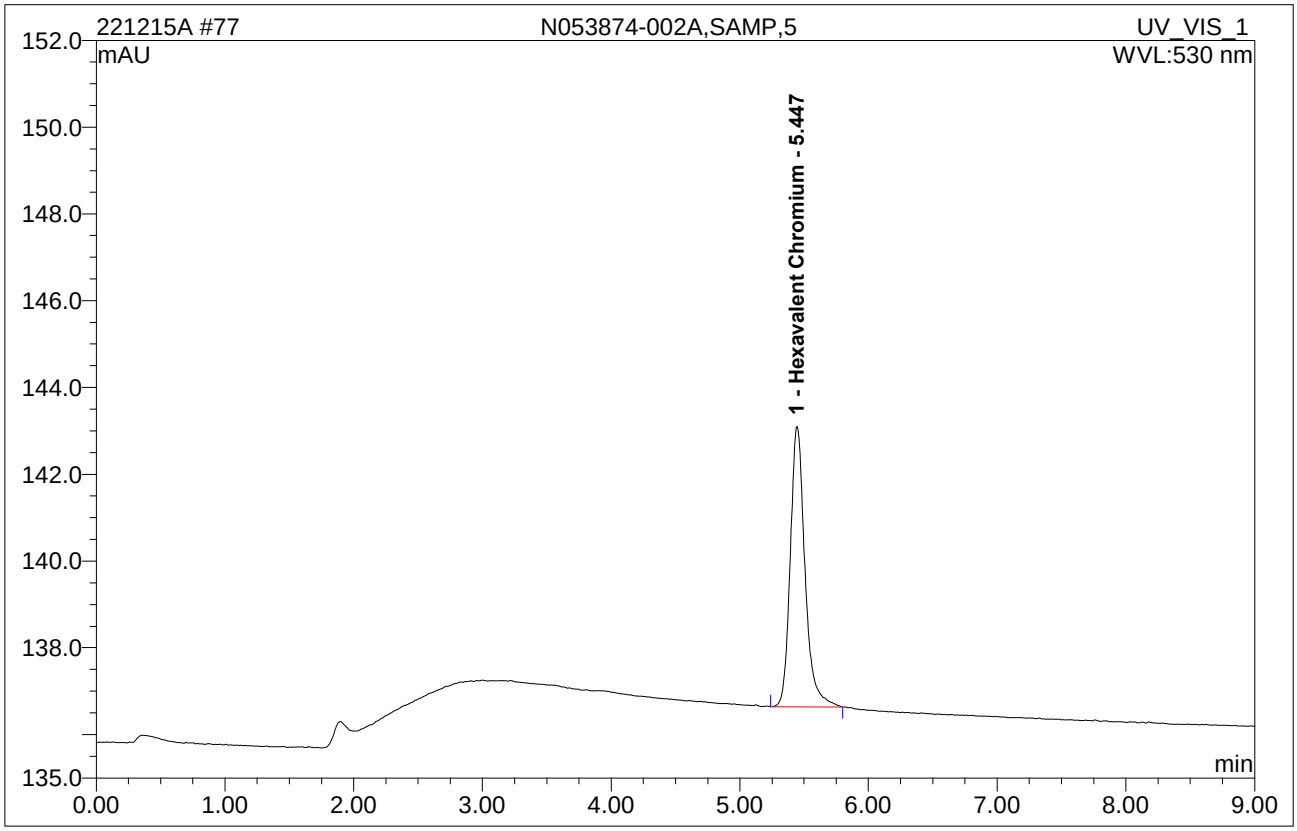


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.39	Hexavalent Chromium	33.617	5.055	100.00	10.141295	BMB
Total:			33.617	5.055	100.00	10.141	

77 N053874-002A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053874-002A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**77**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 1:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

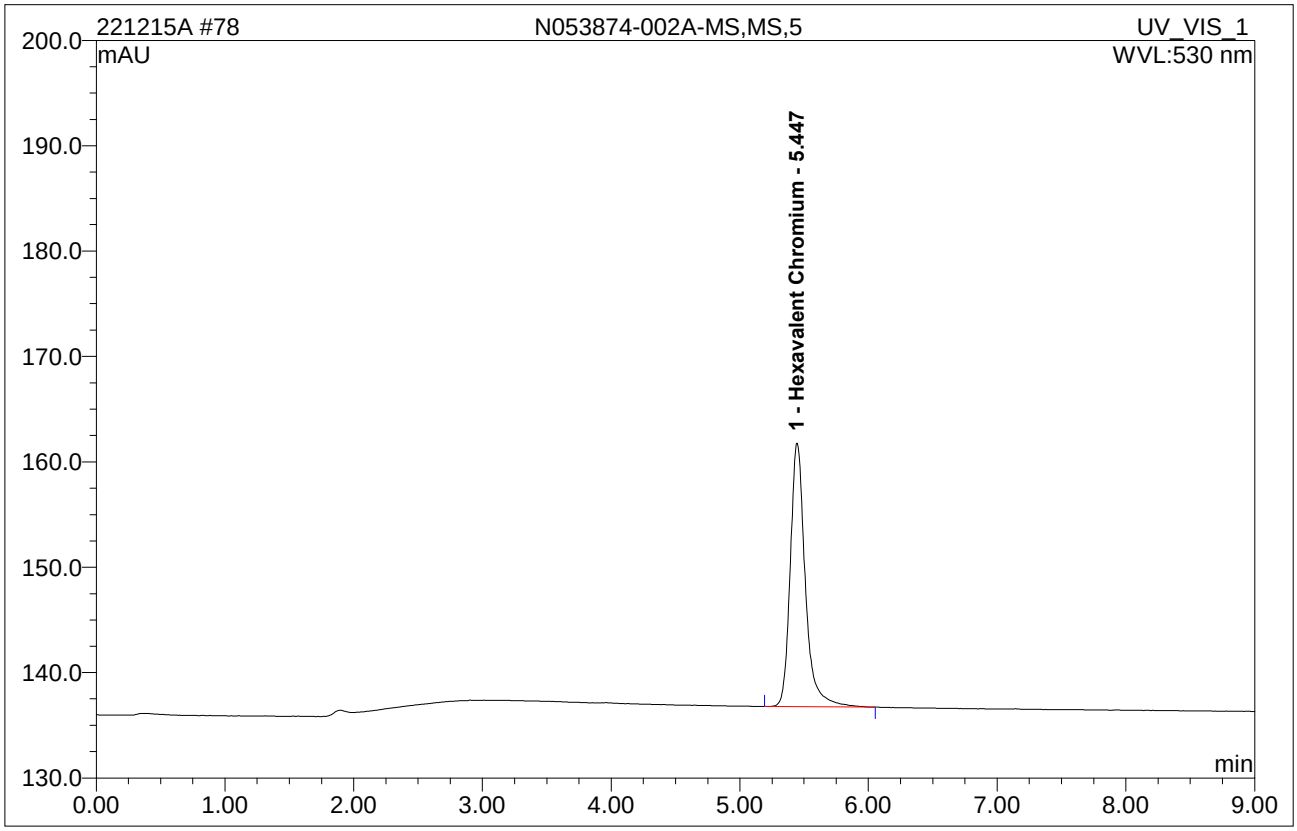


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	6.461	0.856	100.00	1.719420	BMB
Total:			6.461	0.856	100.00	1.719	

78 N053874-002A-MS,MS,5

MS @ 5ppb,IWST221205A,2>10mL

Sample Name:	**N053874-002A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**78**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 1:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

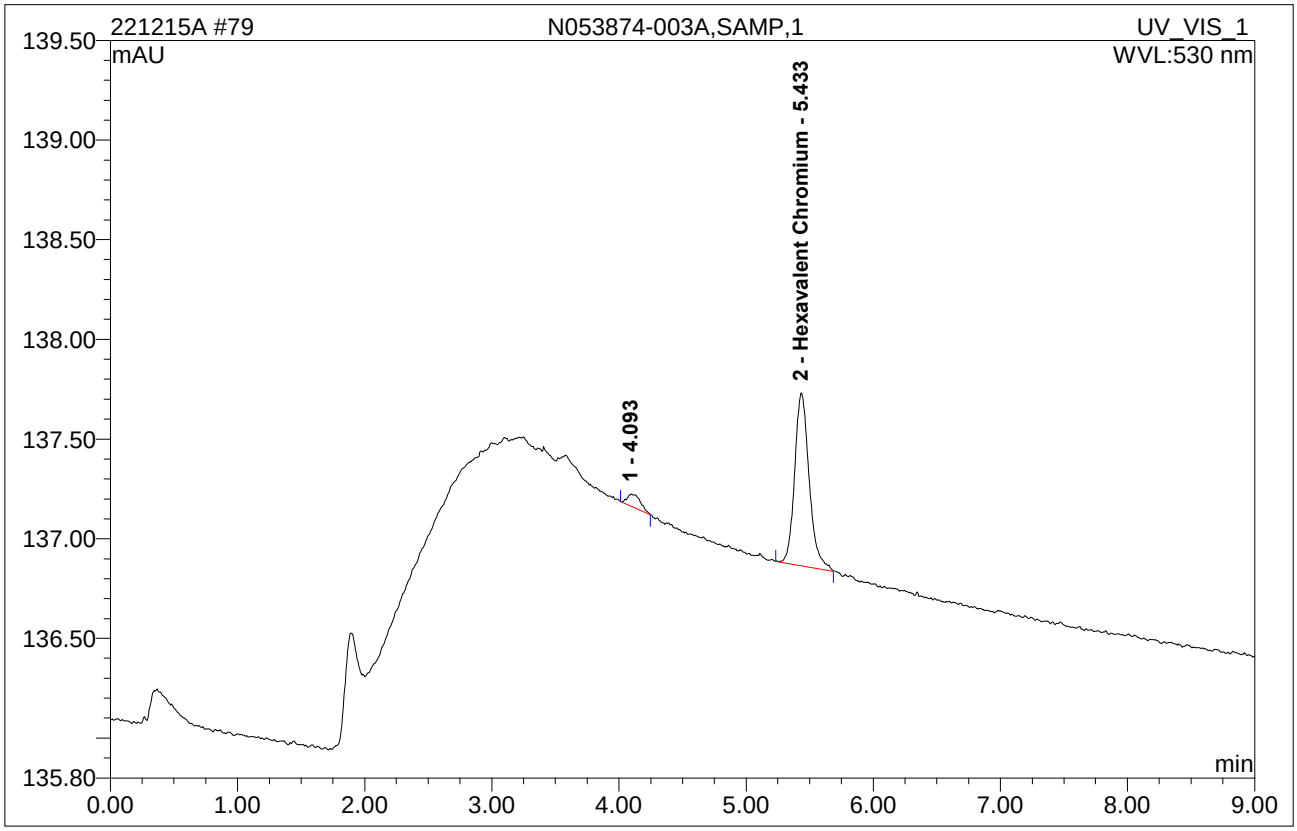


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	25.037	3.393	100.00	6.806541	BMB
Total:			25.037	3.393	100.00	6.807	

79 N053874-003A,SAMP,1

SAMPLE

Sample Name:	**N053874-003A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**79**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 1:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

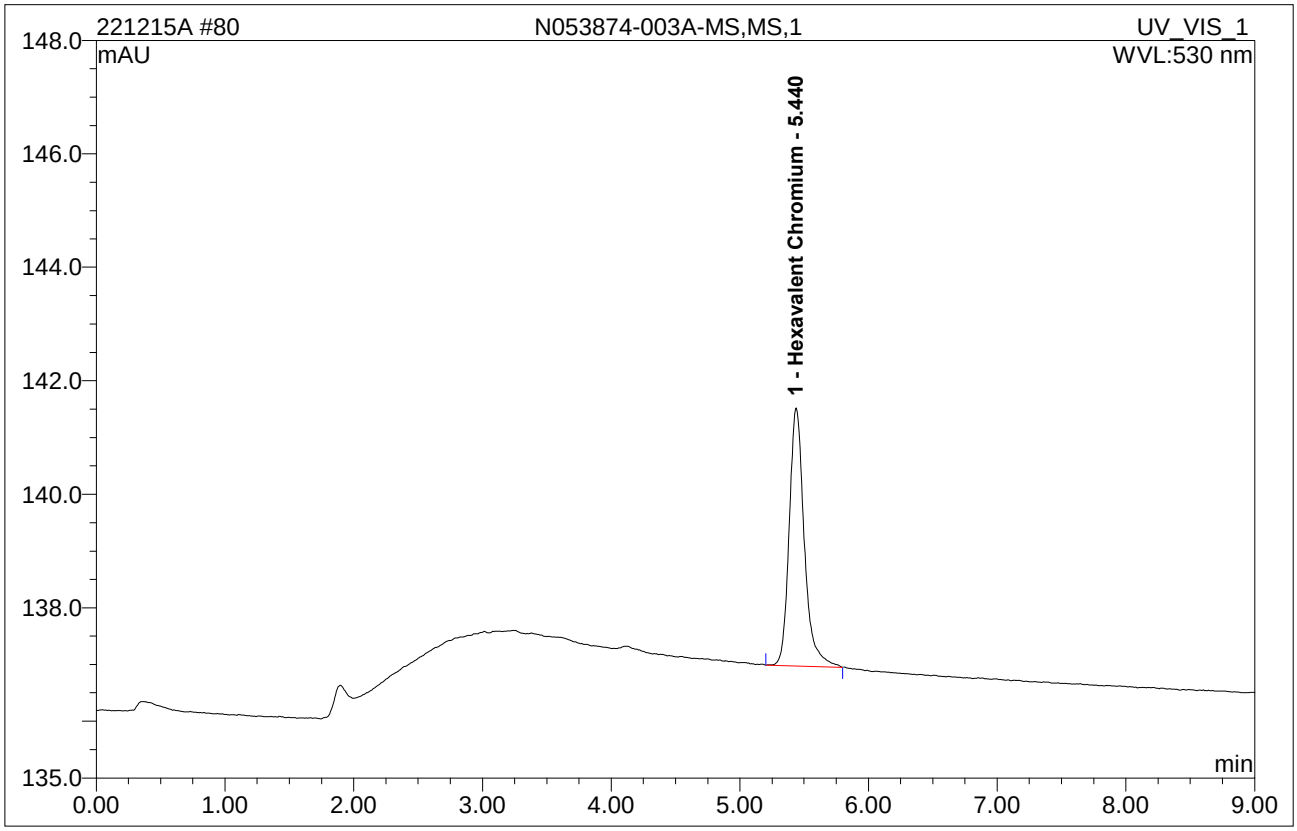


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.09	n.a.	0.061	0.008	6.46	n.a.	BMB
2	5.43	Hexavalent Chromium	0.867	0.114	93.54	0.232770	BMB
Total:			0.928	0.122	100.00	0.233	

80 N053874-003A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-003A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**80**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 2:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

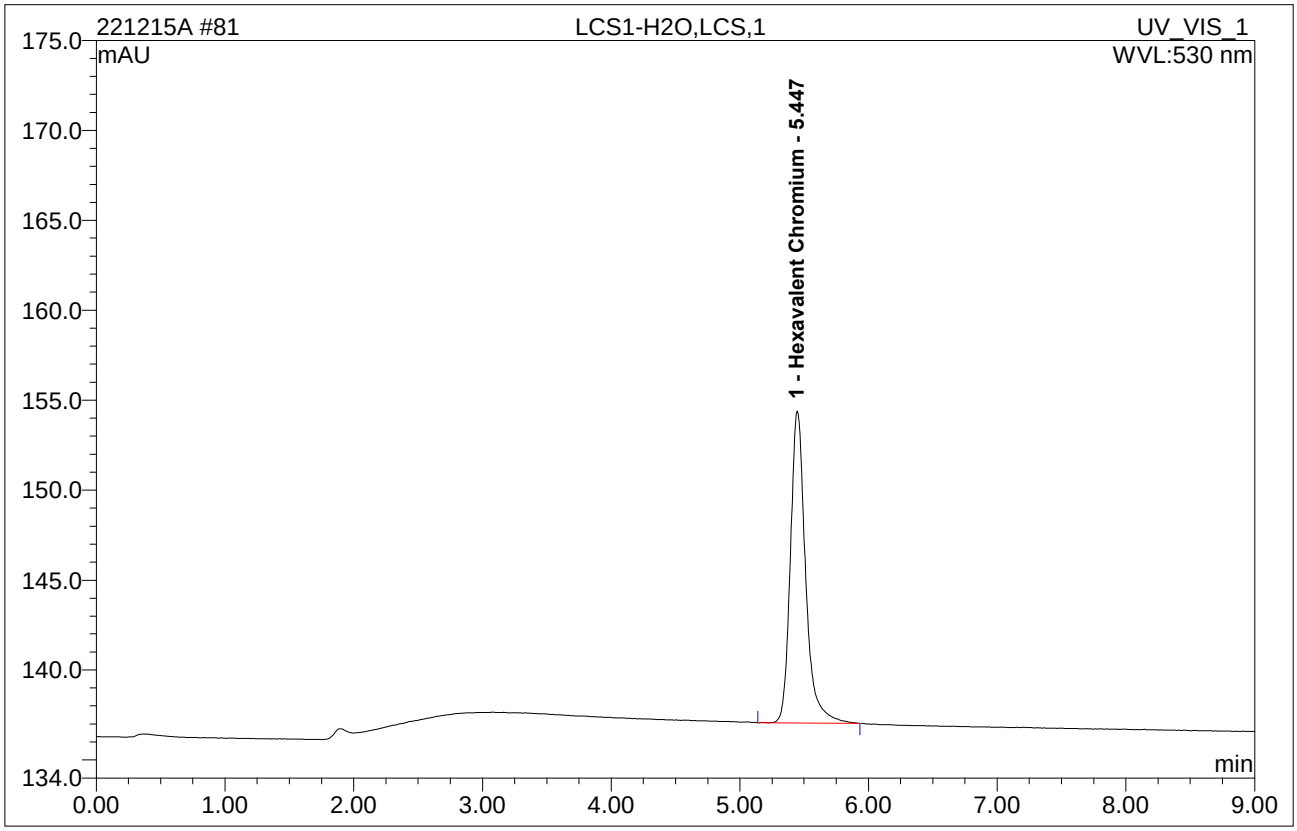


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.44	Hexavalent Chromium	4.549	0.618	100.00	1.243086	BMB
Total:			4.549	0.618	100.00	1.243	

81 LCS1-H2O,LCS,1

LCS @ 5ppb,IWST221205A,R221115B

Sample Name:	**LCS1-H2O,LCS,1**	*Injection Volume:*	**500.0**
Vial Number:	**81**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 2:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

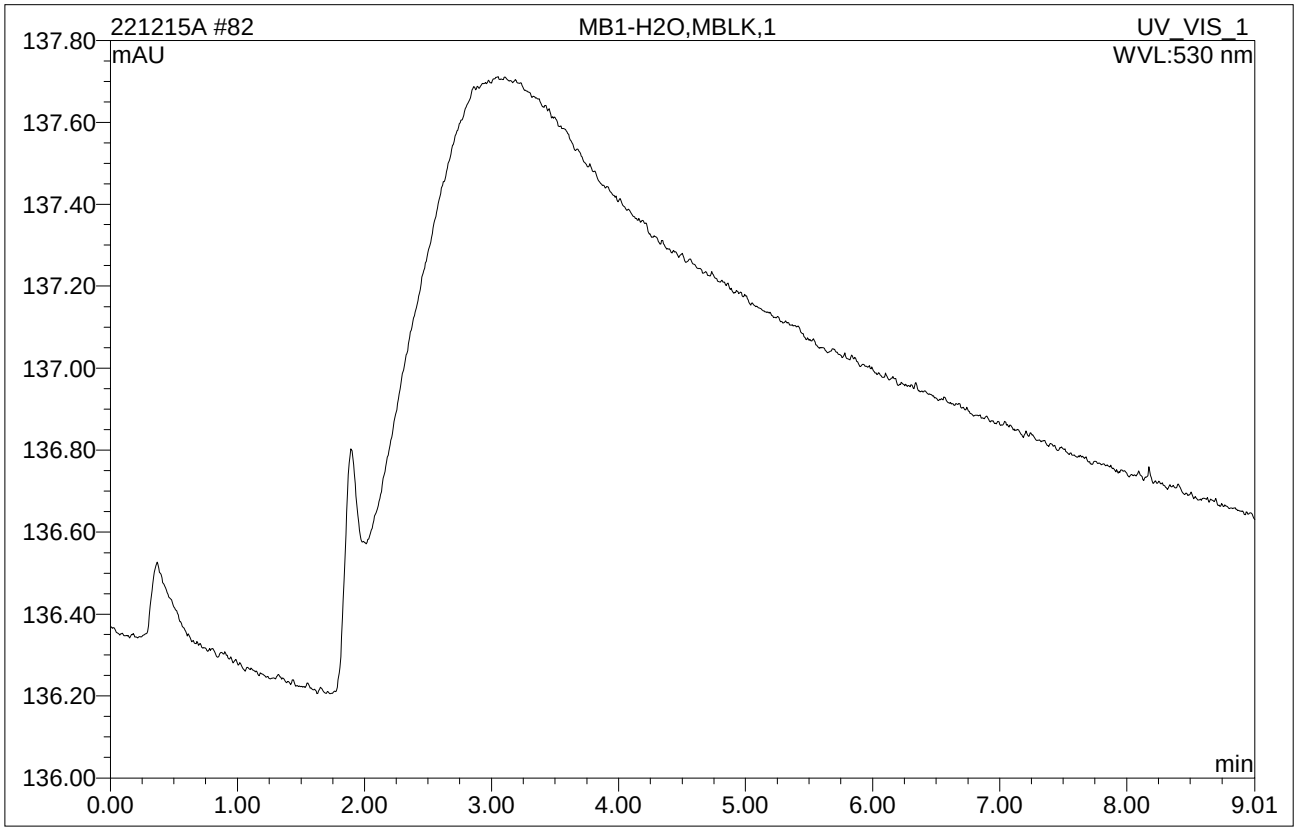


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	17.350	2.379	100.00	4.773515	BMB
Total:			17.350	2.379	100.00	4.774	

82 MB1-H2O,MBLK,1

METHOD BLANK,R221115B

Sample Name:	**MB1-H2O,MBLK,1**	*Injection Volume:*	**500.0**
Vial Number:	**82**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 2:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.01**	*Sample Amount:*	**1.0000**

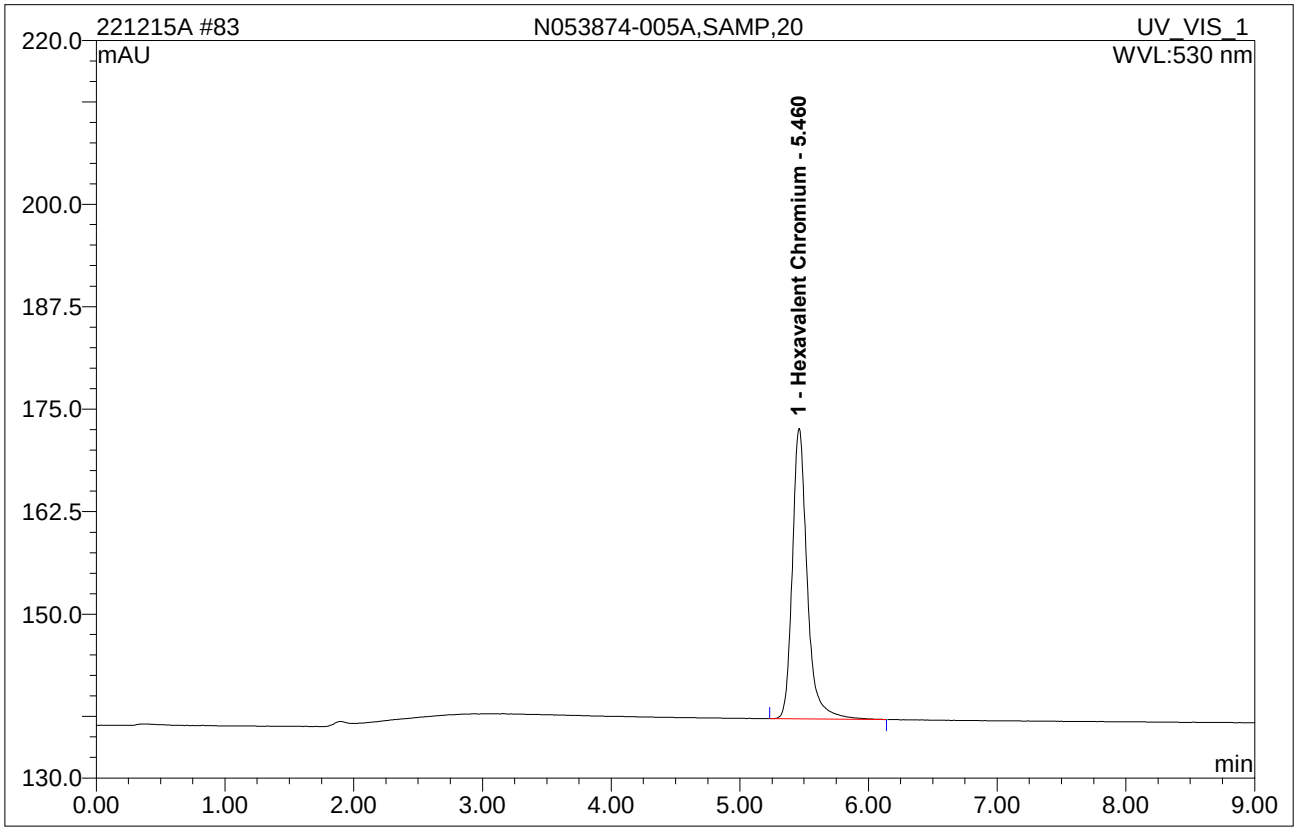


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

83 N053874-005A,SAMP,20

SAMPLE,0.5>10mL

Sample Name:	**N053874-005A,SAMP,20**	*Injection Volume:*	**500.0**
Vial Number:	**83**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 2:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

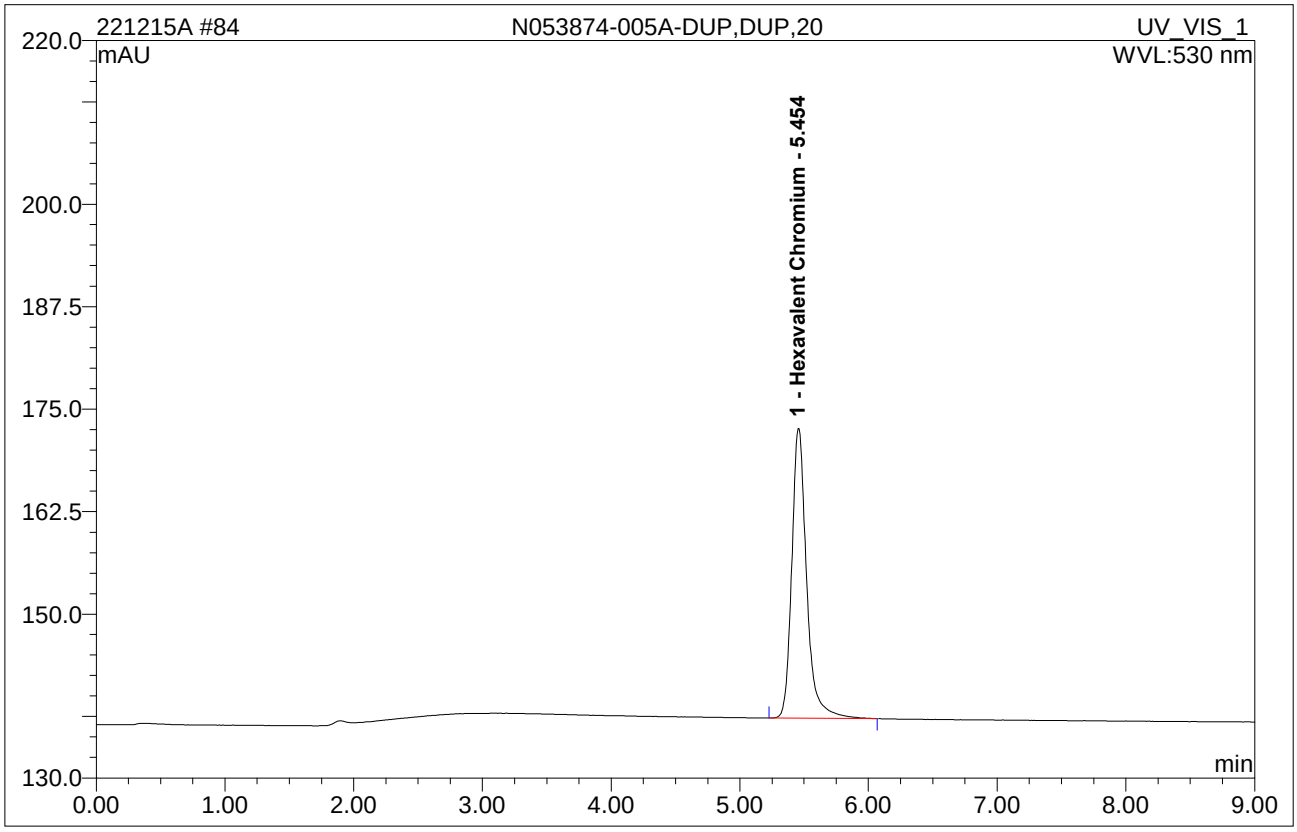


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	35.469	4.744	100.00	9.517128	BMB
Total:			35.469	4.744	100.00	9.517	

84 N053874-005A-DUP,DUP,20

DUPLICATE,0.5>10mL

Sample Name:	**N053874-005A-DUP,DUP,20**	*Injection Volume:*	**500.0**
Vial Number:	**84**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 2:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

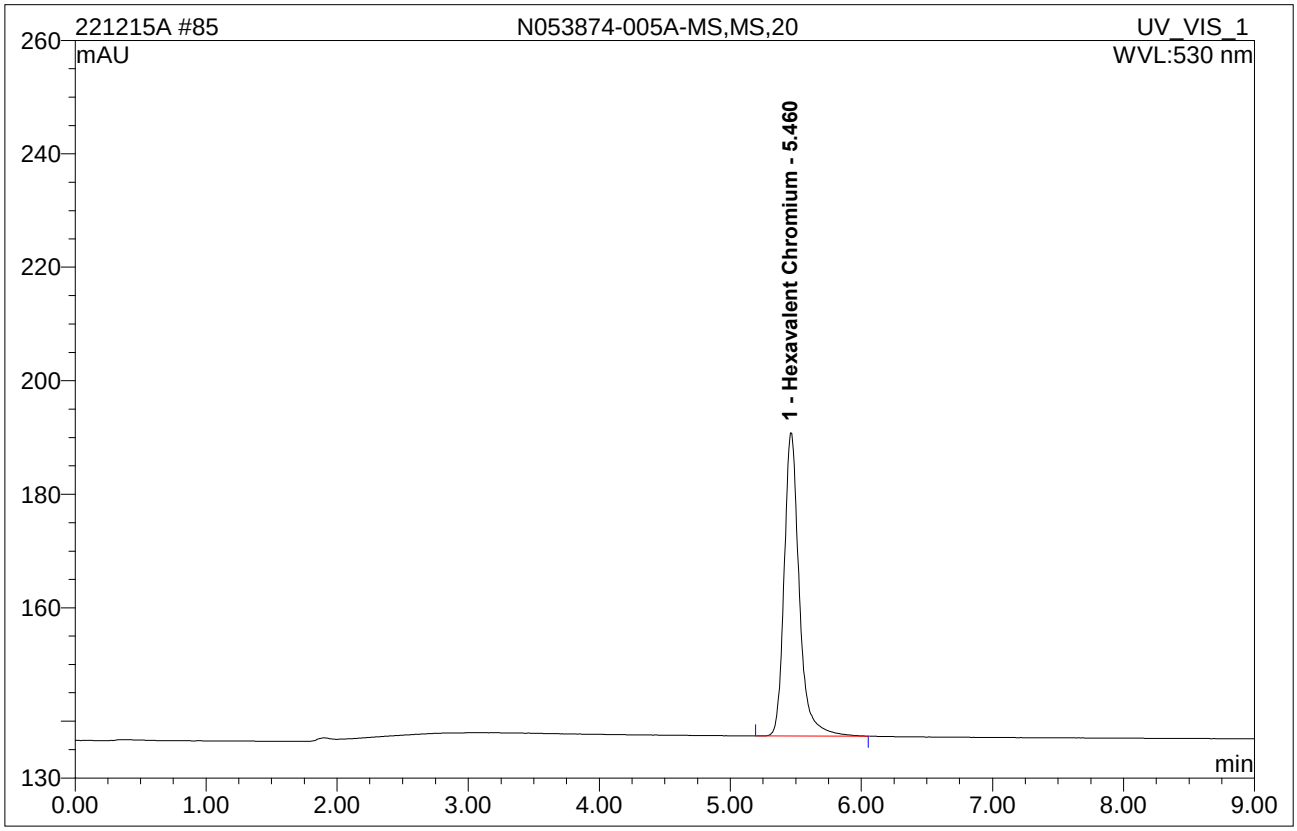


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	35.376	4.734	100.00	9.495908	BMB
Total:			35.376	4.734	100.00	9.496	

85 N053874-005A-MS,MS,20

MS @ 5ppb,IWST221205A,0.5>10mL

Sample Name:	**N053874-005A-MS,MS,20**	*Injection Volume:*	**500.0**
Vial Number:	**85**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 3:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

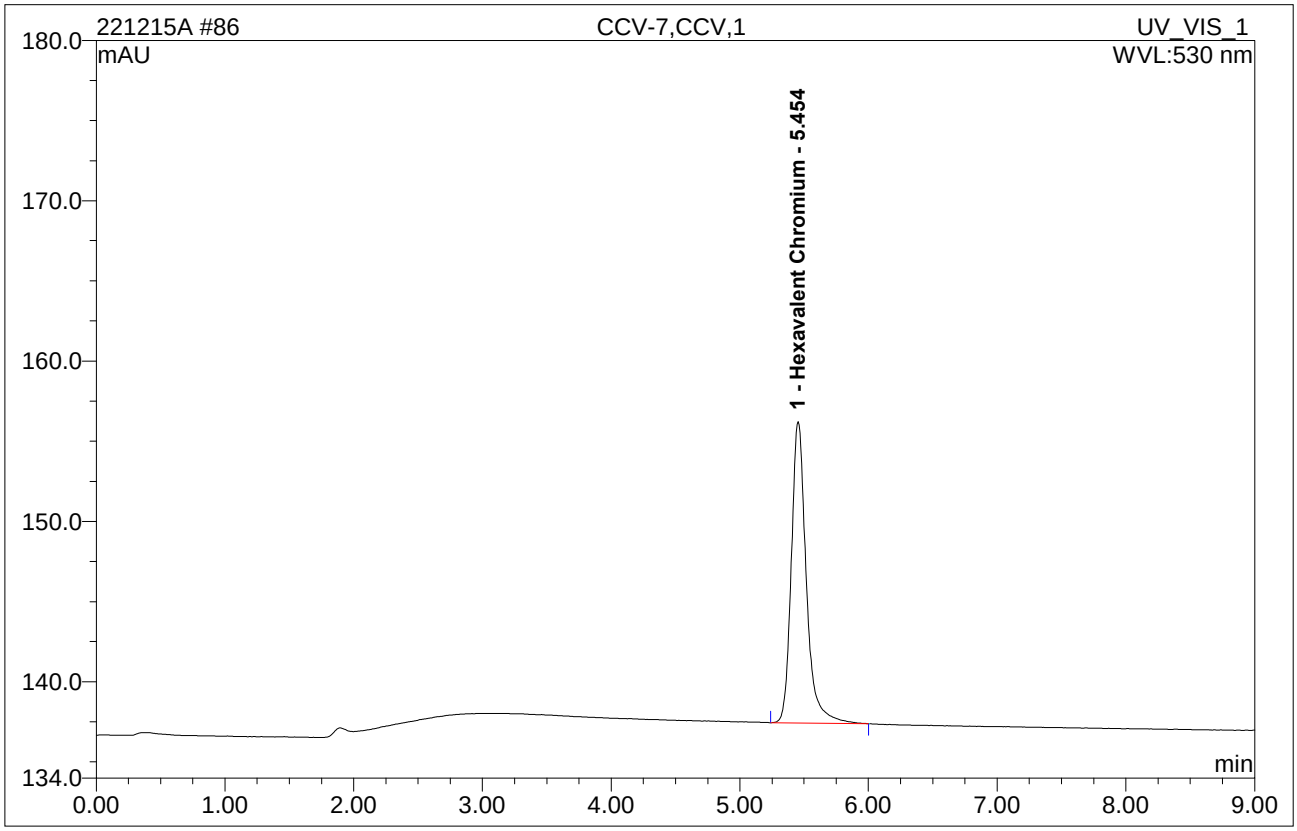


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	53.447	7.145	100.00	14.332076	BMB
Total:			53.447	7.145	100.00	14.332	

86 CCV-7,CCV,1

CCV @ 5ppb,IWST221111A,R221115B

Sample Name:	**CCV-7,CCV,1**	*Injection Volume:*	**500.0**
Vial Number:	**86**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 3:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

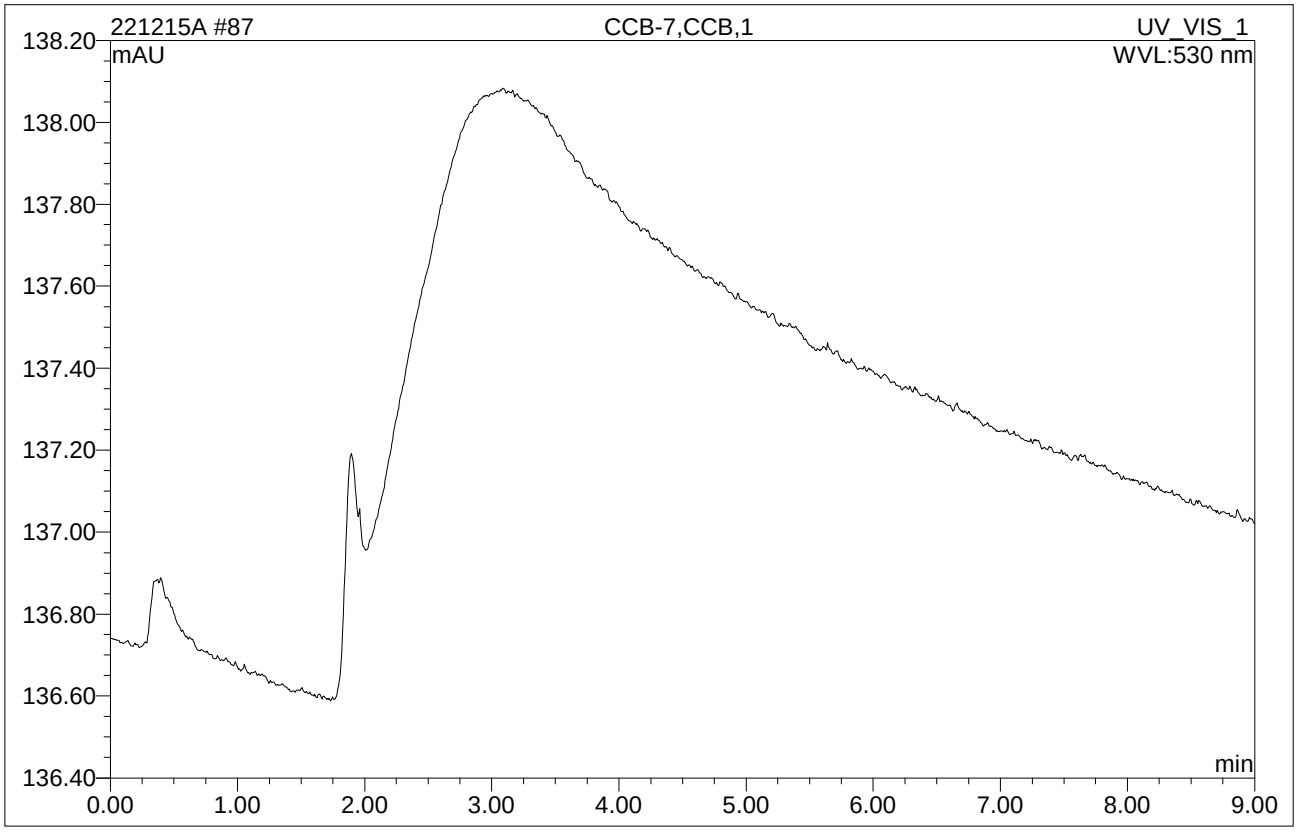


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	18.794	2.536	100.00	5.088540	BMB
Total:			18.794	2.536	100.00	5.089	

87 CCB-7,CCB,1

CCB,R221115B

Sample Name:	**CCB-7,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**87**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 3:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

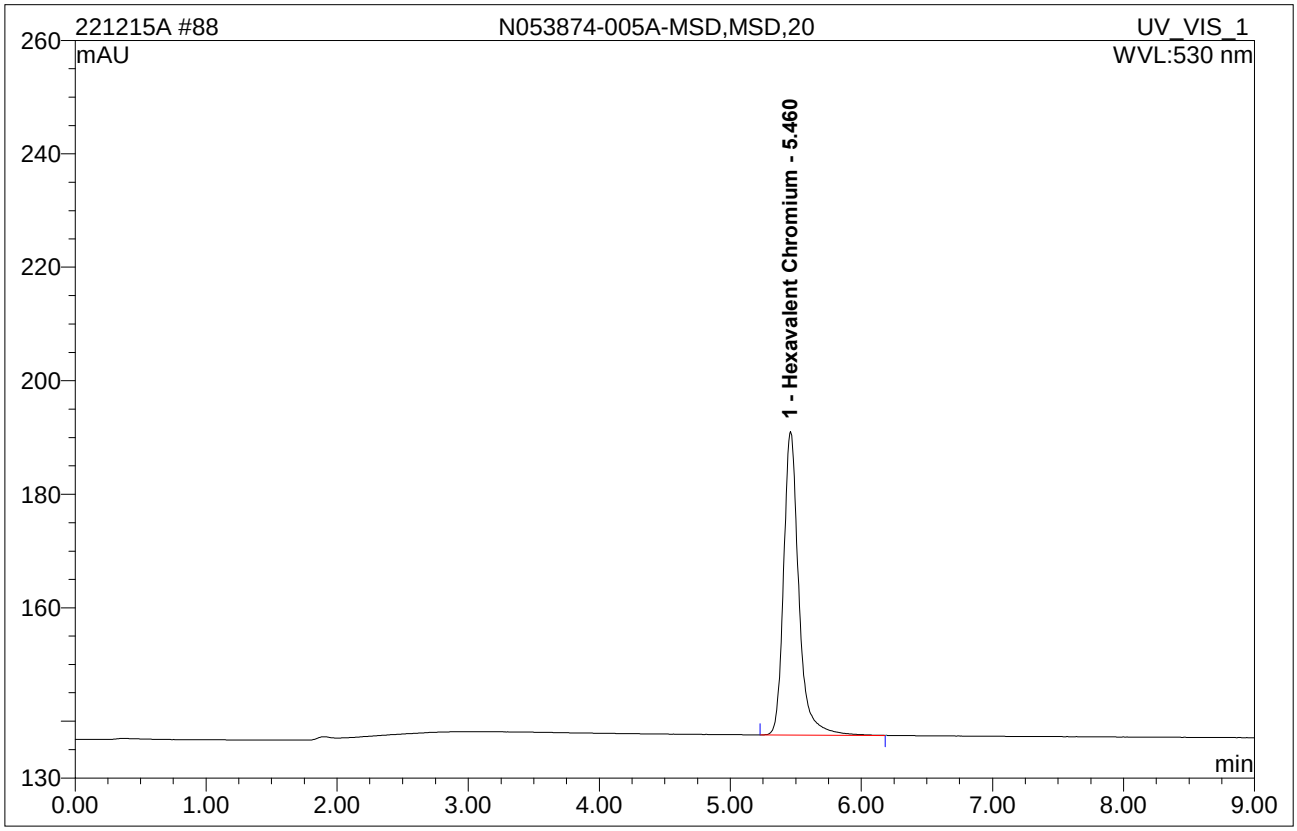


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

88 N053874-005A-MSD,MSD,20

MSD @ 5ppb,IWST221205A,0.5>10mL

Sample Name:	**N053874-005A-MSD,MSD,20**	*Injection Volume:*	**500.0**
Vial Number:	**88**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 3:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

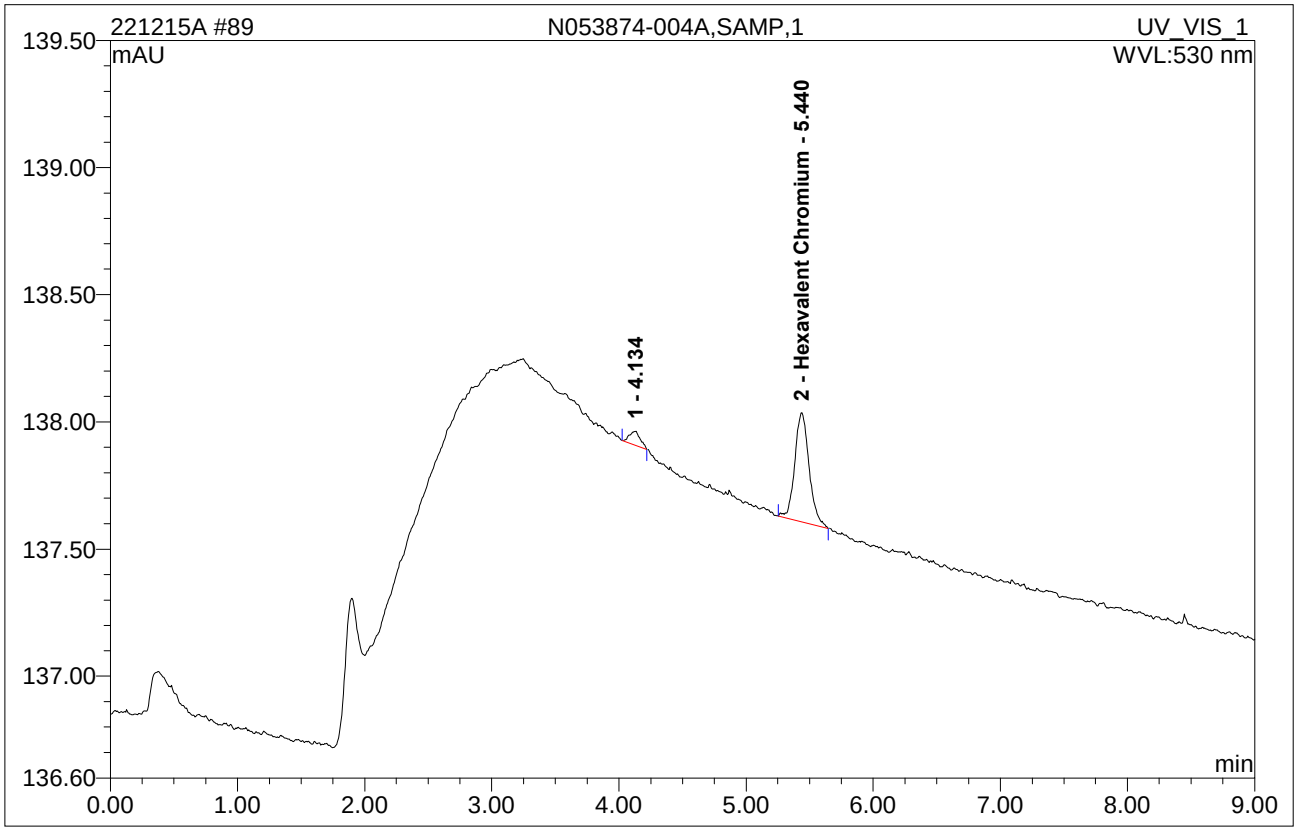


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	53.519	7.178	100.00	14.397242	BMB
Total:			53.519	7.178	100.00	14.397	

89 N053874-004A,SAMP,1

SAMPLE

Sample Name:	**N053874-004A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**89**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 3:53**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

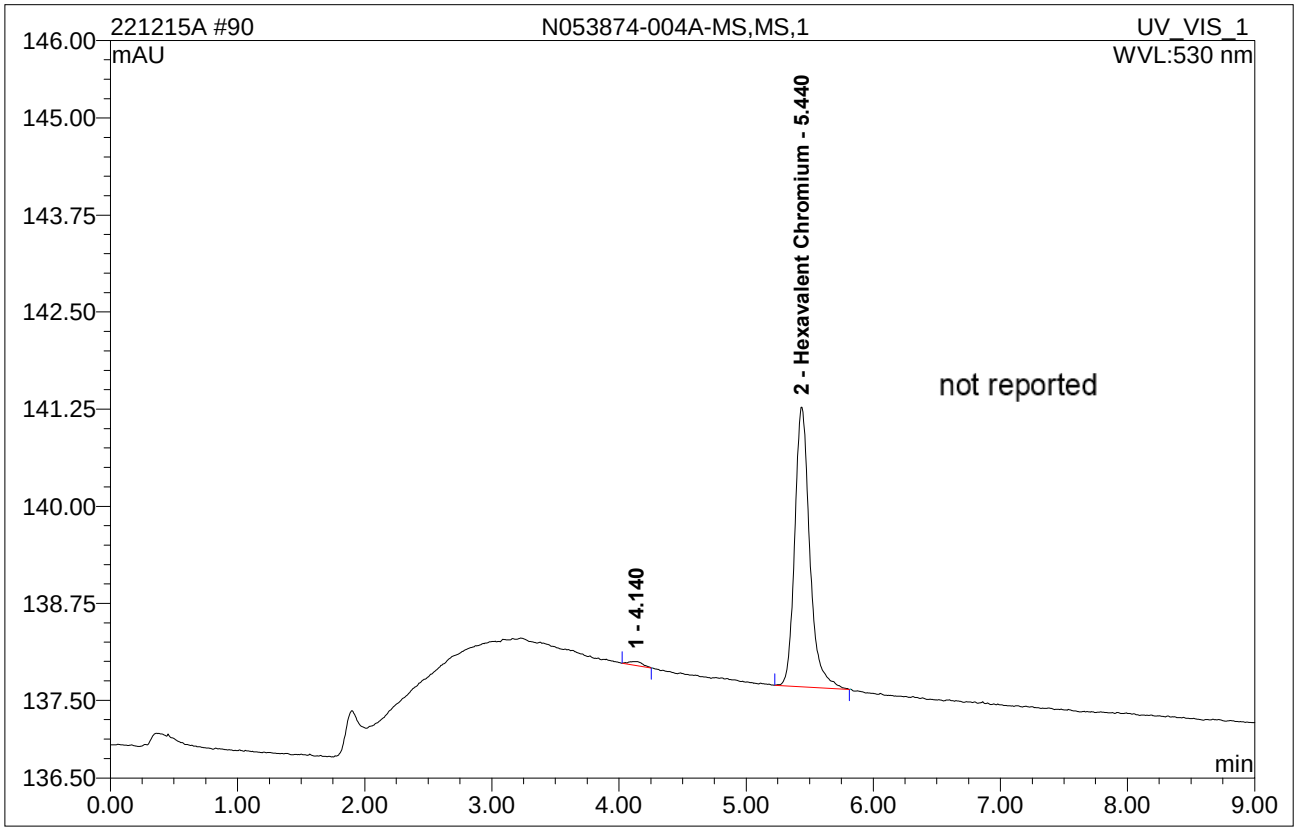


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.13	n.a.	0.056	0.005	8.56	n.a.	BMB
2	5.44	Hexavalent Chromium	0.429	0.056	91.44	0.115272	BMB
Total:			0.485	0.061	100.00	0.115	

90 N053874-004A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-004A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**90**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 4:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

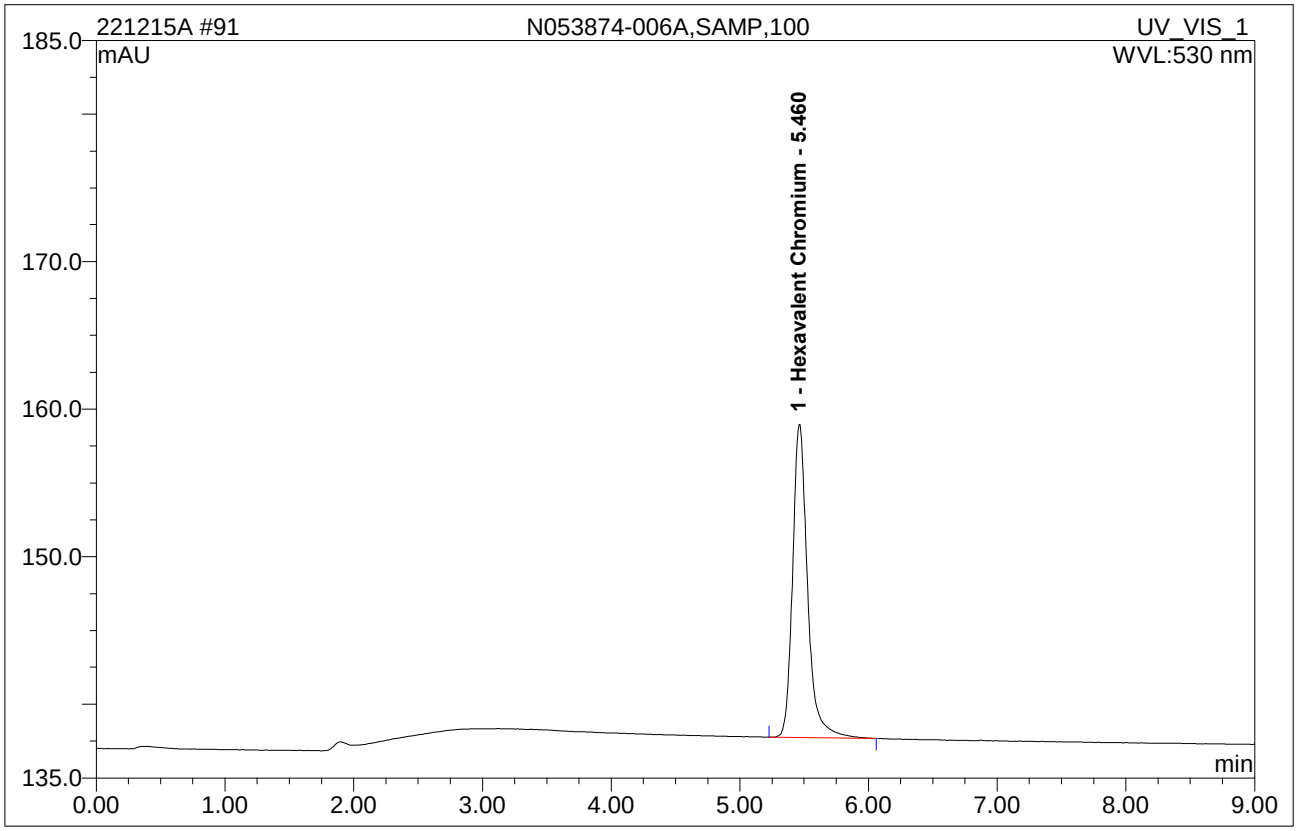


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.14	n.a.	0.052	0.006	1.23	n.a.	BMB
2	5.44	Hexavalent Chromium	3.603	0.492	98.77	0.989191	BMB
Total:			3.655	0.498	100.00	0.989	

91 N053874-006A,SAMP,100

SAMPLE,0.1>10mL

Sample Name:	**N053874-006A,SAMP,100**	*Injection Volume:*	**500.0**
Vial Number:	**91**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 4:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

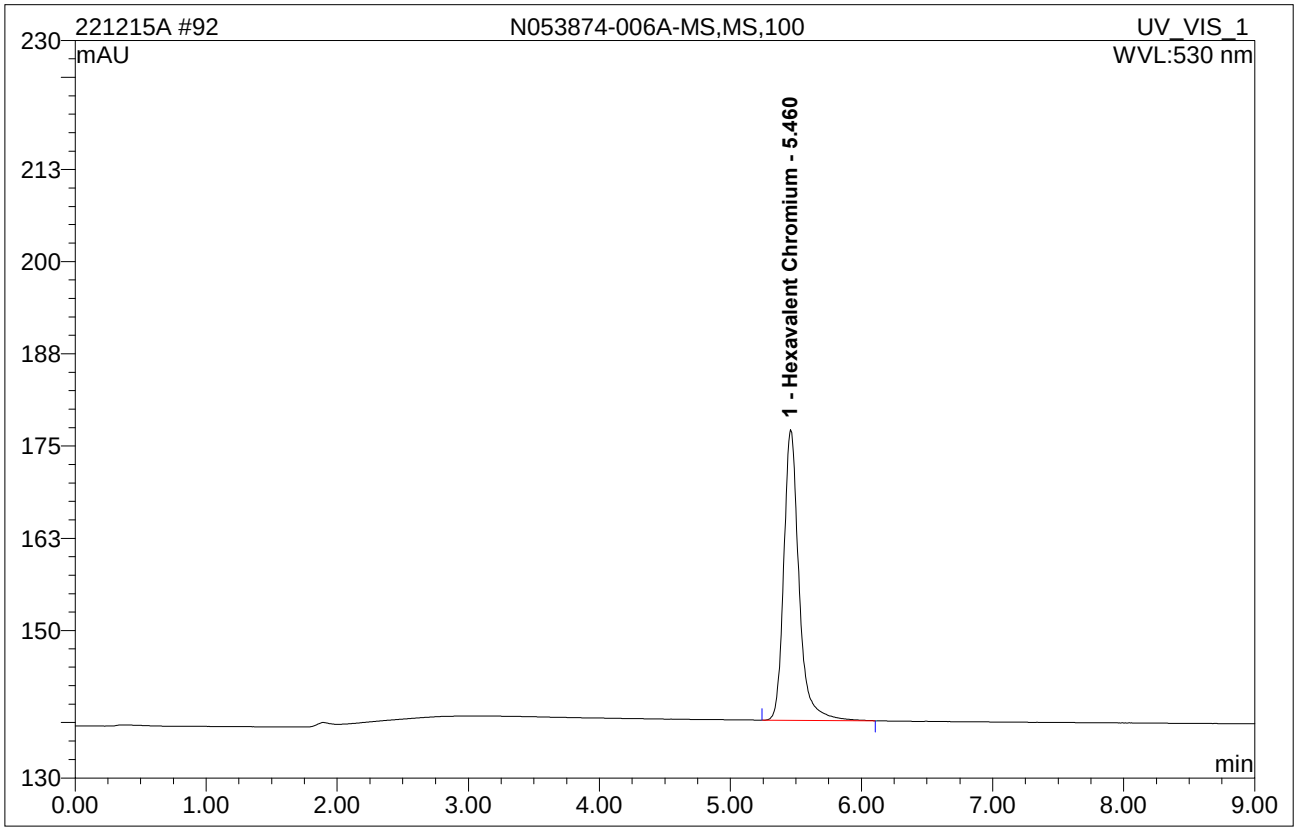


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	21.227	2.864	100.00	5.747382	BMB
Total:			21.227	2.864	100.00	5.747	

92 N053874-006A-MS,MS,100

MS @ 1ppb,IWST221205A,0.1>10mL

Sample Name:	**N053874-006A-MS,MS,100**	*Injection Volume:*	**500.0**
Vial Number:	**92**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 4:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

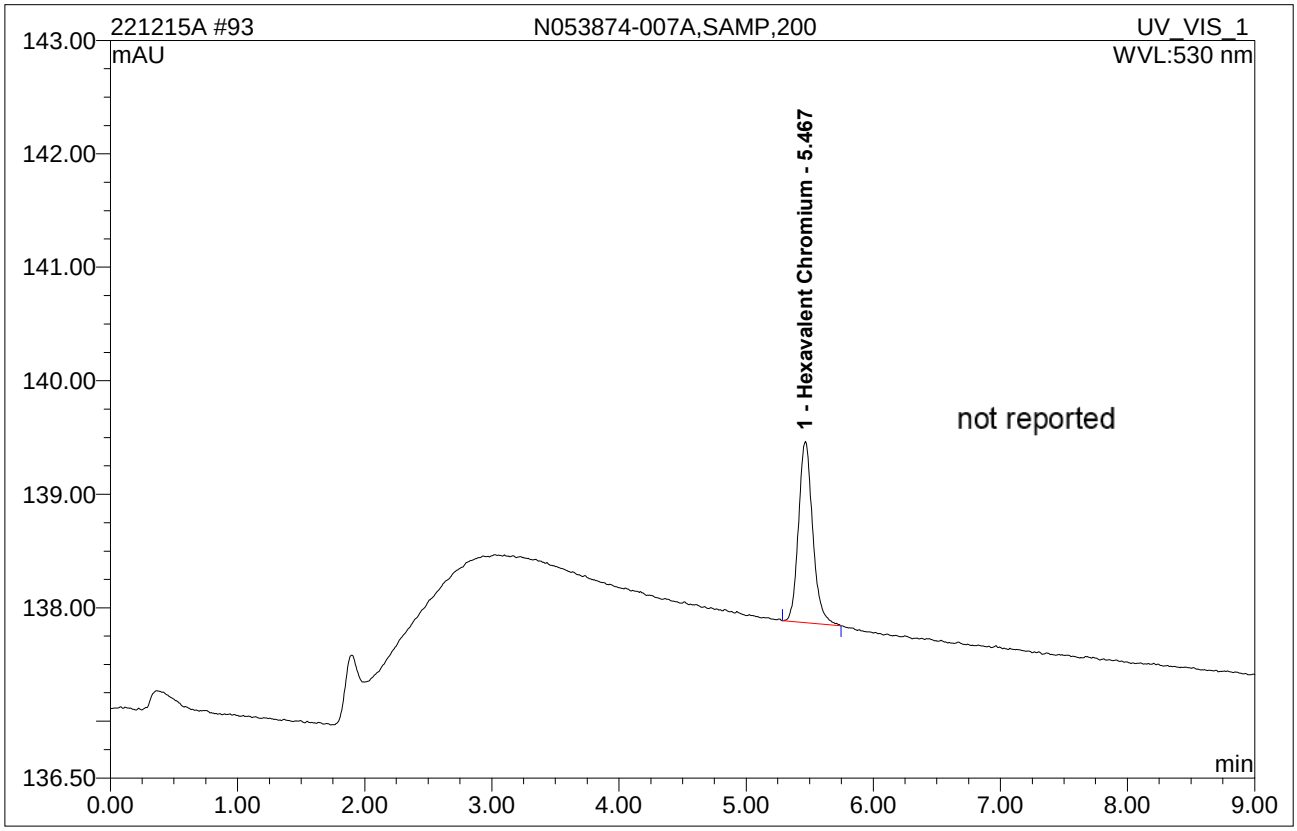


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	39.397	5.303	100.00	10.636837	BMB
Total:			39.397	5.303	100.00	10.637	

93 N053874-007A,SAMP,200

SAMPLE,0.05>10mL

Sample Name:	**N053874-007A,SAMP,200**	*Injection Volume:*	**500.0**
Vial Number:	**93**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 4:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

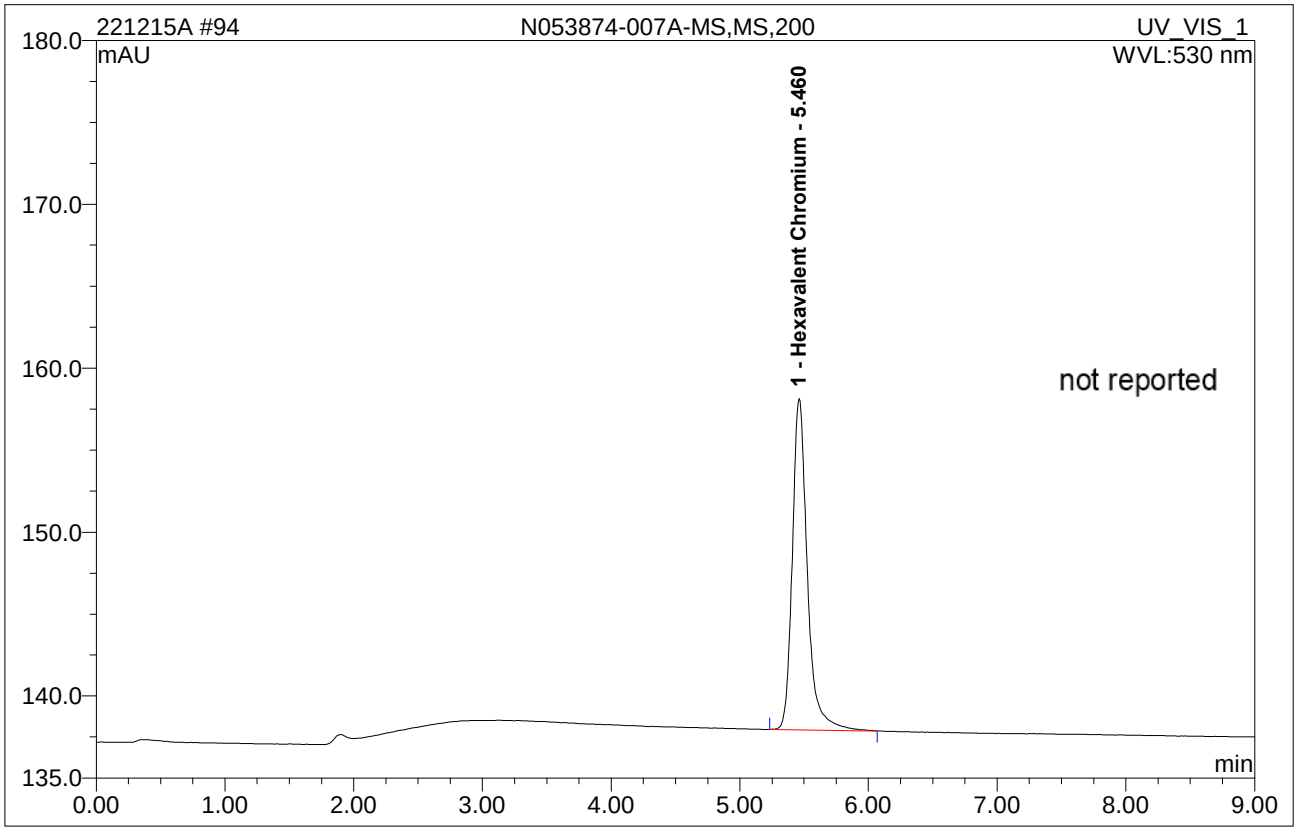


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.47	Hexavalent Chromium	1.594	0.206	100.00	0.416453	BMB
Total:			1.594	0.206	100.00	0.416	

94 N053874-007A-MS,MS,200

MS @ 5ppb,IWST221205A,0.05>10mL

Sample Name:	**N053874-007A-MS,MS,200**	*Injection Volume:*	**500.0**
Vial Number:	**94**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 4:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

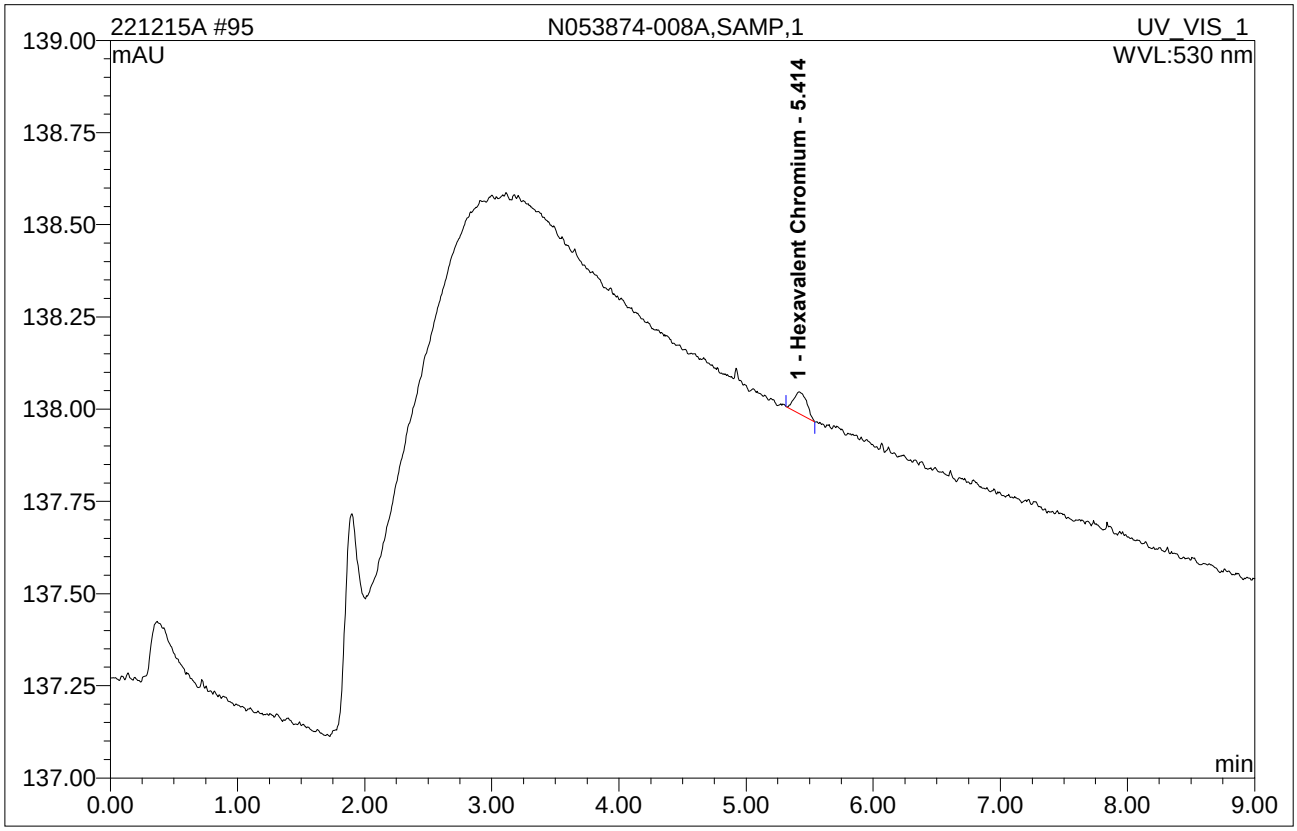


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	20.204	2.733	100.00	5.484350	BMB
Total:			20.204	2.733	100.00	5.484	

95 N053874-008A,SAMP,1

SAMPLE

Sample Name:	**N053874-008A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**95**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 5:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

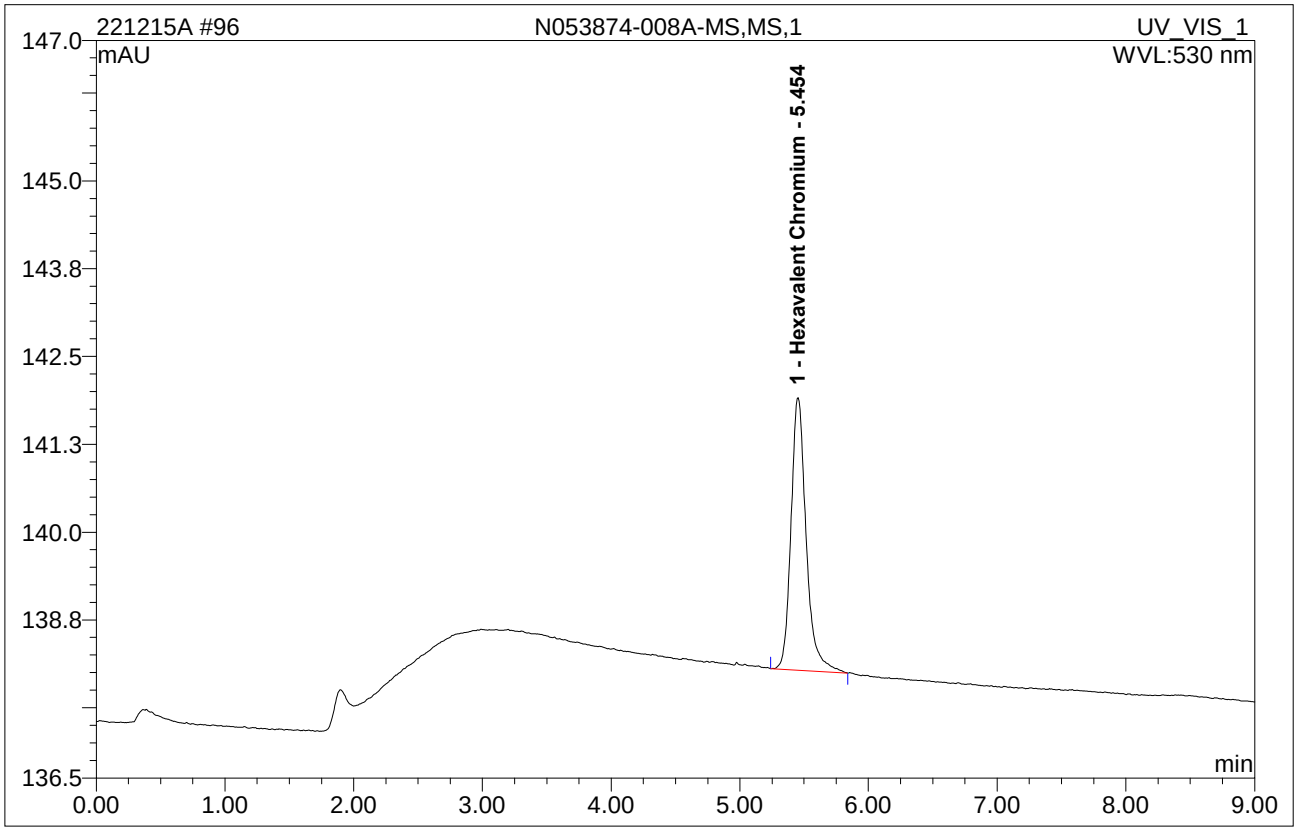


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.41	Hexavalent Chromium	0.058	0.007	100.00	0.017637	BMB
Total:			0.058	0.007	100.00	0.018	

96 N053874-008A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-008A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**96**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 5:13**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

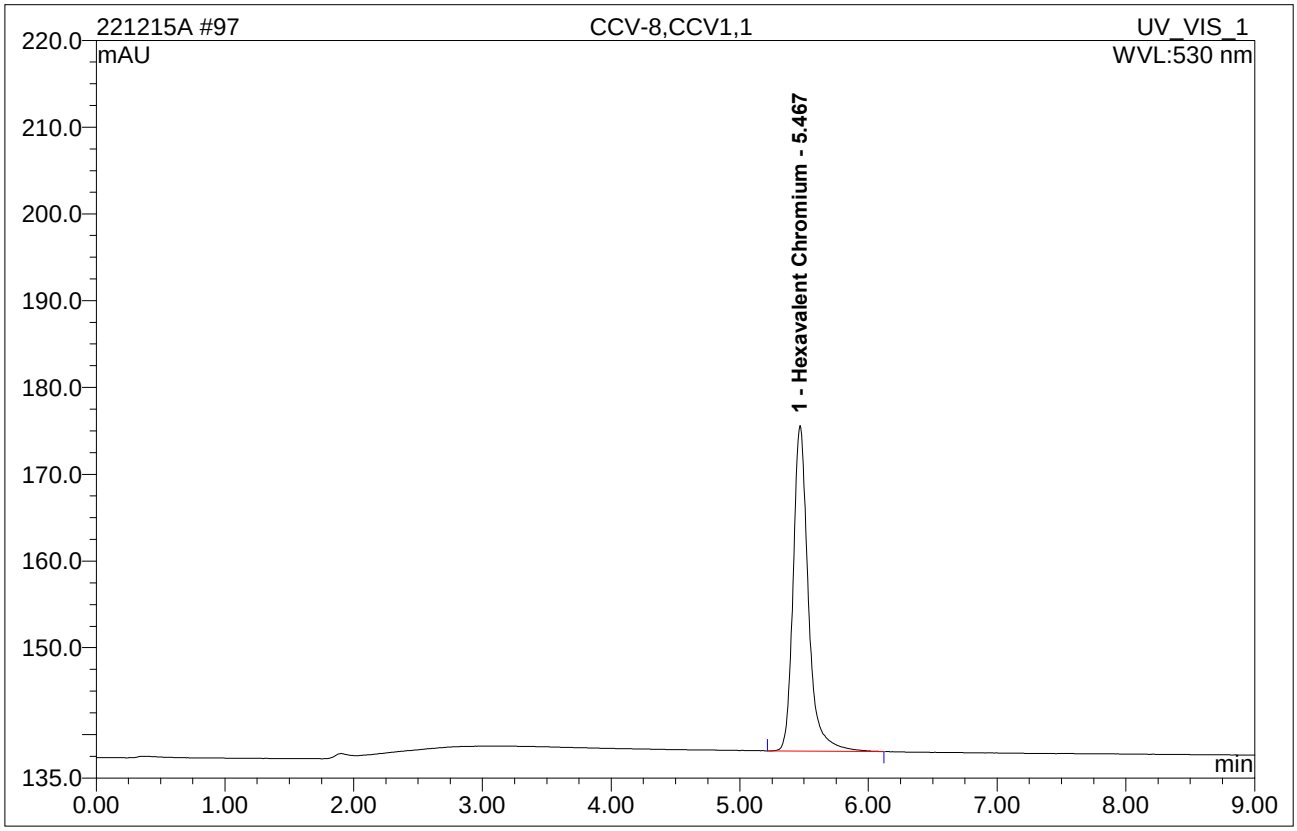


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	3.882	0.530	100.00	1.065718	BMB
Total:			3.882	0.530	100.00	1.066	

97 CCV-8,CCV1,1

CCV @ 10ppb,IWST221111A,R221115B

Sample Name:	**CCV-8,CCV1,1**	*Injection Volume:*	**500.0**
Vial Number:	**97**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 5:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

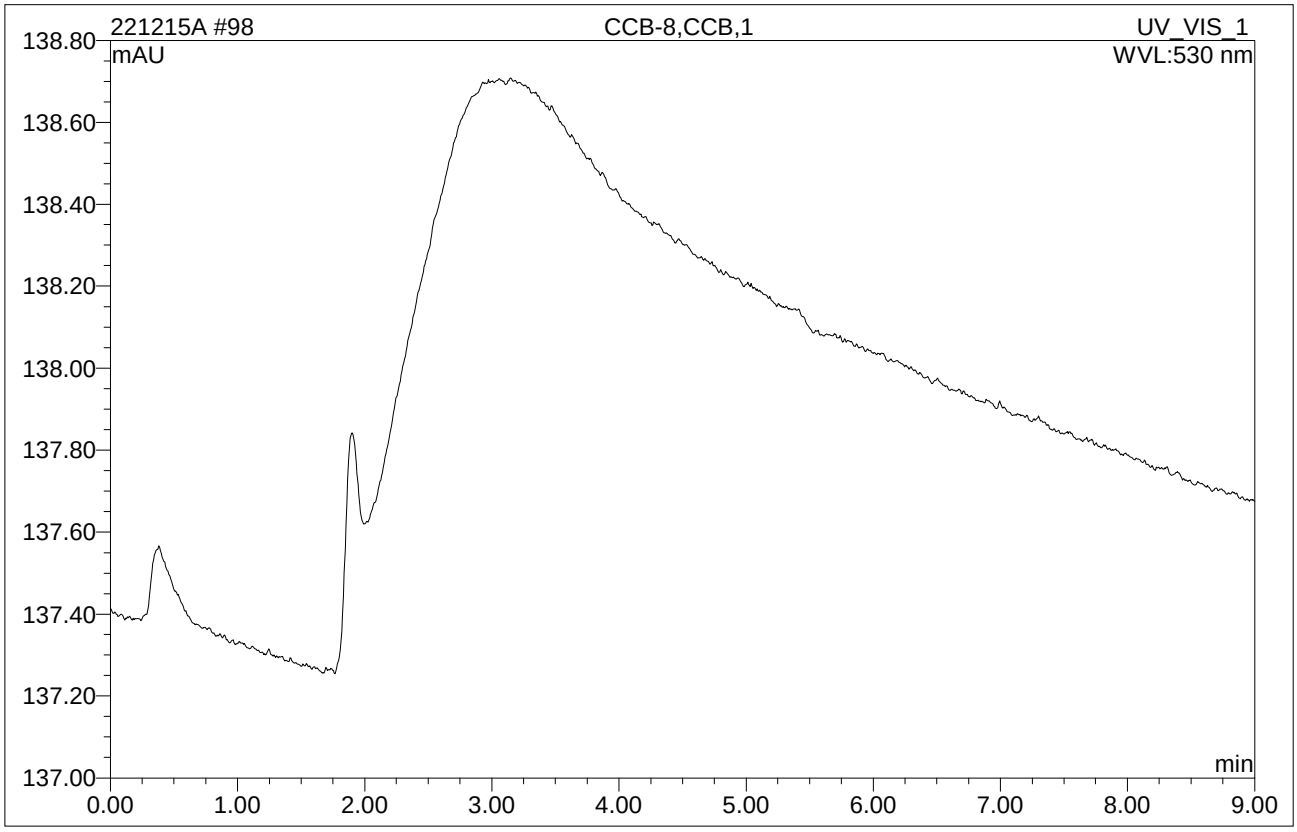


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.47	Hexavalent Chromium	37.531	5.110	100.00	10.251275	BMB
Total:			37.531	5.110	100.00	10.251	

98 CCB-8,CCB,1

CCB,R221115B

Sample Name:	**CCB-8,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**98**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 5:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

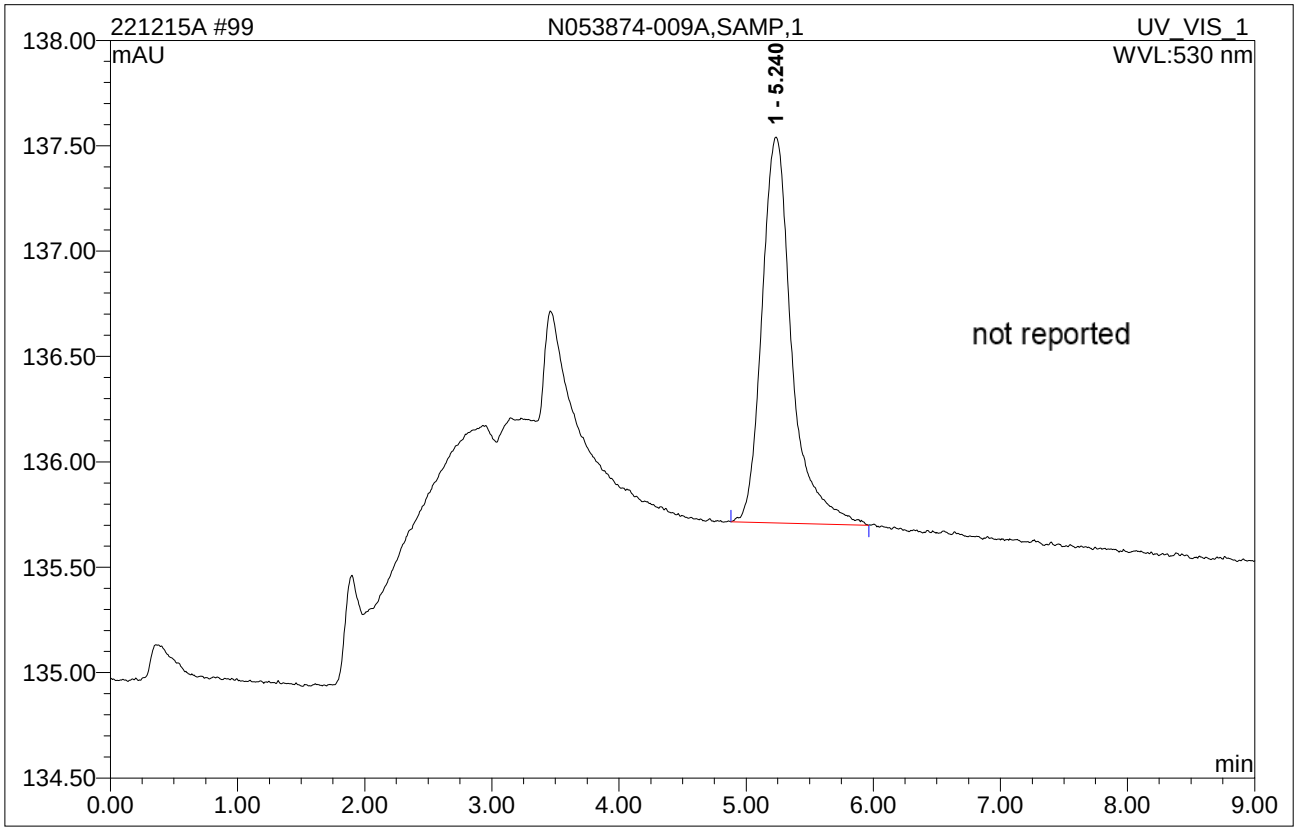


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

99 N053874-009A,SAMP,1

SAMPLE

Sample Name:	**N053874-009A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**99**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 7:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

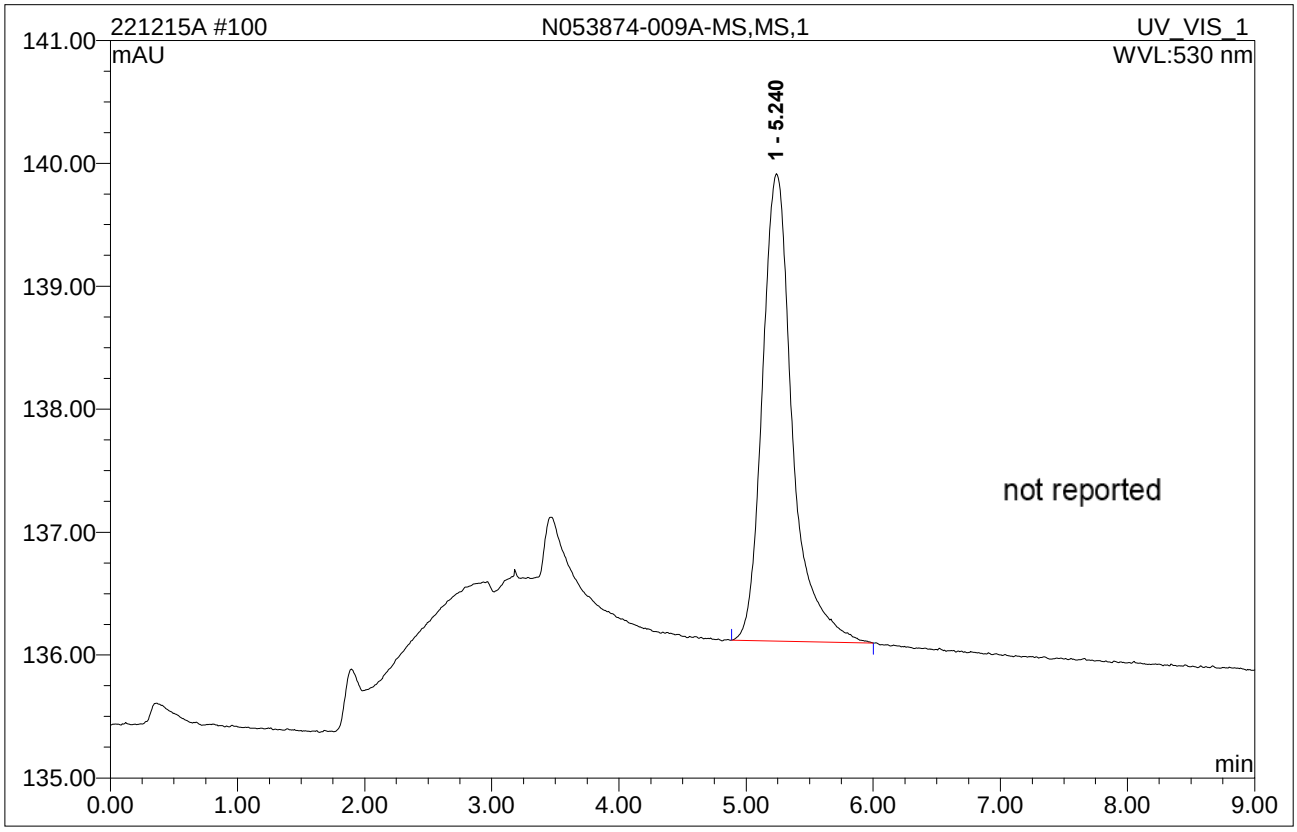


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.24	n.a.	1.831	0.499	100.00	n.a.	BMB
Total:			1.831	0.499	100.00	0.000	

100 N053874-009A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-009A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**100**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 7:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

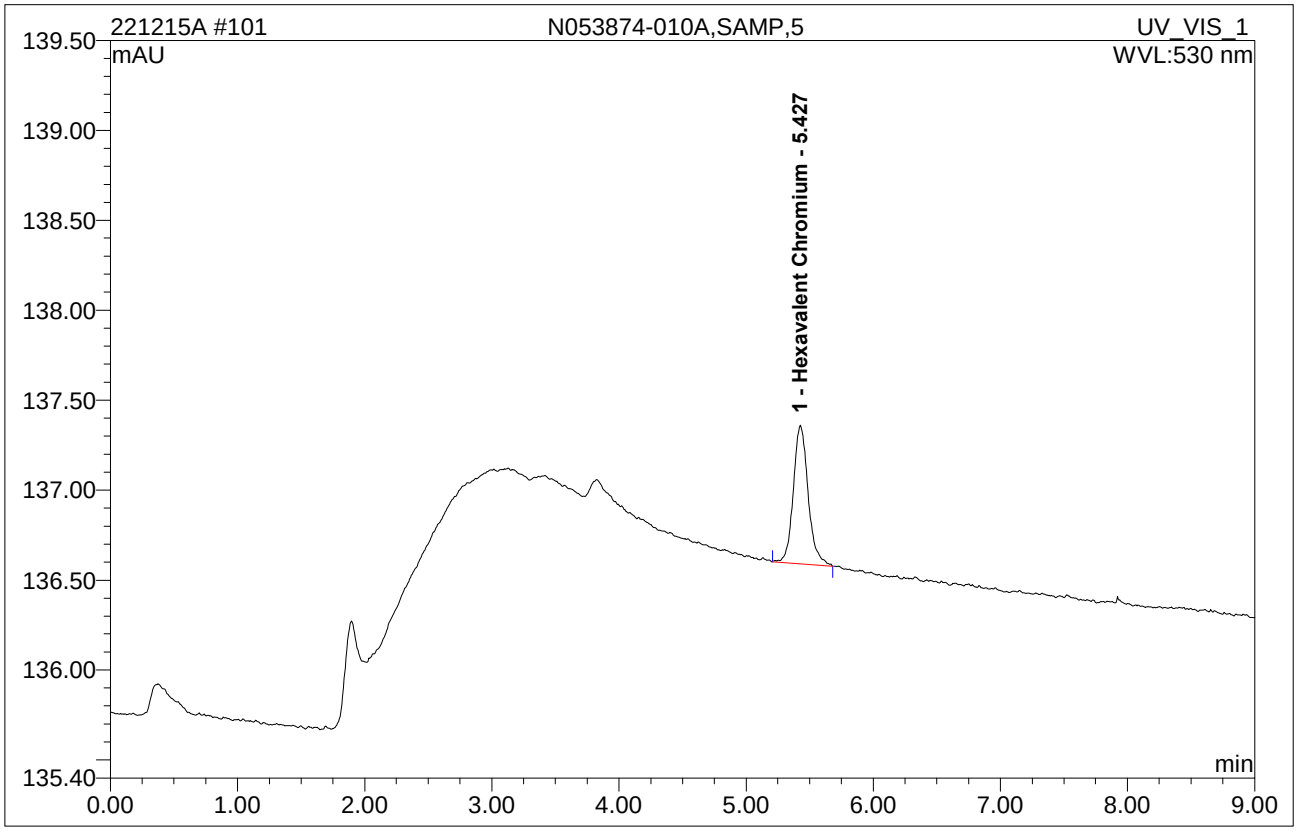


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.24	n.a.	3.805	1.046	100.00	n.a.	BMB
Total:			3.805	1.046	100.00	0.000	

101 N053874-010A,SAMP,5

SAMPLE

Sample Name:	**N053874-010A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**101**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 7:45**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

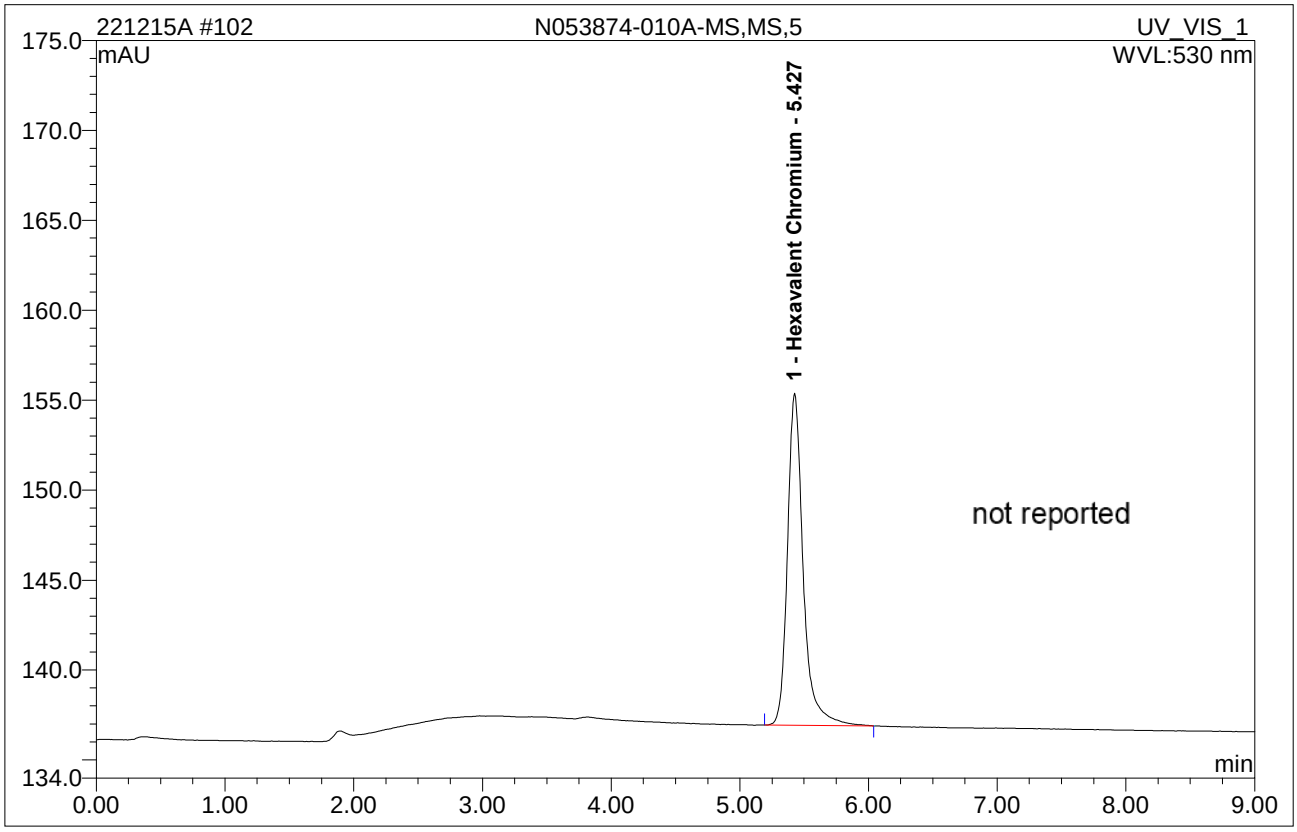


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	0.770	0.104	100.00	0.211666	BMB
Total:			0.770	0.104	100.00	0.212	

102 N053874-010A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053874-010A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**102**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 7:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

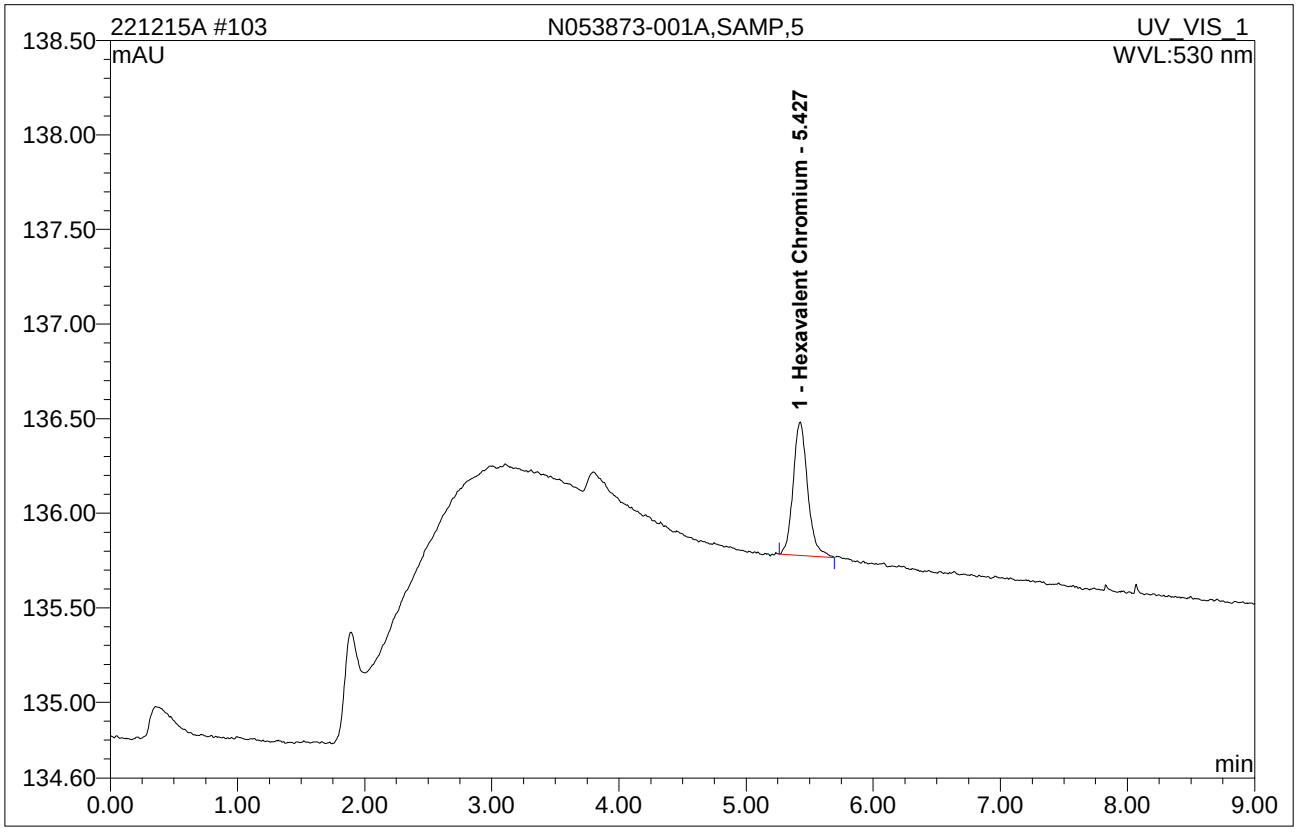


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	18.458	2.621	100.00	5.259277	BMB
Total:			18.458	2.621	100.00	5.259	

103 N053873-001A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053873-001A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**103**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 9:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

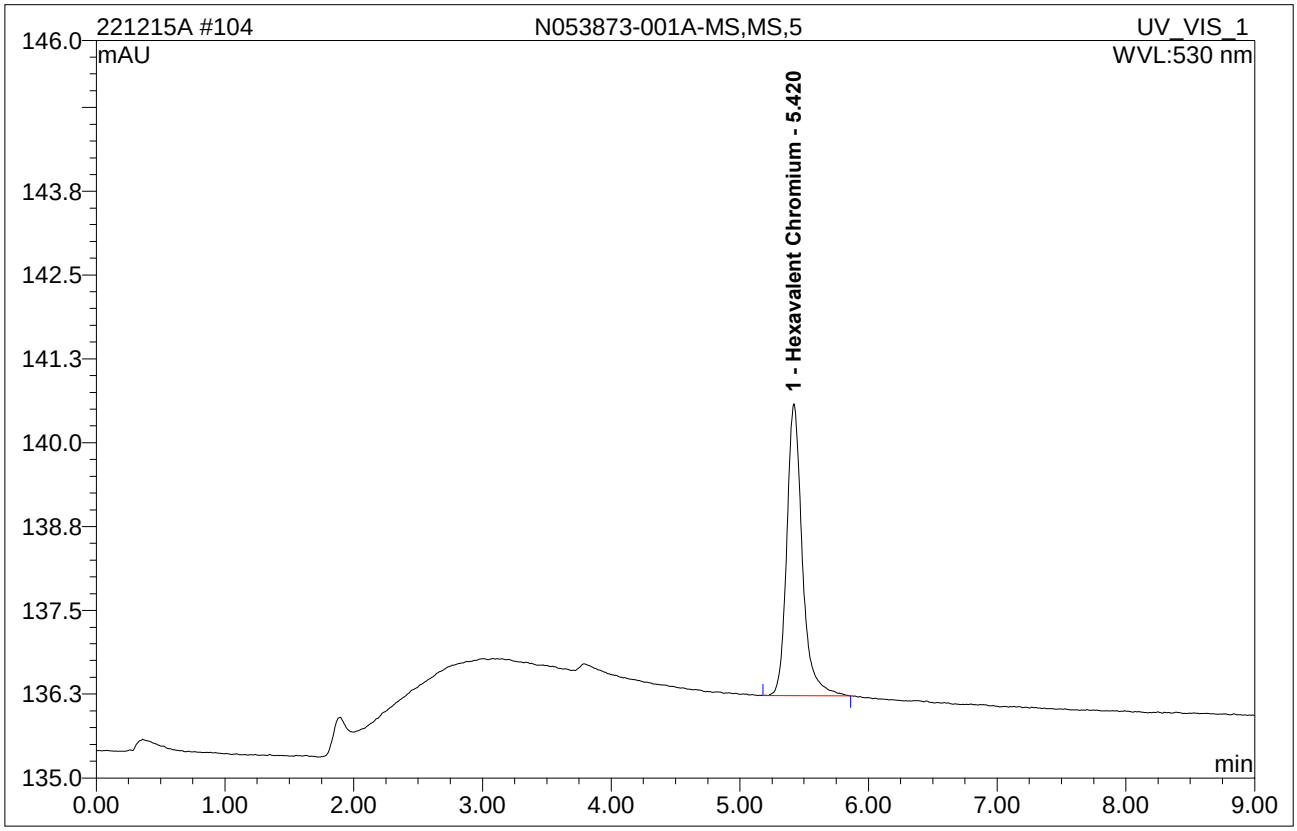


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	0.705	0.093	100.00	0.190211	BMB
Total:			0.705	0.093	100.00	0.190	

104 N053873-001A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053873-001A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**104**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 9:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

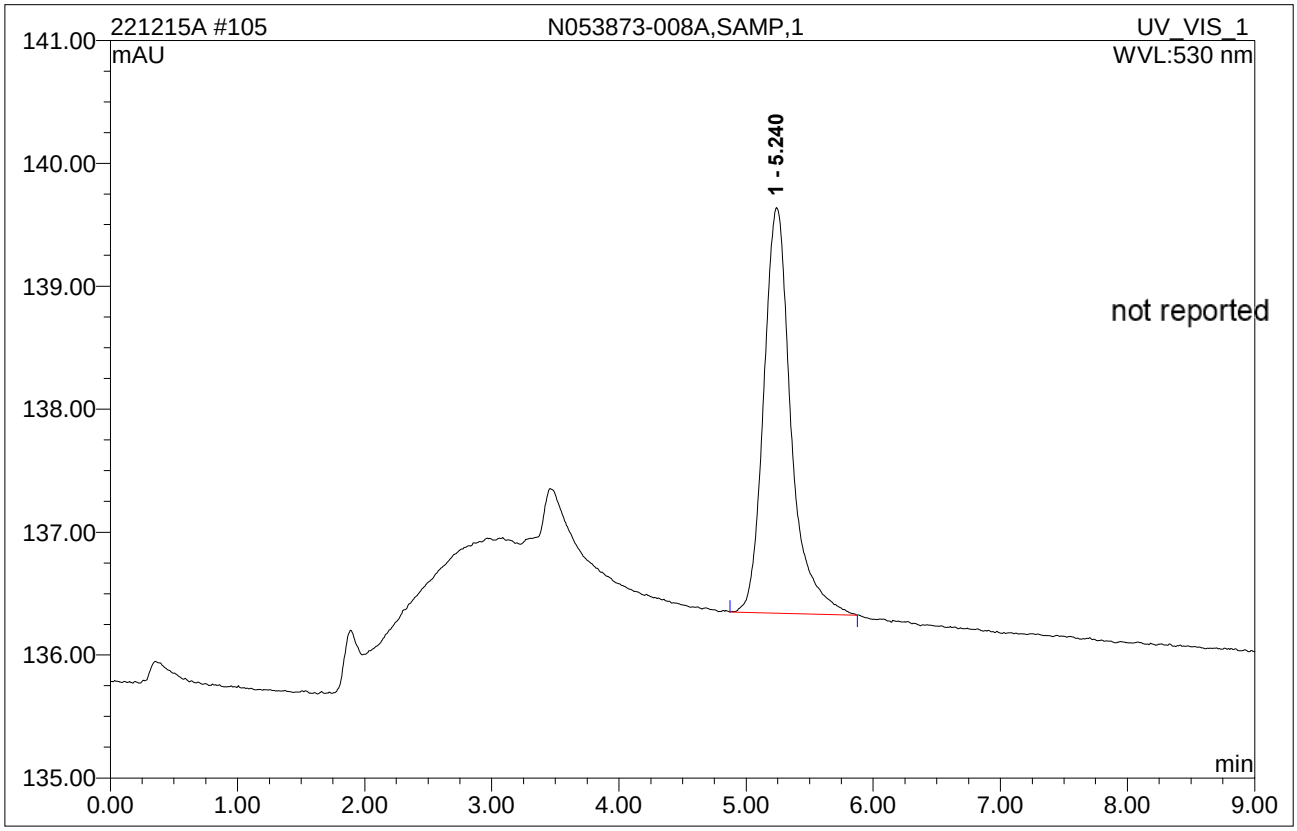


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.42	Hexavalent Chromium	4.353	0.608	100.00	1.223169	BMB
Total:			4.353	0.608	100.00	1.223	

105 N053873-008A,SAMP,1

SAMPLE

Sample Name:	**N053873-008A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**105**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 9:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

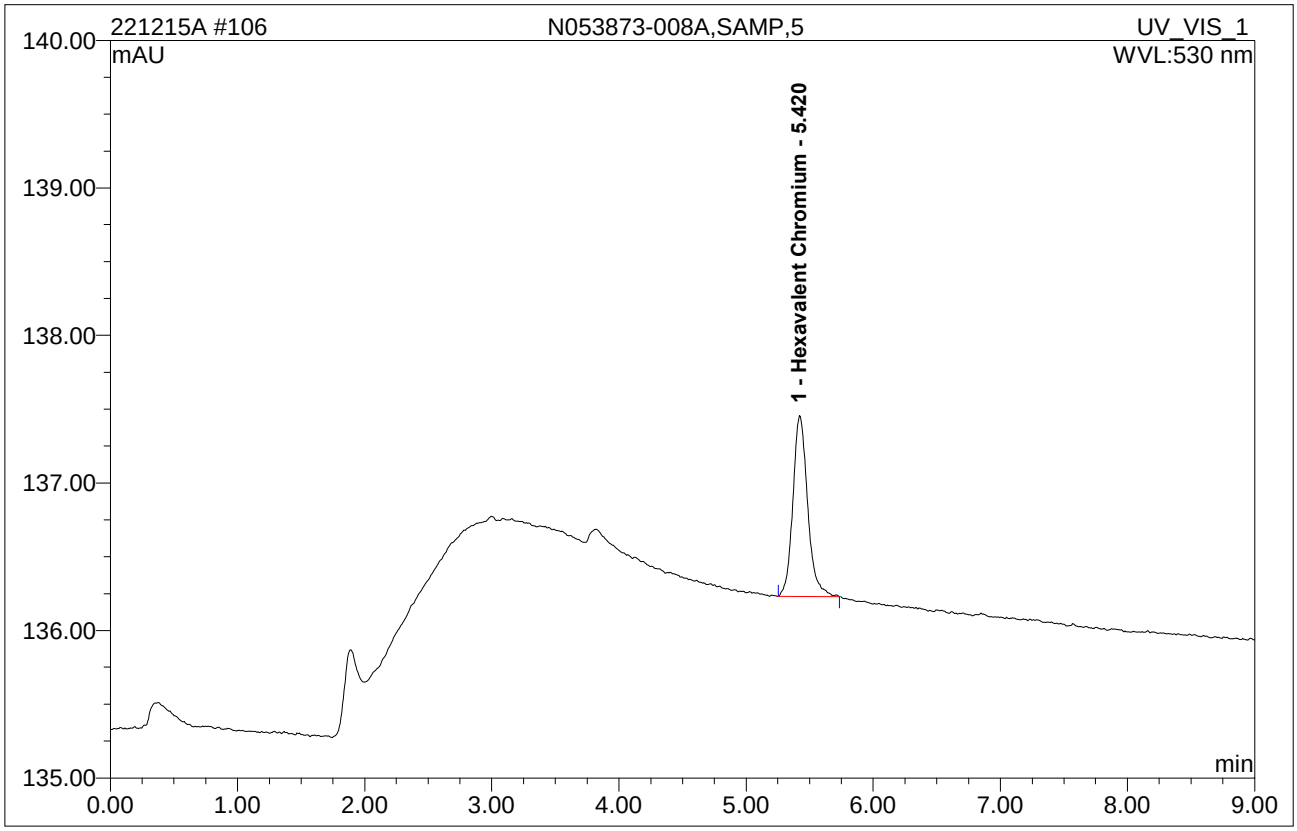


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.24	n.a.	3.299	0.825	100.00	n.a.	BMB
Total:			3.299	0.825	100.00	0.000	

106 N053873-008A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053873-008A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**106**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 10:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

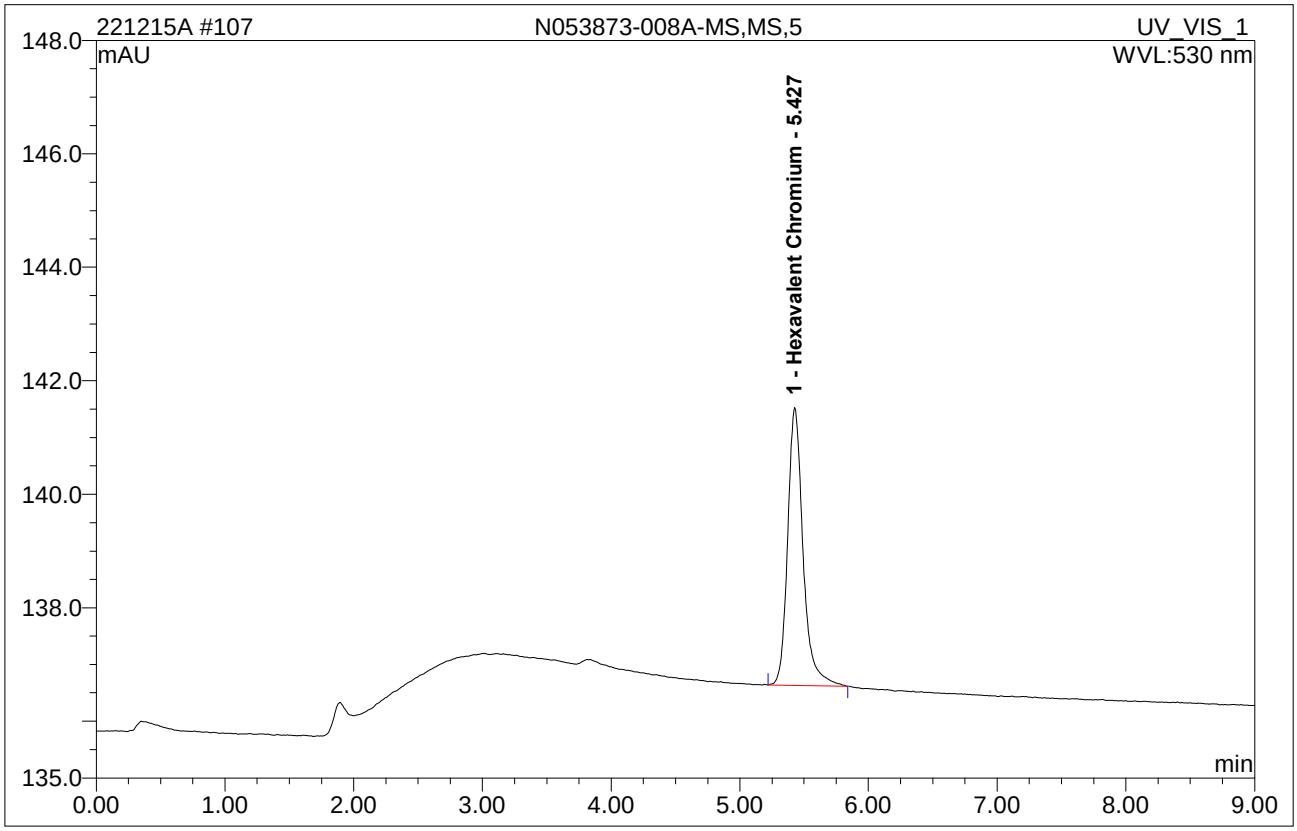


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.42	Hexavalent Chromium	1.226	0.165	100.00	0.333690	BMB
Total:			1.226	0.165	100.00	0.334	

107 N053873-008A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053873-008A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**107**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 10:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

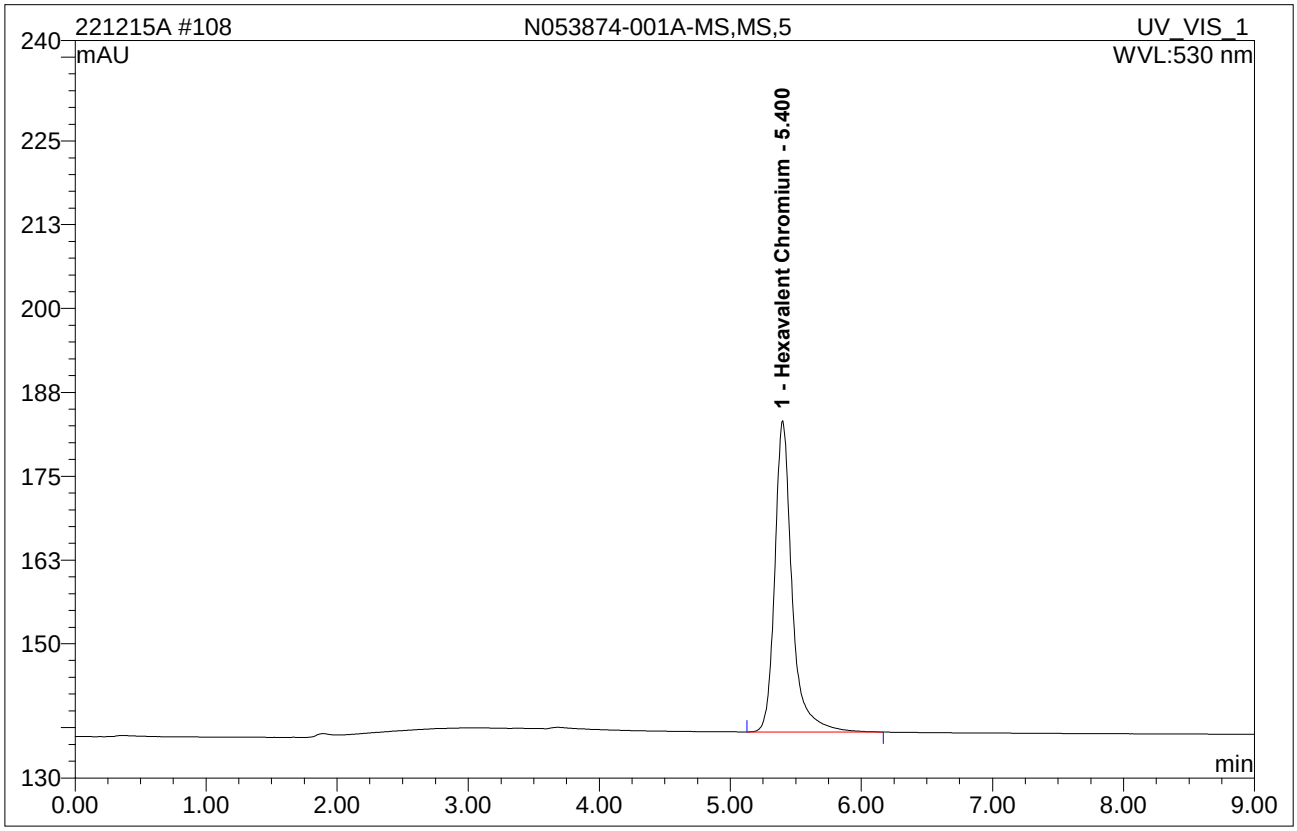


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	4.900	0.680	100.00	1.366963	BMB
Total:			4.900	0.680	100.00	1.367	

108 N053874-001A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053874-001A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**108**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 10:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

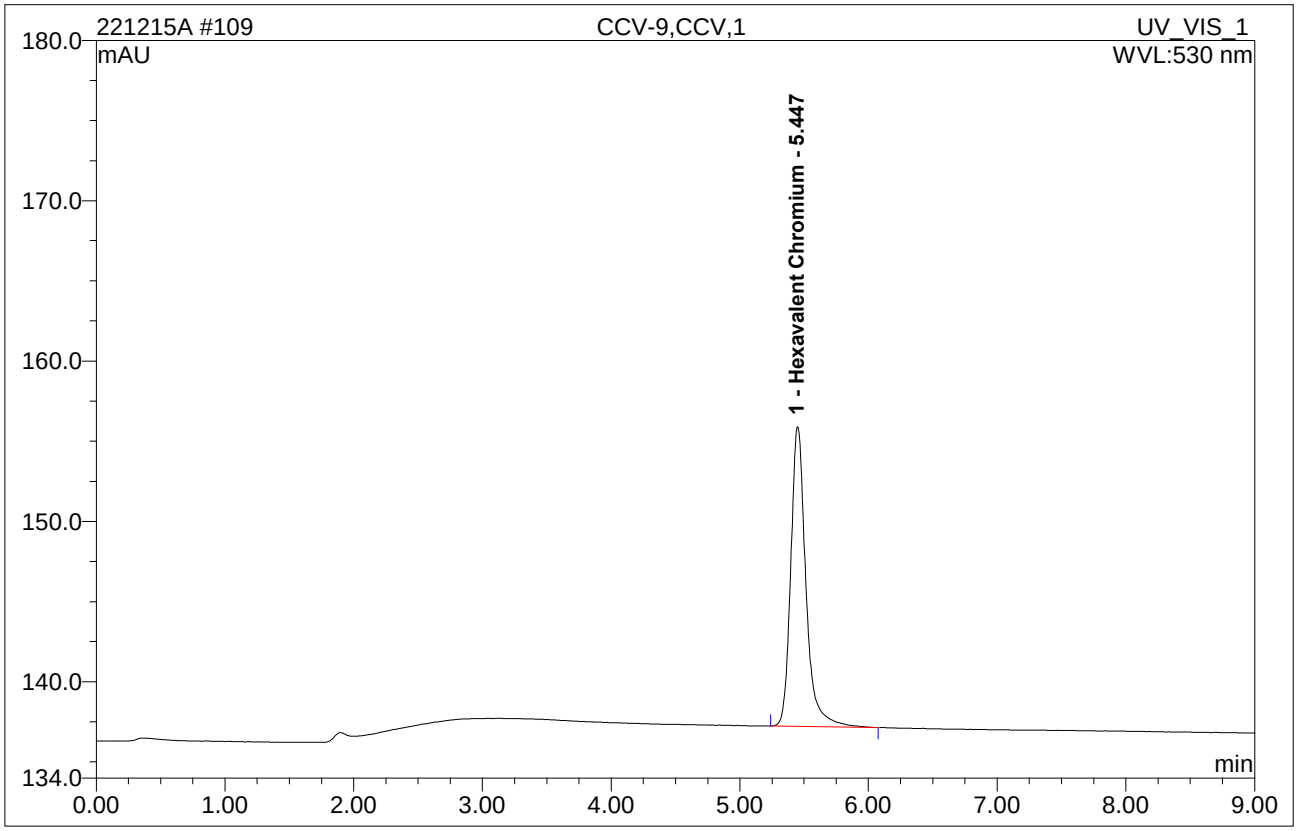


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.40	Hexavalent Chromium	46.450	7.114	100.00	14.268489	BMB
Total:			46.450	7.114	100.00	14.268	

109 CCV-9,CCV,1

CCV @ 5ppb,IWST221111A,R221115B

Sample Name:	**CCV-9,CCV,1**	*Injection Volume:*	**500.0**
Vial Number:	**109**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 10:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

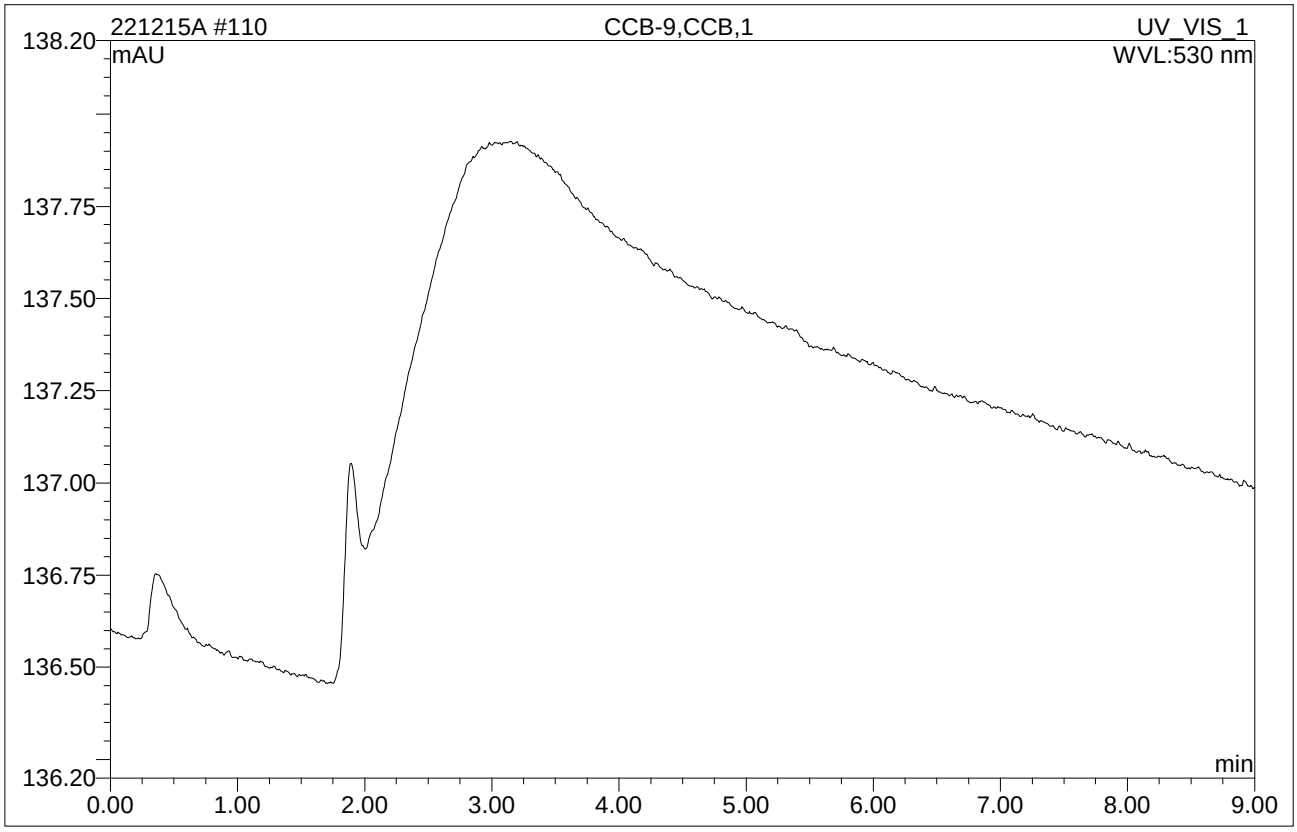


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.45	Hexavalent Chromium	18.702	2.556	100.00	5.128660	BMB
Total:			18.702	2.556	100.00	5.129	

110 CCB-9,CCB,1

CCB,R221115B

Sample Name:	**CCB-9,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**110**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 10:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

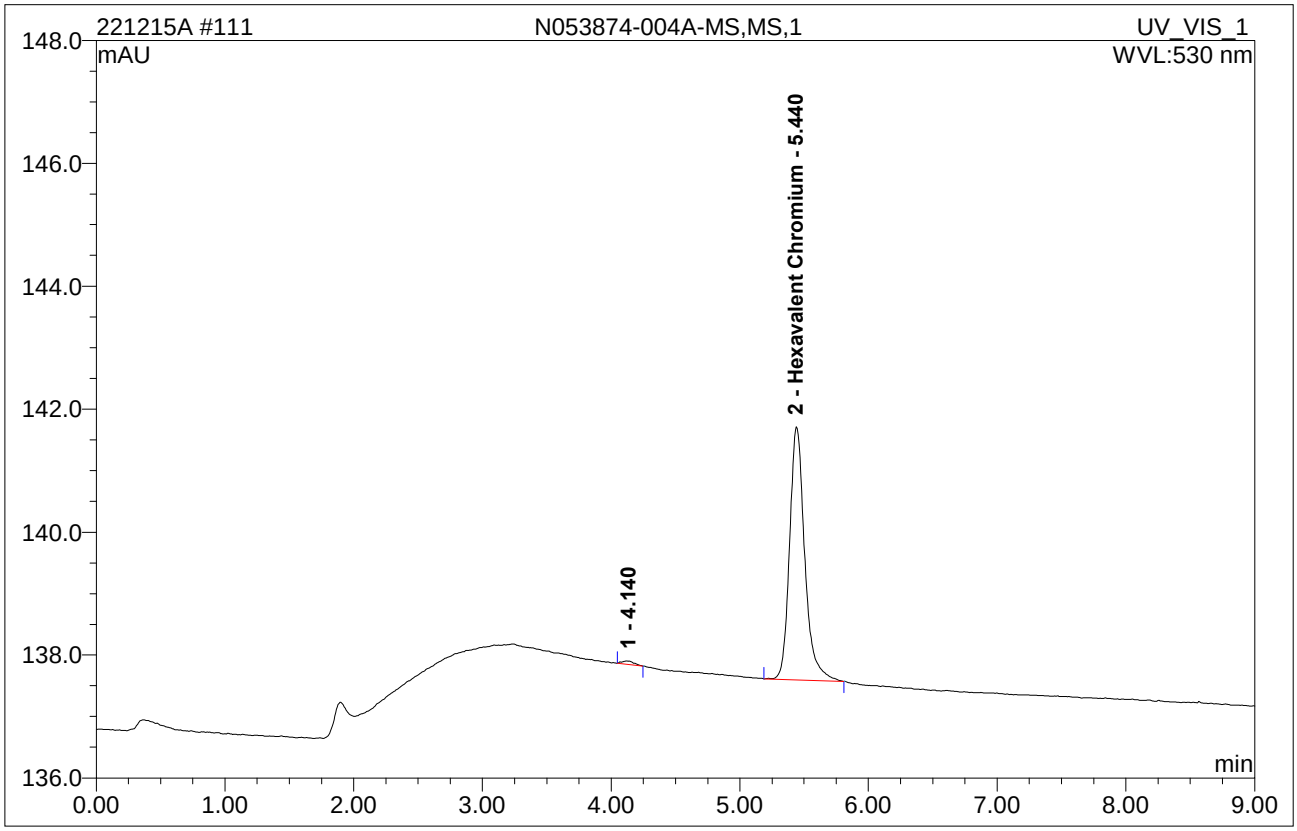


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

111 N053874-004A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-004A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**111**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 11:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

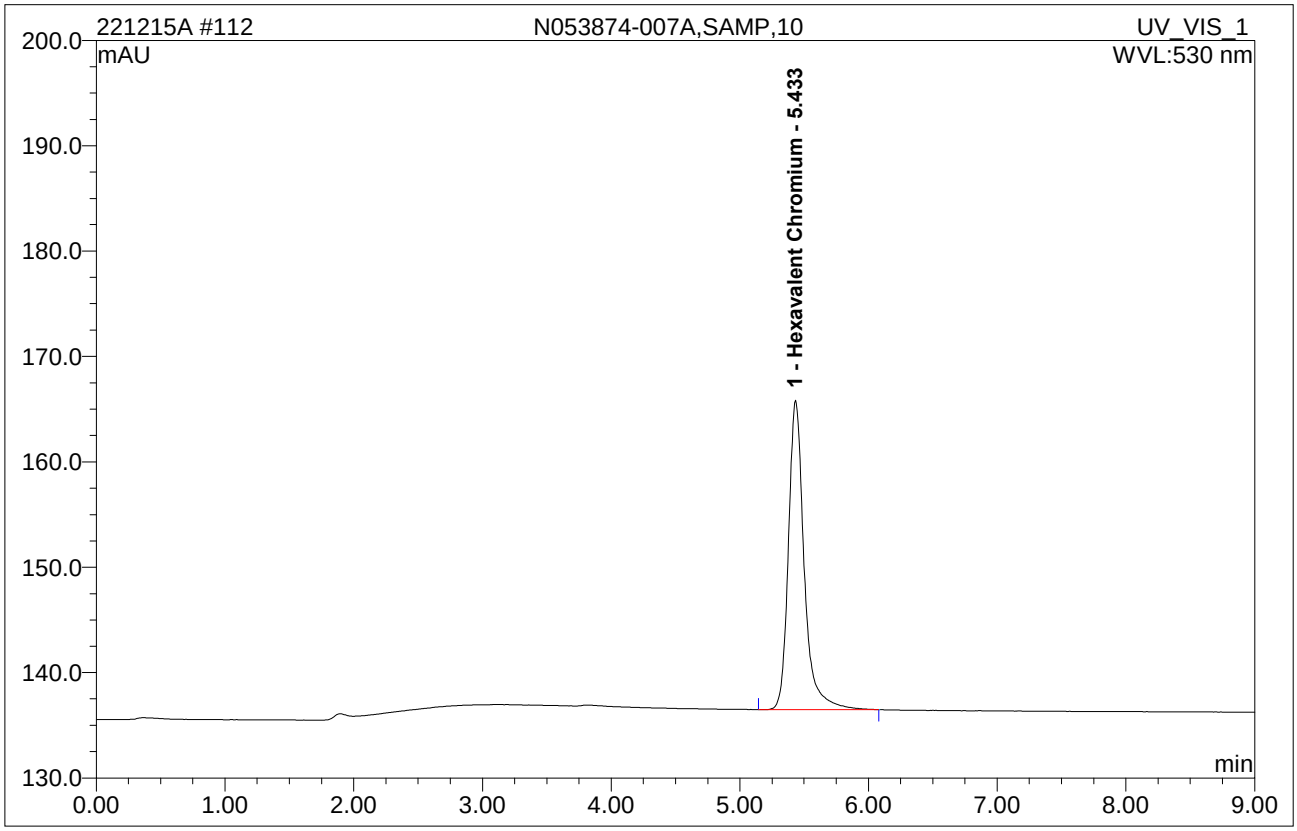


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	4.14	n.a.	0.058	0.006	1.04	n.a.	BMB
2	5.44	Hexavalent Chromium	4.121	0.562	98.96	1.131006	BMB
Total:			4.179	0.568	100.00	1.131	

112 N053874-007A,SAMP,10

SAMPLE

Sample Name:	**N053874-007A,SAMP,10**	*Injection Volume:*	**500.0**
Vial Number:	**112**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 12:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

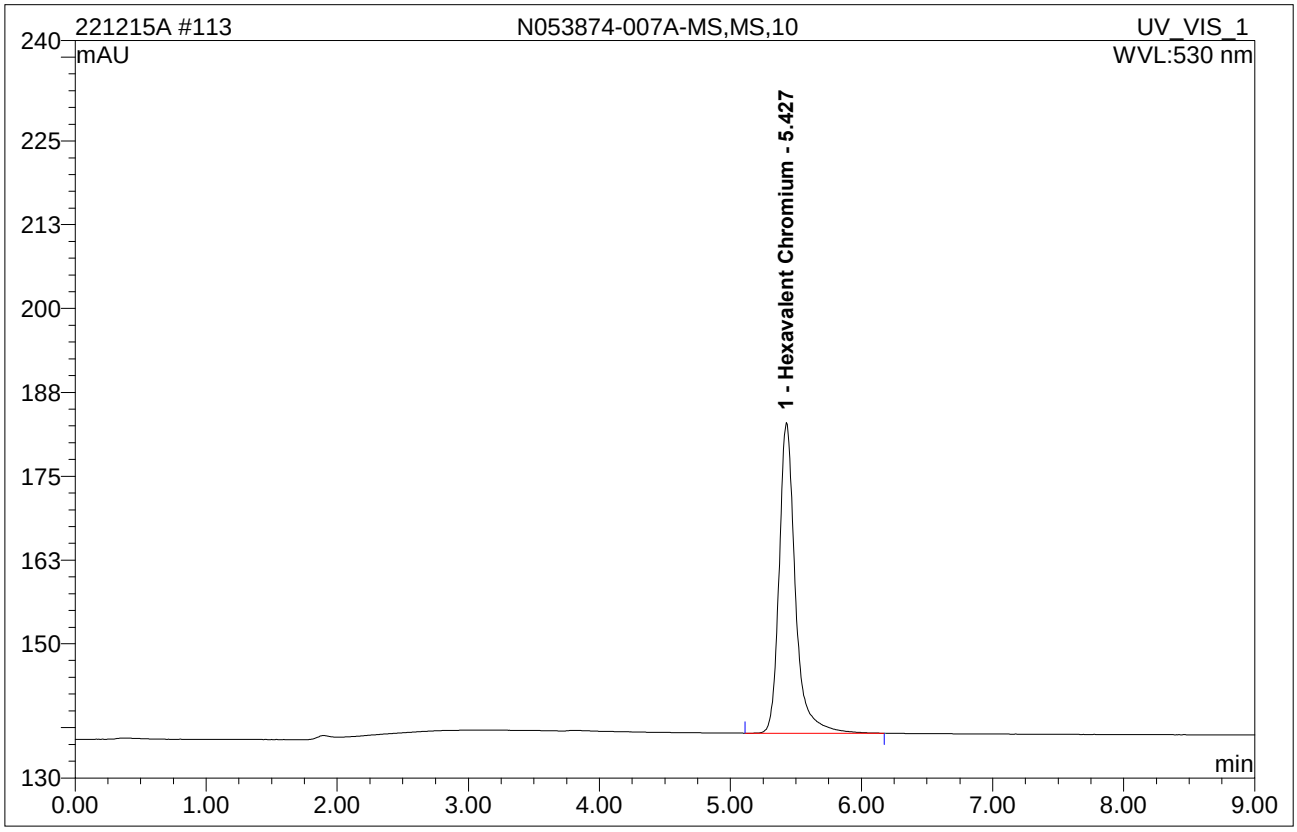


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	29.384	4.177	100.00	8.378835	BMB
Total:			29.384	4.177	100.00	8.379	

113 N053874-007A-MS,MS,10

MS @ 5ppb,IWST221205A

Sample Name:	**N053874-007A-MS,MS,10**	*Injection Volume:*	**500.0**
Vial Number:	**113**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 12:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

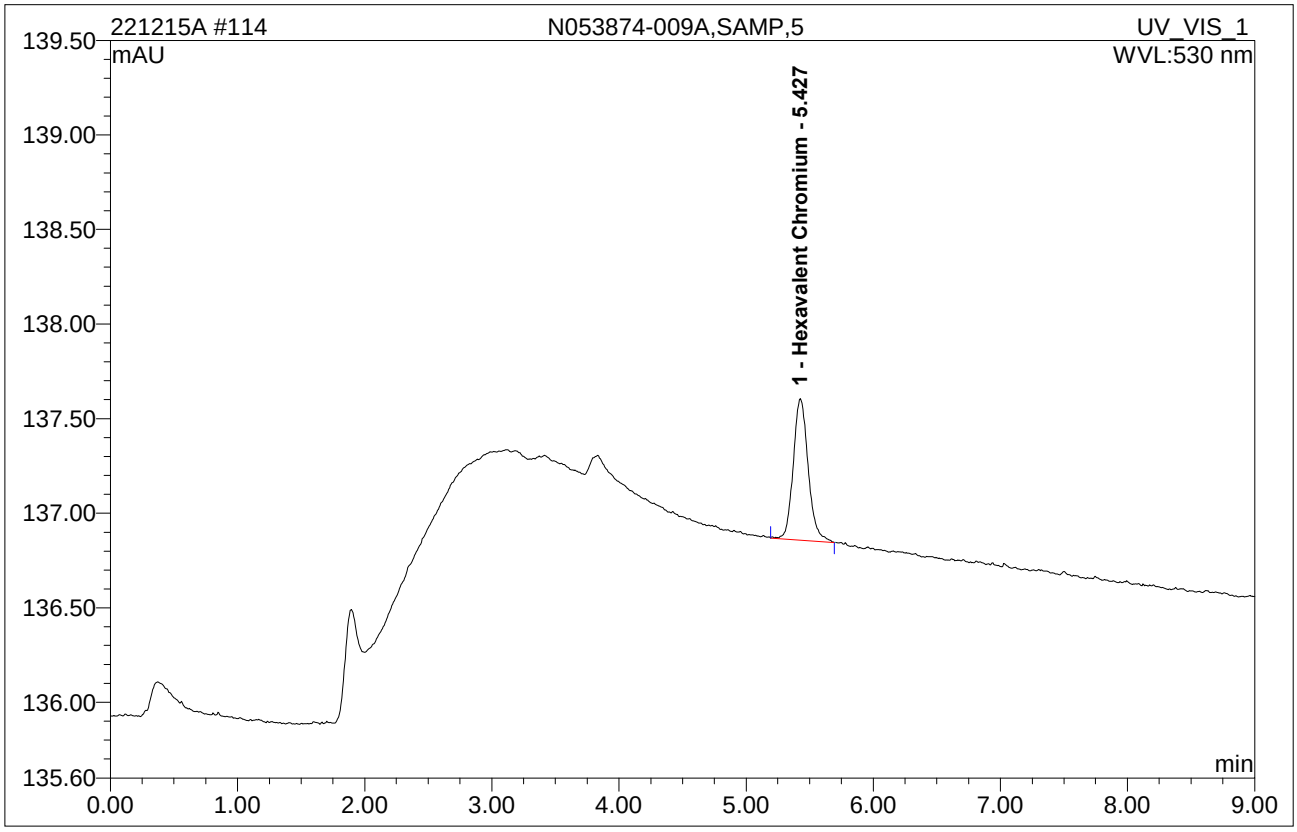


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	46.342	6.646	100.00	13.331606	BMB
Total:			46.342	6.646	100.00	13.332	

114 N053874-009A,SAMP,5

SAMPLE,2>10mL

Sample Name:	**N053874-009A,SAMP,5**	*Injection Volume:*	**500.0**
Vial Number:	**114**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 12:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

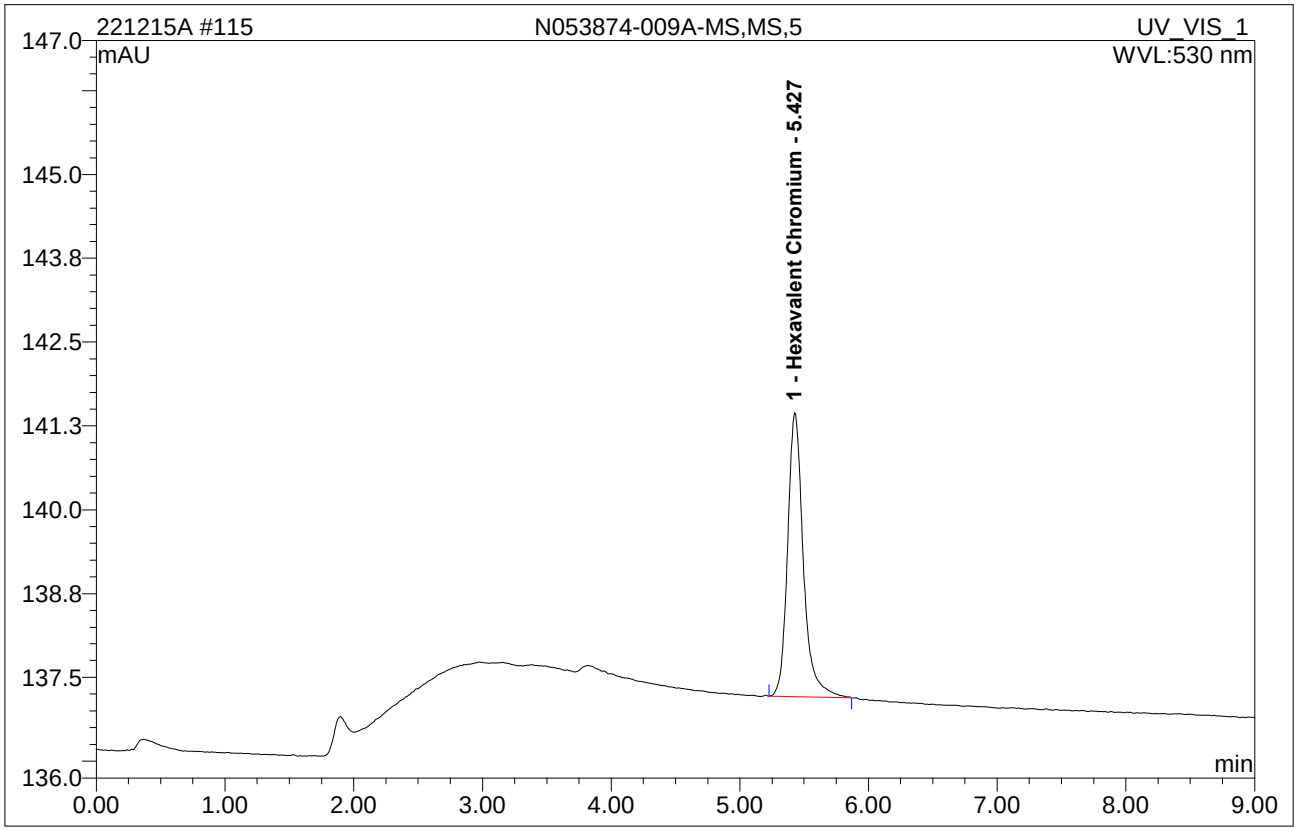


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	0.748	0.101	100.00	0.206906	BMB
Total:			0.748	0.101	100.00	0.207	

115 N053874-009A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053874-009A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**115**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 13:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

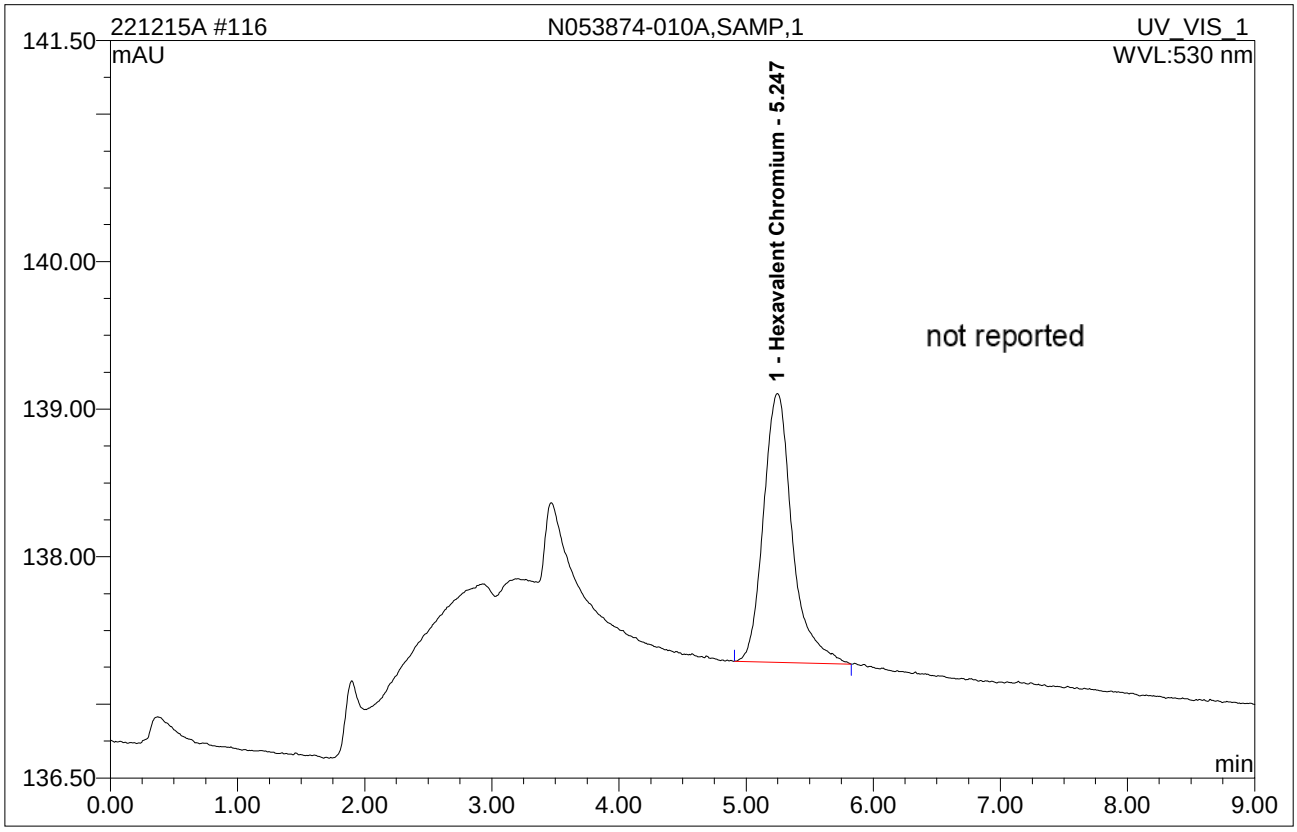


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	4.237	0.599	100.00	1.205193	BMB
Total:			4.237	0.599	100.00	1.205	

116 N053874-010A,SAMP,1

SAMPLE

Sample Name:	**N053874-010A,SAMP,1**	*Injection Volume:*	**500.0**
Vial Number:	**116**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 13:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

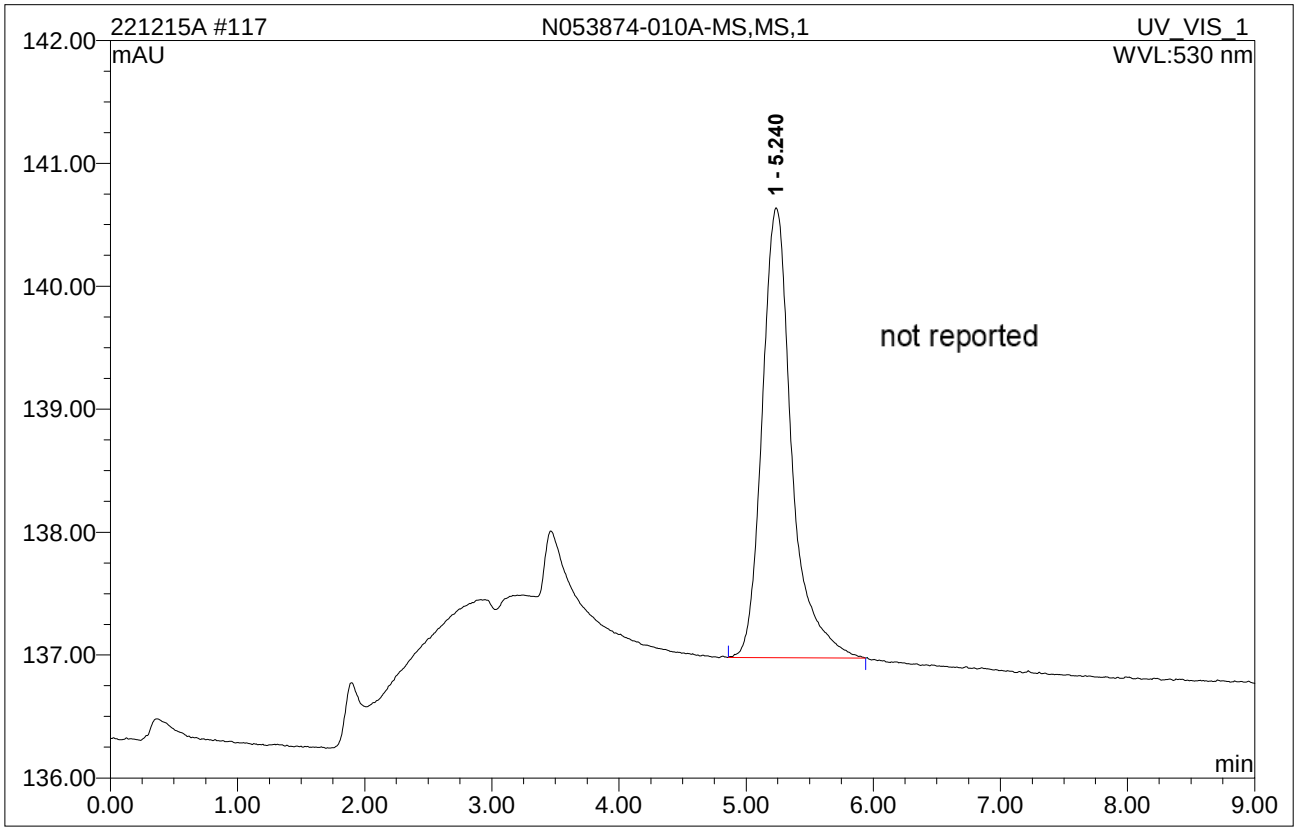


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.25	Hexavalent Chromium	1.823	0.482	100.00	0.969100	BMB
Total:			1.823	0.482	100.00	0.969	

117 N053874-010A-MS,MS,1

MS @ 1ppb,IWST221205A

Sample Name:	**N053874-010A-MS,MS,1**	*Injection Volume:*	**500.0**
Vial Number:	**117**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 13:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

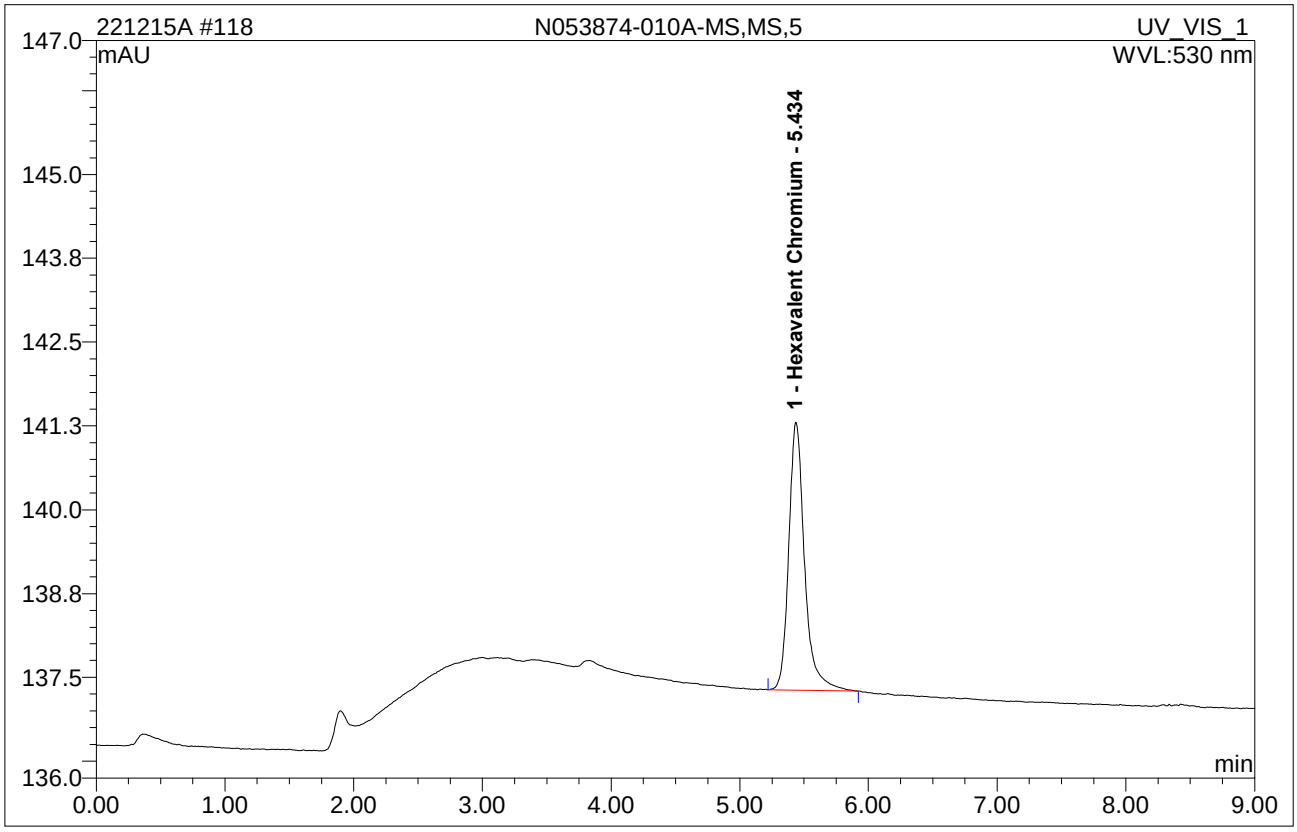


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.24	n.a.	3.660	0.990	100.00	n.a.	BMB
Total:			3.660	0.990	100.00	0.000	

118 N053874-010A-MS,MS,5

MS @ 1ppb,IWST221205A,2>10mL

Sample Name:	**N053874-010A-MS,MS,5**	*Injection Volume:*	**500.0**
Vial Number:	**118**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 13:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

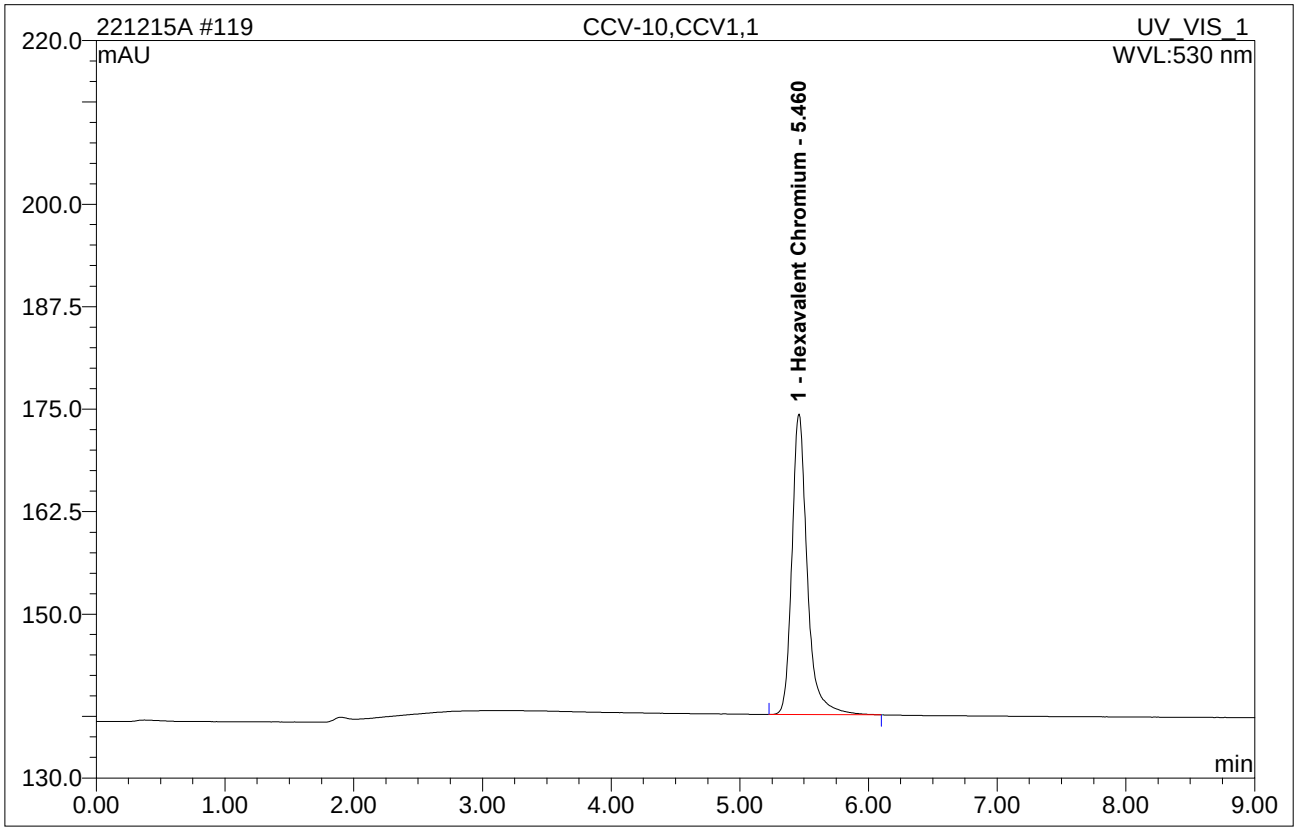


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.43	Hexavalent Chromium	3.996	0.570	100.00	1.147244	BMB
Total:			3.996	0.570	100.00	1.147	

119 CCV-10,CCV1,1

CCV @ 10ppb,IWST221111A,R221115B

Sample Name:	**CCV-10,CCV1,1**	*Injection Volume:*	**500.0**
Vial Number:	**119**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 14:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**

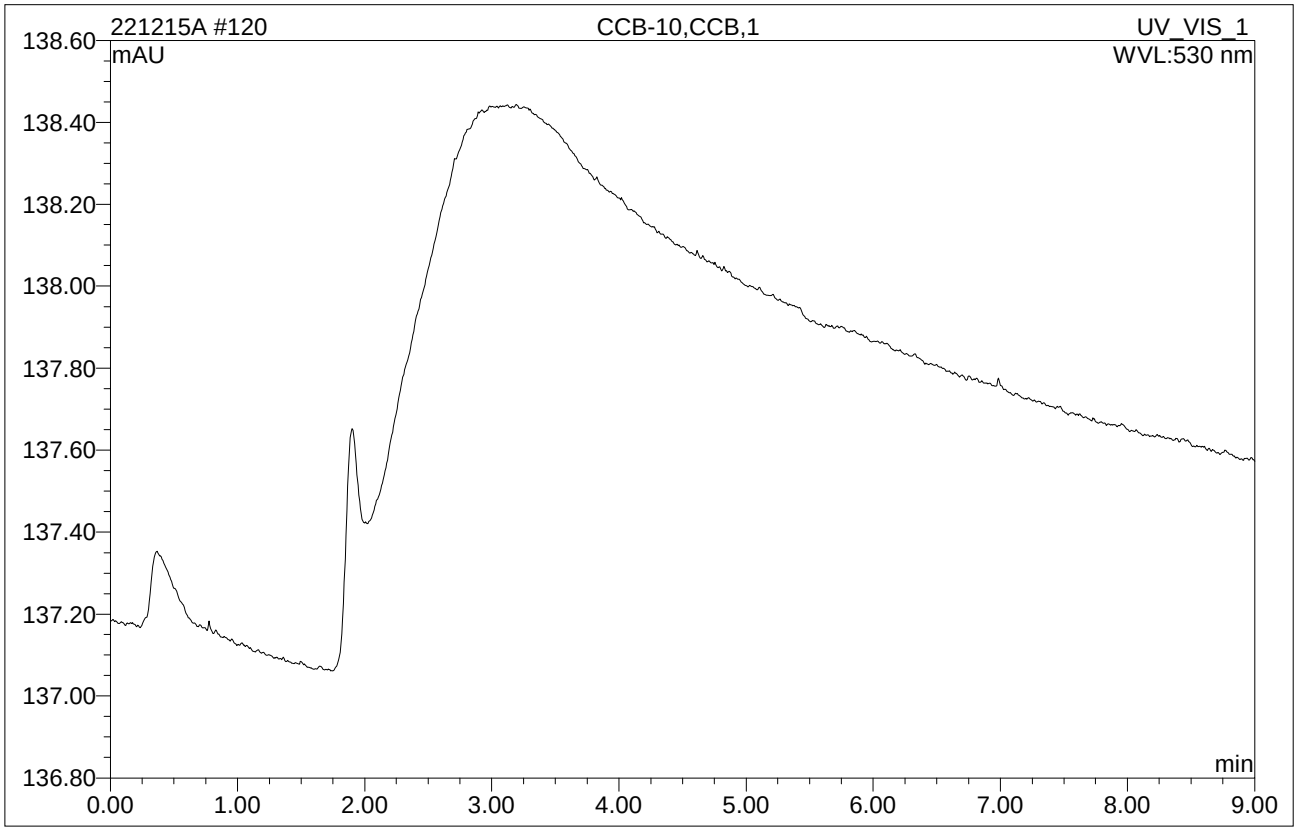


No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
1	5.46	Hexavalent Chromium	36.700	5.066	100.00	10.163151	BMB
Total:			36.700	5.066	100.00	10.163	

120 CCB-10,CCB,1

CCB,R221115B

Sample Name:	**CCB-10,CCB,1**	*Injection Volume:*	**500.0**
Vial Number:	**120**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**530**
Control Program:	**CR6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**CR6 METHOD_221212A**	*Dilution Factor:*	**1.0000**
Recording Time:	**12/16/2022 14:16**	*Sample Weight:*	**1.0000**
Run Time (min):	**9.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height mAU	Area mAU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

RAW DATA



INITIAL CALIBRATION

INJECTION LOG: 221217A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	ICV	ICV	1	Hexavalent Chromium	12/17/22 2:22 PM	Reported
10	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/17/22 2:32 PM	Reported
11	ICB	ICB	1	Hexavalent Chromium	12/17/22 2:41 PM	Reported
12	MB-H2O	MBLK	1	Hexavalent Chromium	12/17/22 2:51 PM	Reported
13	LCS-H2O	LCS	1	Hexavalent Chromium	12/17/22 3:00 PM	Reported
14	N053539-001A	SAMP	1	Hexavalent Chromium	12/17/22 3:10 PM	Reported
15	N053539-001AMS	MS	1	Hexavalent Chromium	12/17/22 3:19 PM	Reported
16	N053542-019A	SAMP	100	Hexavalent Chromium	12/17/22 3:29 PM	Reported
17	N053542-019AMS	MS	100	Hexavalent Chromium	12/17/22 3:38 PM	Reported
18	N053547-011A	SAMP	100	Hexavalent Chromium	12/17/22 3:48 PM	Reported
19	N053547-011AMS	MS	100	Hexavalent Chromium	12/17/22 3:57 PM	Reported
20	N053617-001A	SAMP	1	Hexavalent Chromium	12/17/22 4:06 PM	Reported
21	N053617-001AMS	MS	1	Hexavalent Chromium	12/17/22 4:16 PM	Reported
22	CCV-2	CCV1	1	Hexavalent Chromium	12/17/22 4:25 PM	Reported
23	CCB-2	CCB	1	Hexavalent Chromium	12/17/22 4:35 PM	Reported
24	N053617-002A	SAMP	1	Hexavalent Chromium	12/17/22 4:44 PM	Reported
25	N053617-002AMS	MS	1	Hexavalent Chromium	12/17/22 4:54 PM	Reported
26	N053664-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:03 PM	Reported
27	N053664-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:13 PM	Reported
28	N053664-011A	SAMP	1	Hexavalent Chromium	12/17/22 5:22 PM	Reported
29	N053664-011AMS	MS	1	Hexavalent Chromium	12/17/22 5:32 PM	Reported
30	N053688-004A	SAMP	5	Hexavalent Chromium	12/17/22 5:41 PM	Reported
31	N053688-004AMS	MS	5	Hexavalent Chromium	12/17/22 5:51 PM	Reported
32	CCV-3	CCV	1	Hexavalent Chromium	12/17/22 6:00 PM	Reported
33	CCB-3	CCB	1	Hexavalent Chromium	12/17/22 6:09 PM	Reported
34	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 6:19 PM	Not Reported

12/21/2022

Injection Log Summary

Sequence Details

Name:	**IC-07_221217A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**19/Dec/22 10:59:15**
No. of Injections:	**37**	*Updated By:*	**ics 5000**

Injection Details

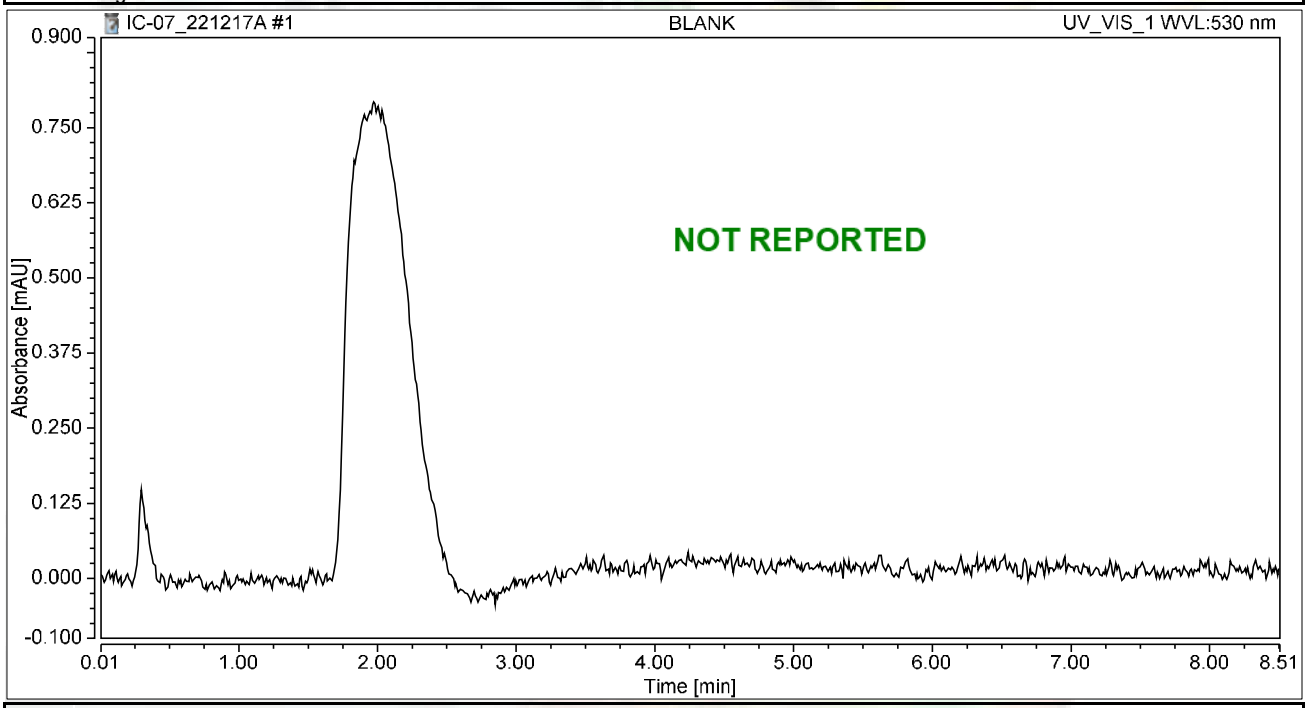
No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	ICV,ICV,1,	9	1000	Unknown		12/17/2022 14:22	Finished	ICV @5ppb, IWST-221003B
10	PQL@0.2ppb,CCV2,1	10	1000	Unknown		12/17/2022 14:32	Finished	PQL @ 0.2ppb
11	ICB,ICB,1,	11	1000	Unknown		12/17/2022 14:41	Finished	ICB R221208A
12	MB-H2O,MBLK,1,	12	1000	Unknown		12/17/2022 14:51	Finished	MB R221129C
13	LCS-H2O,LCS,1,	13	1000	Unknown		12/17/2022 15:00	Finished	LCS @5ppb, IWST-221003B
14	N053539-001A,SAMP	14	1000	Unknown		12/17/2022 15:10	Finished	SAMP,10 mL
15	N053539-001AMS,MS	15	1000	Unknown		12/17/2022 15:19	Finished	MS (1ppb), IWST-221003B,10r
16	N053542-019A,SAMP	16	1000	Unknown		12/17/2022 15:29	Finished	SAMP,0.1>10 mL
17	N053542-019AMS,MS	17	1000	Unknown		12/17/2022 15:38	Finished	MS (5ppb), IWST-221003B,0.1
18	N053547-011A,SAMP	18	1000	Unknown		12/17/2022 15:48	Finished	SAMP,0.1>10 mL
19	N053547-011AMS,MS	19	1000	Unknown		12/17/2022 15:57	Finished	MS (5ppb), IWST-221003B,0.1
20	N053617-001A,SAMP	20	1000	Unknown		12/17/2022 16:06	Finished	SAMP,10 mL
21	N053617-001AMS,MS	21	1000	Unknown		12/17/2022 16:16	Finished	MS (1ppb), IWST-221003B,10r
22	CCV-2,CCV1,1,	22	1000	Unknown		12/17/2022 16:25	Finished	CCV @10ppb, IWST-221003A
23	CCB-2,CCB,1,	23	1000	Unknown		12/17/2022 16:35	Finished	CCB R221006C
24	N053617-002A,SAMP	24	1000	Unknown		12/17/2022 16:44	Finished	SAMP,10 mL
25	N053617-002AMS,MS	25	1000	Unknown		12/17/2022 16:54	Finished	MS (1ppb), IWST-221003B,10r
26	N053664-004A,SAMP	26	1000	Unknown		12/17/2022 17:03	Finished	SAMP,2>10 mL
27	N053664-004AMS,MS	27	1000	Unknown		12/17/2022 17:13	Finished	MS (1ppb), IWST-221003B,2>1
28	N053664-011A,SAMP	28	1000	Unknown		12/17/2022 17:22	Finished	SAMP,10 mL
29	N053664-011AMS,MS	29	1000	Unknown		12/17/2022 17:32	Finished	MS (1ppb), IWST-221003B,10r
30	N053688-004A,SAMP	30	1000	Unknown		12/17/2022 17:41	Finished	SAMP,2>10 mL
31	N053688-004AMS,MS	31	1000	Unknown		12/17/2022 17:51	Finished	MS (1ppb), IWST-221003B,2>1
32	CCV-3,CCV,1,	32	1000	Unknown		12/17/2022 18:00	Finished	CCV @5ppb, IWST-221003A
33	CCB-3,CCB,1,	33	1000	Unknown		12/17/2022 18:09	Finished	CCB R221006C
34	BLANK	34	1000	Unknown		12/17/2022 18:19	Finished	BLANK
35	SHUTDOWN	35	1000	Unknown		12/17/2022 18:28	Finished	
36	Eluent: R221213A	36	1000	Unknown		n.a.	Finished	
37	PCR: R221213B	37	1000	Unknown		n.a.	Finished	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:00**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

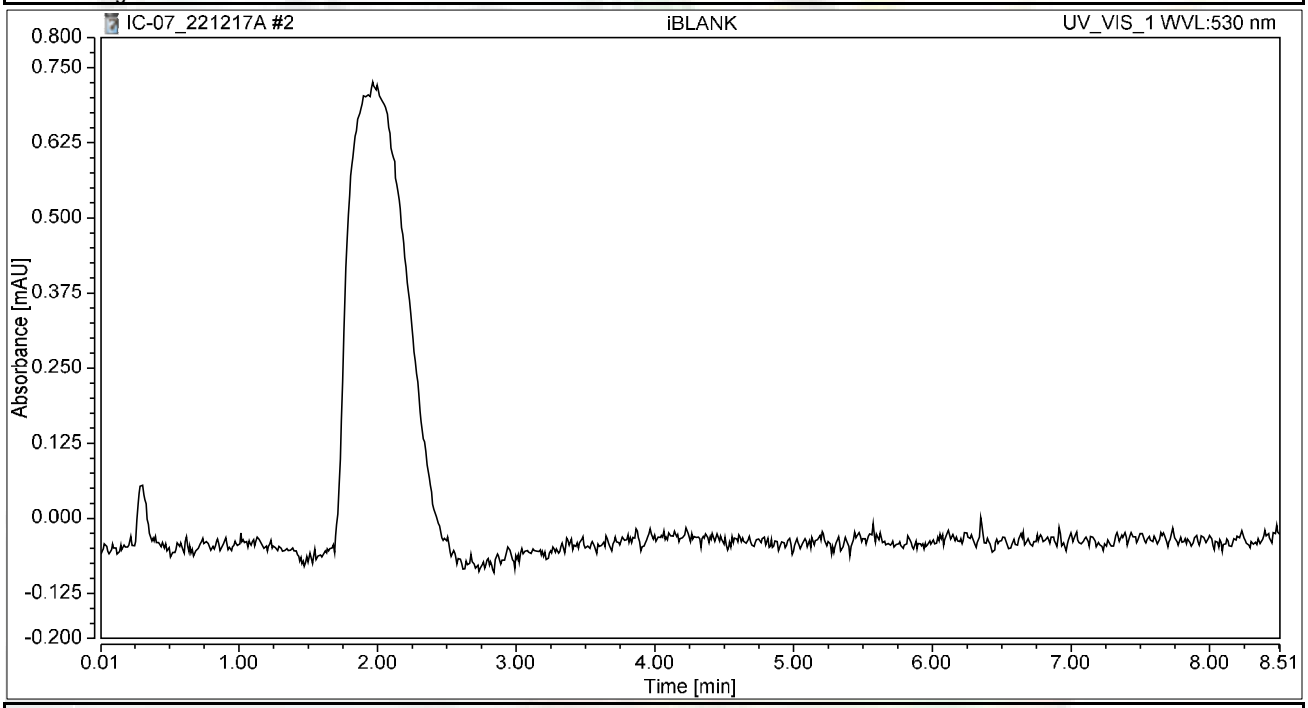
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**iBLANK**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

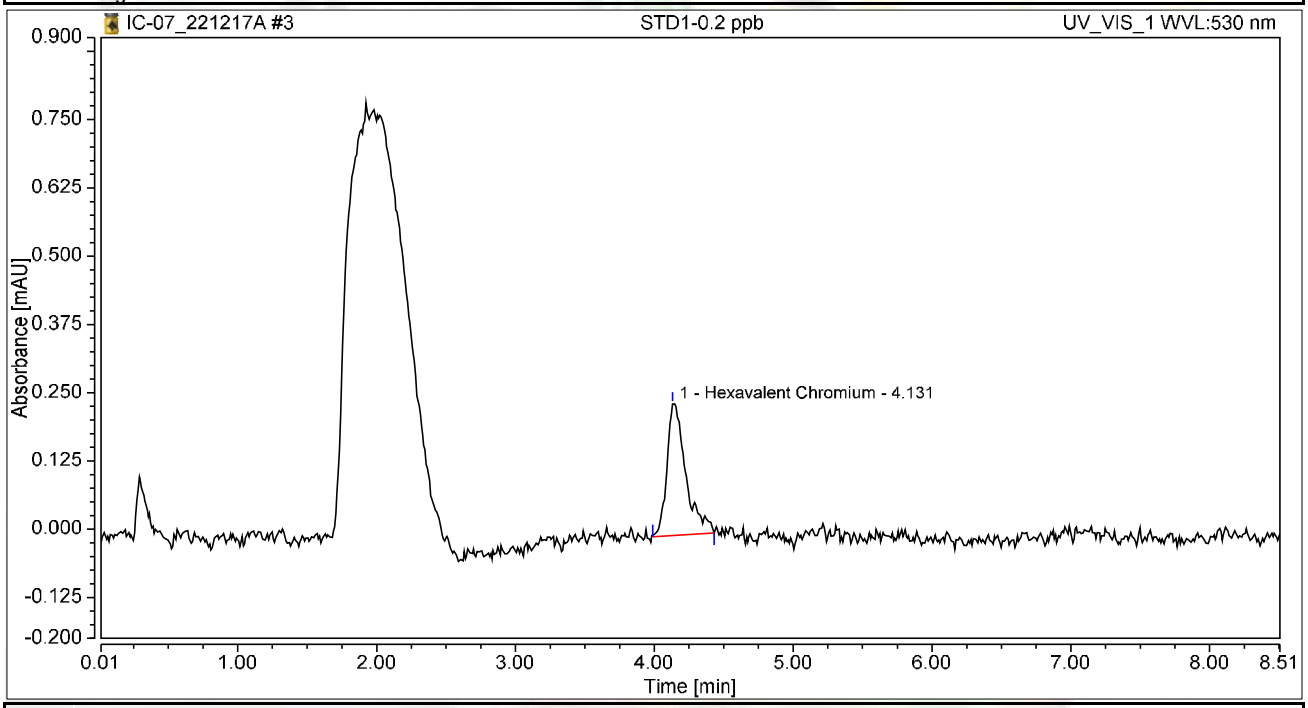
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD1-0.2 ppb**	*Run Time (min):*	**8.49**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**01**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

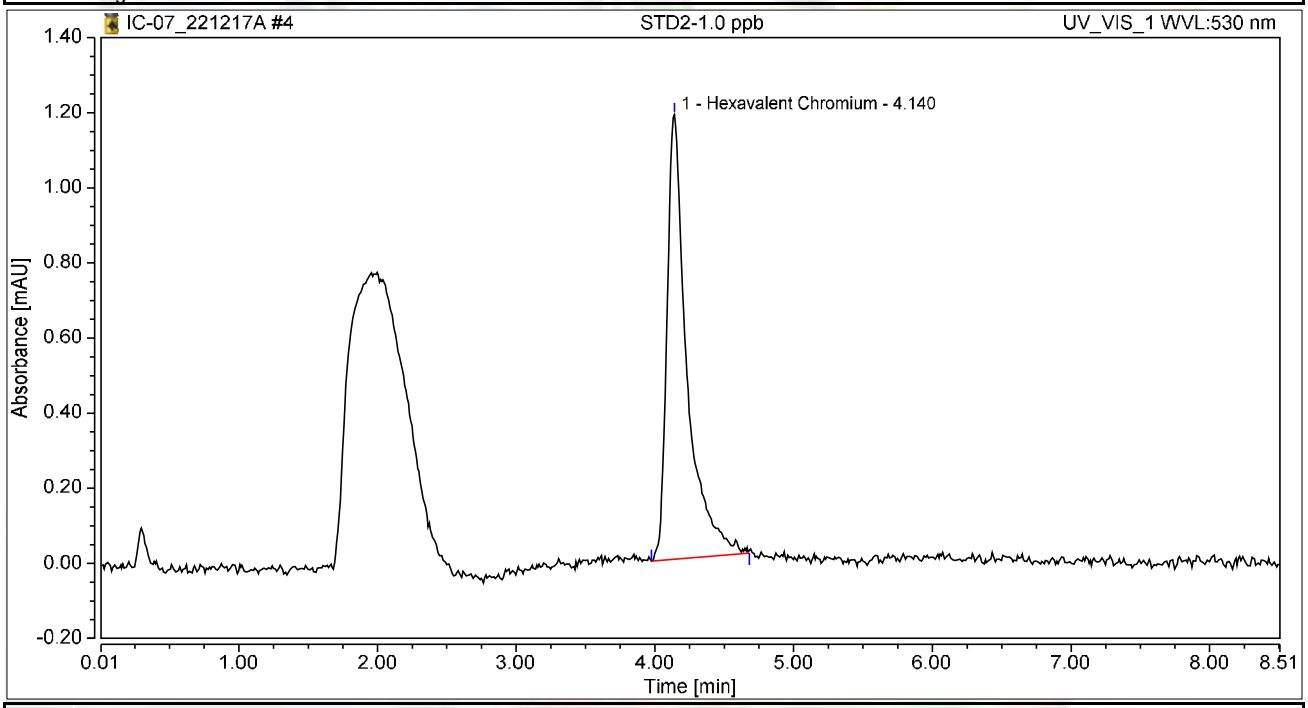
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	0.038	0.241	100.00	100.00	0.1853
Total:			**0.038**	**0.241**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD2-1.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**02**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:35**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

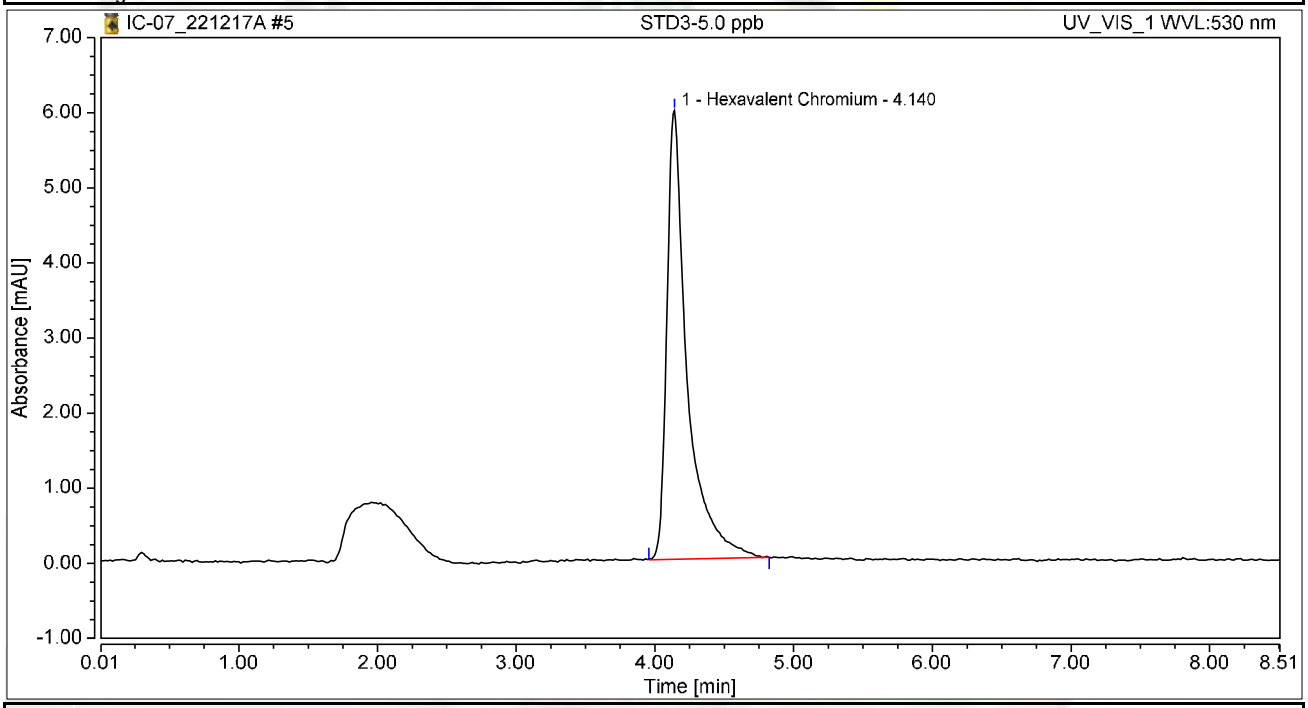
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	0.199	1.184	100.00	100.00	0.9667
Total:			**0.199**	**1.184**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD3-5.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**03**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

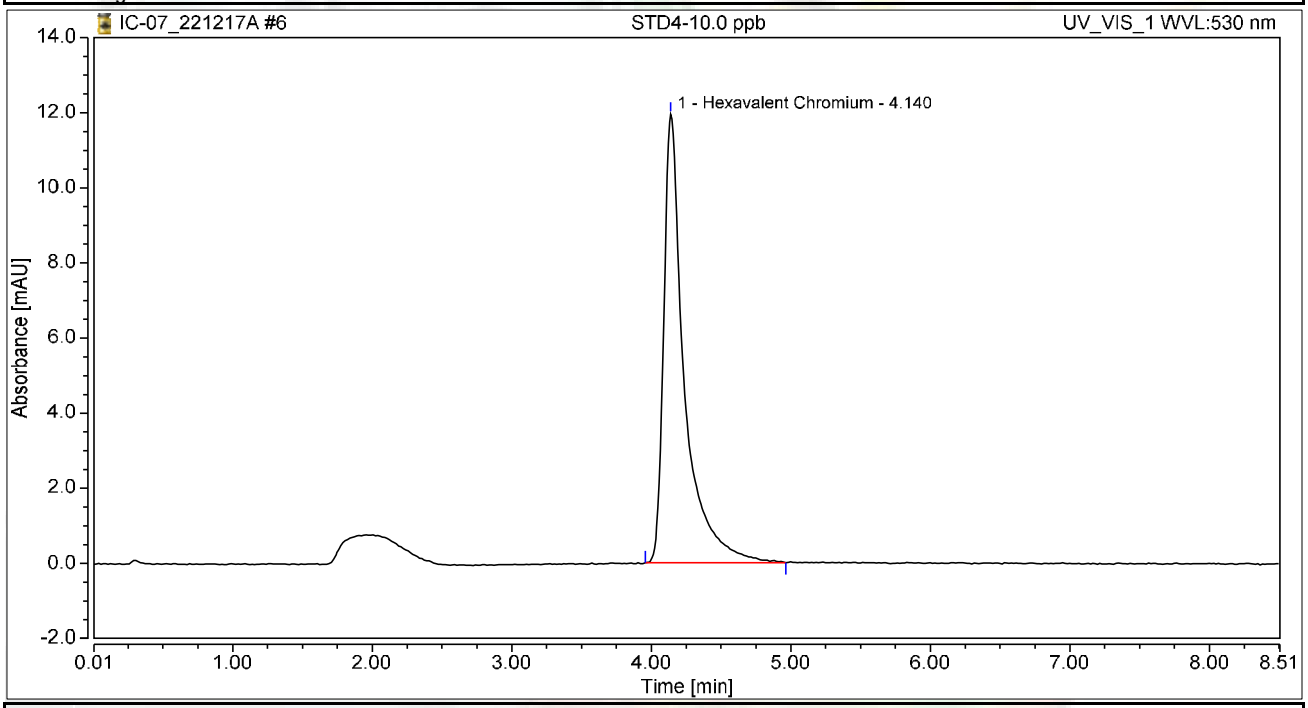
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	1.014	5.971	100.00	100.00	4.9357
Total:			**1.014**	**5.971**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD4-10.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**04**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 13:54**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

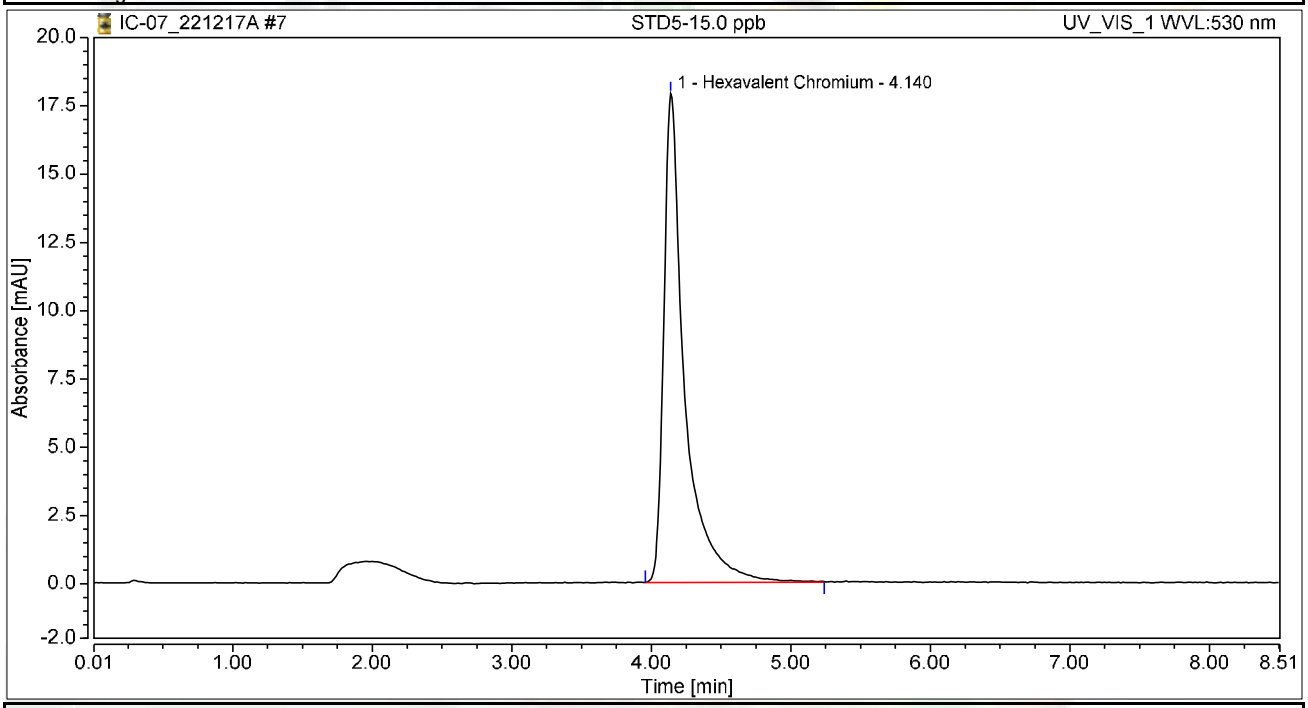
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	2.045	11.944	100.00	100.00	9.9520
Total:			**2.045**	**11.944**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD5-15.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**05**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

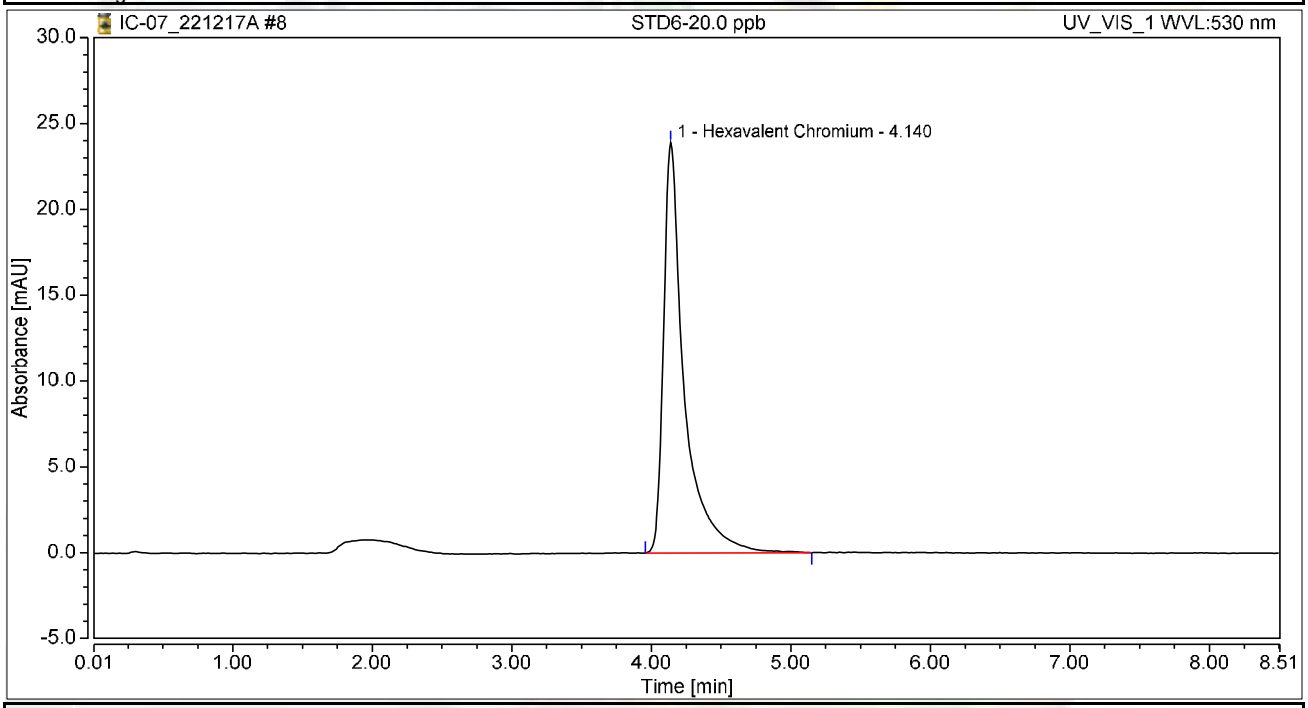
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	3.095	17.898	100.00	100.00	15.0628
Total:			**3.095**	**17.898**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**STD6-20.0 ppb**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Calibration Standard**	*Channel:*	**UV_VIS_1**
Calibration Level:	**06**	*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:13**	*Sample Weight:*	**1.0000**

Chromatogram



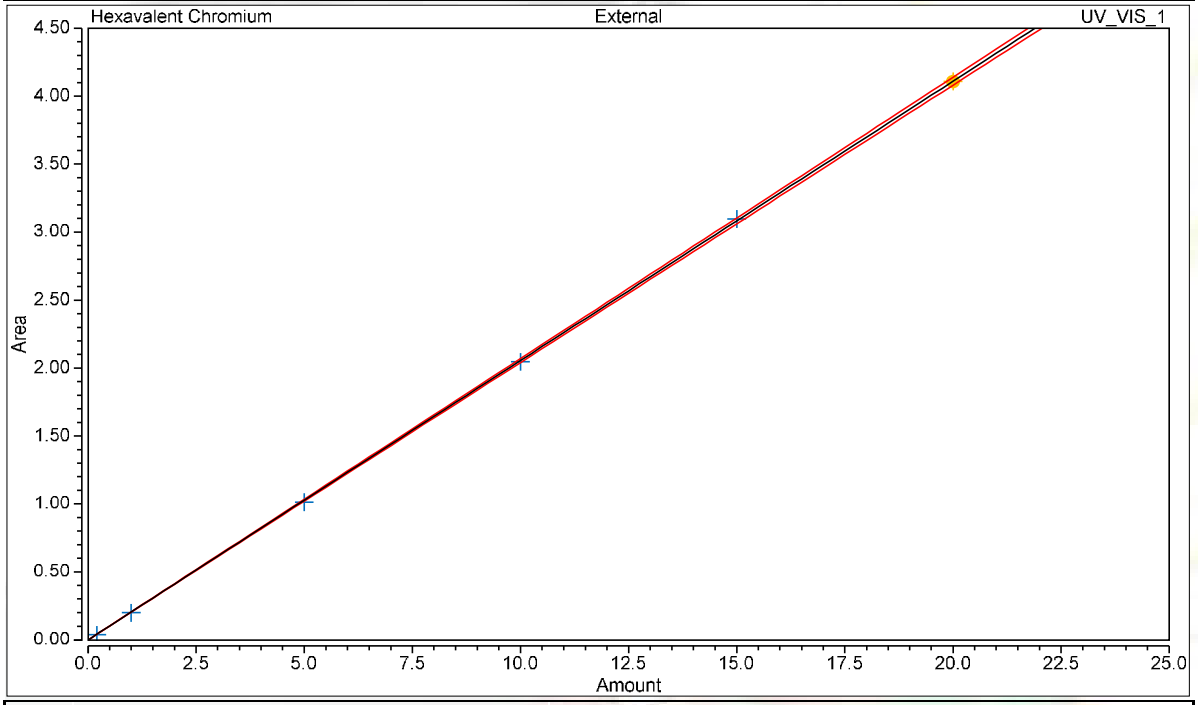
Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	4.109	23.907	100.00	100.00	19.9948
Total:			**4.109**	**23.907**	**100.00**	**100.00**	

Initial Calibration Summary

Calibration Details	Hexavalent Chromium		
Calibration Type	Lin	*Offset (C0)*	0.0000
Evaluation Type	Area	*Slope (C1)*	0.2055
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.99996

Calibration Plot Hexavalent Chromium



Calibration Results Hexavalent Chromium

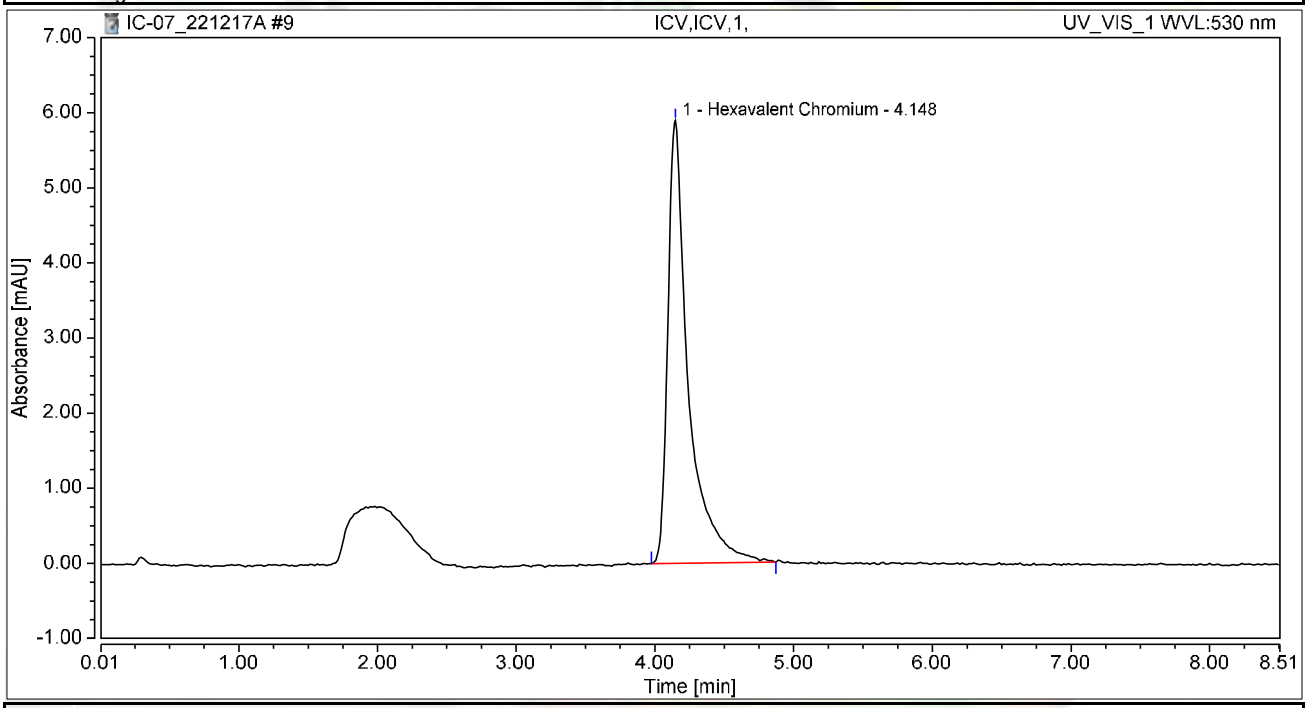
No.	Injection Name	Calibration Level	X Value	Y Value	Area mAU*min	Height mAU
3	STD1-0.2 ppb	01	0.2000	0.0381	0.038	0.241
4	STD2-1.0 ppb	02	1.0000	0.1987	0.199	1.184
5	STD3-5.0 ppb	03	5.0000	1.0142	1.014	5.971
6	STD4-10.0 ppb	04	10.0000	2.0450	2.045	11.944
7	STD5-15.0 ppb	05	15.0000	3.0952	3.095	17.898
8	STD6-20.0 ppb	06	20.0000	4.1087	4.109	23.907

Chromatogram and Results

Injection Details

Injection Name:	**ICV,ICV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

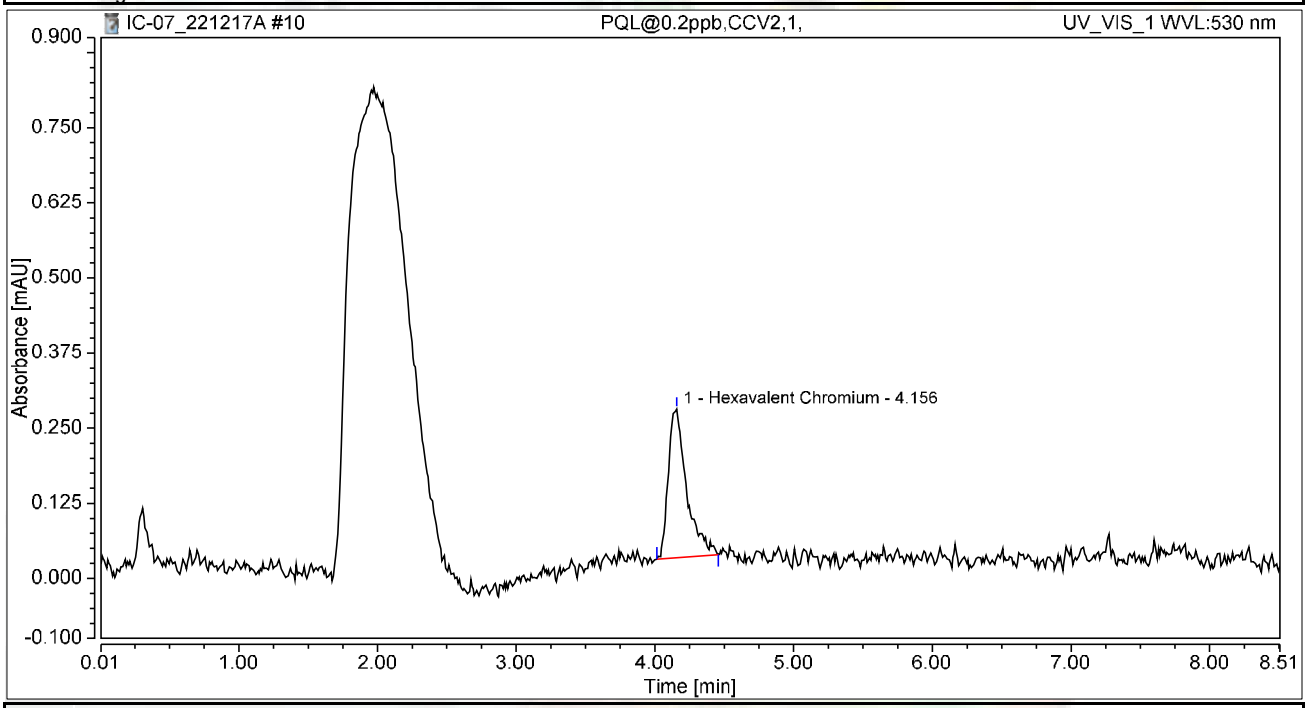
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	1.008	5.895	100.00	100.00	4.9065
Total:			**1.008**	**5.895**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

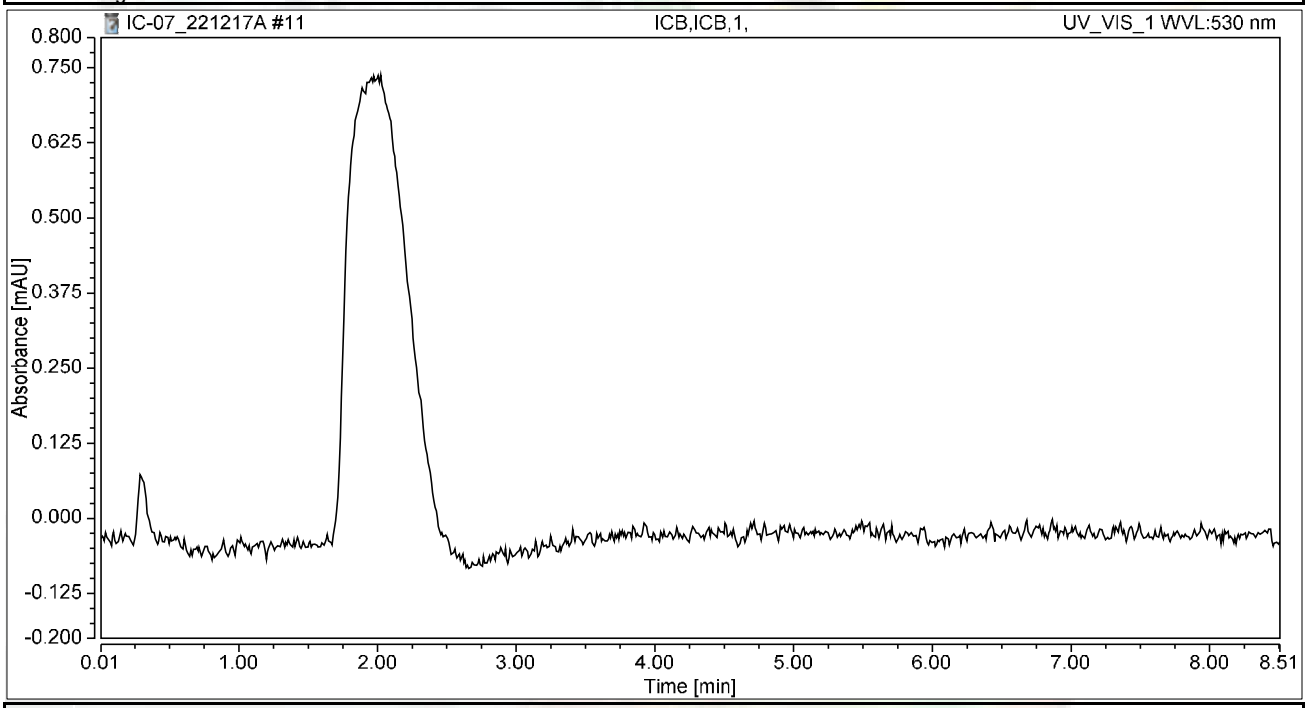
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	0.038	0.247	100.00	100.00	0.1852
Total:			**0.038**	**0.247**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**ICB,ICB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**17/Dec/22 14:41**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

RAW DATA

INJECTION LOG: 221221A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
1	BLANK	BLANK	1	Hexavalent Chromium	12/17/22 1:00 PM	Not Reported
2	iBLANK	iBLANK	1	Hexavalent Chromium	12/17/22 1:15 PM	Reported
3	STD-0.2 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:26 PM	Reported
4	STD-1.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:35 PM	Reported
5	STD-5.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:45 PM	Reported
6	STD-10.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 1:54 PM	Reported
7	STD-15.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:03 PM	Reported
8	STD-20.0 ppb	ICAL	1	Hexavalent Chromium	12/17/22 2:13 PM	Reported
9	BLANK	BLANK	1	Hexavalent Chromium	12/21/22 10:50 AM	Not Reported
10	CCV-1	CCV	1	Hexavalent Chromium	12/21/22 11:01 AM	Reported
11	PQL@0.2ppb	CCV2	1	Hexavalent Chromium	12/21/22 11:17 AM	Reported
12	CCB-1	CCB	1	Hexavalent Chromium	12/21/22 11:30 AM	Reported
13	MB-R168413	MBLK	1	Hexavalent Chromium	12/21/22 11:39 AM	Reported
14	LCS-R168413	LCS	1	Hexavalent Chromium	12/21/22 11:49 AM	Reported
15	N053874-018A	SAMP	1	Hexavalent Chromium	12/21/22 12:16 PM	Not Reported
16	N053874-011A	SAMP	1	Hexavalent Chromium	12/21/22 12:30 PM	Reported
17	N053874-012A	SAMP	50	Hexavalent Chromium	12/21/22 12:39 PM	Reported
18	N053874-012AMS	MS	50	Hexavalent Chromium	12/21/22 12:49 PM	Reported
19	N053874-018A	SAMP	50	Hexavalent Chromium	12/21/22 12:58 PM	Not Reported
20	N053874-013A	SAMP	1000	Hexavalent Chromium	12/21/22 1:08 PM	Reported
21	N053874-013ADUP	DUP	1000	Hexavalent Chromium	12/21/22 1:17 PM	Reported
22	N053874-013AMS	MS	1000	Hexavalent Chromium	12/21/22 1:27 PM	Reported
23	CCV-2	CCV1	1	Hexavalent Chromium	12/21/22 1:36 PM	Reported
24	CCB-2	CCB	1	Hexavalent Chromium	12/21/22 1:45 PM	Reported
25	N053874-018AMS	MS	50	Hexavalent Chromium	12/21/22 1:55 PM	Not Reported
26	N053874-018AMSD	MSD	50	Hexavalent Chromium	12/21/22 2:04 PM	Not Reported
27	N053874-014A	SAMP	50	Hexavalent Chromium	12/21/22 2:14 PM	Reported
28	N053874-014AMS	MS	50	Hexavalent Chromium	12/21/22 2:23 PM	Reported
29	N053874-015A	SAMP	50	Hexavalent Chromium	12/21/22 2:33 PM	Reported
30	N053874-015AMS	MS	50	Hexavalent Chromium	12/21/22 2:42 PM	Reported
31	N053874-016A	SAMP	5	Hexavalent Chromium	12/21/22 2:52 PM	Not Reported
32	N053874-016AMS	MS	5	Hexavalent Chromium	12/21/22 3:01 PM	Not Reported
33	N053874-017A	SAMP	1	Hexavalent Chromium	12/21/22 3:11 PM	Reported
34	N053874-017AMS	MS	1	Hexavalent Chromium	12/21/22 3:20 PM	Reported
35	CCV-3	CCV	1	Hexavalent Chromium	12/21/22 3:30 PM	Reported
36	CCB-3	CCB	1	Hexavalent Chromium	12/21/22 3:39 PM	Reported
37	N053874-019A	SAMP	1	Hexavalent Chromium	12/21/22 3:48 PM	Not Reported
38	N053874-019AMS	MS	1	Hexavalent Chromium	12/21/22 3:58 PM	Not Reported
39	N053874-020A	SAMP	1	Hexavalent Chromium	12/21/22 4:07 PM	Not Reported
40	N053874-020AMS	MS	1	Hexavalent Chromium	12/21/22 4:17 PM	Not Reported
41	N053874-018AMSD	MSD	50	Hexavalent Chromium	12/21/22 4:26 PM	Not Reported
42	N053874-011AMS	MS	1	Hexavalent Chromium	12/21/22 4:36 PM	Reported

INJECTION LOG: 221221A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
43	N053874-022A	SAMP	1	Hexavalent Chromium	12/21/22 4:45 PM	Not Reported
44	N053874-022AMS	MS	1	Hexavalent Chromium	12/21/22 4:55 PM	Not Reported
45	N053874-018A	SAMP	50	Hexavalent Chromium	12/21/22 5:04 PM	Reported
46	N053874-018AMS	MS	50	Hexavalent Chromium	12/21/22 5:18 PM	Reported
47	CCV-4	CCV1	1	Hexavalent Chromium	12/21/22 5:30 PM	Reported
48	CCB-4	CCB	1	Hexavalent Chromium	12/21/22 5:40 PM	Reported
49	N053874-022A	SAMP	5	Hexavalent Chromium	12/21/22 5:49 PM	Reported
50	N053874-018AMSD	MSD	50	Hexavalent Chromium	12/21/22 5:59 PM	Reported
51	N053874-021A	SAMP	1	Hexavalent Chromium	12/21/22 6:08 PM	Reported
52	N053874-021AMS	MS	1	Hexavalent Chromium	12/21/22 6:18 PM	Reported
53	N053874-019AMS	MS	5	Hexavalent Chromium	12/21/22 6:27 PM	Reported
54	N053874-019A	SAMP	5	Hexavalent Chromium	12/21/22 6:37 PM	Reported
55	N053874-022AMS	MS	5	Hexavalent Chromium	12/21/22 6:46 PM	Reported
56	N053885-001A	SAMP	1	Hexavalent Chromium	12/21/22 6:55 PM	Reported
57	N053885-001AMS	MS	1	Hexavalent Chromium	12/21/22 7:05 PM	Reported
58	N053885-002A	SAMP	1	Hexavalent Chromium	12/21/22 7:14 PM	Reported
59	CCV-5	CCV	1	Hexavalent Chromium	12/21/22 7:24 PM	Reported
60	CCB-5	CCB	1	Hexavalent Chromium	12/21/22 7:33 PM	Reported
61	N053885-002AMS	MS	1	Hexavalent Chromium	12/21/22 7:43 PM	Reported
62	N053885-003A	SAMP	1	Hexavalent Chromium	12/21/22 7:52 PM	Reported
63	N053885-003AMS	MS	1	Hexavalent Chromium	12/21/22 8:02 PM	Reported
64	N053885-004A	SAMP	1	Hexavalent Chromium	12/21/22 8:11 PM	Reported
65	N053885-004AMS	MS	1	Hexavalent Chromium	12/21/22 8:21 PM	Reported
66	N053885-005A	SAMP	1	Hexavalent Chromium	12/21/22 8:30 PM	Reported
67	N053885-005AMS	MS	1	Hexavalent Chromium	12/21/22 8:40 PM	Reported
68	N053874-016A	SAMP	5	Hexavalent Chromium	12/21/22 8:49 PM	Reported
69	N053874-016AMS	MS	5	Hexavalent Chromium	12/21/22 8:58 PM	Reported
70	N053886-001A	SAMP	1	Hexavalent Chromium	12/21/22 9:08 PM	Not Reported
71	CCV-6	CCV1	1	Hexavalent Chromium	12/21/22 9:17 PM	Reported
72	CCB-6	CCB	1	Hexavalent Chromium	12/21/22 9:27 PM	Reported
73	N053886-001AMS	MS	1	Hexavalent Chromium	12/21/22 9:36 PM	Not Reported
74	N053886-002A	SAMP	1	Hexavalent Chromium	12/21/22 9:46 PM	Not Reported
75	N053886-002AMS	MS	1	Hexavalent Chromium	12/21/22 9:55 PM	Not Reported
76	N053886-003A	SAMP	1	Hexavalent Chromium	12/21/22 10:05 PM	Not Reported
77	N053886-003AMS	MS	1	Hexavalent Chromium	12/21/22 10:14 PM	Not Reported
78	N053886-001A	SAMP	5	Hexavalent Chromium	12/21/22 10:24 PM	Reported
79	N053886-001AMS	MS	5	Hexavalent Chromium	12/21/22 10:33 PM	Reported
80	N053886-002A	SAMP	5	Hexavalent Chromium	12/21/22 10:43 PM	Reported
81	N053886-002AMS	MS	5	Hexavalent Chromium	12/21/22 10:52 PM	Reported
82	N053886-003A	SAMP	5	Hexavalent Chromium	12/21/22 11:04 PM	Reported
83	CCV-7	CCV	1	Hexavalent Chromium	12/21/22 11:15 PM	Reported
84	CCB-7	CCB	1	Hexavalent Chromium	12/21/22 11:25 PM	Reported

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Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
85	N053874-020A	SAMP	5	Hexavalent Chromium	12/21/22 11:34 PM	Reported
86	N053874-020AMS	MS	5	Hexavalent Chromium	12/21/22 11:44 PM	Reported
87	N053886-003AMS	MS	5	Hexavalent Chromium	12/21/22 11:53 PM	Reported
88	LCS-R168414	LCS	1	Hexavalent Chromium	12/22/22 12:03 AM	Reported
89	MB-R168414	MBLK	1	Hexavalent Chromium	12/22/22 12:12 AM	Reported
90	N053994-006A	SAMP	500	Hexavalent Chromium	12/22/22 12:22 AM	Reported
91	N053994-006AMS	MS	500	Hexavalent Chromium	12/22/22 12:31 AM	Reported
92	N053994-006AMSD	MSD	500	Hexavalent Chromium	12/22/22 12:40 AM	Reported
93	N053994-005A	SAMP	10	Hexavalent Chromium	12/22/22 12:50 AM	Reported
94	N053994-005AMS	MS	10	Hexavalent Chromium	12/22/22 12:59 AM	Reported
95	CCV-8	CCV1	1	Hexavalent Chromium	12/22/22 1:09 AM	Reported
96	CCB-8	CCB	1	Hexavalent Chromium	12/22/22 1:18 AM	Reported
97	N053991-001A	SAMP	400	Hexavalent Chromium	12/22/22 1:28 AM	Reported
98	N053991-001AMS	MS	400	Hexavalent Chromium	12/22/22 1:37 AM	Reported
99	N053994-008A	SAMP	1	Hexavalent Chromium	12/22/22 1:47 AM	Not Reported
100	N053994-008AMS	MS	1	Hexavalent Chromium	12/22/22 1:56 AM	Not Reported
101	N053994-008A	SAMP	5	Hexavalent Chromium	12/22/22 2:06 AM	Reported
102	N053994-008AMS	MS	5	Hexavalent Chromium	12/22/22 2:15 AM	Reported
103	N053923-006A	SAMP	1	Hexavalent Chromium	12/22/22 2:25 AM	Reported
104	N053923-006ADUP	DUP	1	Hexavalent Chromium	12/22/22 2:34 AM	Reported
105	N053894-009B	SAMP	1	Hexavalent Chromium	12/22/22 2:43 AM	Not Reported
106	N053894-009BMS	MS	1	Hexavalent Chromium	12/22/22 2:53 AM	Not Reported
107	CCV-9	CCV	1	Hexavalent Chromium	12/22/22 3:02 AM	Reported
108	CCB-9	CCB	1	Hexavalent Chromium	12/22/22 3:12 AM	Reported
109	N053923-002A	SAMP	20	Hexavalent Chromium	12/22/22 3:21 AM	Reported
110	N053923-003A	SAMP	1	Hexavalent Chromium	12/22/22 3:31 AM	Not Reported
111	N053923-004A	SAMP	500	Hexavalent Chromium	12/22/22 3:40 AM	Reported
112	N053923-005A	SAMP	20	Hexavalent Chromium	12/22/22 3:50 AM	Reported
113	N053923-008A	SAMP	1	Hexavalent Chromium	12/22/22 3:59 AM	Reported
114	N054022-001A	SAMP	1	Hexavalent Chromium	12/22/22 4:09 AM	Reported
115	N054022-001AMS	MS	1	Hexavalent Chromium	12/22/22 4:18 AM	Reported
116	N054022-002A	SAMP	1	Hexavalent Chromium	12/22/22 4:27 AM	Reported
117	N054022-002AMS	MS	1	Hexavalent Chromium	12/22/22 4:37 AM	Reported
118	CCV-10	CCV1	1	Hexavalent Chromium	12/22/22 4:46 AM	Reported
119	CCB-10	CCB	1	Hexavalent Chromium	12/22/22 4:56 AM	Reported
120	N053886-004A	SAMP	5	Hexavalent Chromium	12/22/22 5:05 AM	Reported
121	N053886-004AMS	MS	5	Hexavalent Chromium	12/22/22 5:15 AM	Reported
122	N053886-005A	SAMP	10	Hexavalent Chromium	12/22/22 5:24 AM	Not Reported
123	N053886-005AMS	MS	10	Hexavalent Chromium	12/22/22 5:34 AM	Not Reported
124	N053886-006A	SAMP	10	Hexavalent Chromium	12/22/22 5:43 AM	Reported
125	N053886-006AMS	MS	10	Hexavalent Chromium	12/22/22 5:53 AM	Reported
126	N053886-007A	SAMP	1	Hexavalent Chromium	12/22/22 6:02 AM	Reported

INJECTION LOG: 221221A

Instrument ID: IC-07

Sample No	Sample Name	Type	DF	Peak Name	Injection Date/Time	Comments
127	N053886-007AMS	MS	1	Hexavalent Chromium	12/22/22 6:12 AM	Reported
128	CCV-11	CCV	1	Hexavalent Chromium	12/22/22 6:21 AM	Reported
129	CCB-11	CCB	1	Hexavalent Chromium	12/22/22 6:30 AM	Reported
130	BLANK	BLANK	1	Hexavalent Chromium	12/22/22 6:40 AM	Not Reported

Injection Log Summary

Sequence Details

Name:	**IC-07_221221A**	*Created On:*	**24/Jul/12 17:17:21**
Directory:	**Instrument Data\IC-7\2019**	*Created By:*	**ics 5000**
Data Vault:	**ChromeleonLocal3**	*Updated On:*	**22/Dec/22 07:10:44**
No. of Injections:	**133**	*Updated By:*	**ics 5000**

Injection Details

No.	Injection Name	Position	Volume µL	Type	Level	Inject Time	Status	Comment
1	BLANK	1	1000	Unknown		12/17/2022 13:00	Finished	BLANK
2	iBLANK	2	1000	Unknown		12/17/2022 13:15	Finished	INSTRUMENT BLANK
3	STD1-0.2 ppb	3	1000	Calibration Standard	01	12/17/2022 13:26	Finished	0.2 ppb, IWST-221003A
4	STD2-1.0 ppb	4	1000	Calibration Standard	02	12/17/2022 13:35	Finished	1.0 ppb, IWST-221003A
5	STD3-5.0 ppb	5	1000	Calibration Standard	03	12/17/2022 13:45	Finished	5.0 ppb, IWST-221003A
6	STD4-10.0 ppb	6	1000	Calibration Standard	04	12/17/2022 13:54	Finished	10 ppb, IWST-221003A
7	STD5-15.0 ppb	7	1000	Calibration Standard	05	12/17/2022 14:03	Finished	15 ppb, IWST-221003A
8	STD6-20.0 ppb	8	1000	Calibration Standard	06	12/17/2022 14:13	Finished	20 ppb, IWST-221003A
9	BLANK	1	1000	Unknown		12/21/2022 10:50	Finished	BLANK
10	CCV-1,CCV,1,	2	1000	Unknown		12/21/2022 11:01	Finished	CCV @5ppb, IWST-221003A
11	PQL@0.2ppb,CCV2,1	3	1000	Unknown		12/21/2022 11:17	Finished	PQL @ 0.2ppb
12	CCB-1,CCB,1,	4	1000	Unknown		12/21/2022 11:30	Finished	CCB R221208A
13	MB-H2O,MBLK,1,	5	1000	Unknown		12/21/2022 11:39	Finished	MB R221129C
14	LCS-H2O,LCS,1,	6	1000	Unknown		12/21/2022 11:49	Finished	LCS @5ppb, IWST-221003B
15	N053874-018A,SAMP	1	1000	Unknown		12/21/2022 12:16	Finished	SAMP,10 mL
16	N053874-011A,SAMP	2	1000	Unknown		12/21/2022 12:30	Finished	SAMP,10 mL
17	N053874-012A,SAMP	3	1000	Unknown		12/21/2022 12:39	Finished	SAMP,0.2>10 mL
18	N053874-012AMS,MS	4	1000	Unknown		12/21/2022 12:49	Finished	MS (5ppb), IWST-221003B,0.2
19	N053874-018A,SAMP	5	1000	Unknown		12/21/2022 12:58	Finished	SAMP,0.2>10 mL
20	N053874-013A,SAMP	6	1000	Unknown		12/21/2022 13:08	Finished	SAMP,0.01>10 mL
21	N053874-013ADUP,D	7	1000	Unknown		12/21/2022 13:17	Finished	DUP,0.01>10 mL
22	N053874-013AMS,MS	8	1000	Unknown		12/21/2022 13:27	Finished	MS (5ppb), IWST-221003B,0.0
23	CCV-2,CCV1,1,	9	1000	Unknown		12/21/2022 13:36	Finished	CCV @10ppb, IWST-221003A
24	CCB-2,CCB,1,	10	1000	Unknown		12/21/2022 13:45	Finished	CCB R221129C
25	N053874-018AMS,MS	11	1000	Unknown		12/21/2022 13:55	Finished	MS (5ppb), IWST-221003B,0.2
26	N053874-018AMSD,M	12	1000	Unknown		12/21/2022 14:04	Finished	MSD (5ppb), IWST-221003B,0
27	N053874-014A,SAMP	13	1000	Unknown		12/21/2022 14:14	Finished	SAMP,0.2>10 mL
28	N053874-014AMS,MS	14	1000	Unknown		12/21/2022 14:23	Finished	MS (5ppb), IWST-221003B,0.2
29	N053874-015A,SAMP	15	1000	Unknown		12/21/2022 14:33	Finished	SAMP,0.2>10 mL
30	N053874-015AMS,MS	16	1000	Unknown		12/21/2022 14:42	Finished	MS (5ppb), IWST-221003B,0.2
31	N053874-016A,SAMP	17	1000	Unknown		12/21/2022 14:52	Finished	SAMP,2>10 mL
32	N053874-016AMS,MS	18	1000	Unknown		12/21/2022 15:01	Finished	MS (5ppb), IWST-221003B,2>1
33	N053874-017A,SAMP	19	1000	Unknown		12/21/2022 15:11	Finished	SAMP,10 mL
34	N053874-017AMS,MS	20	1000	Unknown		12/21/2022 15:20	Finished	MS (1ppb), IWST-221003B,10r
35	CCV-3,CCV,1,	21	1000	Unknown		12/21/2022 15:30	Finished	CCV @5ppb, IWST-221003A
36	CCB-3,CCB,1,	22	1000	Unknown		12/21/2022 15:39	Finished	CCB R221208A
37	N053874-019A,SAMP	23	1000	Unknown		12/21/2022 15:48	Finished	SAMP,10 mL
38	N053874-019AMS,MS	24	1000	Unknown		12/21/2022 15:58	Finished	MS (5ppb), IWST-221003B,10r
39	N053874-020A,SAMP	25	1000	Unknown		12/21/2022 16:07	Finished	SAMP,10 mL
40	N053874-020AMS,MS	26	1000	Unknown		12/21/2022 16:17	Finished	MS (1ppb), IWST-221003B,10r
41	N053874-018AMSD,M	27	1000	Unknown		12/21/2022 16:26	Finished	MSD (5ppb), IWST-221003B,0
42	N053874-011AMS,MS	28	1000	Unknown		12/21/2022 16:36	Finished	MS (1ppb), IWST-221003B,10r
43	N053874-022A,SAMP	29	1000	Unknown		12/21/2022 16:45	Finished	SAMP,10 mL
44	N053874-022AMS,MS	30	1000	Unknown		12/21/2022 16:55	Finished	MS (1ppb), IWST-221003B,10r
45	N053874-018A,SAMP	31	1000	Unknown		12/21/2022 17:04	Finished	SAMP,0.2>10 mL
46	N053874-018AMS,MS	1	1000	Unknown		12/21/2022 17:18	Finished	MS (5ppb), IWST-221003B,0.2
47	CCV-4,CCV1,1,	2	1000	Unknown		12/21/2022 17:30	Finished	CCV @10ppb, IWST-221003A
48	CCB-4,CCB,1,	3	1000	Unknown		12/21/2022 17:40	Finished	CCB R221208A
49	N053874-022A,SAMP	4	1000	Unknown		12/21/2022 17:49	Finished	SAMP,2>10 mL
50	N053874-018AMSD,M	5	1000	Unknown		12/21/2022 17:59	Finished	MSD (5ppb), IWST-221003B,0
51	N053874-021A,SAMP	6	1000	Unknown		12/21/2022 18:08	Finished	SAMP,10 mL
52	N053874-021AMS,MS	7	1000	Unknown		12/21/2022 18:18	Finished	MS (1ppb), IWST-221003B,10r
53	N053874-019AMS,MS	8	1000	Unknown		12/21/2022 18:27	Finished	MS (1ppb), IWST-221003B,2>1
54	N053874-019A,SAMP	9	1000	Unknown		12/21/2022 18:37	Finished	SAMP,2>10 mL
55	N053874-022AMS,MS	10	1000	Unknown		12/21/2022 18:46	Finished	MS (1ppb), IWST-221003B,2>1
56	N053885-001A,SAMP	11	1000	Unknown		12/21/2022 18:55	Finished	SAMP,10 mL
57	N053885-001AMS,MS	12	1000	Unknown		12/21/2022 19:05	Finished	MS (1ppb), IWST-221003B,10r
58	N053885-002A,SAMP	13	1000	Unknown		12/21/2022 19:14	Finished	SAMP,10 mL
59	CCV-5,CCV,1,	14	1000	Unknown		12/21/2022 19:24	Finished	CCV @5ppb, IWST-221003A
60	CCB-5,CCB,1,	15	1000	Unknown		12/21/2022 19:33	Finished	CCB R221208A

61	N053885-002AMS,MS	16	1000	Unknown		12/21/2022 19:43	Finished	MS (1ppb), IWST-221003B,10r
62	N053885-003A,SAMF	17	1000	Unknown		12/21/2022 19:52	Finished	SAMP,10 mL
63	N053885-003AMS,MS	18	1000	Unknown		12/21/2022 20:02	Finished	MS (1ppb), IWST-221003B,10r
64	N053885-004A,SAMF	19	1000	Unknown		12/21/2022 20:11	Finished	SAMP,10 mL
65	N053885-004AMS,MS	20	1000	Unknown		12/21/2022 20:21	Finished	MS (1ppb), IWST-221003B,10r
66	N053885-005A,SAMF	21	1000	Unknown		12/21/2022 20:30	Finished	SAMP,10 mL
67	N053885-005AMS,MS	22	1000	Unknown		12/21/2022 20:40	Finished	MS (1ppb), IWST-221003B,10r
68	N053874-016A,SAMF	23	1000	Unknown		12/21/2022 20:49	Finished	SAMP,2>10 mL
69	N053874-016AMS,MS	24	1000	Unknown		12/21/2022 20:58	Finished	MS (5ppb), IWST-221003B,2>
70	N053886-001A,SAMF	25	1000	Unknown		12/21/2022 21:08	Finished	SAMP,10 mL
71	CCV-6,CCV1,1,	26	1000	Unknown		12/21/2022 21:17	Finished	CCV @10ppb, IWST-221003A
72	CCB-6,CCB,1,	27	1000	Unknown		12/21/2022 21:27	Finished	CCB R221208A
73	N053886-001AMS,MS	28	1000	Unknown		12/21/2022 21:36	Finished	MS (1ppb), IWST-221003B,10r
74	N053886-002A,SAMF	29	1000	Unknown		12/21/2022 21:46	Finished	SAMP,10 mL
75	N053886-002AMS,MS	30	1000	Unknown		12/21/2022 21:55	Finished	MS (1ppb), IWST-221003B,10r
76	N053886-003A,SAMF	31	1000	Unknown		12/21/2022 22:05	Finished	SAMP,10 mL
77	N053886-003AMS,MS	32	1000	Unknown		12/21/2022 22:14	Finished	MS (1ppb), IWST-221003B,10r
78	N053886-001A,SAMF	33	1000	Unknown		12/21/2022 22:24	Finished	SAMP,2>10 mL
79	N053886-001AMS,MS	34	1000	Unknown		12/21/2022 22:33	Finished	MS (1ppb), IWST-221003B,2>
80	N053886-002A,SAMF	35	1000	Unknown		12/21/2022 22:43	Finished	SAMP,2>10 mL
81	N053886-002AMS,MS	36	1000	Unknown		12/21/2022 22:52	Finished	MS (1ppb), IWST-221003B,2>
82	N053886-003A,SAMF	1	1000	Unknown		12/21/2022 23:04	Finished	SAMP,2>10 mL
83	CCV-7,CCV,1,	2	1000	Unknown		12/21/2022 23:15	Finished	CCV @5ppb, IWST-221003A
84	CCB-7,CCB,1,	3	1000	Unknown		12/21/2022 23:25	Finished	CCB R221208A
85	N053874-020A,SAMF	4	1000	Unknown		12/21/2022 23:34	Finished	SAMP,2>10 mL
86	N053874-020AMS,MS	5	1000	Unknown		12/21/2022 23:44	Finished	MS (5ppb), IWST-221003B,2>
87	N053886-003AMS,MS	6	1000	Unknown		12/21/2022 23:53	Finished	MS (1ppb), IWST-221003B,2>
88	LCS-H2O,LCS,1,	7	1000	Unknown		12/22/2022 00:03	Finished	LCS @5ppb, IWST-221003B
89	MB-H2O,MBLK,1,	8	1000	Unknown		12/22/2022 00:12	Finished	MB R221208A
90	N053994-006A,SAMF	9	1000	Unknown		12/22/2022 00:22	Finished	SAMP,0.02>10 mL
91	N053994-006AMS,MS	10	1000	Unknown		12/22/2022 00:31	Finished	MS (5ppb), IWST-221003B,0.0
92	N053994-006AMSD,M	11	1000	Unknown		12/22/2022 00:40	Finished	MSD (5ppb), IWST-221003B,0.
93	N053994-005A,SAMF	12	1000	Unknown		12/22/2022 00:50	Finished	SAMP,1>10 mL
94	N053994-005AMS,MS	13	1000	Unknown		12/22/2022 00:59	Finished	MS (5ppb), IWST-221003B,1>
95	CCV-8,CCV1,1,	14	1000	Unknown		12/22/2022 01:09	Finished	CCV @10ppb, IWST-221003A
96	CCB-8,CCB,1,	15	1000	Unknown		12/22/2022 01:18	Finished	CCB R221129C
97	N053991-001A,SAMF	16	1000	Unknown		12/22/2022 01:28	Finished	SAMP,0.025>10 mL
98	N053991-001AMS,MS	17	1000	Unknown		12/22/2022 01:37	Finished	MS (1ppb), IWST-221003B,0.0
99	N053994-008A,SAMF	18	1000	Unknown		12/22/2022 01:47	Finished	SAMP,10 mL
100	N053994-008AMS,MS	19	1000	Unknown		12/22/2022 01:56	Finished	MS (1ppb), IWST-221003B,10r
101	N053994-008A,SAMF	20	1000	Unknown		12/22/2022 02:06	Finished	SAMP,2>10 mL
102	N053994-008AMS,MS	21	1000	Unknown		12/22/2022 02:15	Finished	MS (1ppb), IWST-221003B,2>
103	N053923-006A,SAMF	22	1000	Unknown		12/22/2022 02:25	Finished	SAMP,10 mL
104	N053923-006ADUP,D	23	1000	Unknown		12/22/2022 02:34	Finished	DUP,10 mL
105	N053894-009B,SAMF	24	1000	Unknown		12/22/2022 02:43	Finished	SAMP,10 mL
106	N053894-009BMS,MS	25	1000	Unknown		12/22/2022 02:53	Finished	MS (1ppb), IWST-221003B,10r
107	CCV-9,CCV,1,	26	1000	Unknown		12/22/2022 03:02	Finished	CCV @5ppb, IWST-221003A
108	CCB-9,CCB,1,	27	1000	Unknown		12/22/2022 03:12	Finished	CCB R221129C
109	N053923-002A,SAMF	28	1000	Unknown		12/22/2022 03:21	Finished	SAMP,0.5>10 mL
110	N053923-003A,SAMF	29	1000	Unknown		12/22/2022 03:31	Finished	SAMP,10 mL
111	N053923-004A,SAMF	30	1000	Unknown		12/22/2022 03:40	Finished	SAMP,0.02>10 mL
112	N053923-005A,SAMF	31	1000	Unknown		12/22/2022 03:50	Finished	SAMP,0.5>10 mL
113	N053923-008A,SAMF	32	1000	Unknown		12/22/2022 03:59	Finished	SAMP,10 mL
114	N054022-001A,SAMF	33	1000	Unknown		12/22/2022 04:09	Finished	SAMP,10 mL
115	N054022-001AMS,MS	34	1000	Unknown		12/22/2022 04:18	Finished	MS (1ppb), IWST-221003B,10r
116	N054022-002A,SAMF	35	1000	Unknown		12/22/2022 04:27	Finished	SAMP,10 mL
117	N054022-002AMS,MS	36	1000	Unknown		12/22/2022 04:37	Finished	MS (1ppb), IWST-221003B,10r
118	CCV-10,CCV1,1,	37	1000	Unknown		12/22/2022 04:46	Finished	CCV @10ppb, IWST-221003A
119	CCB-10,CCB,1,	38	1000	Unknown		12/22/2022 04:56	Finished	CCB R221129C
120	N053886-004A,SAMF	39	1000	Unknown		12/22/2022 05:05	Finished	SAMP,2>10 mL
121	N053886-004AMS,MS	40	1000	Unknown		12/22/2022 05:15	Finished	MS (5ppb), IWST-221003B,2>
122	N053886-005A,SAMF	41	1000	Unknown		12/22/2022 05:24	Finished	SAMP,1>10 mL
123	N053886-005AMS,MS	42	1000	Unknown		12/22/2022 05:34	Finished	MS (5ppb), IWST-221003B,1>
124	N053886-006A,SAMF	43	1000	Unknown		12/22/2022 05:43	Finished	SAMP,1>10 mL
125	N053886-006AMS,MS	44	1000	Unknown		12/22/2022 05:53	Finished	MS (5ppb), IWST-221003B,1>
126	N053886-007A,SAMF	45	1000	Unknown		12/22/2022 06:02	Finished	SAMP,1>10 mL
127	N053886-007AMS,MS	46	1000	Unknown		12/22/2022 06:12	Finished	MS (5ppb), IWST-221003B,1>
128	CCV-11,CCV,1,	47	1000	Unknown		12/22/2022 06:21	Finished	CCV @5ppb, IWST-221003A
129	CCB-11,CCB,1,	48	1000	Unknown		12/22/2022 06:30	Finished	CCB R221129C
130	BLANK	49	1000	Unknown		12/22/2022 06:40	Finished	BLANK
131	SHUTDOWN	50	1000	Unknown		12/22/2022 06:49	Finished	
132	Eluent: R221219A	51	1000	Unknown		n.a.	Finished	
133	PCR: R221219B	CurrentVial	1000	Unknown		n.a.	Finished	

1>10
1>10

12/27/2022
MS first report/Overview
for RBA

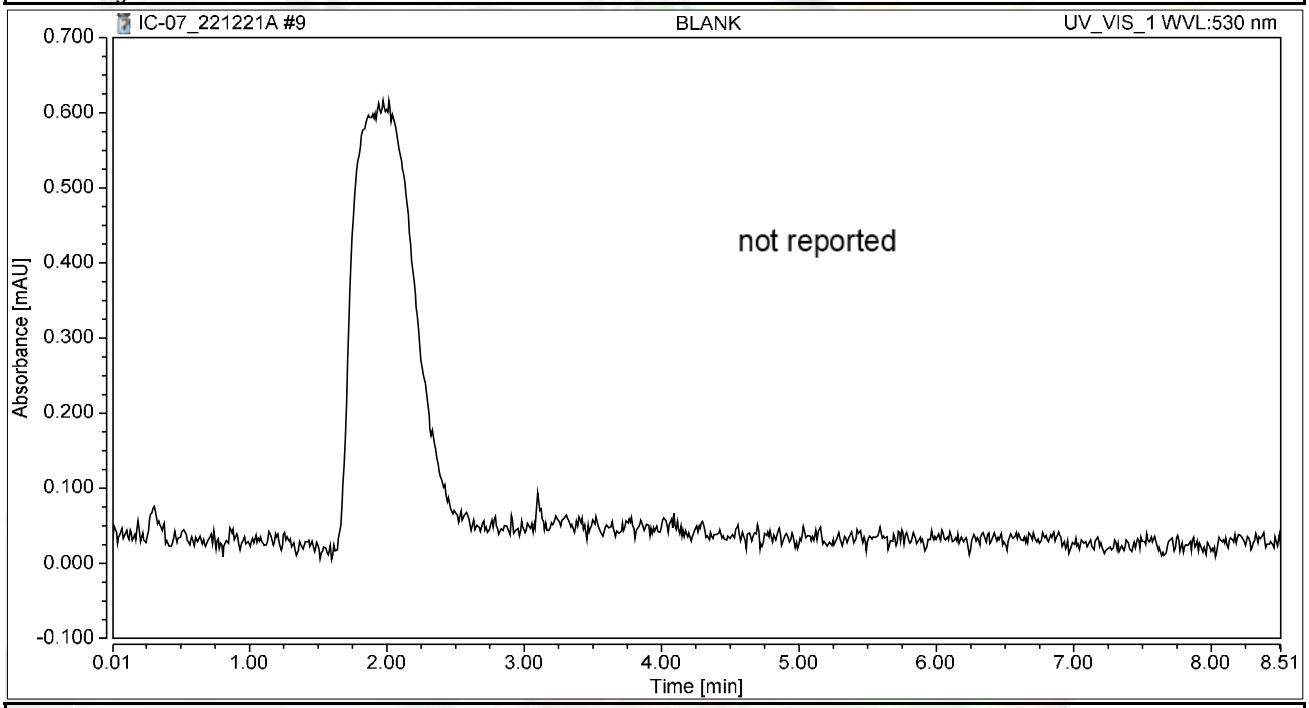
Chromeleon (c) Dionex
Version 7.1.1.1127

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 10:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

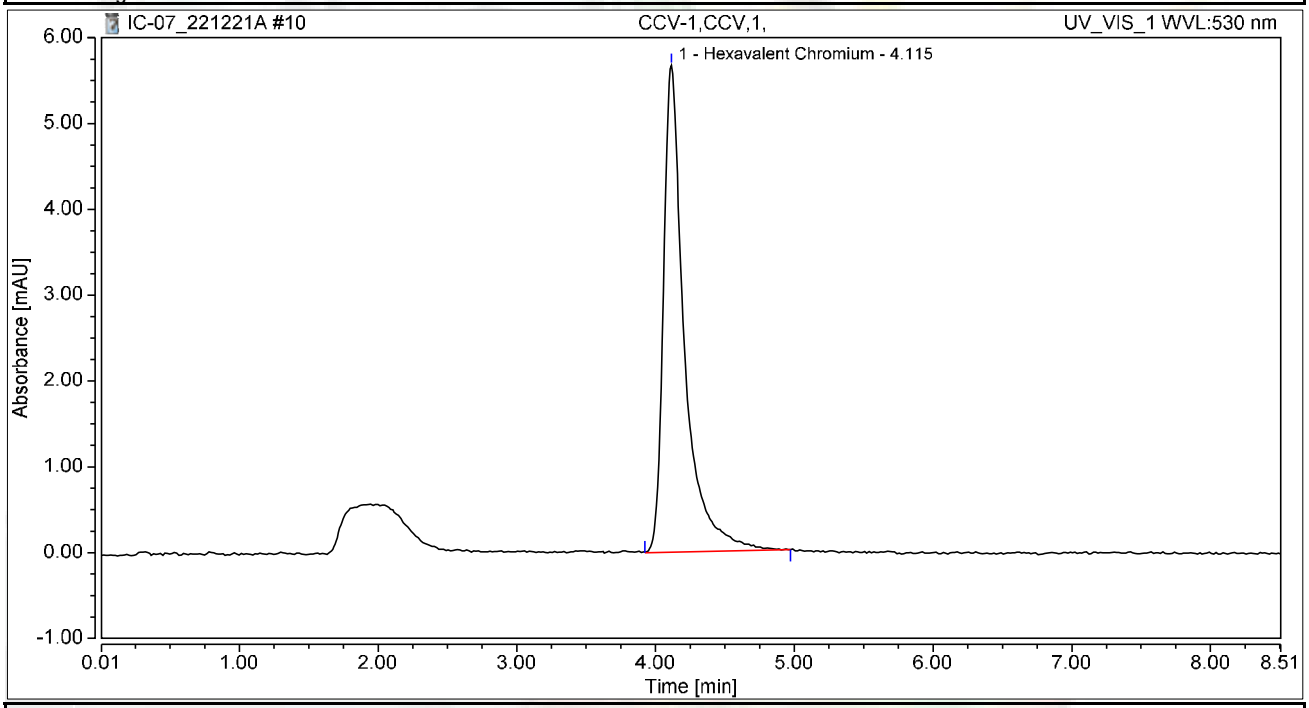
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-1,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 11:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

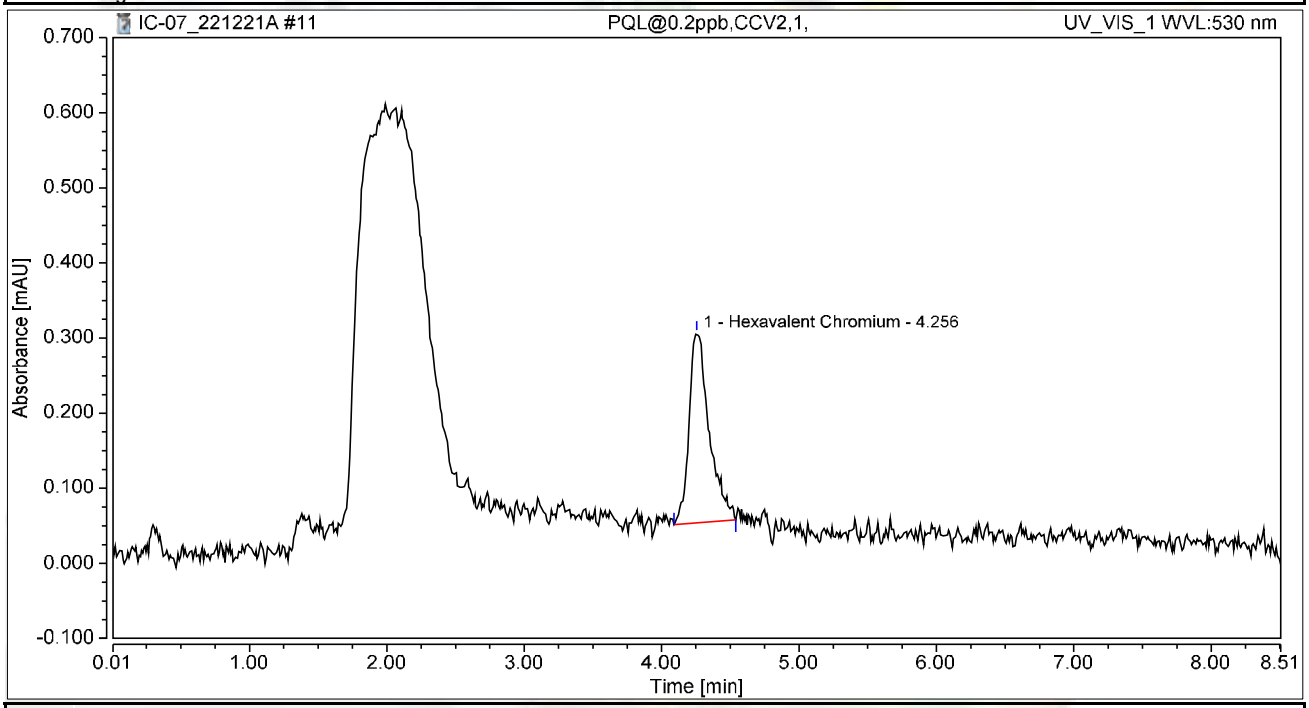
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.115	0.998	5.672	100.00	100.00	4.8568
Total:			**0.998**	**5.672**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**PQL@0.2ppb,CCV2,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 11:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

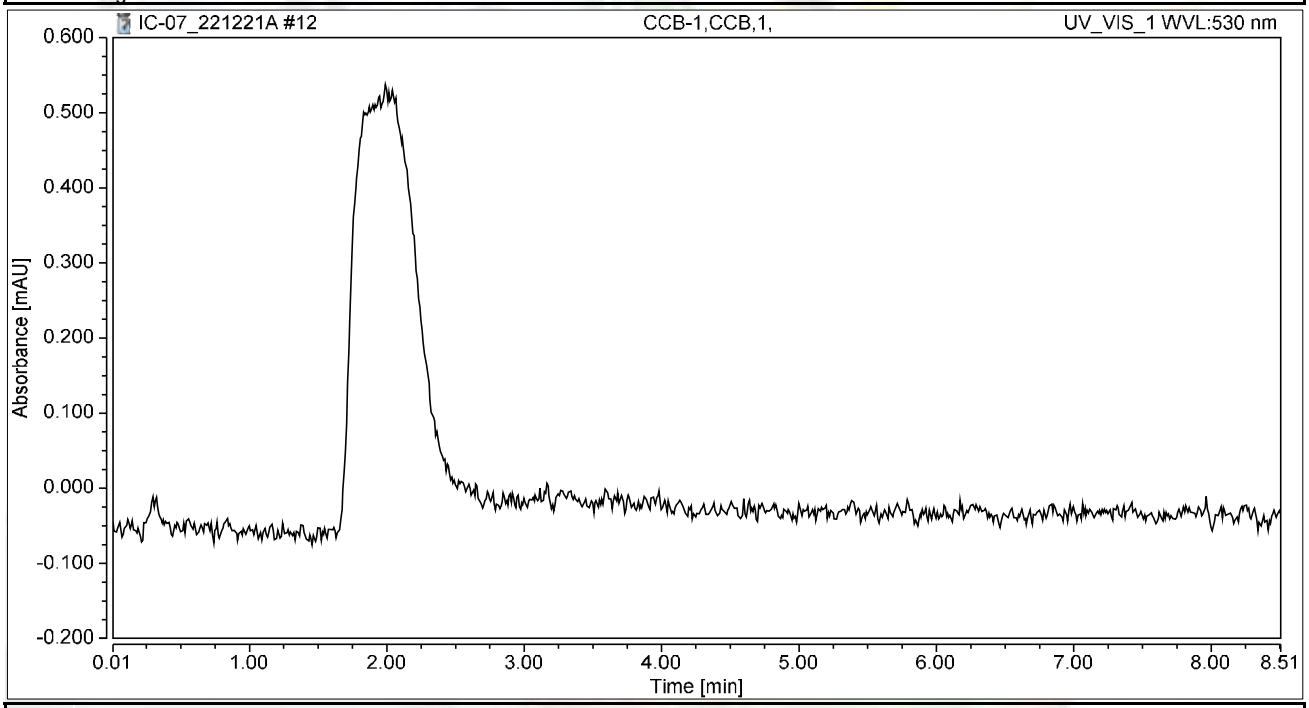
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.256	0.043	0.253	100.00	100.00	0.2098
Total:			**0.043**	**0.253**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-1,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 11:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

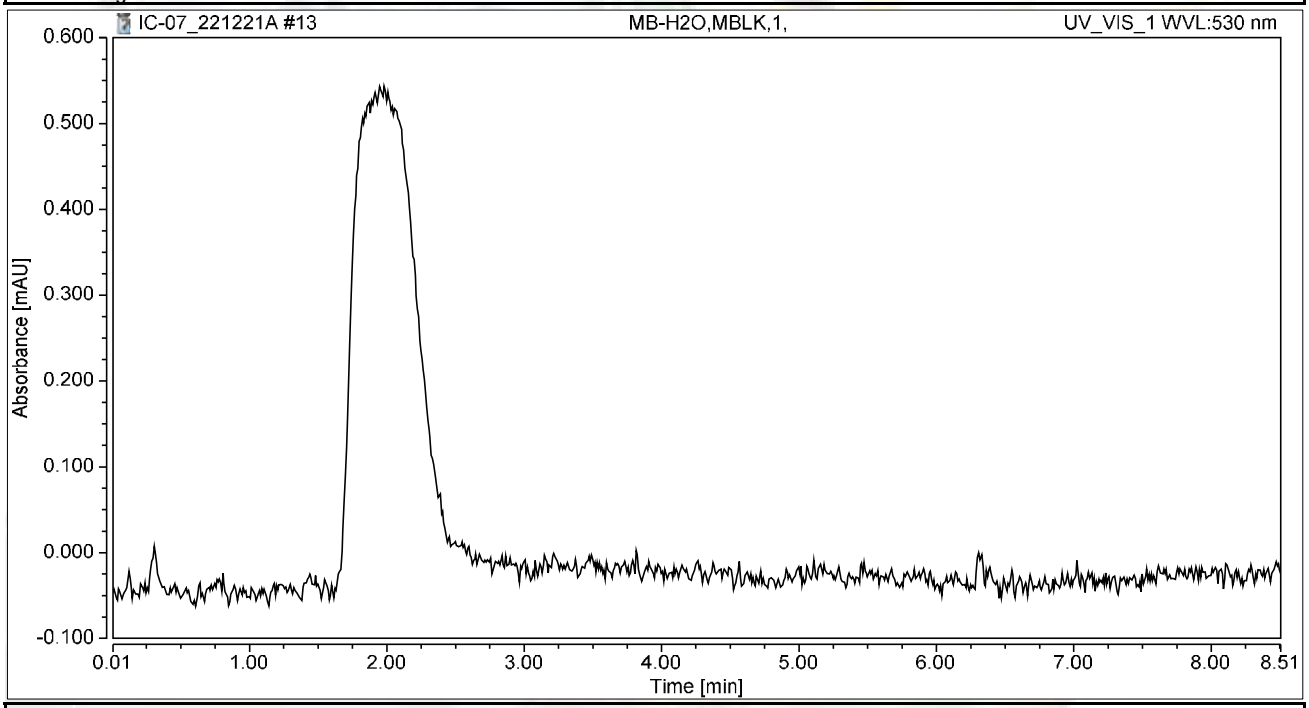
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1,**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 11:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

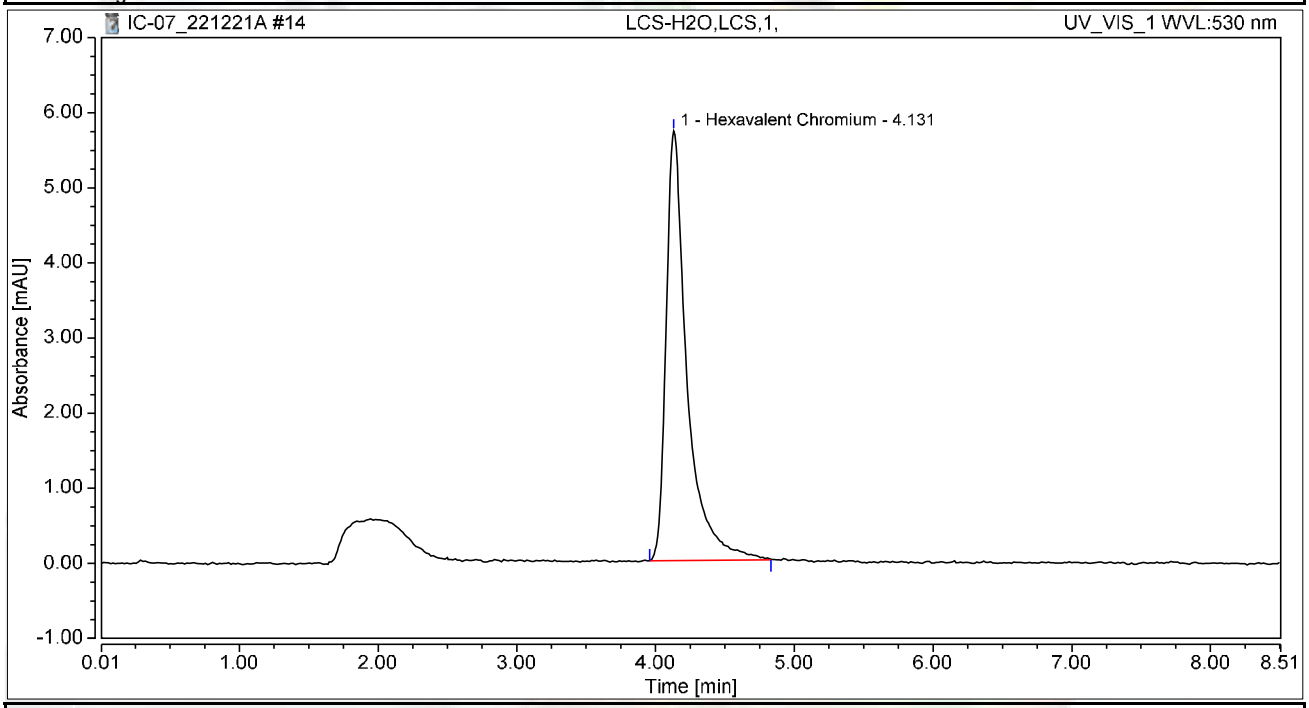
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1,**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 11:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

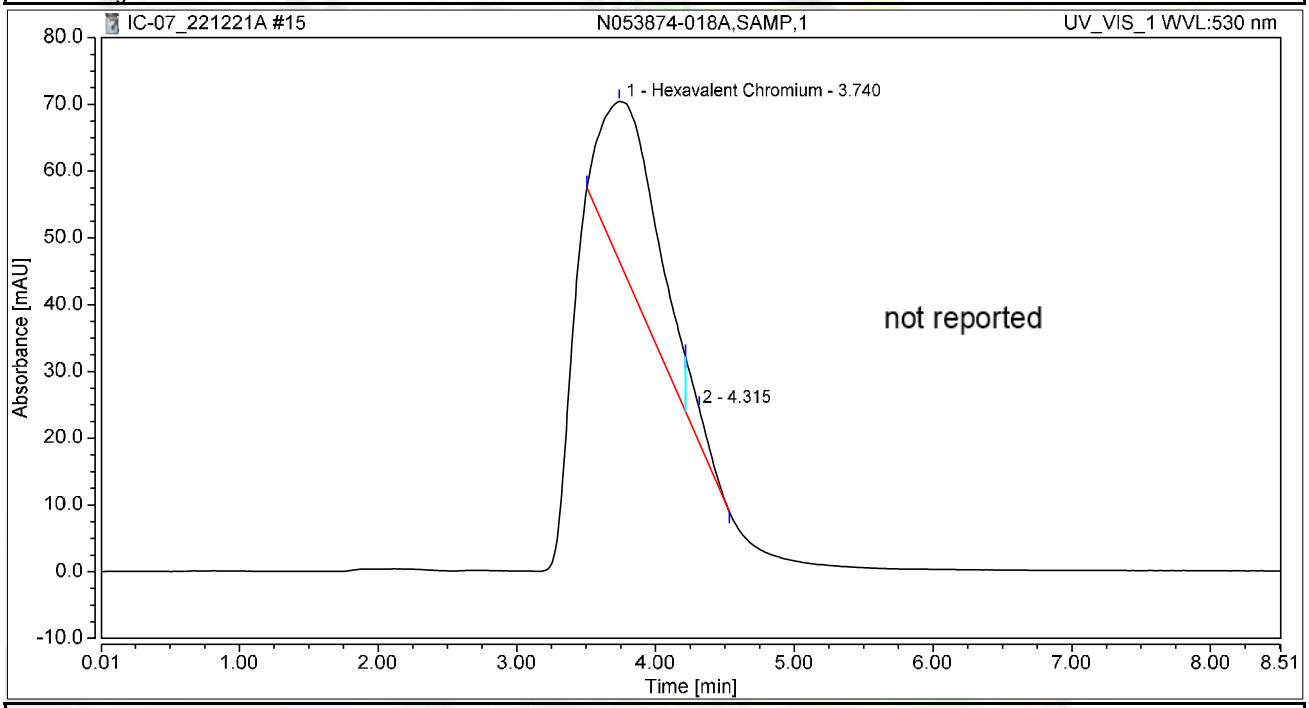
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	1.002	5.720	100.00	100.00	4.8743
Total:			**1.002**	**5.720**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 12:16**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

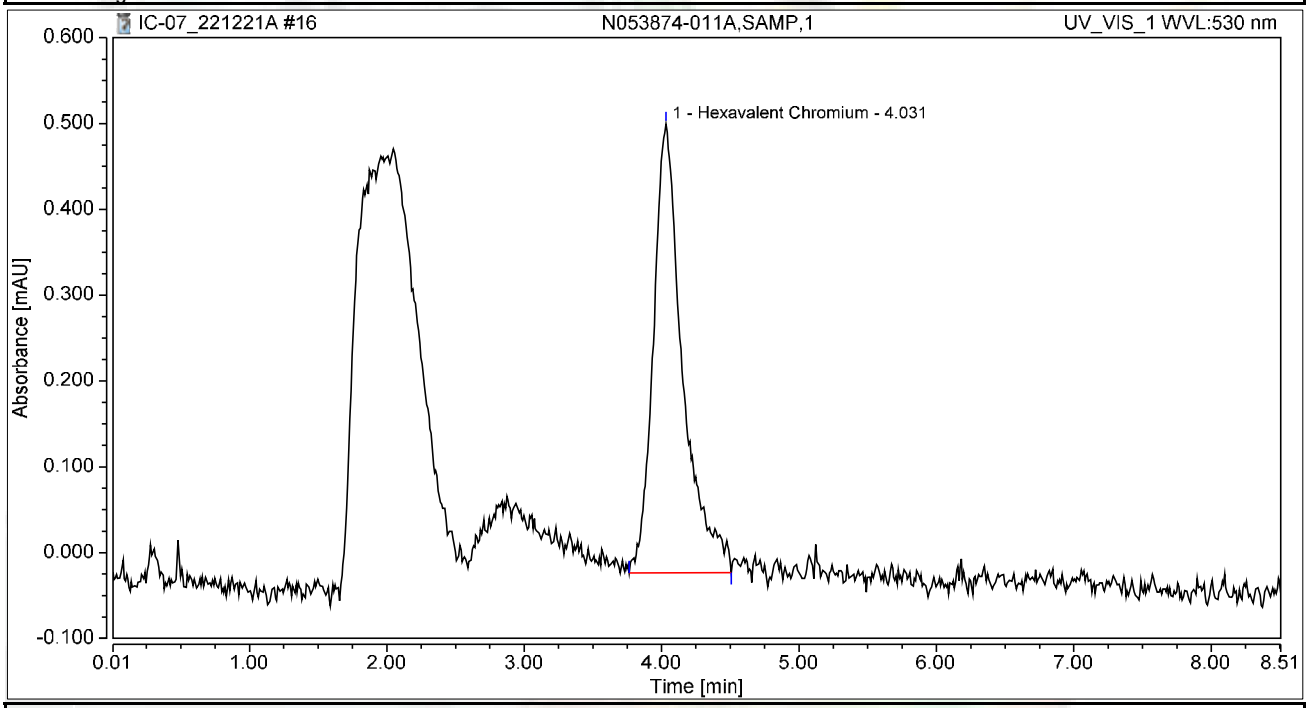
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	3.740	12.108	23.949	91.65	82.15	58.9235
2		4.315	1.103	5.205	8.35	17.85	n.a.
Total:			**13.211**	**29.154**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-011A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 12:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

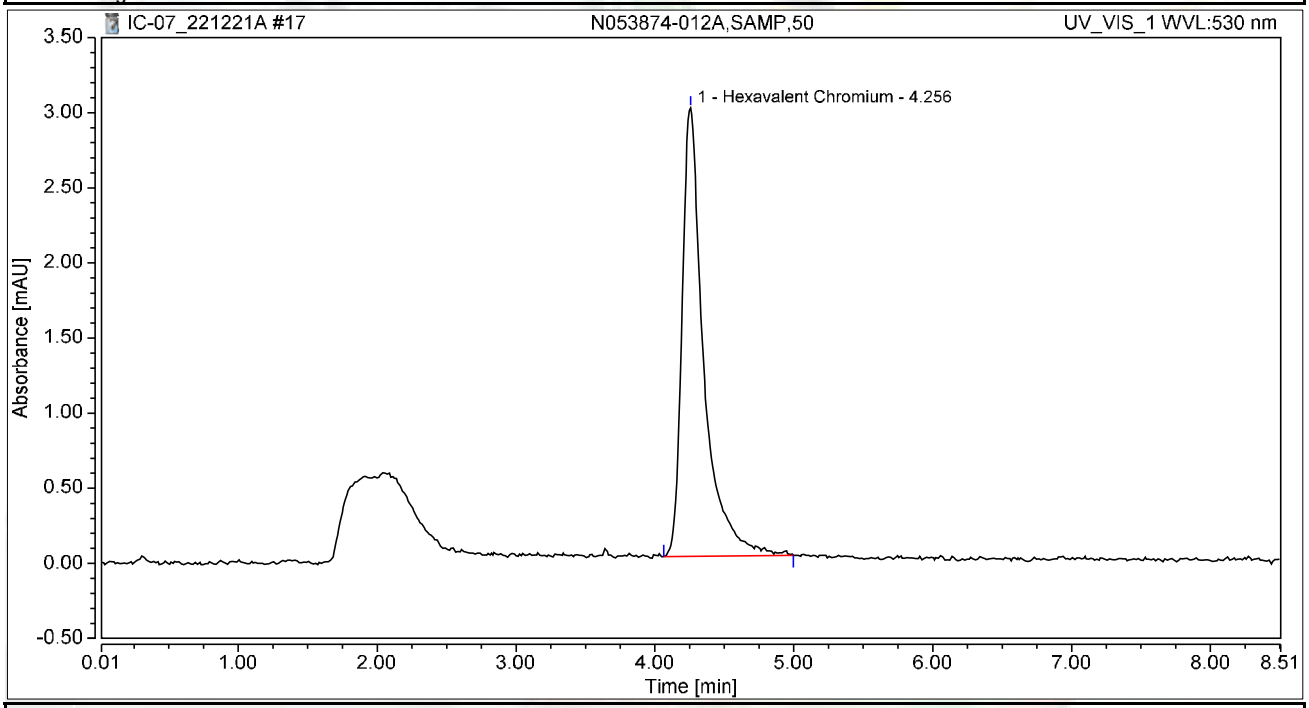
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.031	0.129	0.523	100.00	100.00	0.6271
Total:			**0.129**	**0.523**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-012A,SAMP,50**	*Run Time (min):*	**8.49**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 12:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

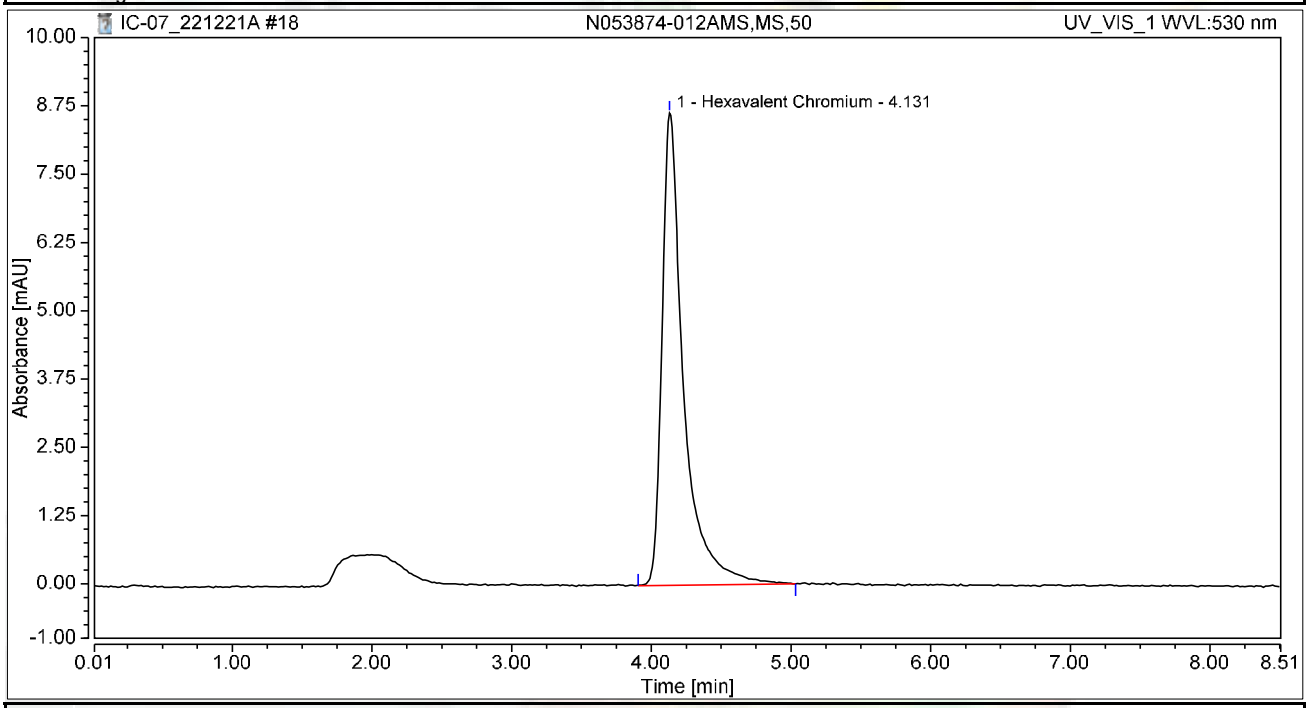
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.256	0.541	2.985	100.00	100.00	2.6342
Total:			**0.541**	**2.985**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-012AMS,MS,50**	*Run Time (min):*	**8.49**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 12:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

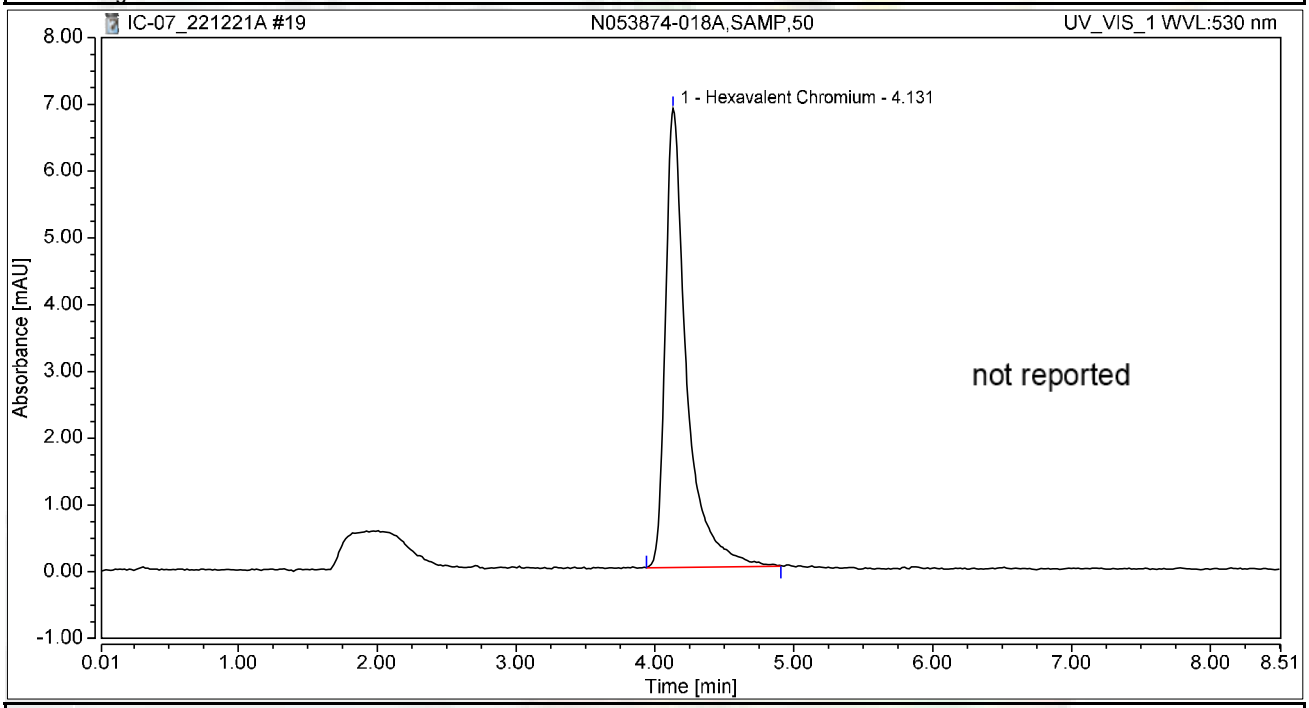
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	1.547	8.645	100.00	100.00	7.5285
Total:			**1.547**	**8.645**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018A,SAMP,50**	*Run Time (min):*	**8.49**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 12:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

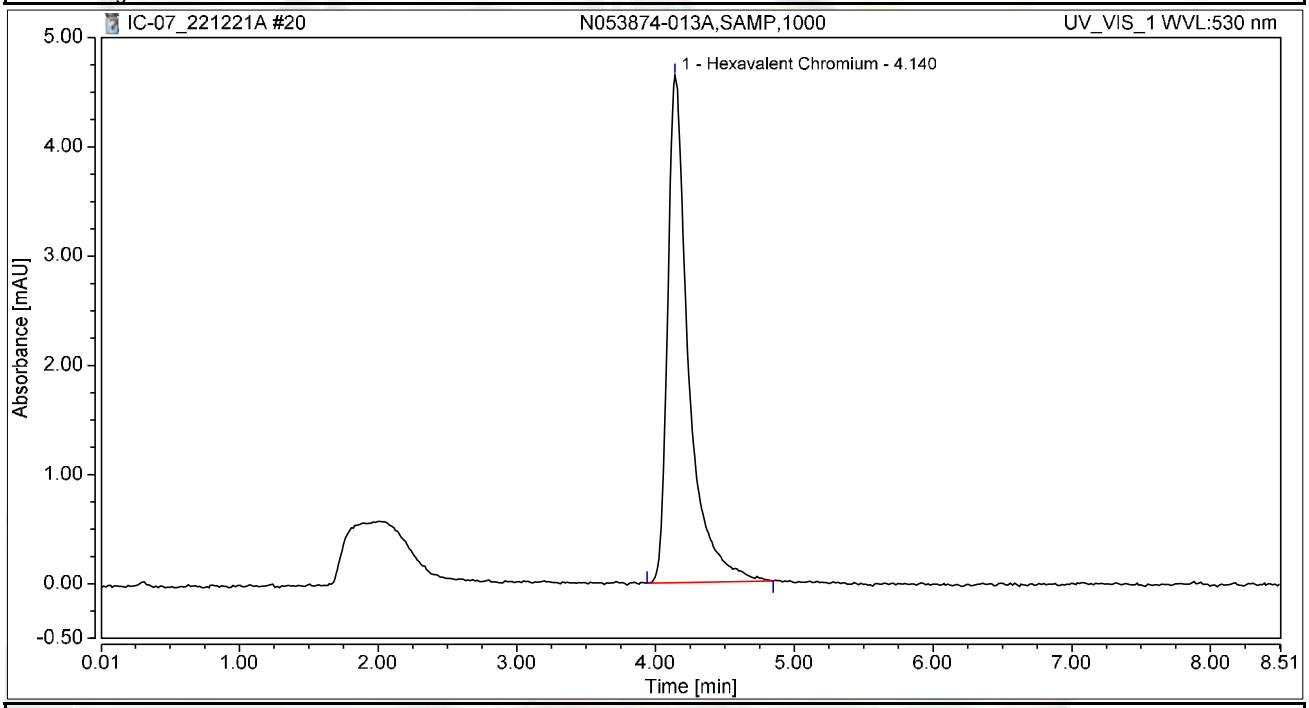
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	1.217	6.874	100.00	100.00	5.9242
Total:			**1.217**	**6.874**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-013A,SAMP,1000**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 13:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

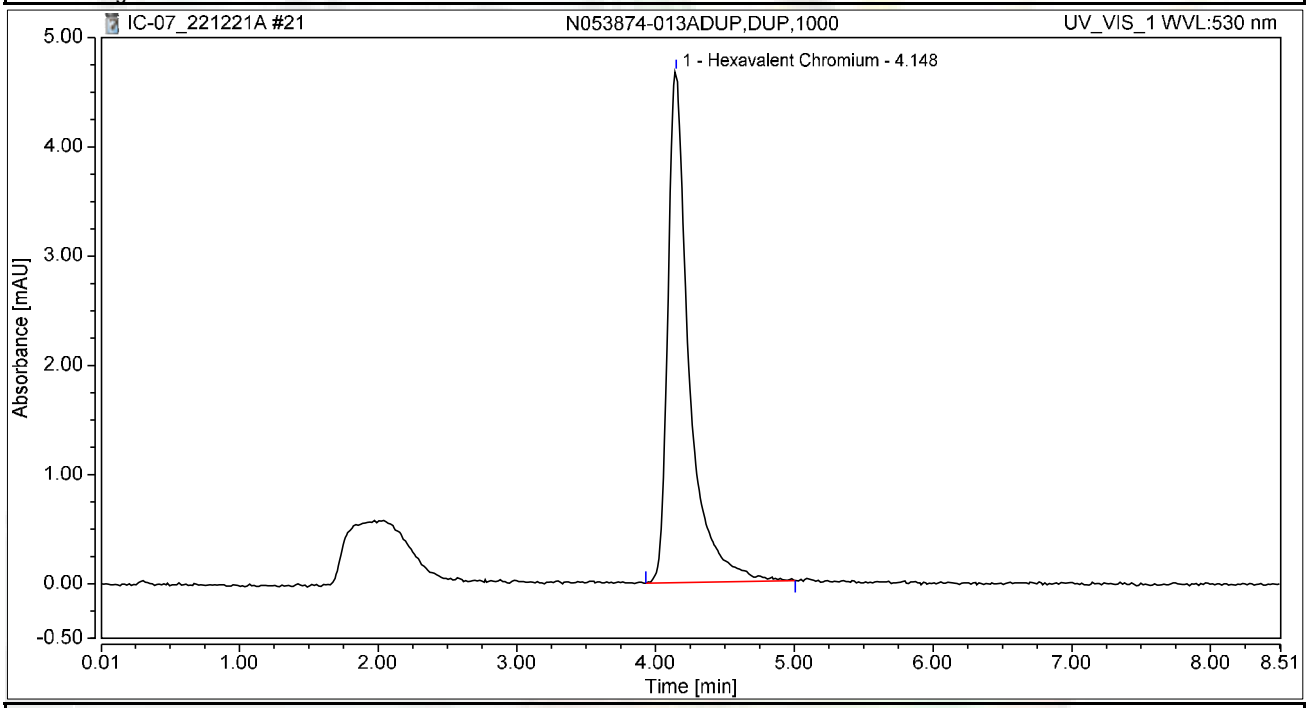
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	0.813	4.644	100.00	100.00	3.9569
Total:			**0.813**	**4.644**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-013ADUP,DUP,1000**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 13:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

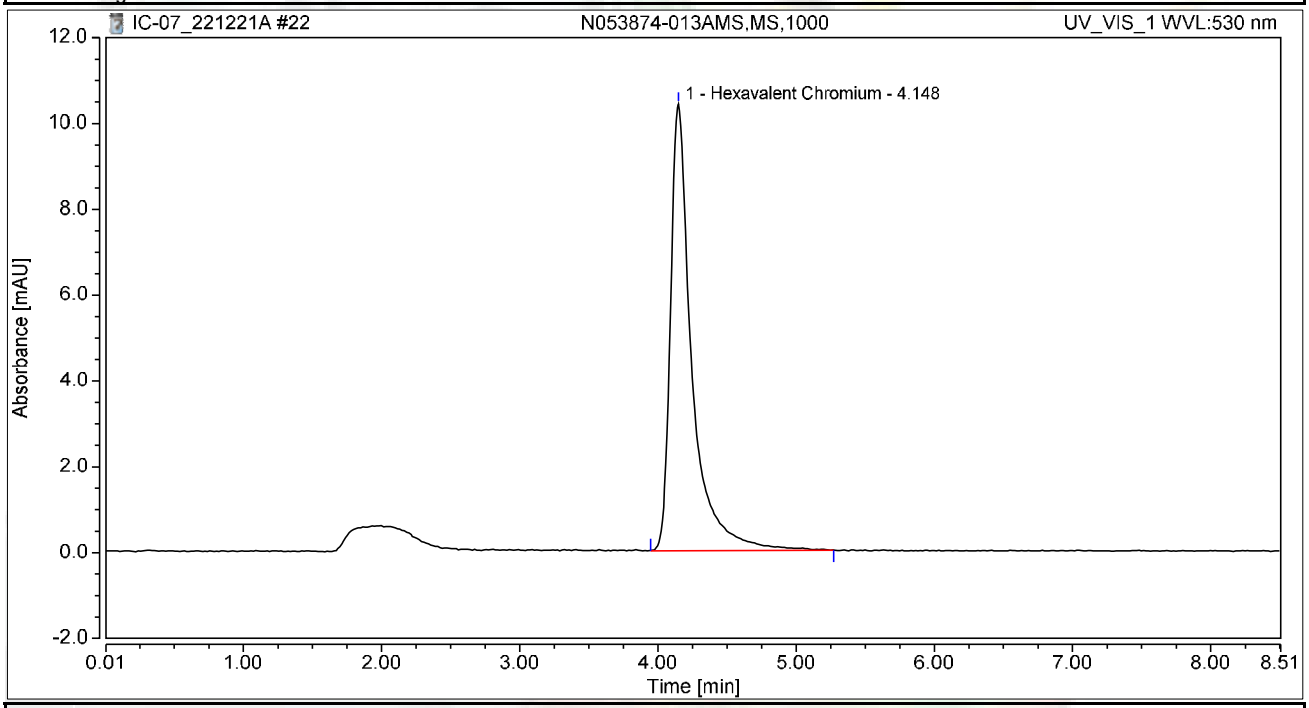
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	0.833	4.679	100.00	100.00	4.0515
Total:			**0.833**	**4.679**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-013AMS,MS,1000**	*Run Time (min):*	**8.50**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 13:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

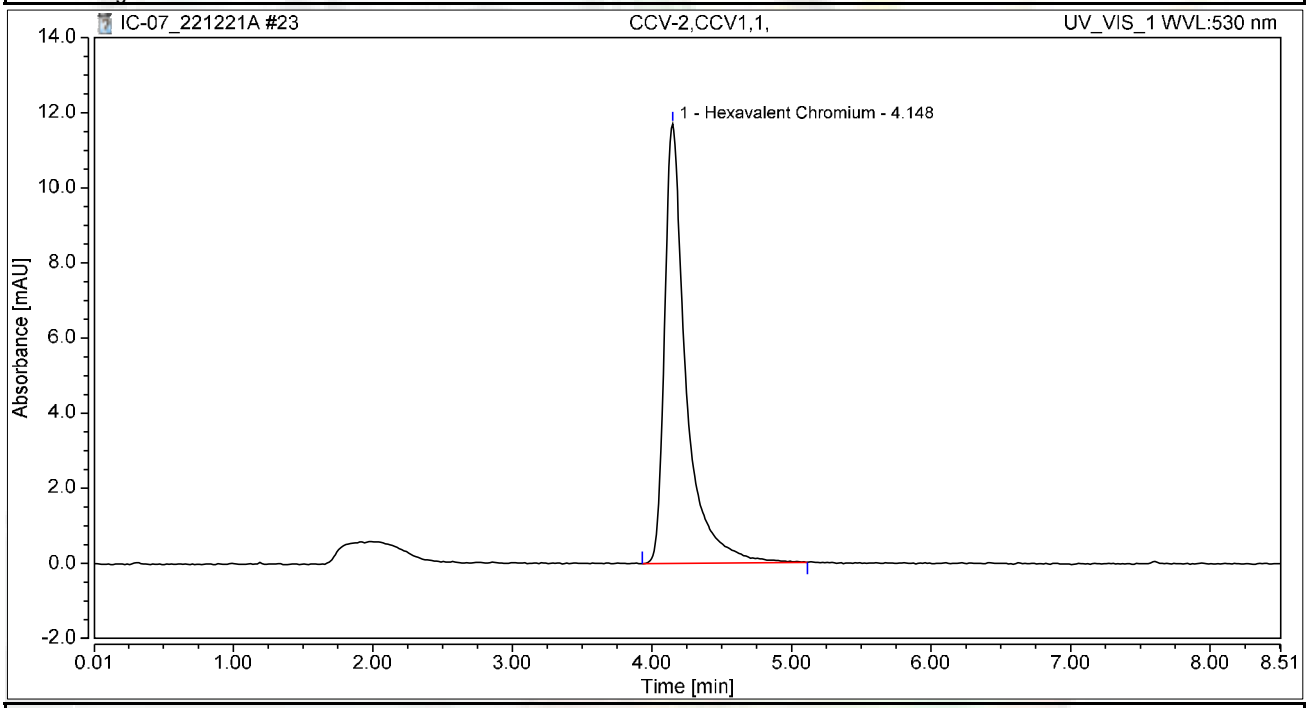
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	1.864	10.400	100.00	100.00	9.0733
Total:			**1.864**	**10.400**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-2,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 13:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

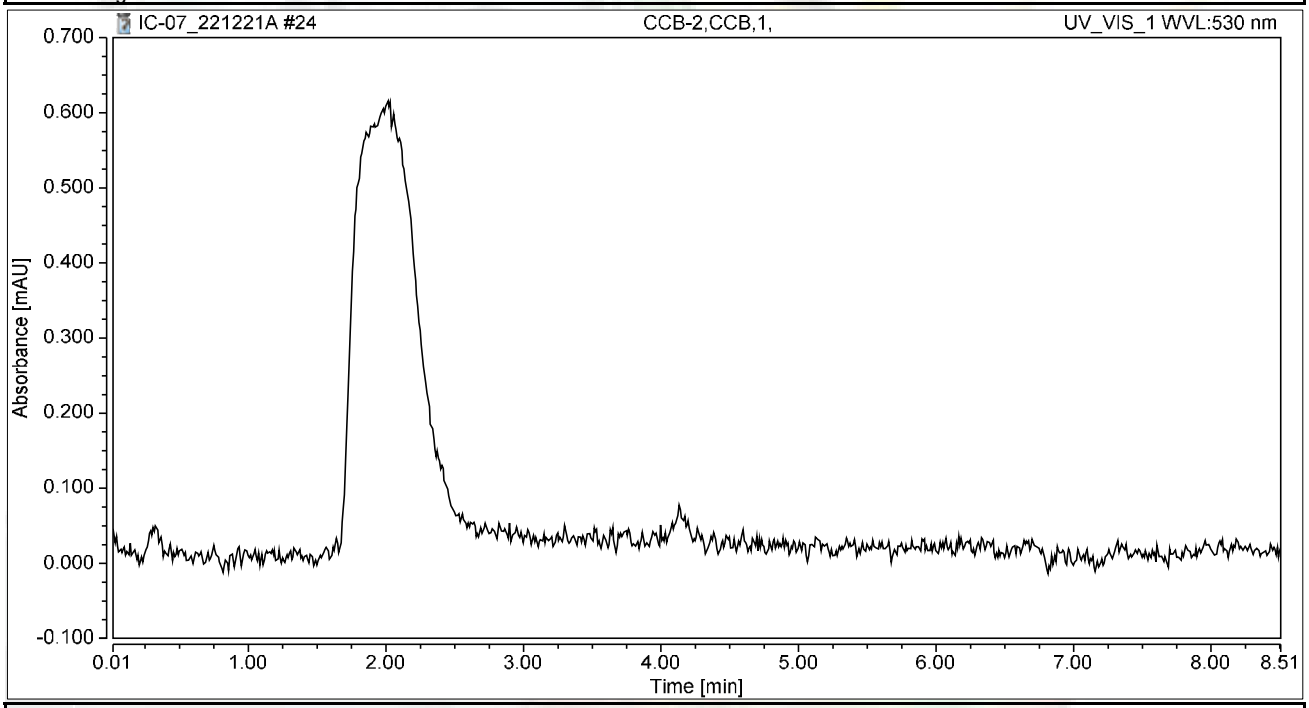
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	2.085	11.703	100.00	100.00	10.1465
Total:			**2.085**	**11.703**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-2,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 13:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

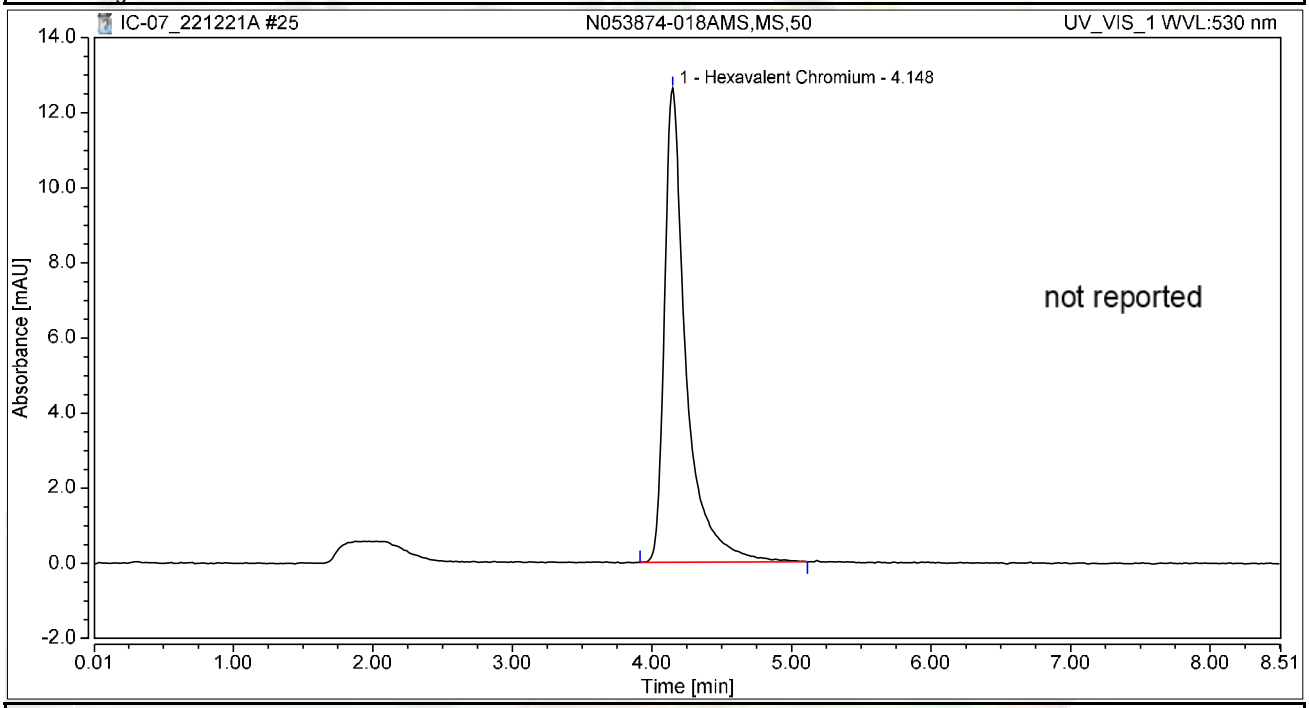
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 13:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

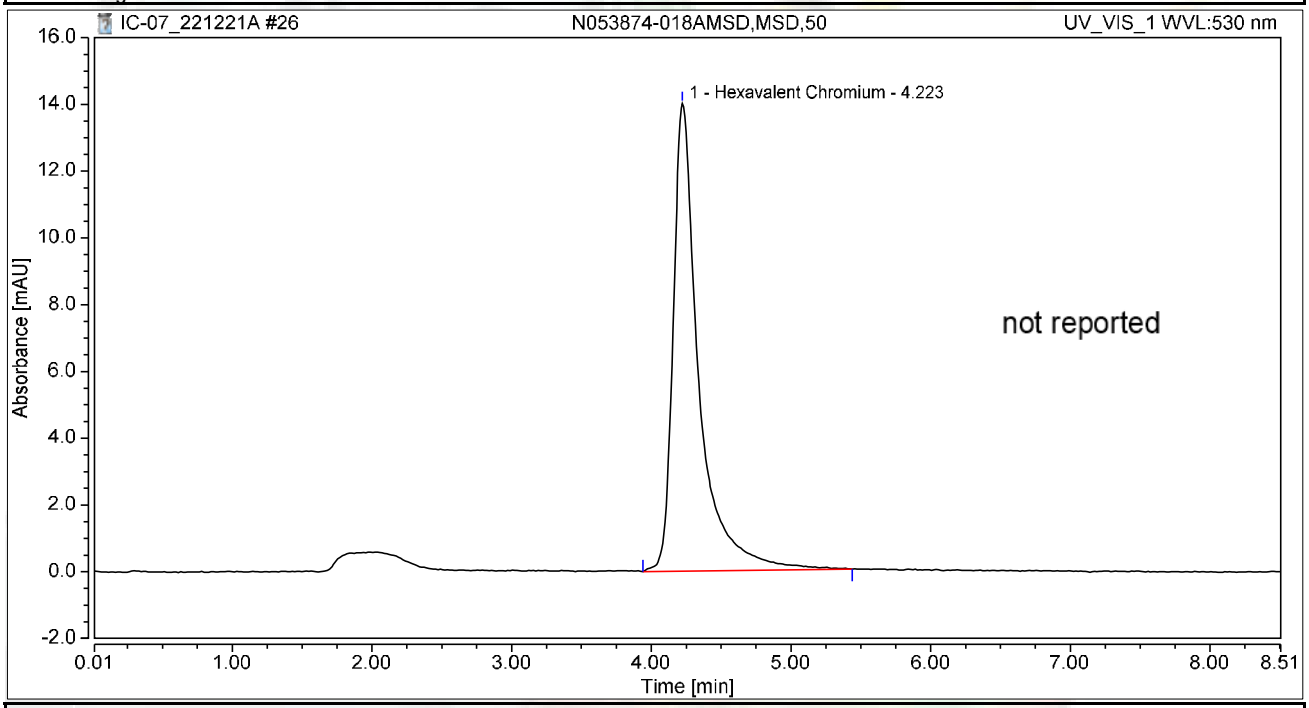
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	2.261	12.621	100.00	100.00	11.0051
Total:			**2.261**	**12.621**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018AMSD,MSD,50**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 14:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

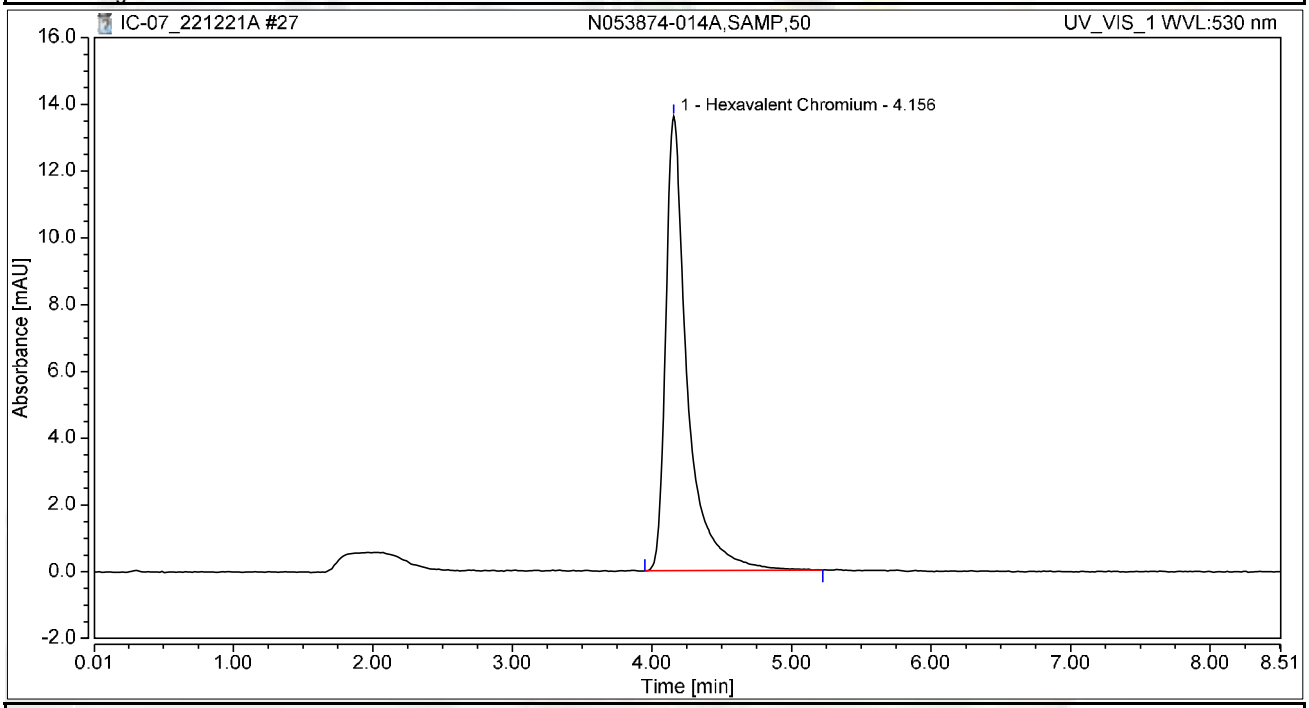
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.223	2.989	14.008	100.00	100.00	14.5454
Total:			**2.989**	**14.008**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-014A,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 14:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

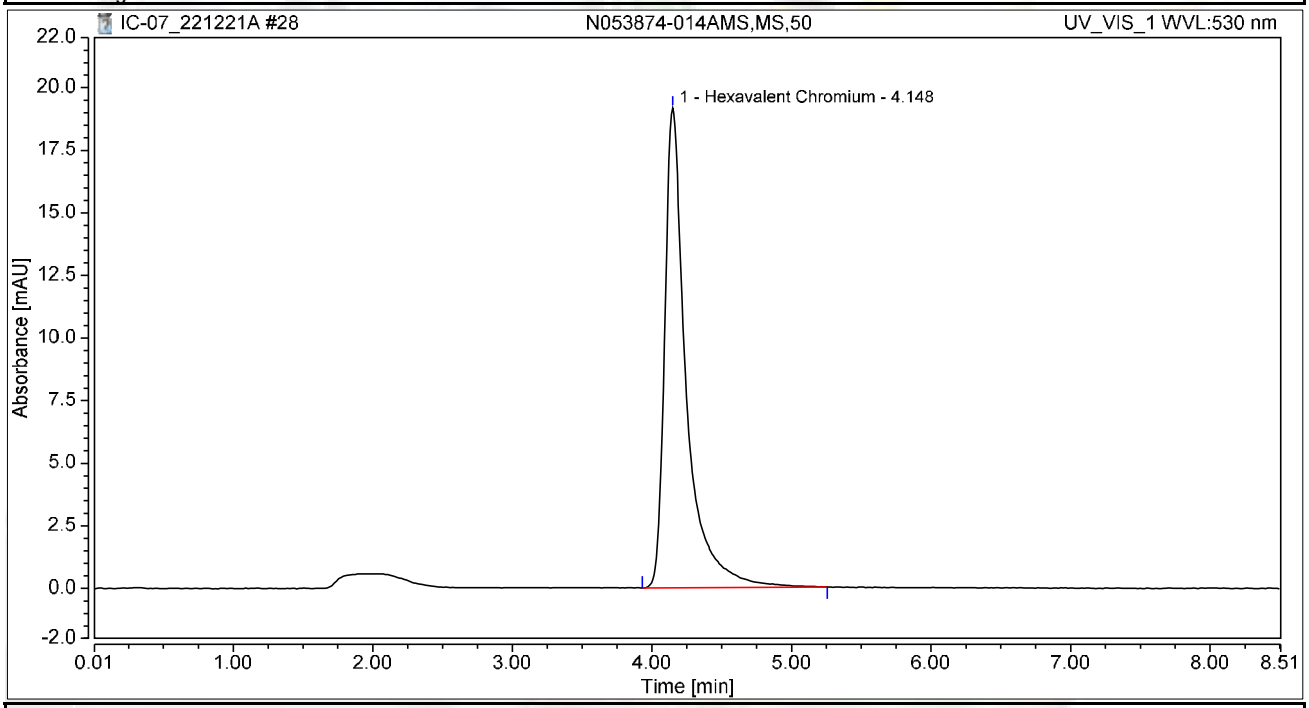
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.156	2.438	13.613	100.00	100.00	11.8661
Total:			**2.438**	**13.613**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-014AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 14:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

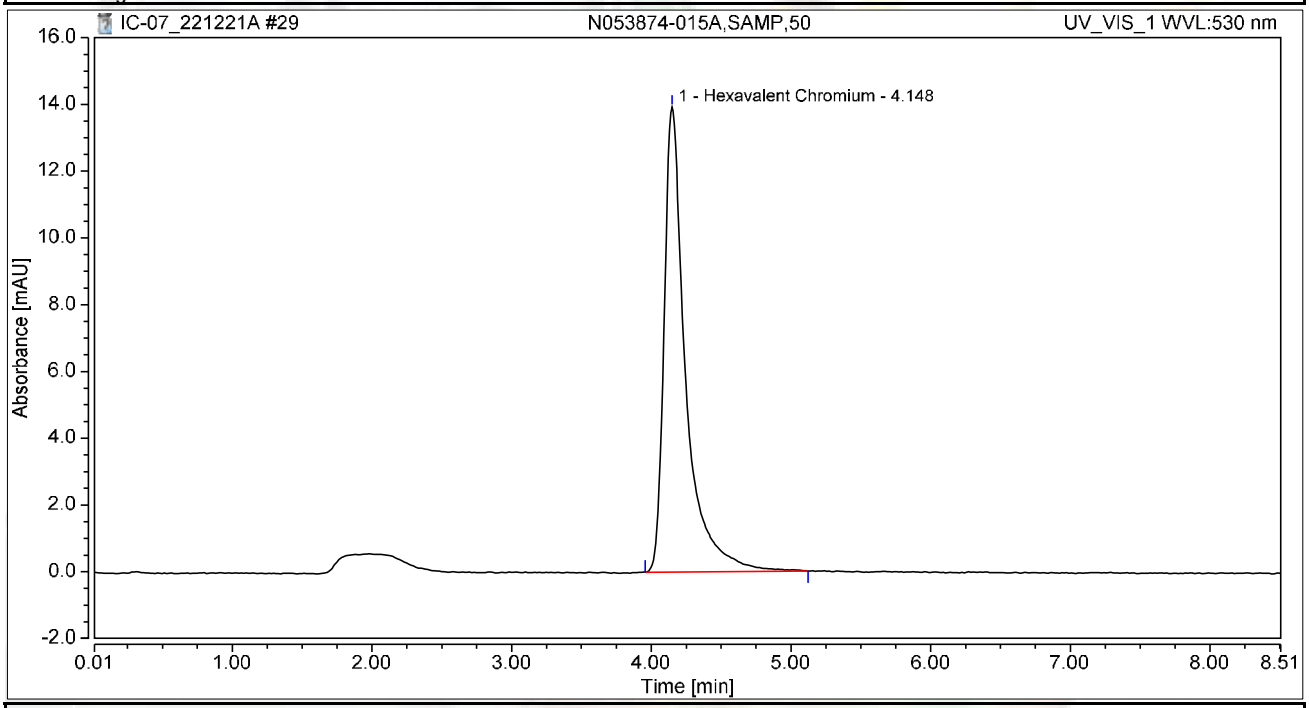
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	3.437	19.166	100.00	100.00	16.7263
Total:			**3.437**	**19.166**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-015A,SAMP,50**	*Run Time (min):*	**8.49**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 14:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

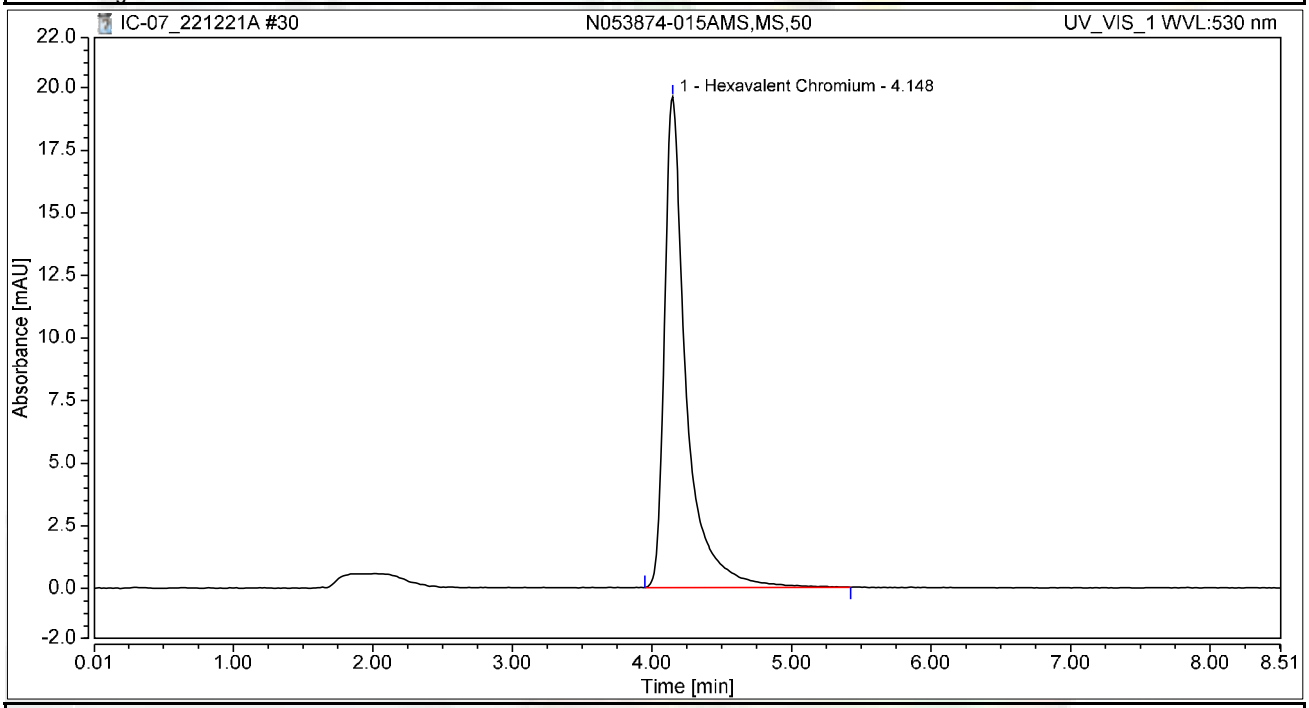
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	2.486	13.928	100.00	100.00	12.0997
Total:			**2.486**	**13.928**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-015AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 14:42**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

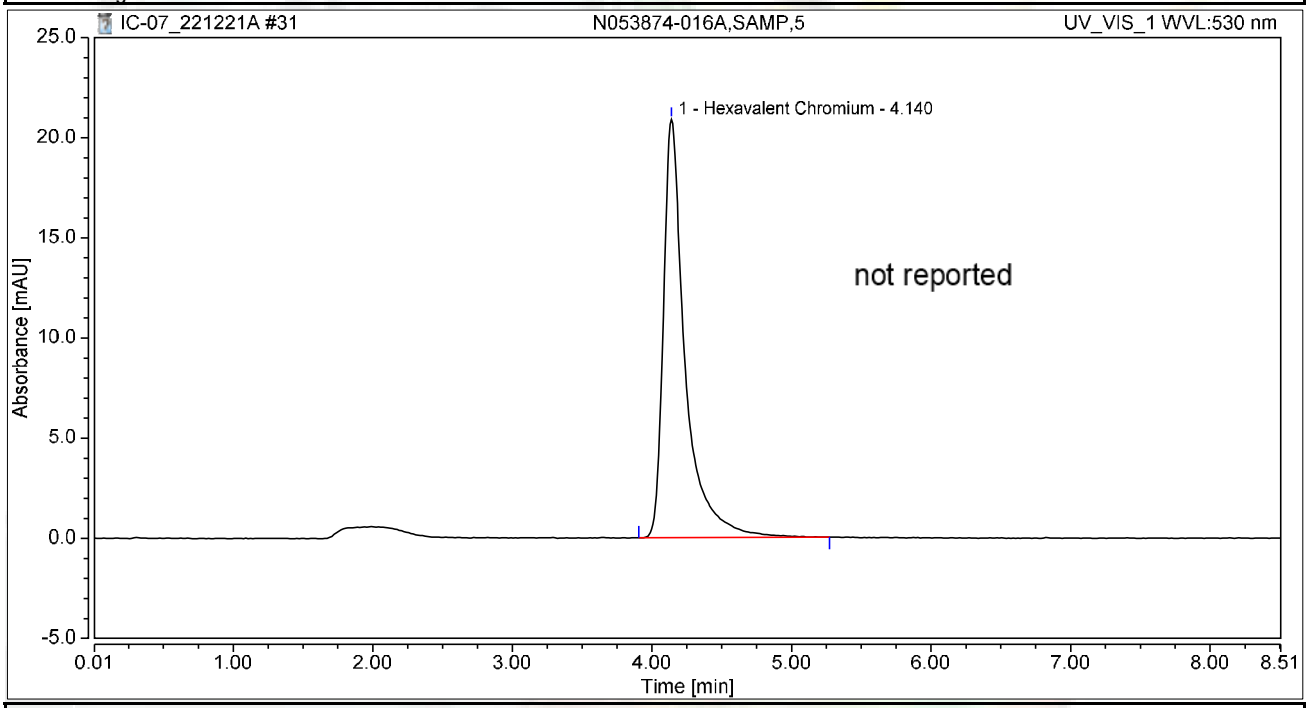
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	3.514	19.591	100.00	100.00	17.1016
Total:			**3.514**	**19.591**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-016A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 14:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

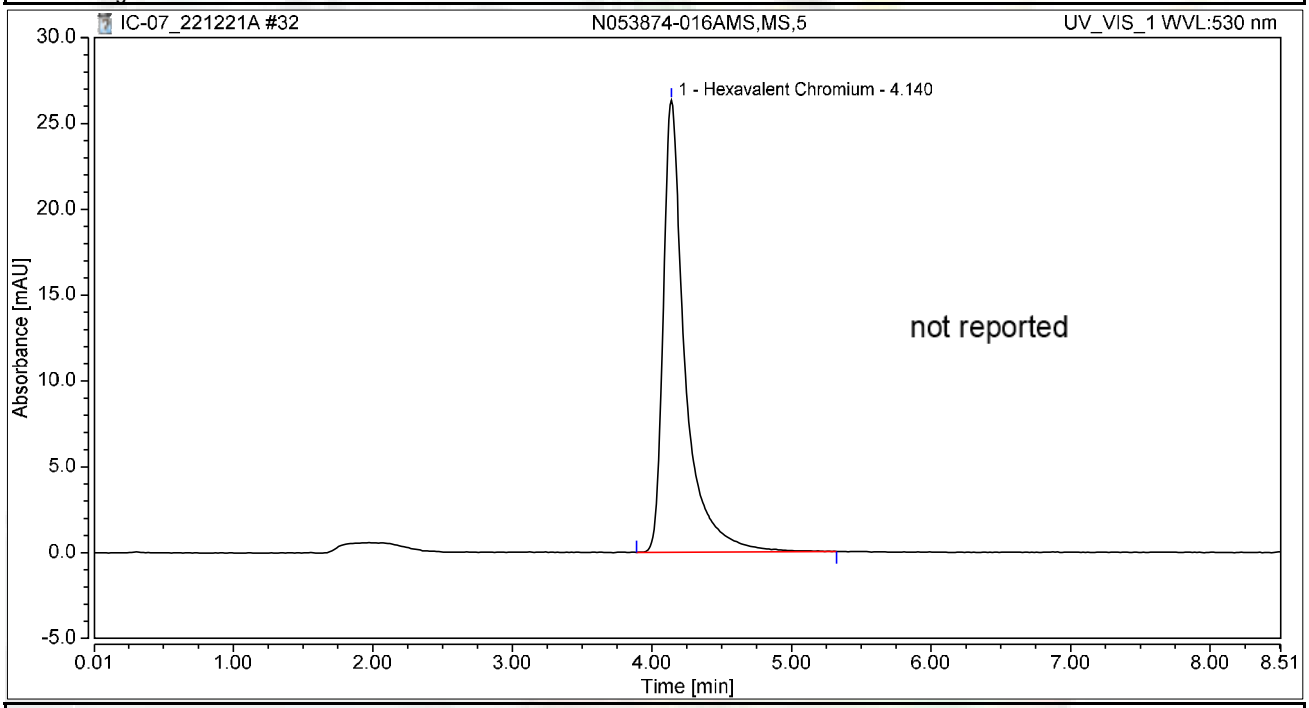
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	3.778	20.902	100.00	100.00	18.3833
Total:			**3.778**	**20.902**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-016AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

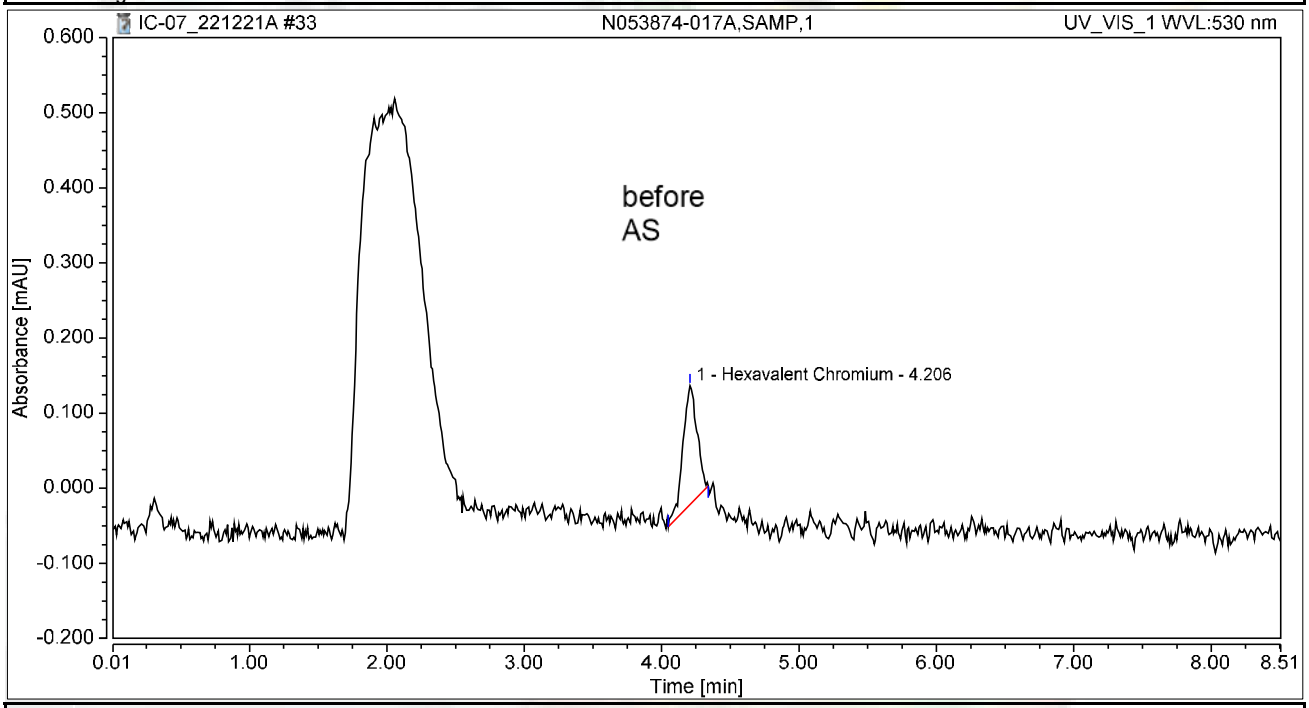
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	4.758	26.328	100.00	100.00	23.1566
Total:			**4.758**	**26.328**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-017A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

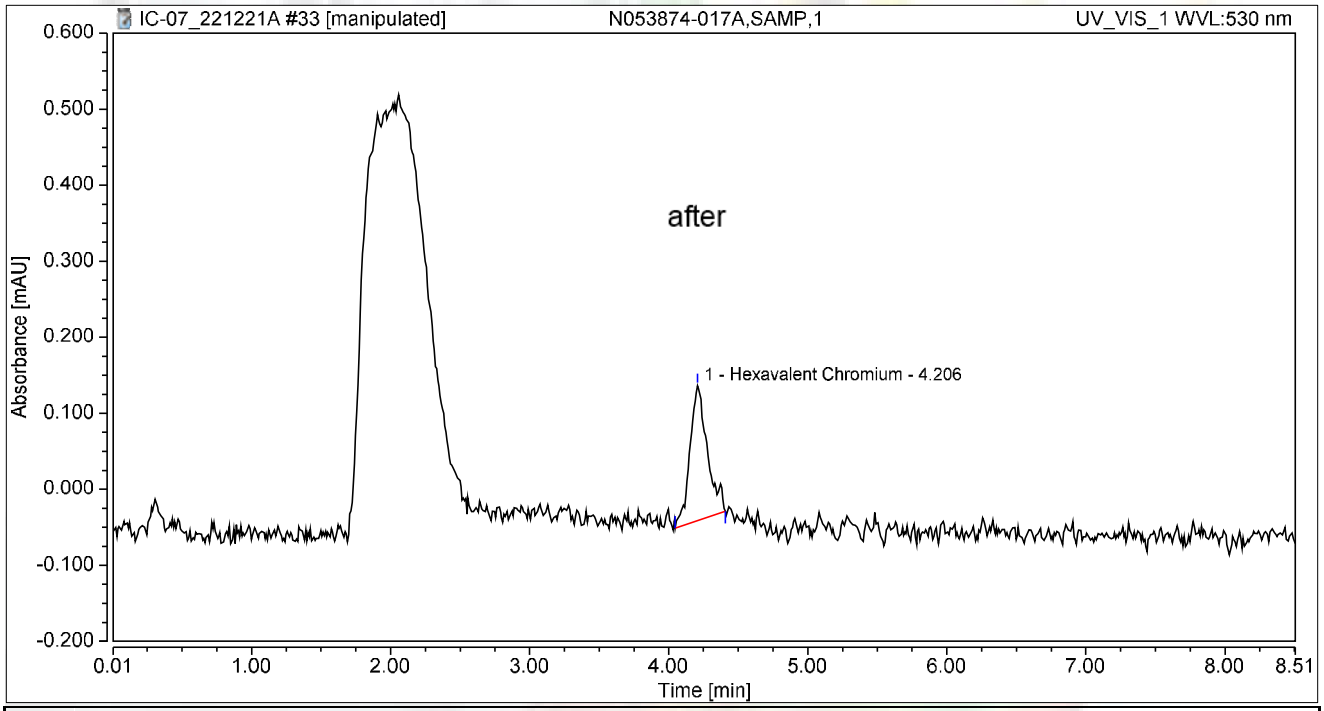
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.206	0.019	0.158	100.00	100.00	0.0920
Total:			**0.019**	**0.158**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-017A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

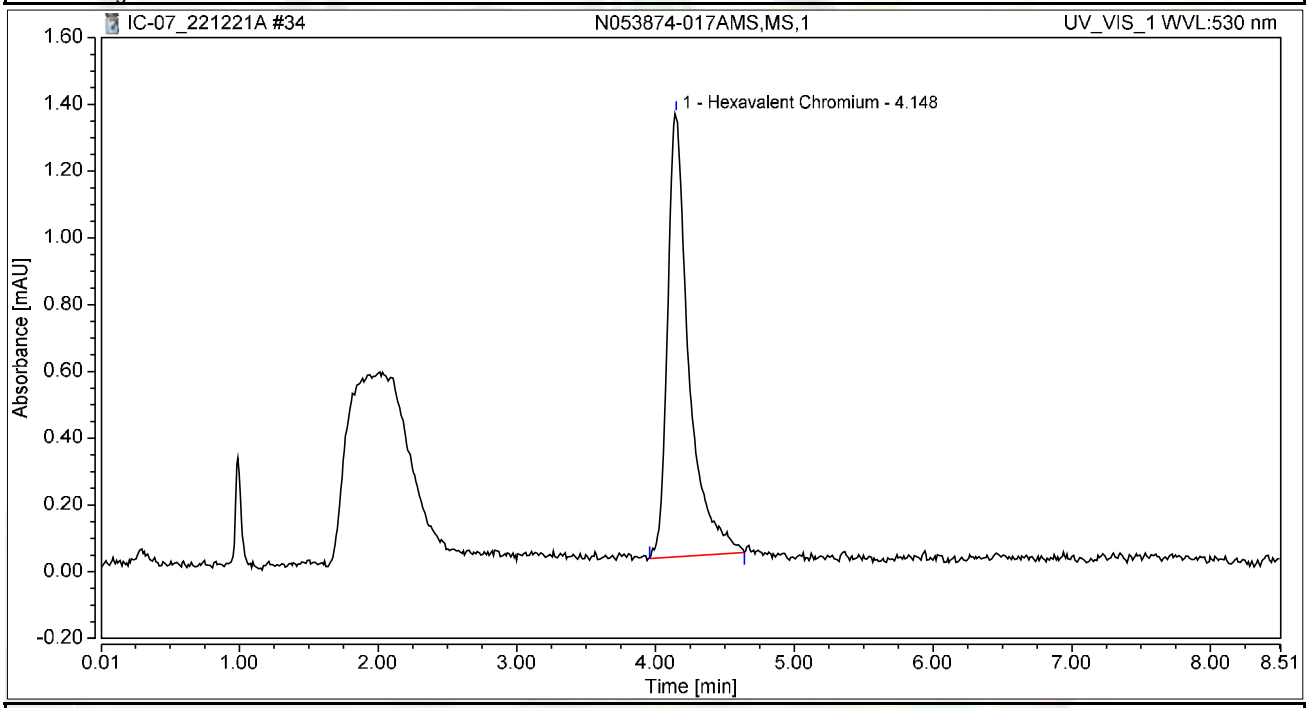
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.206	0.026	0.178	100.00	100.00	0.1257
Total:			**0.026**	**0.178**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-017AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

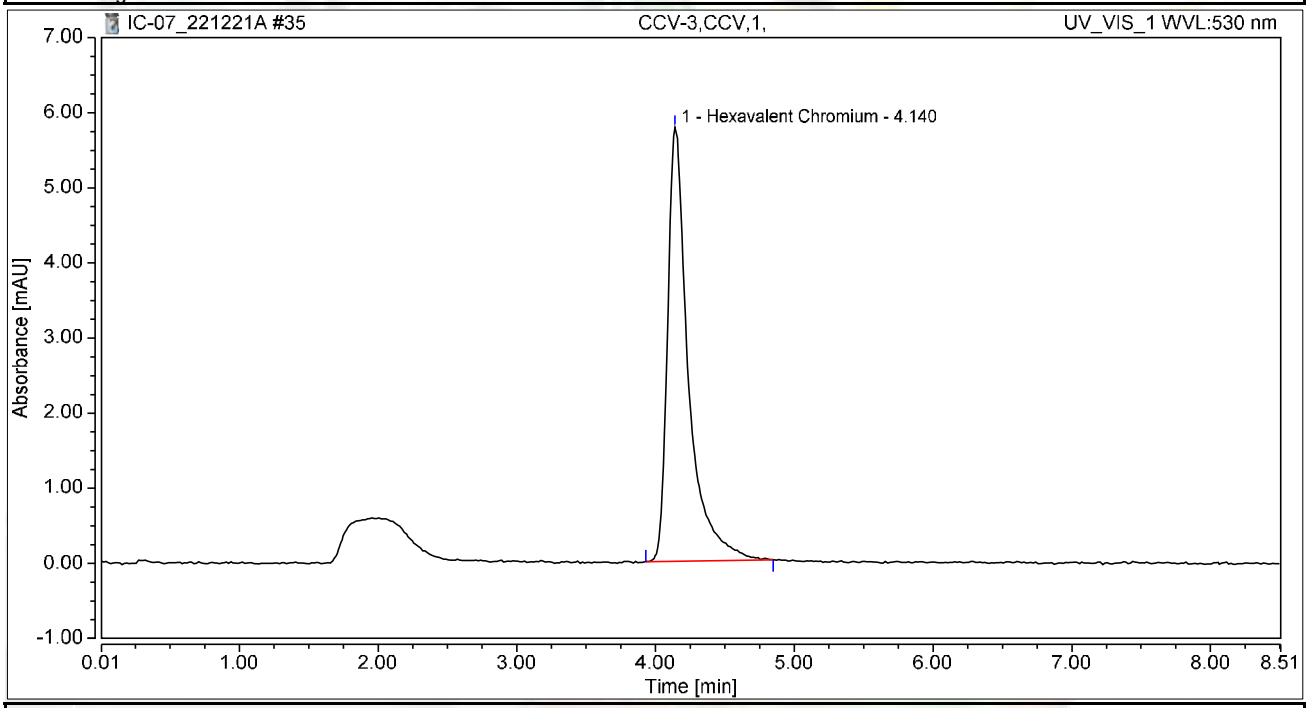
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	0.236	1.328	100.00	100.00	1.1496
Total:			**0.236**	**1.328**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-3,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

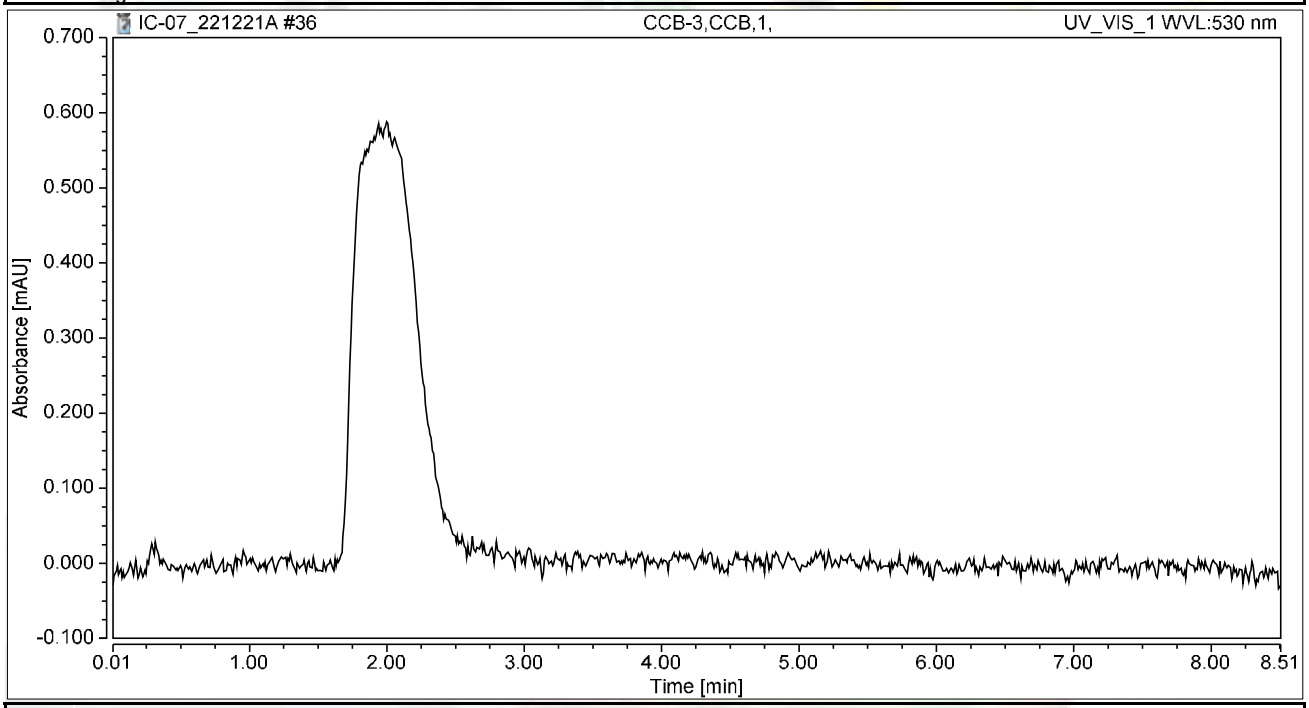
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	1.008	5.777	100.00	100.00	4.9034
Total:			**1.008**	**5.777**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-3,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

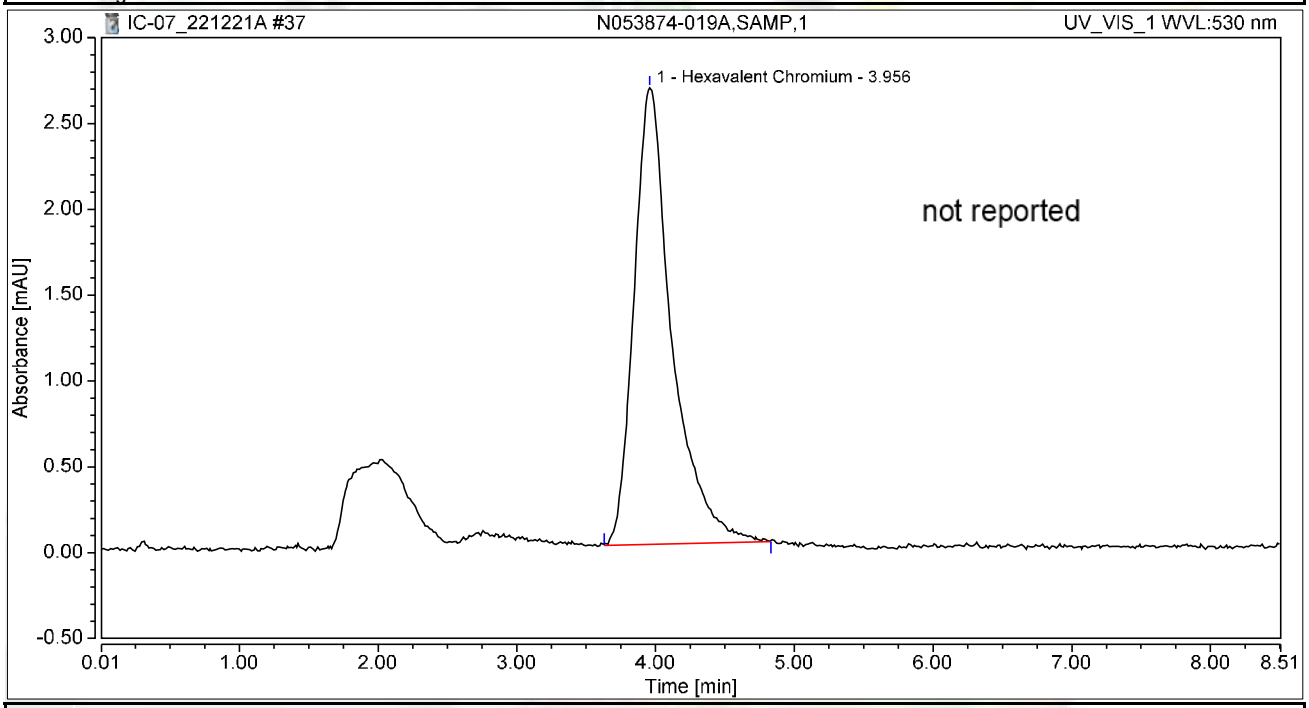
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-019A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:48**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

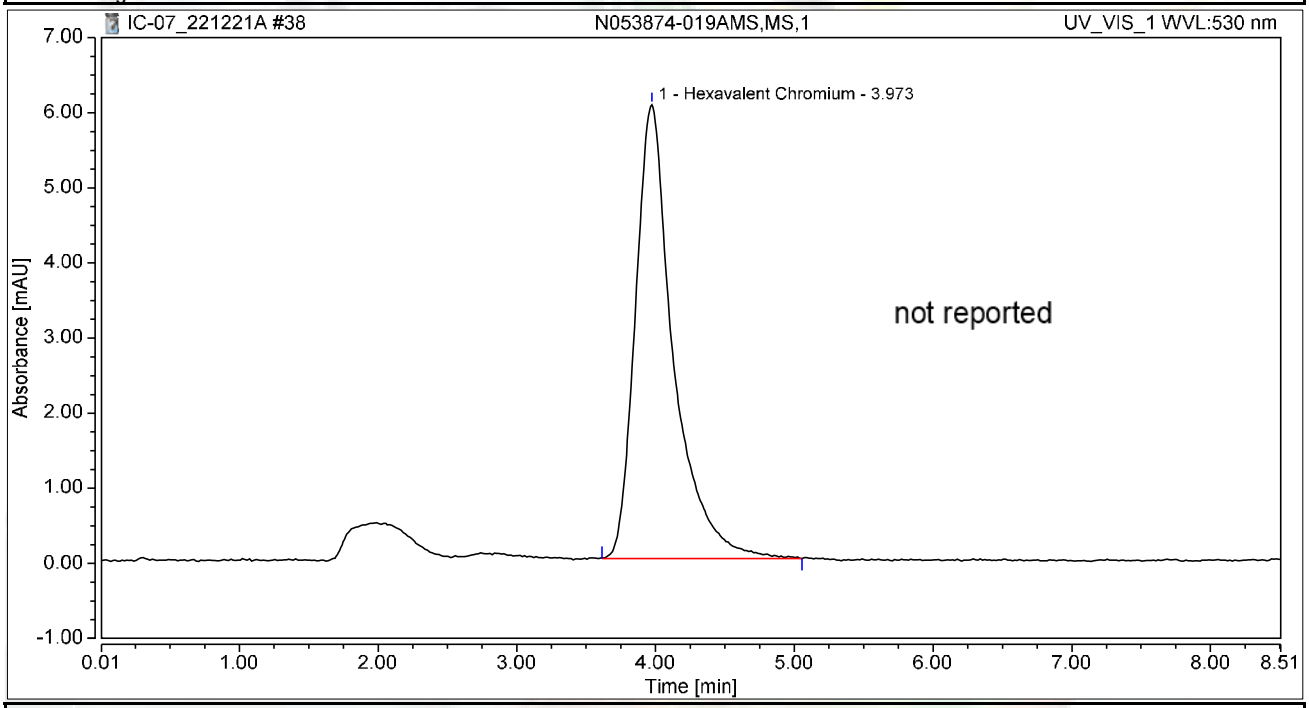
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	3.956	0.840	2.658	100.00	100.00	4.0893
Total:			**0.840**	**2.658**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-019AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 15:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

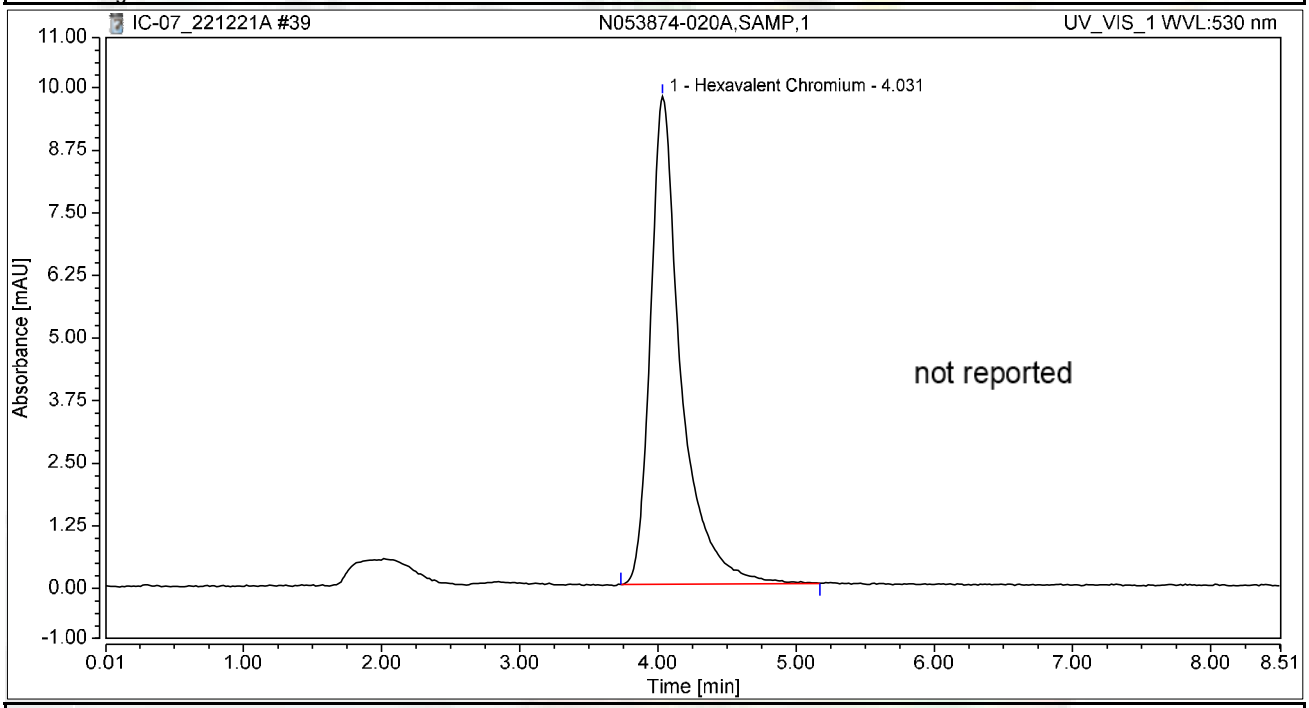
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	3.973	1.916	6.042	100.00	100.00	9.3240
Total:			**1.916**	**6.042**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-020A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 16:07**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

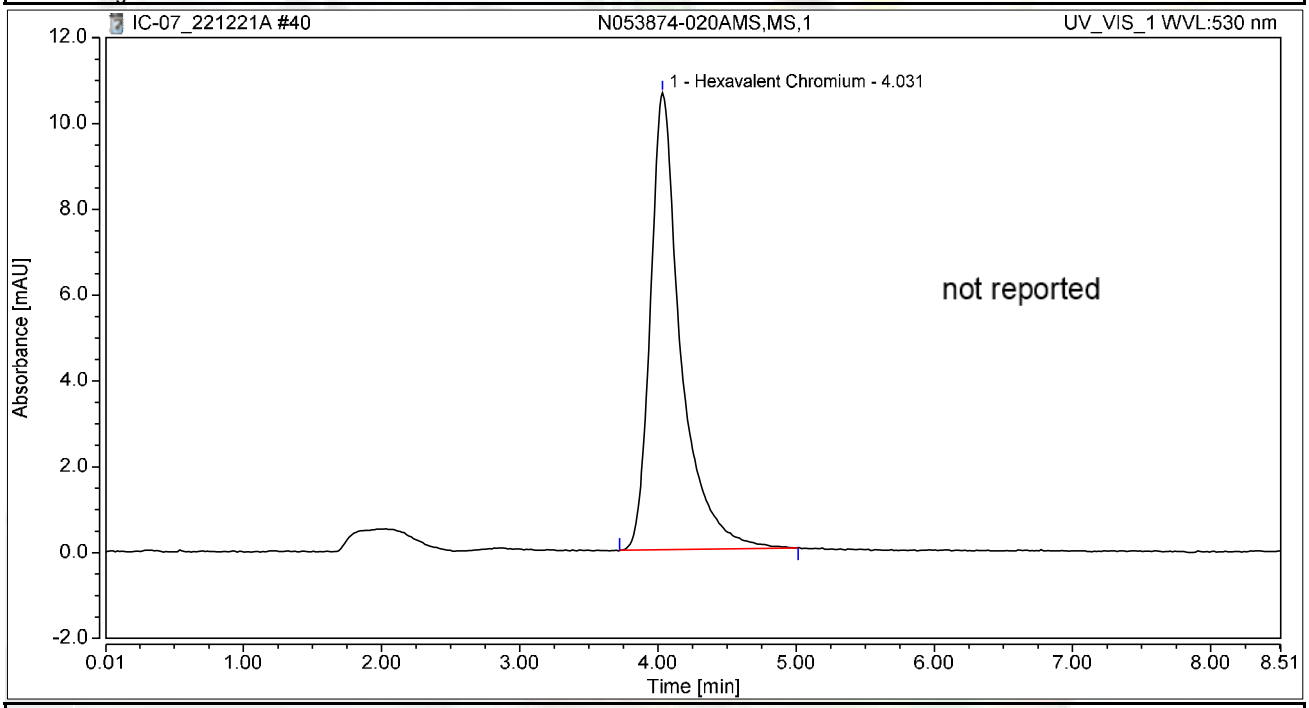
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.031	2.499	9.748	100.00	100.00	12.1626
Total:			**2.499**	**9.748**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-020AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 16:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

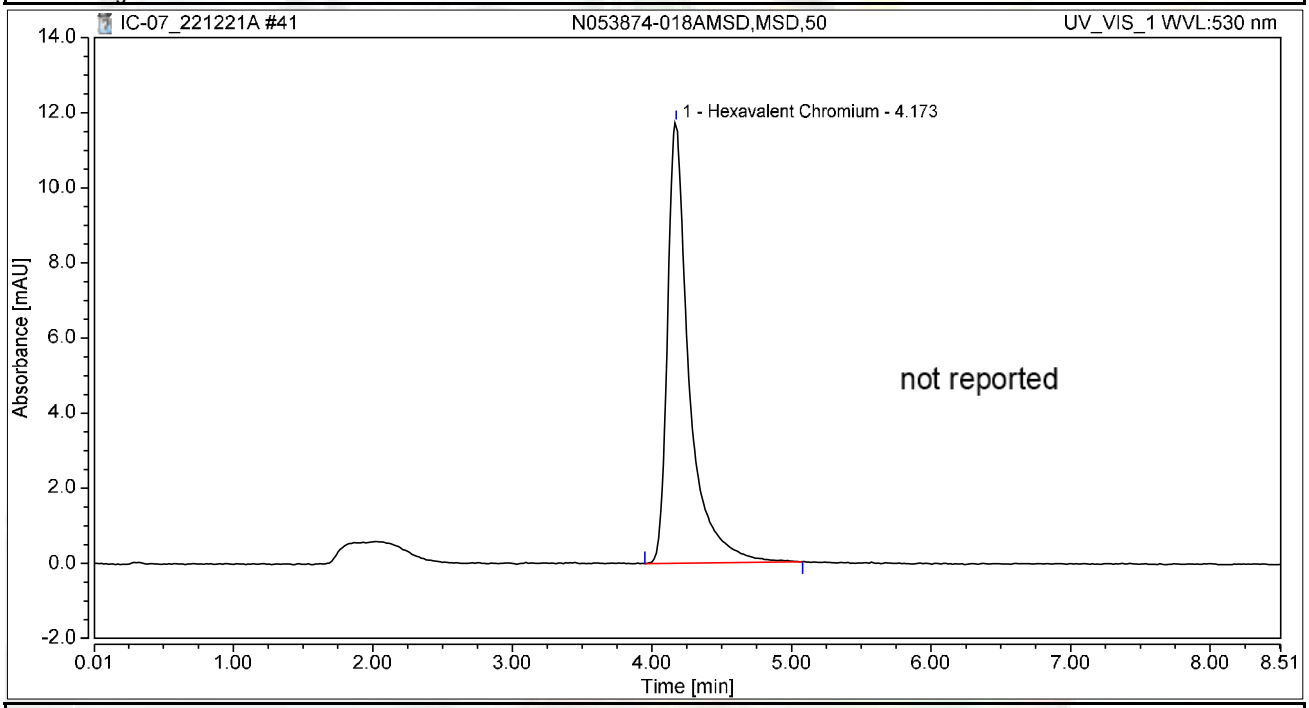
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.031	2.711	10.648	100.00	100.00	13.1924
Total:			**2.711**	**10.648**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018AMSD,MSD,50**	*Run Time (min):*	**8.50**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 16:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

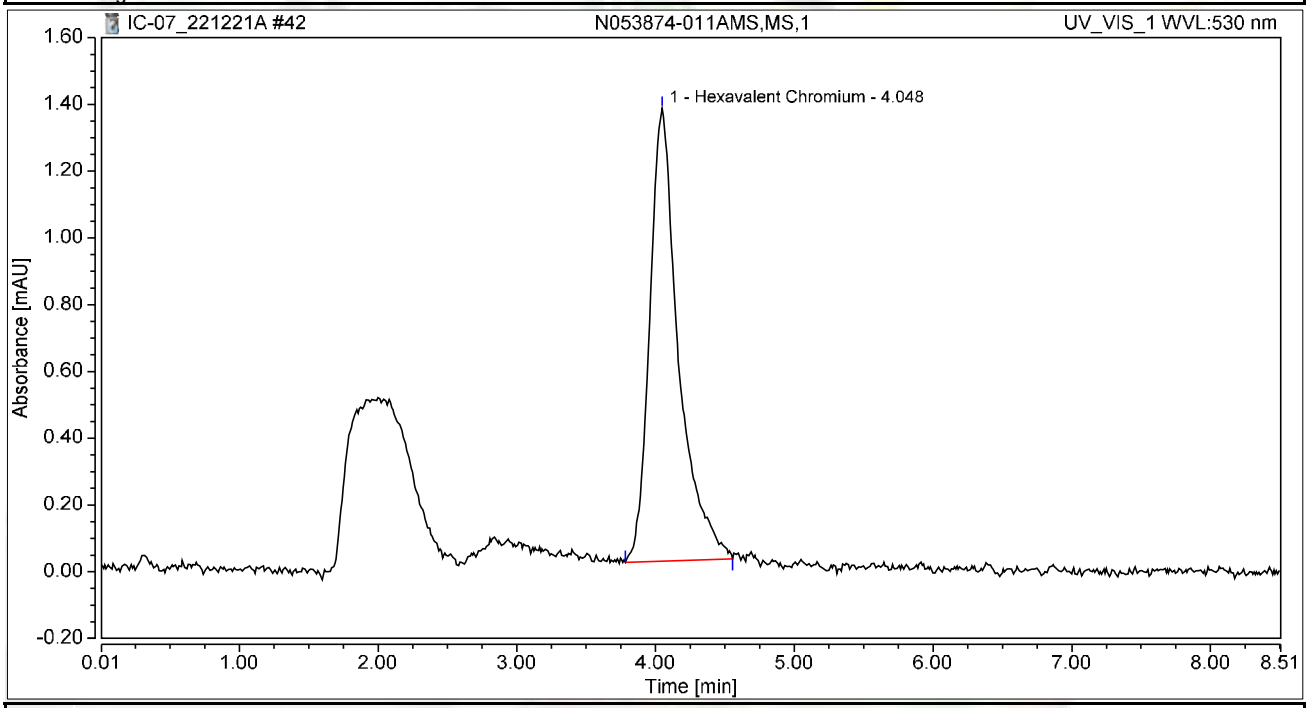
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	2.108	11.734	100.00	100.00	10.2603
Total:			**2.108**	**11.734**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-011AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 16:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

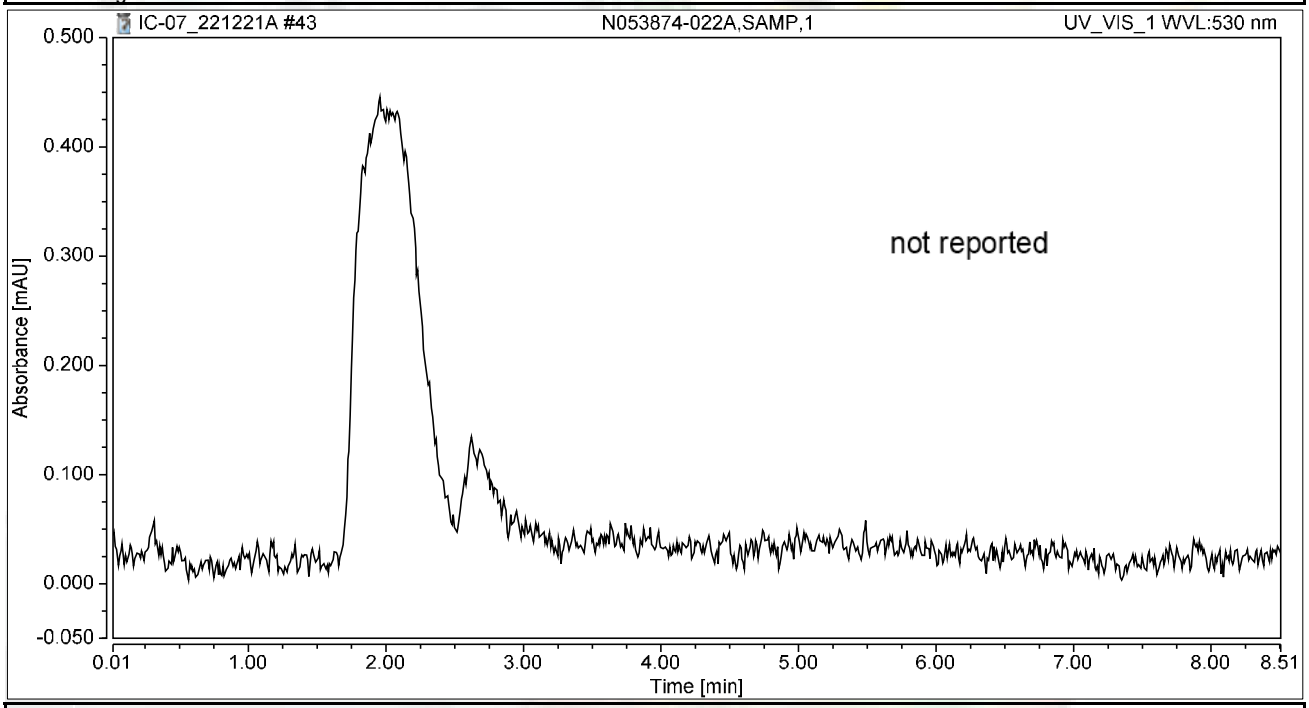
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.326	1.357	100.00	100.00	1.5872
Total:			**0.326**	**1.357**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-022A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 16:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

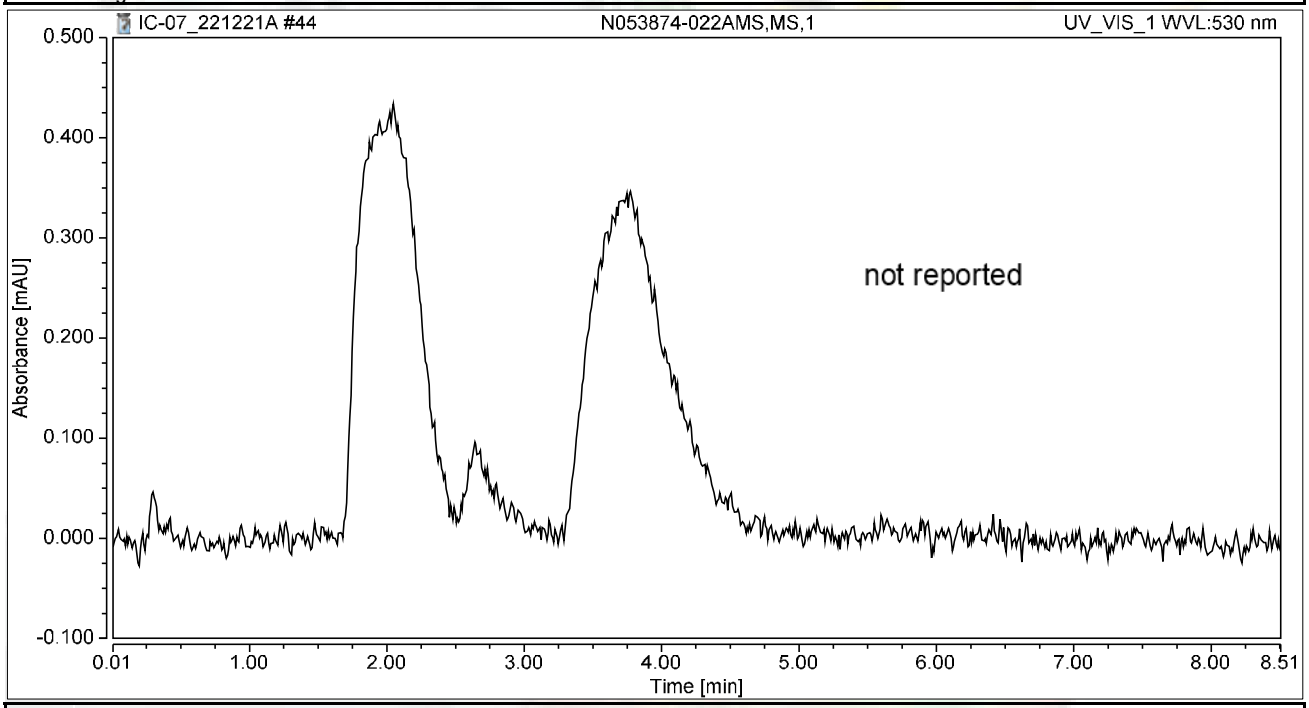
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-022AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 16:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

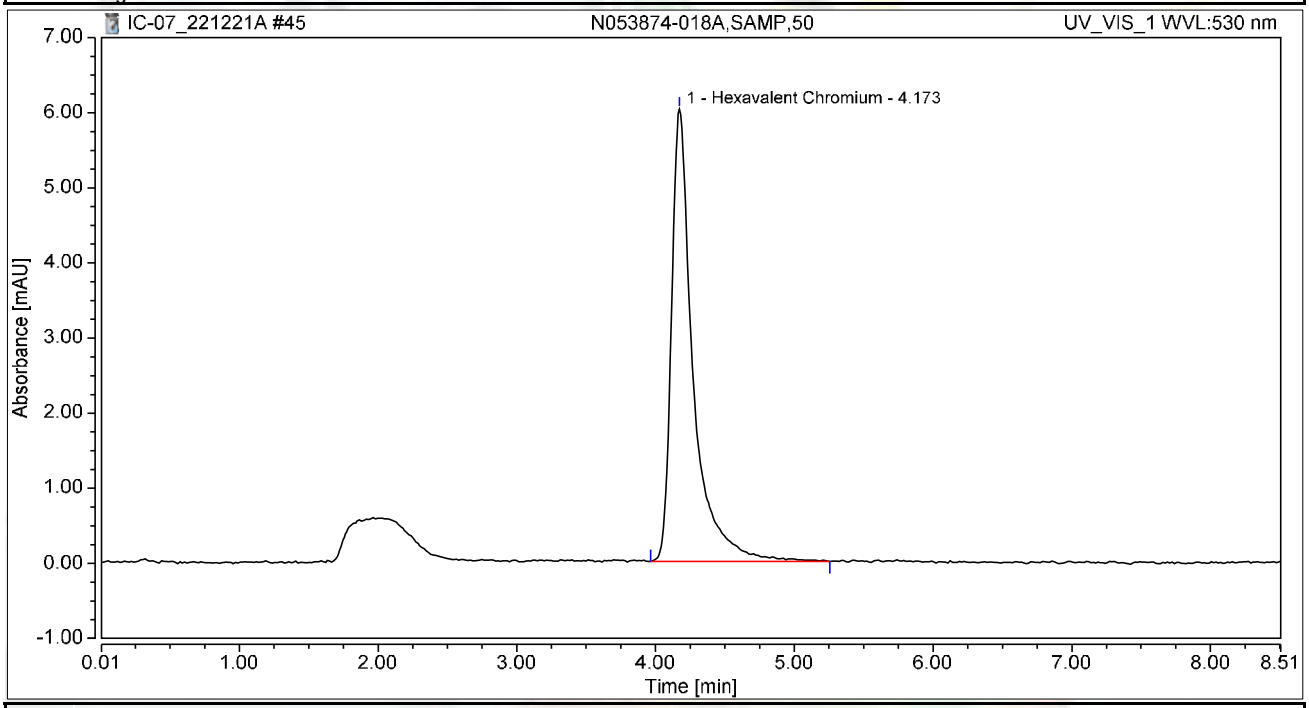
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018A,SAMP,50**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

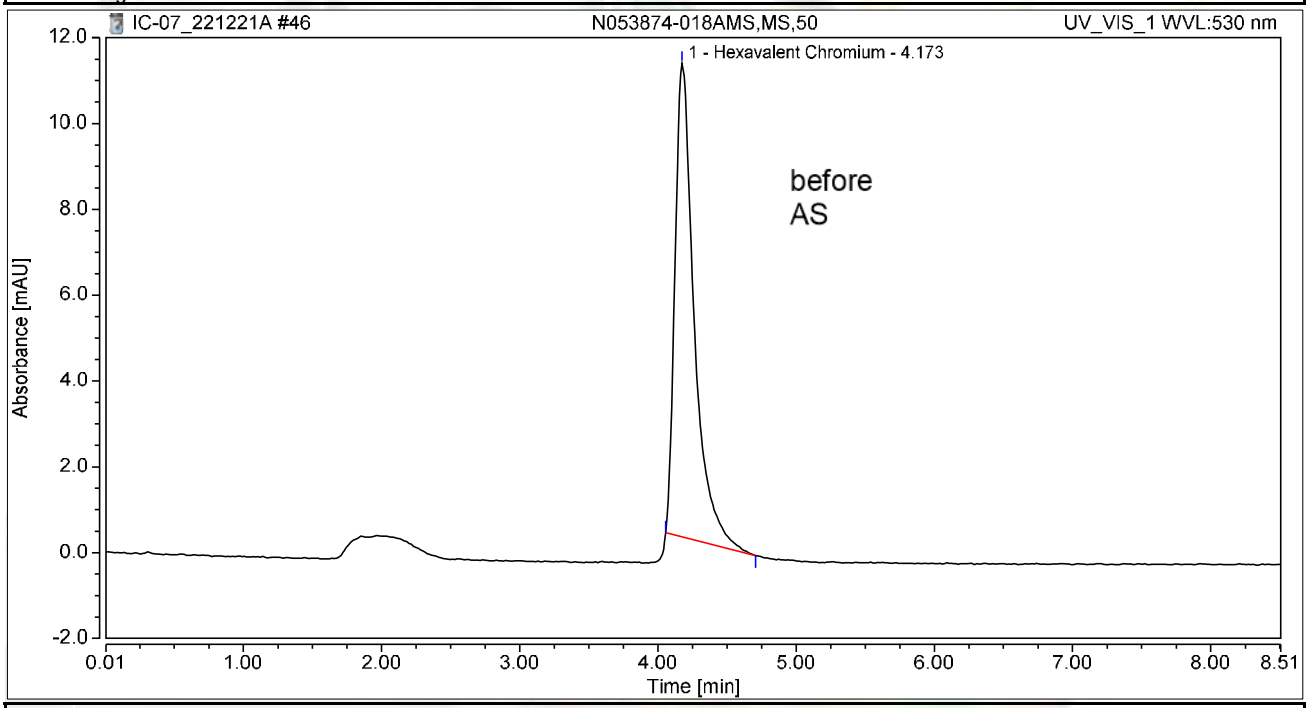
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	1.093	6.022	100.00	100.00	5.3203
Total:			**1.093**	**6.022**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

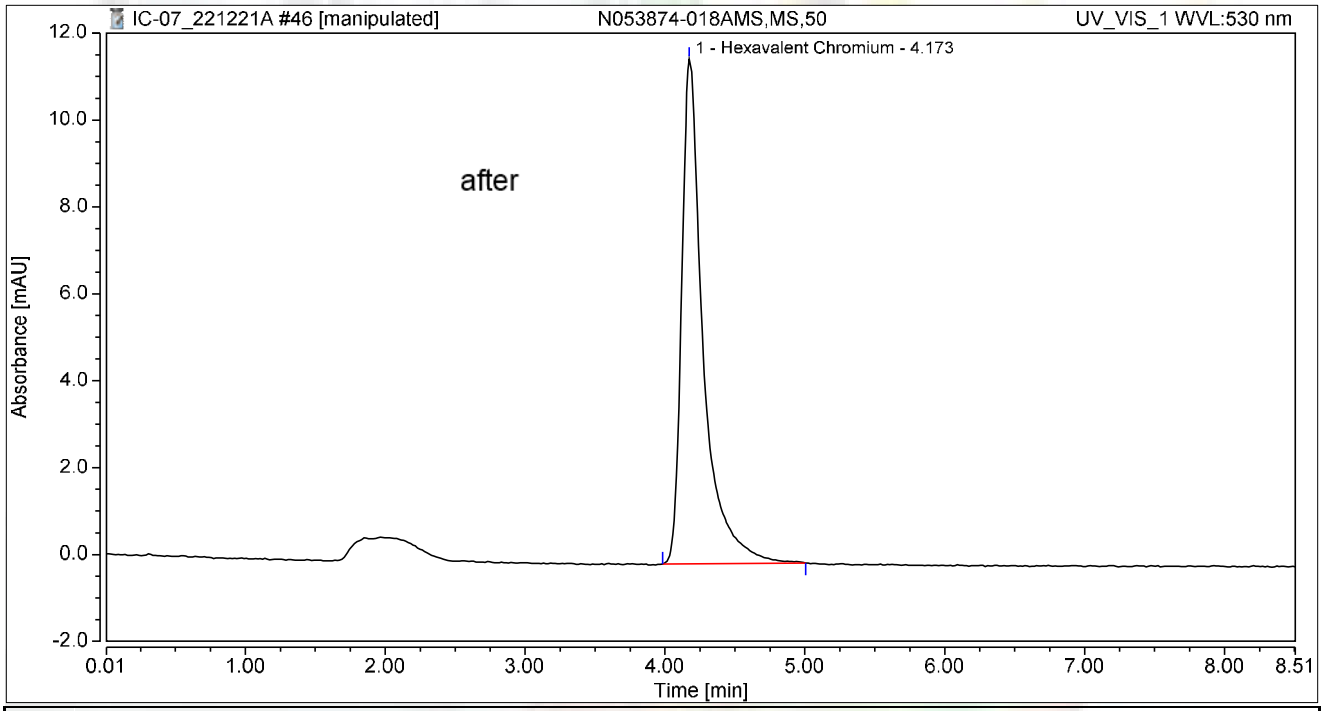
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	1.779	11.030	100.00	100.00	8.6583
Total:			**1.779**	**11.030**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018AMS,MS,50**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	2.072	11.612	100.00	100.00	10.0827
Total:			**2.072**	**11.612**	**100.00**	**100.00**	

Reviewed by
My first report integration
12/22/2022

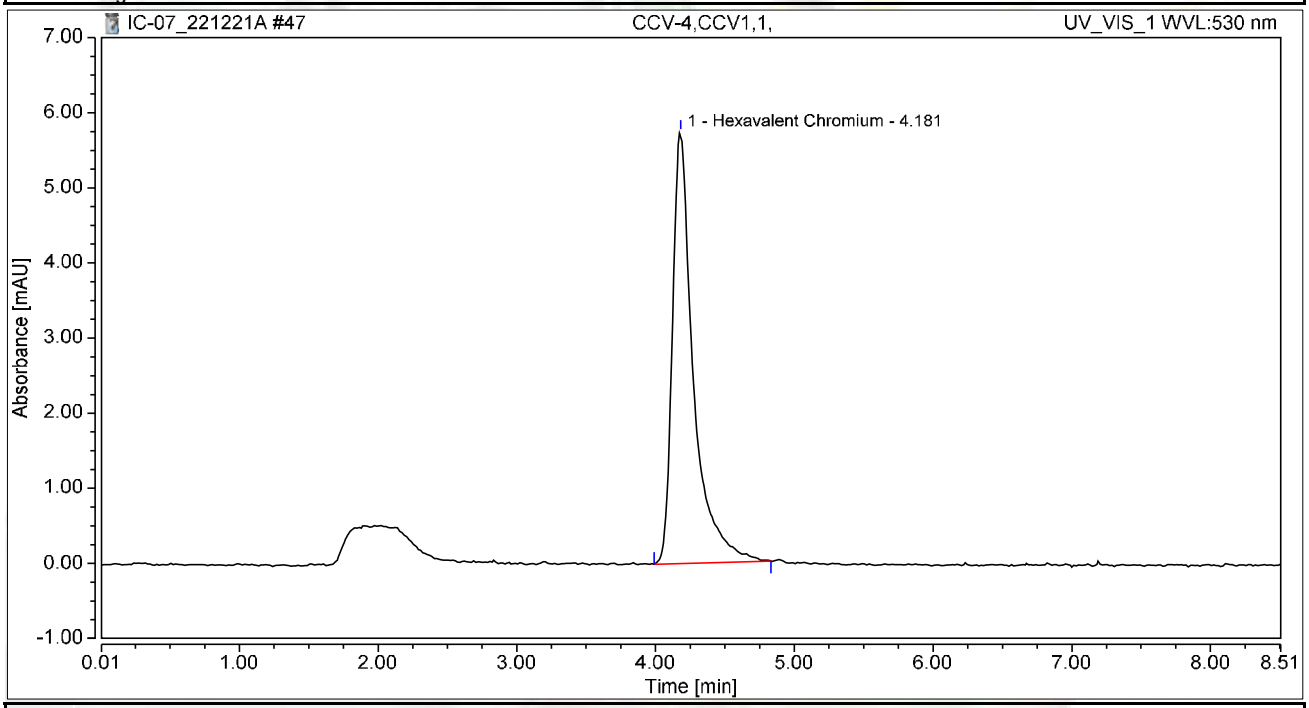
Chromeleon (c) Dionex
Version 7.1.1.1127

Chromatogram and Results

Injection Details

Injection Name:	**CCV-4,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

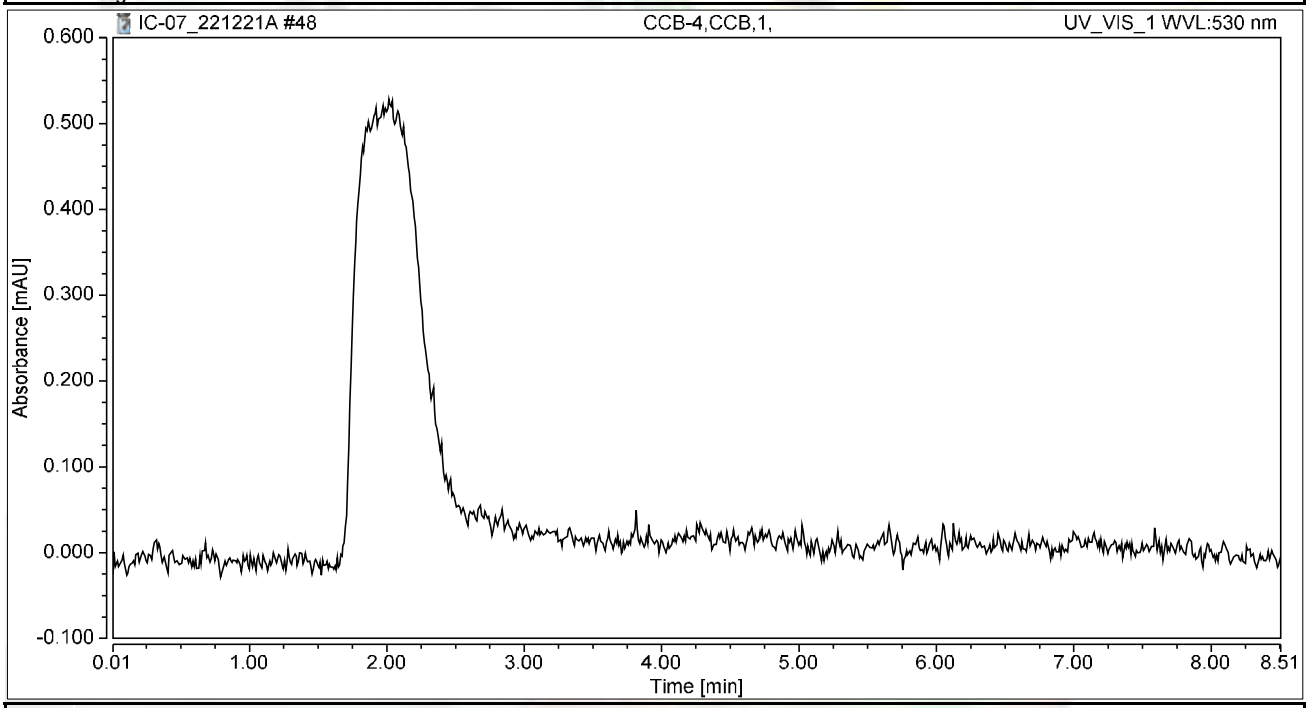
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	1.007	5.743	100.00	100.00	4.9002
Total:			**1.007**	**5.743**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-4,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

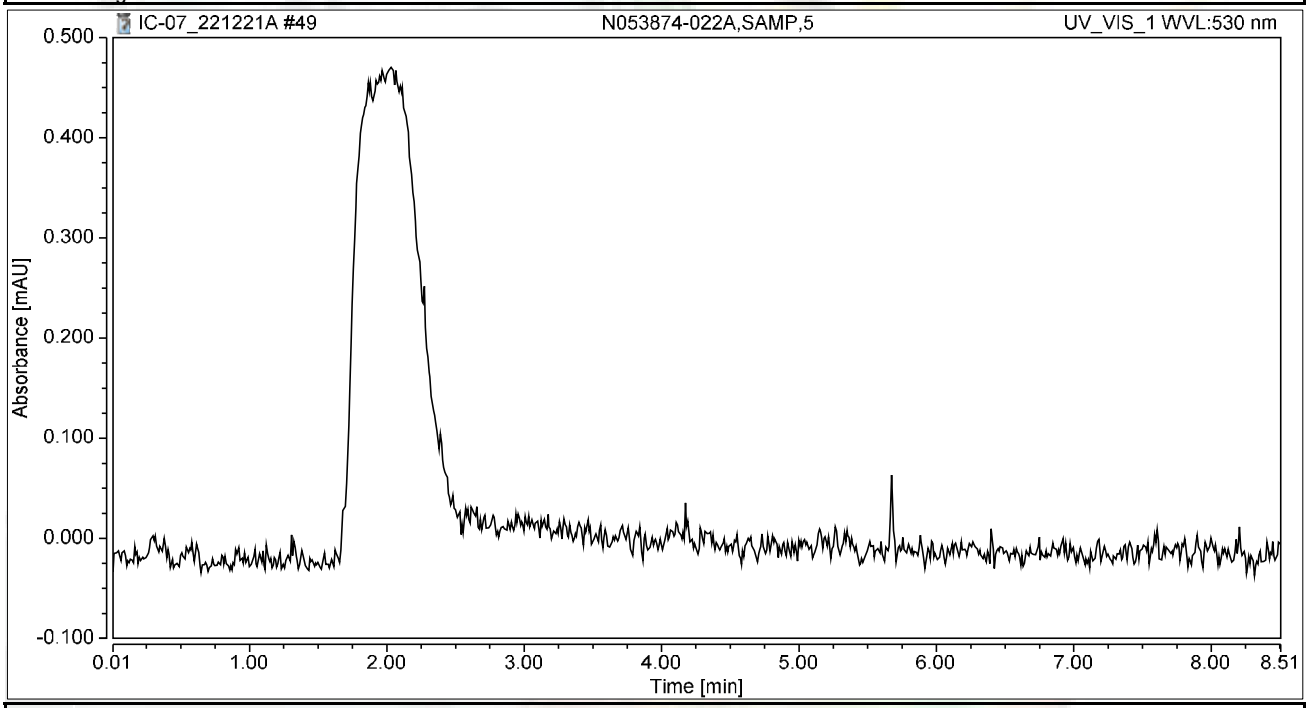
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-022A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

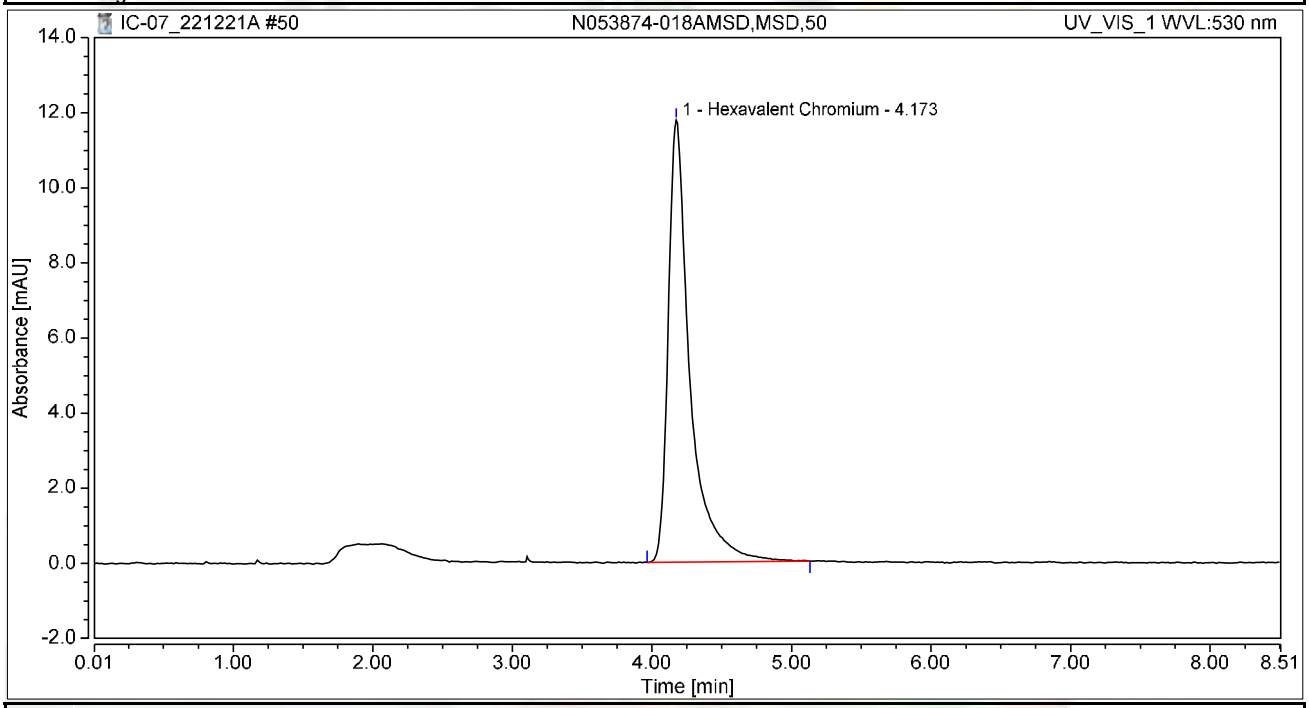
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-018AMSD,MSD,50**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 17:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

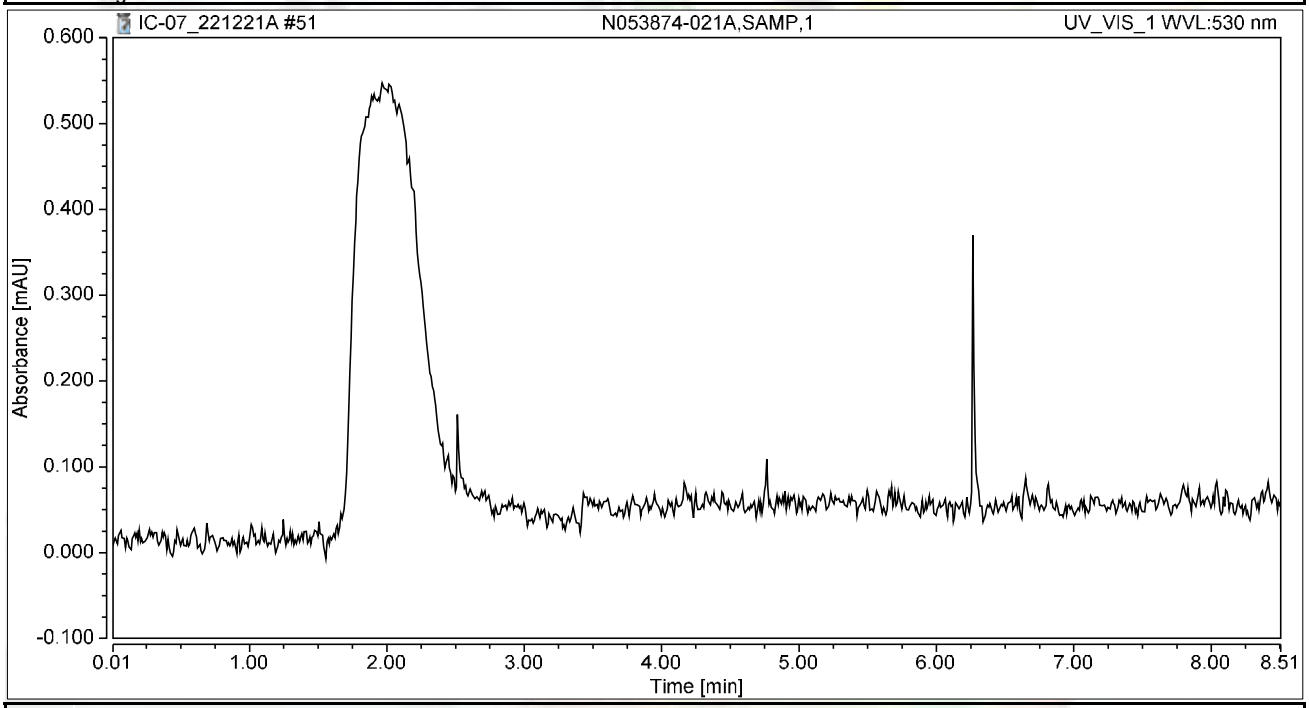
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	2.121	11.767	100.00	100.00	10.3196
Total:			**2.121**	**11.767**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-021A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

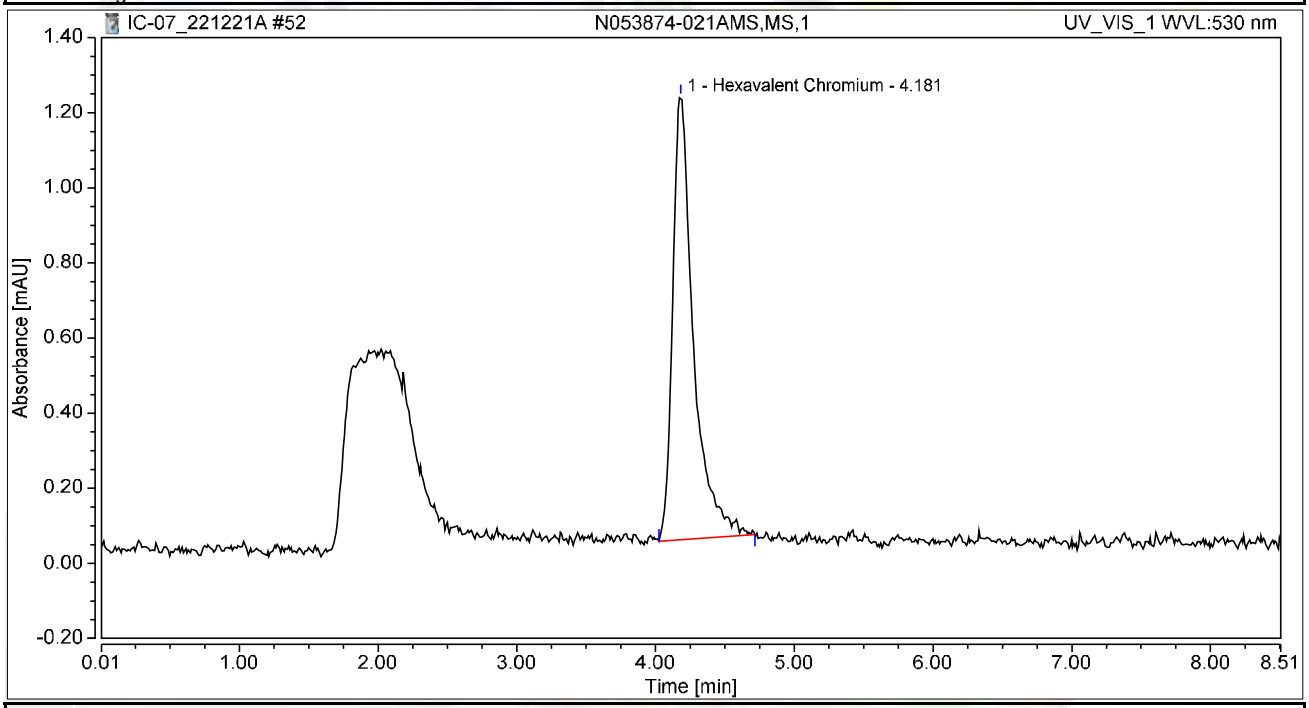
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-021AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

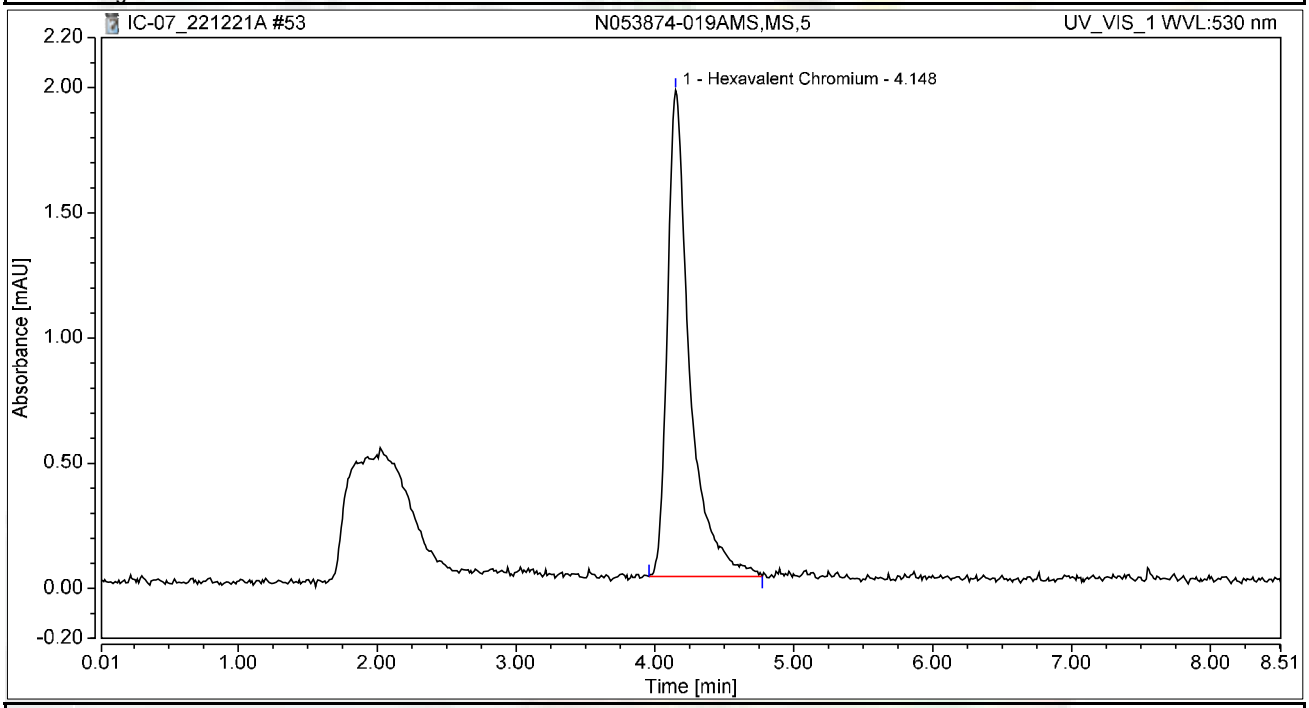
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	0.205	1.180	100.00	100.00	0.9961
Total:			**0.205**	**1.180**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-019AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

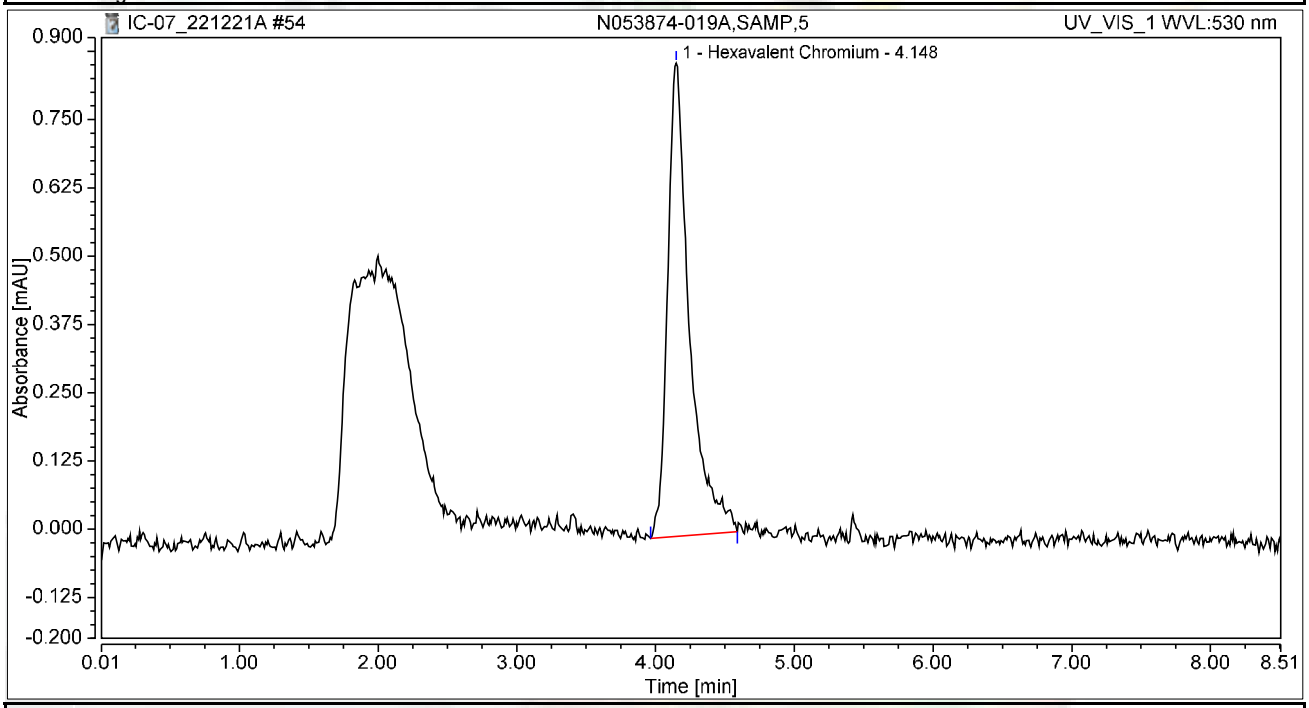
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	0.361	1.942	100.00	100.00	1.7548
Total:			**0.361**	**1.942**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-019A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

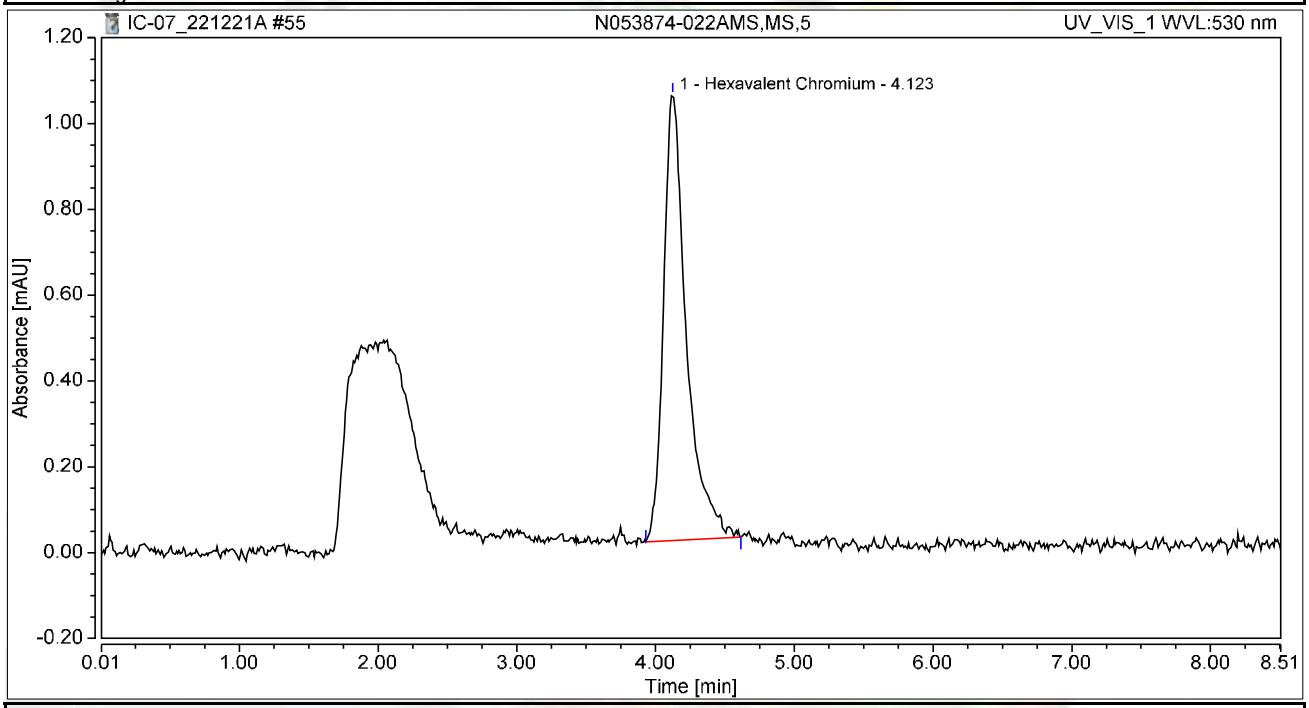
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.148	0.158	0.866	100.00	100.00	0.7700
Total:			**0.158**	**0.866**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-022AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

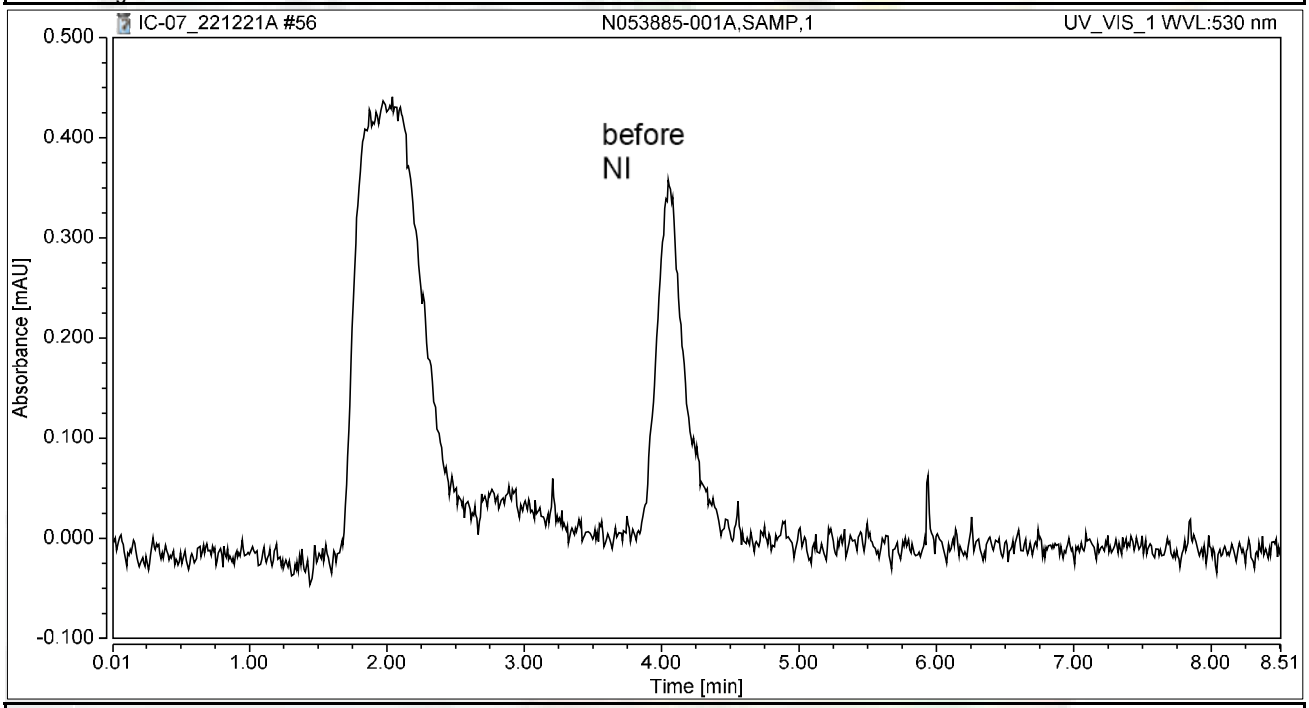
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.123	0.199	1.039	100.00	100.00	0.9694
Total:			**0.199**	**1.039**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

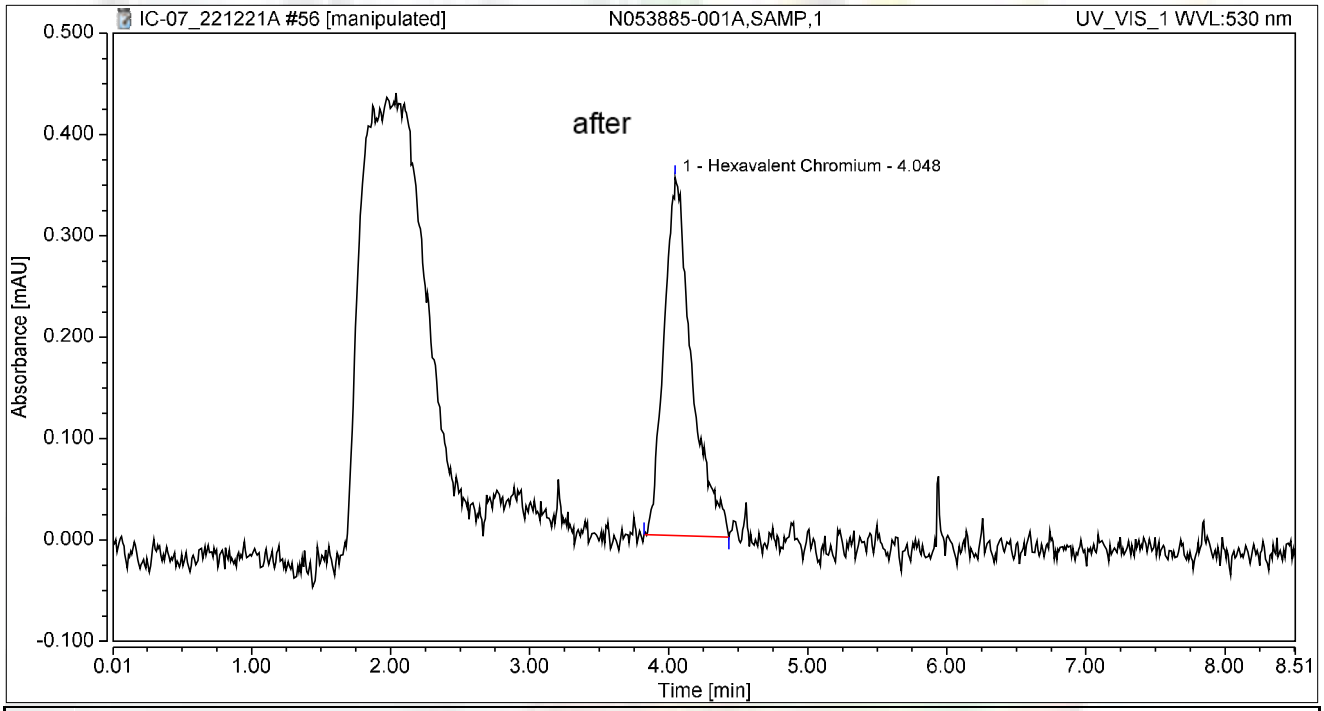
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 18:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

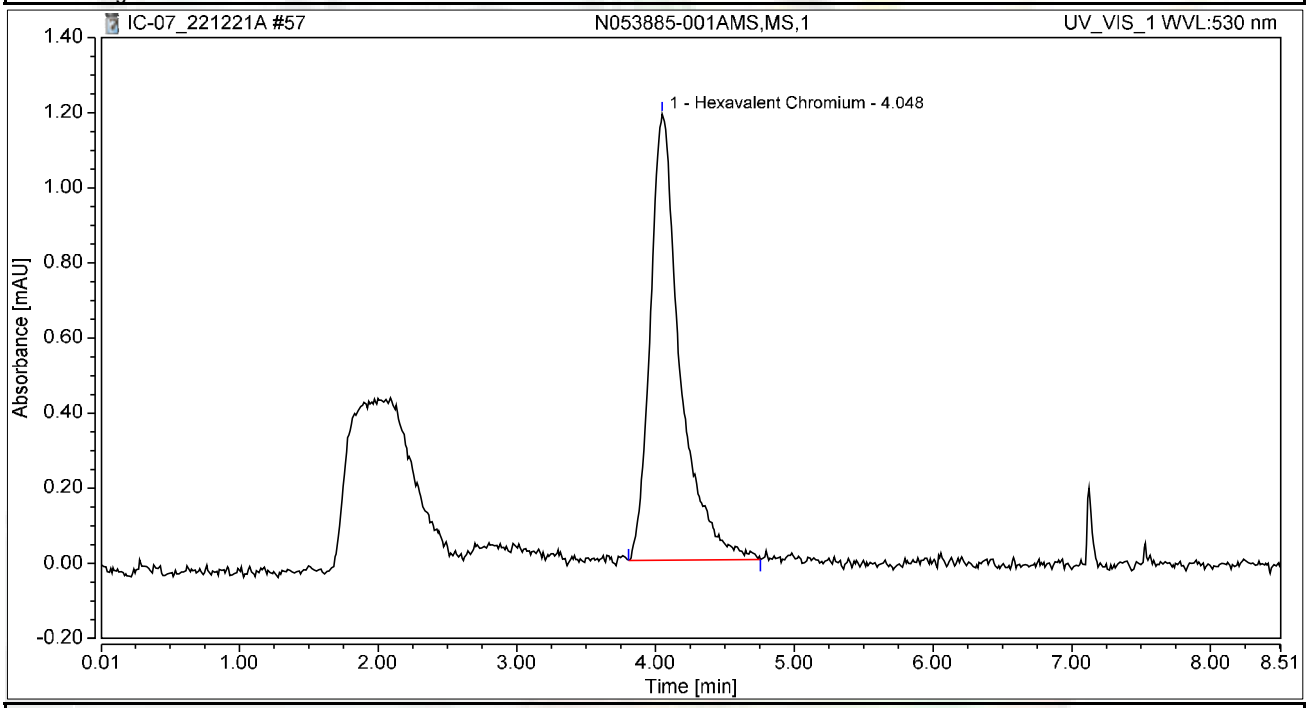
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.081	0.353	100.00	100.00	0.3961
Total:			**0.081**	**0.353**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

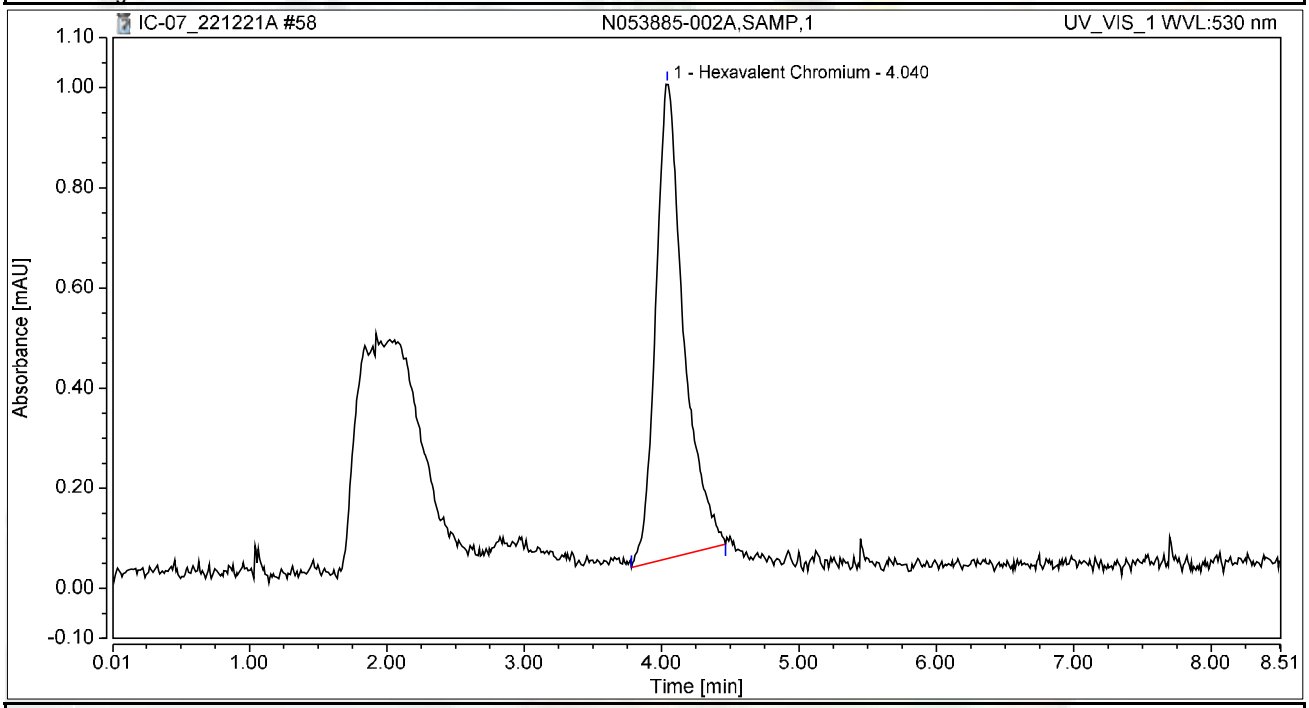
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.296	1.189	100.00	100.00	1.4400
Total:			**0.296**	**1.189**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-002A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

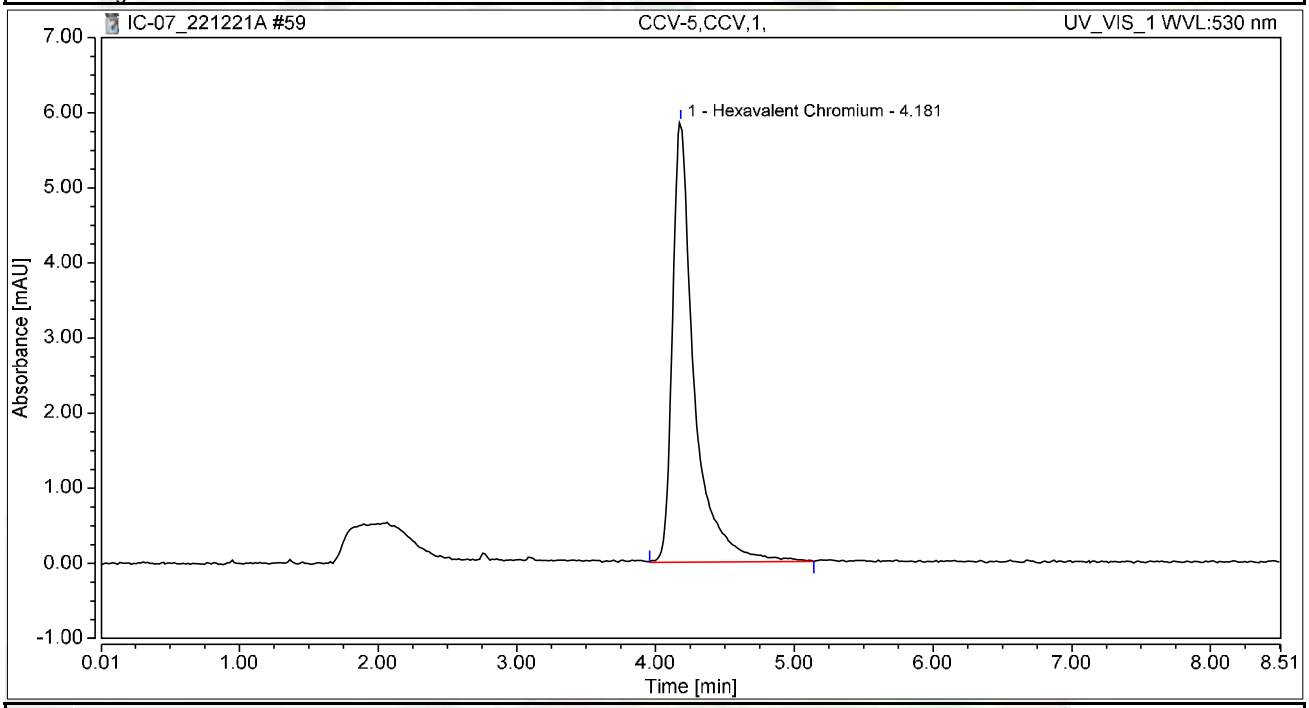
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.040	0.223	0.949	100.00	100.00	1.0854
Total:			**0.223**	**0.949**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-5,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

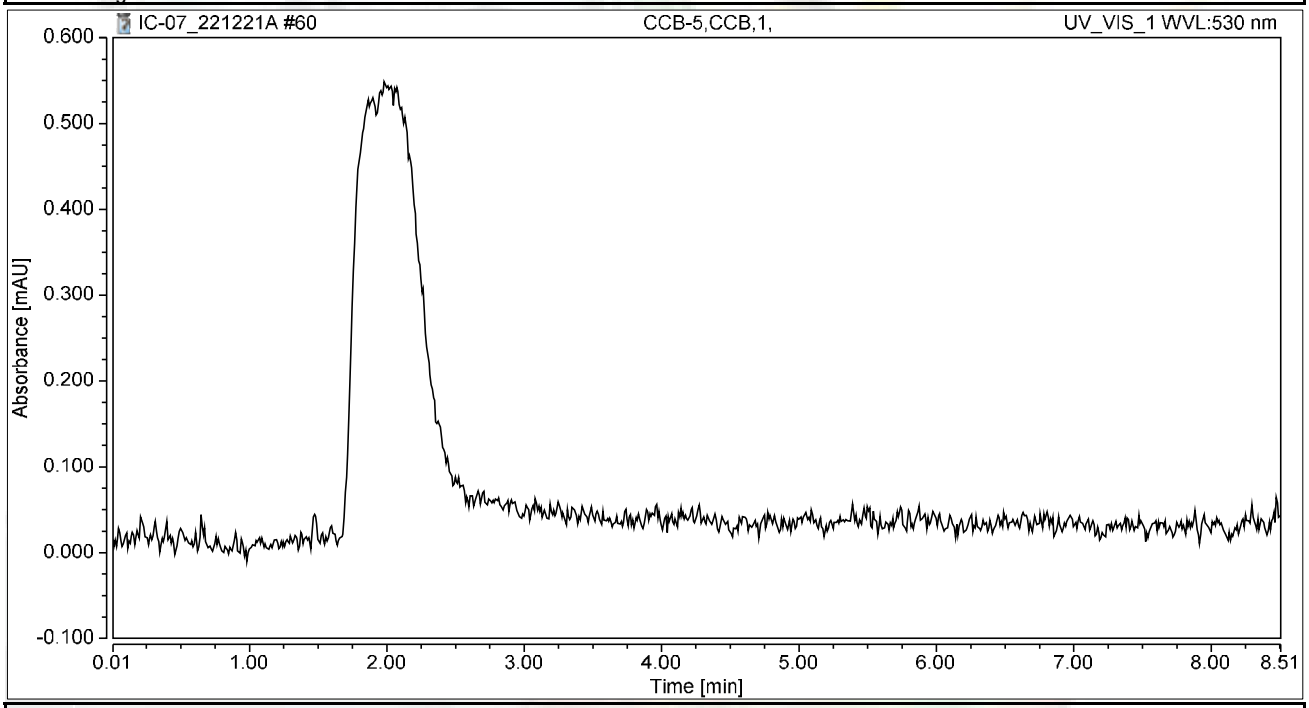
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	1.060	5.863	100.00	100.00	5.1598
Total:			**1.060**	**5.863**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-5,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

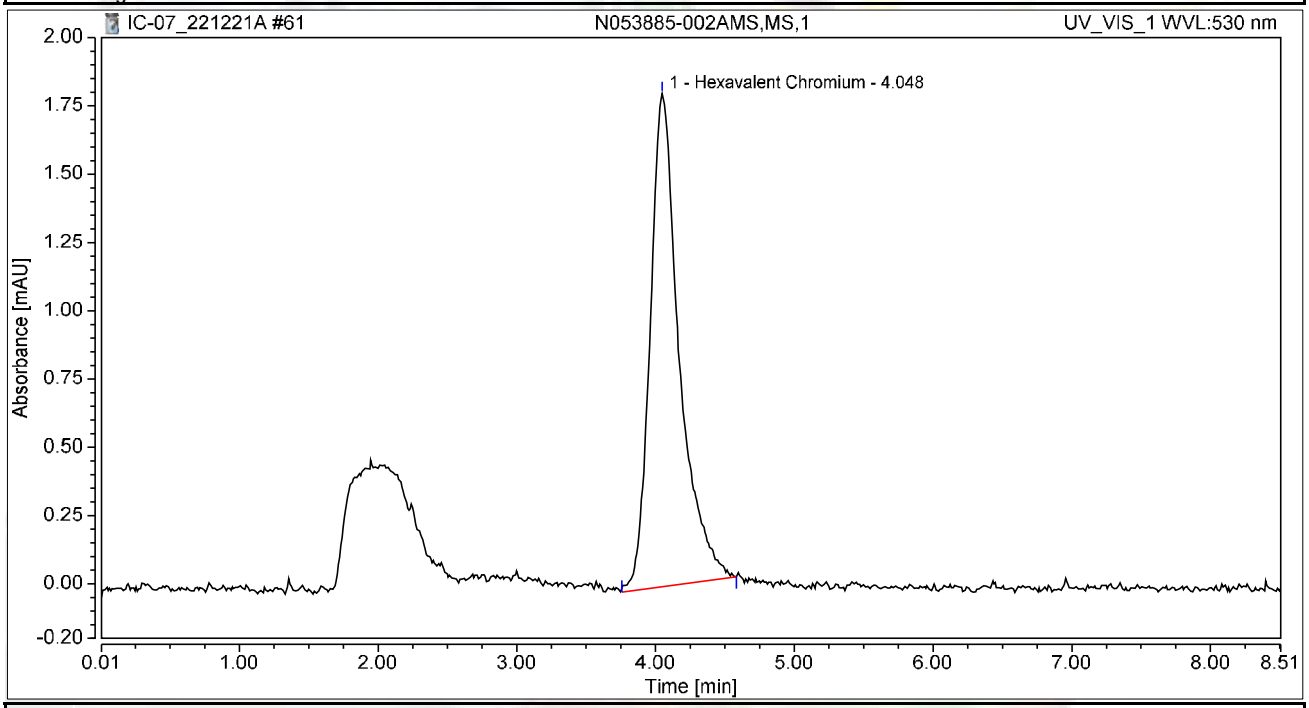
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

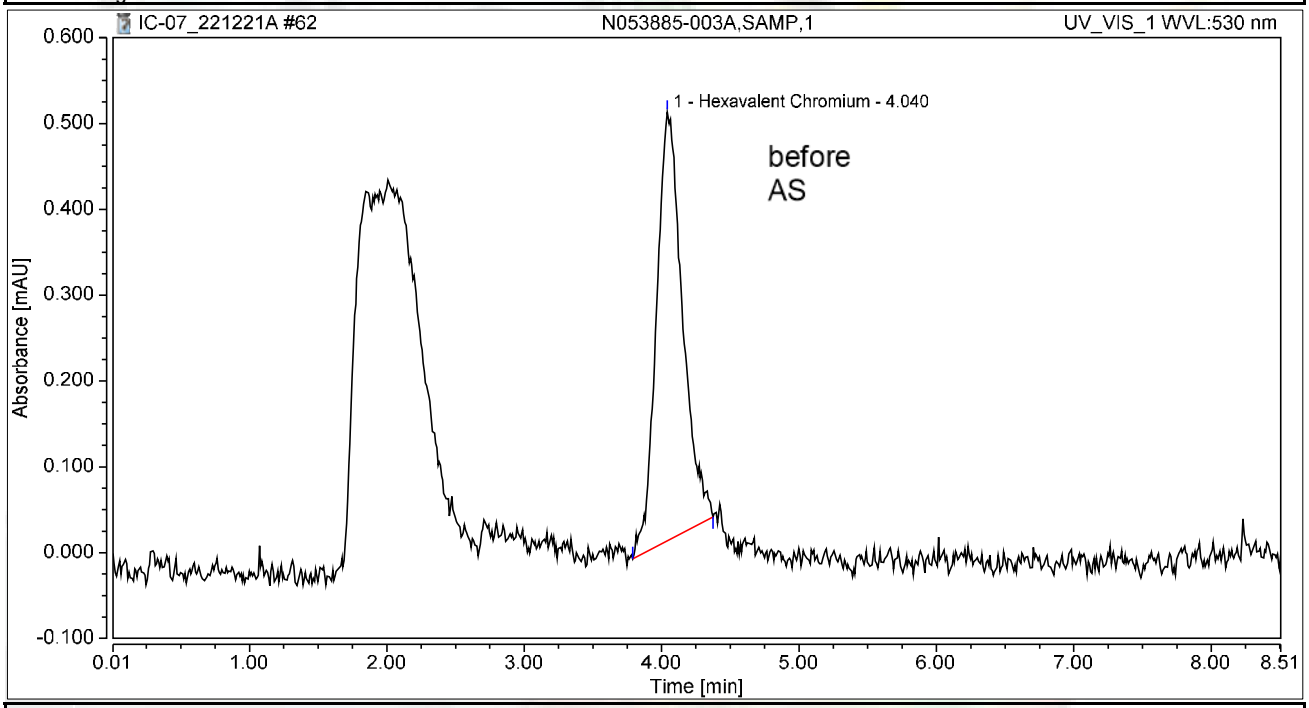
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.440	1.806	100.00	100.00	2.1392
Total:			**0.440**	**1.806**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

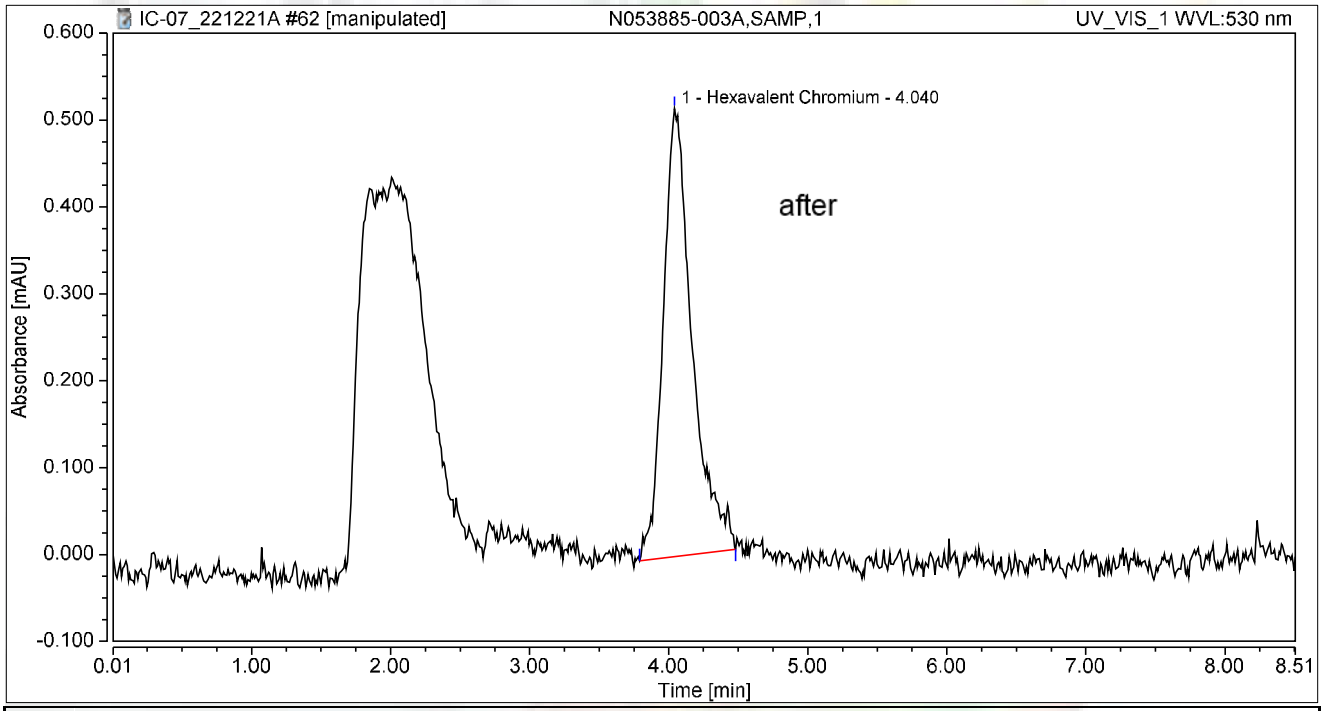
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.040	0.110	0.499	100.00	100.00	0.5343
Total:			**0.110**	**0.499**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 19:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

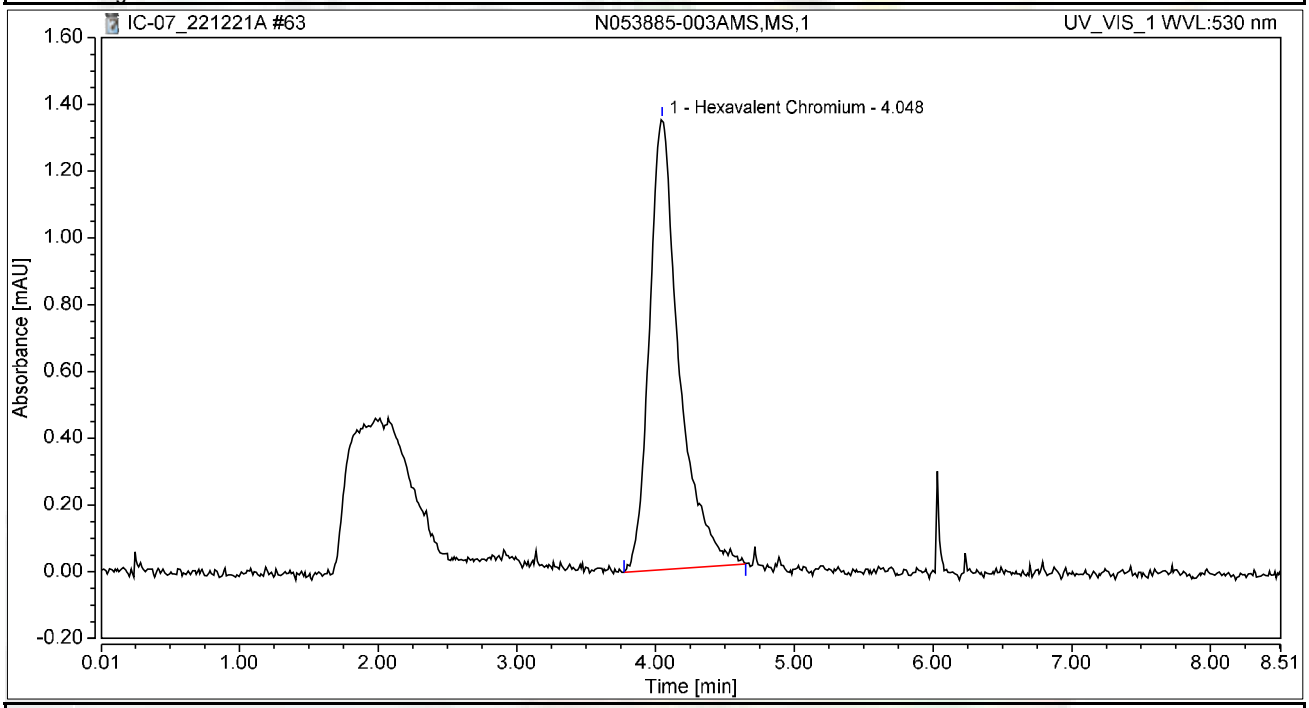
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.040	0.124	0.516	100.00	100.00	0.6034
Total:			**0.124**	**0.516**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-003AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

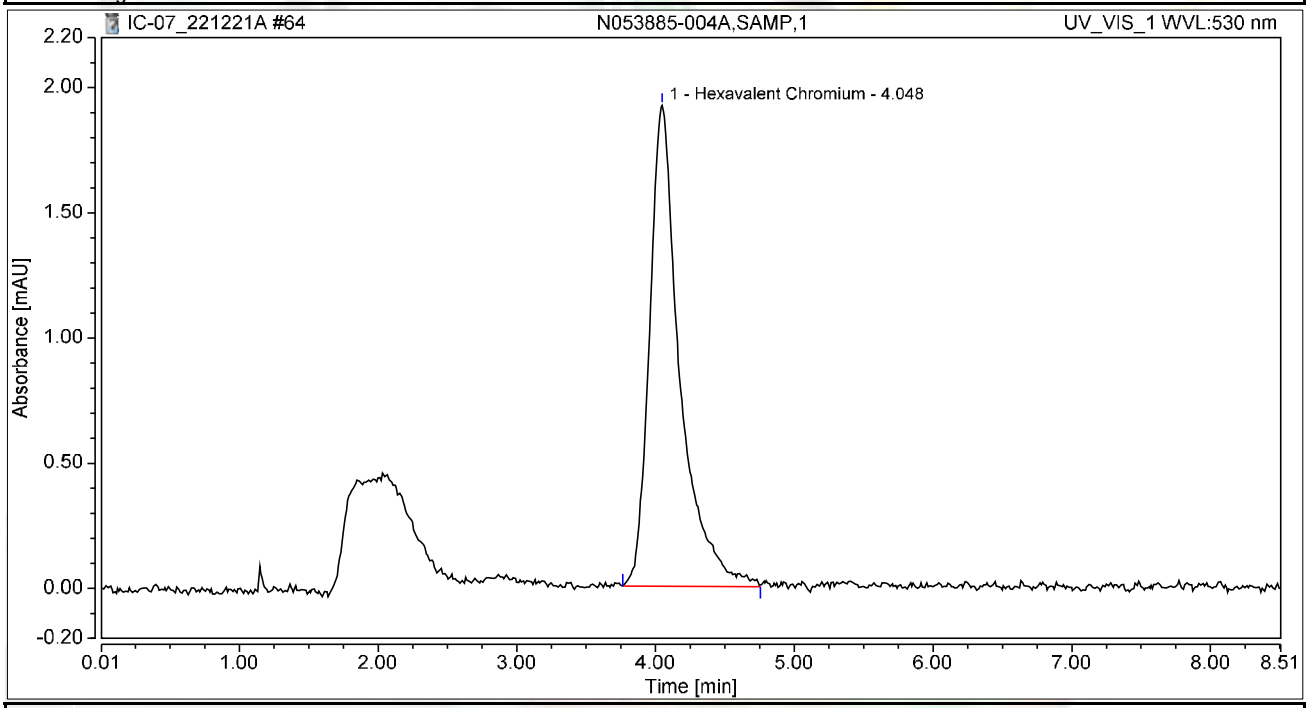
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.336	1.350	100.00	100.00	1.6343
Total:			**0.336**	**1.350**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-004A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

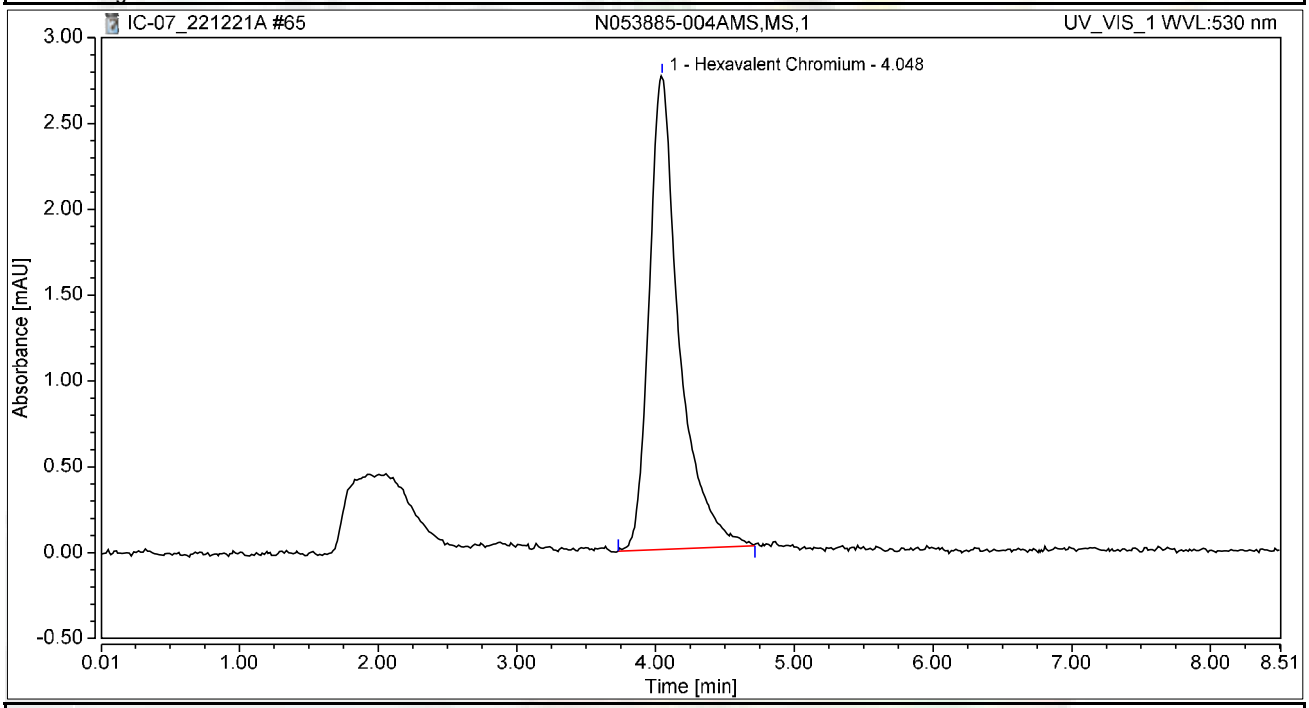
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.487	1.922	100.00	100.00	2.3687
Total:			**0.487**	**1.922**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-004AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

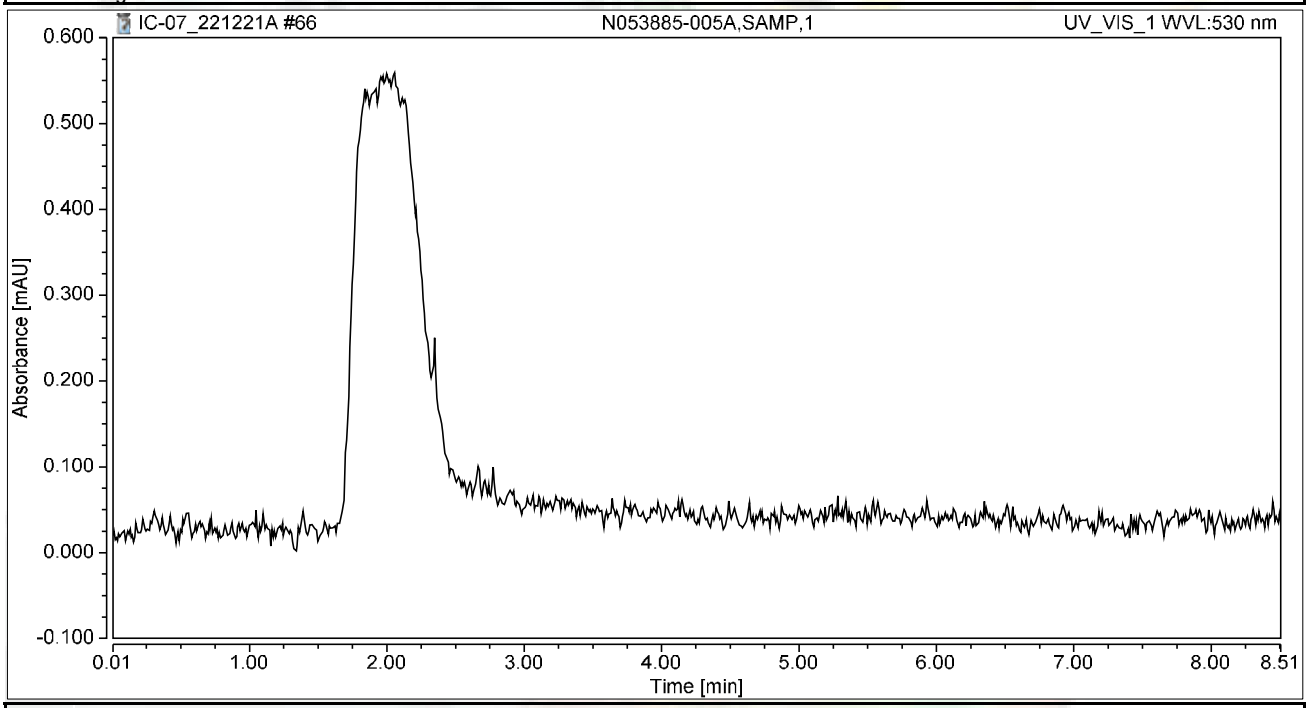
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.048	0.693	2.761	100.00	100.00	3.3730
Total:			**0.693**	**2.761**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-005A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

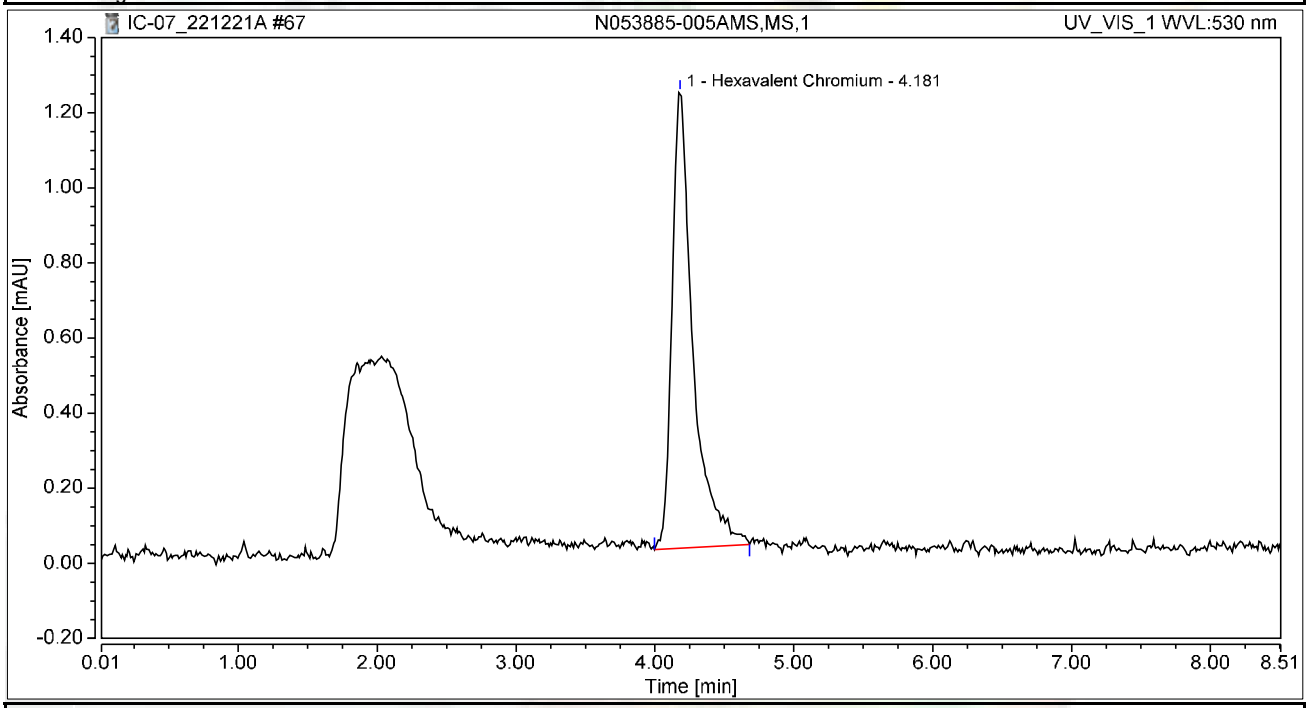
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053885-005AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

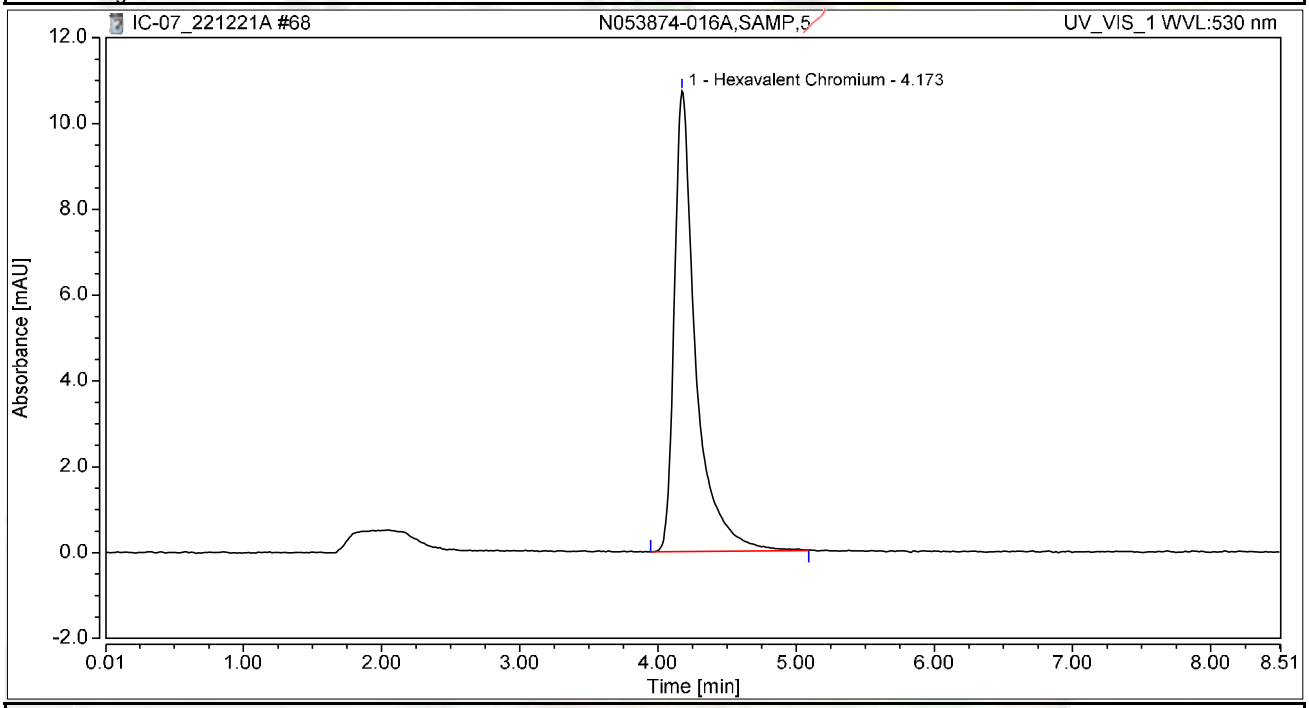
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	0.212	1.214	100.00	100.00	1.0332
Total:			**0.212**	**1.214**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-016A,SAMP,5** 10	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	1.924	10.732	100.00	100.00	9.3648
Total:			**1.924**	**10.732**	**100.00**	**100.00**	

12/27/2022
for RBA

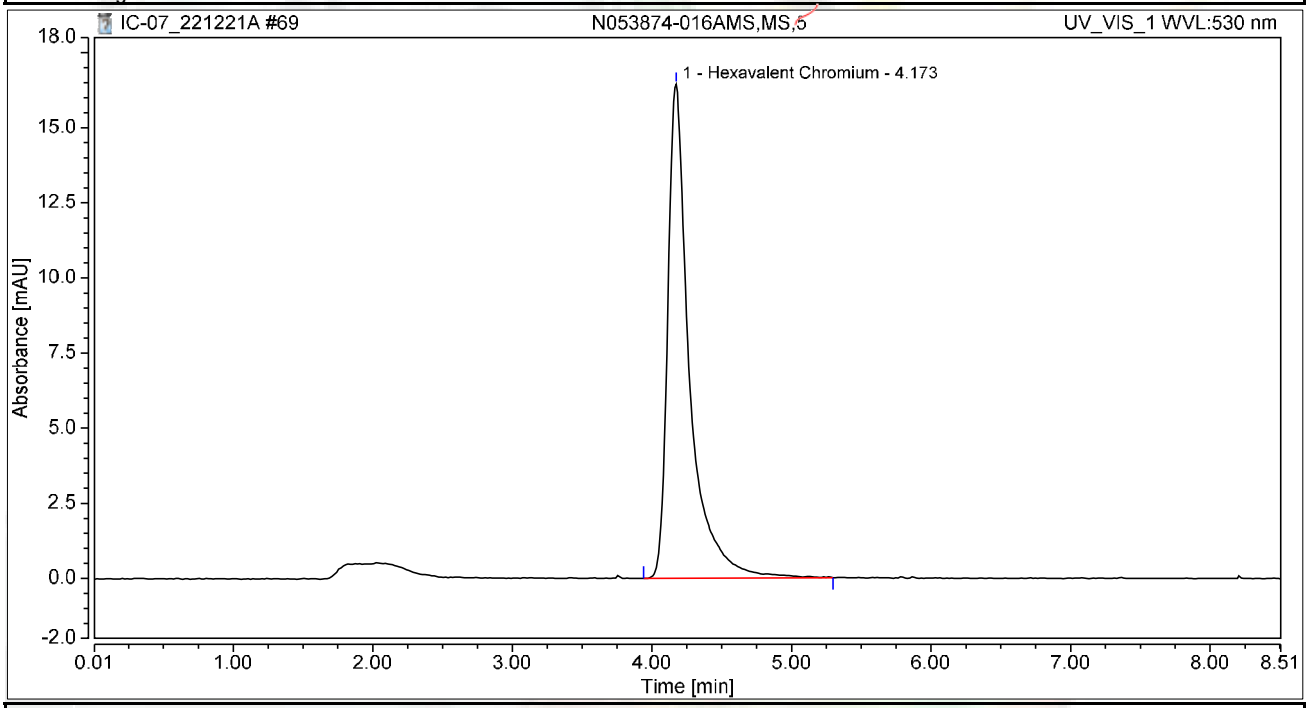
Chromatogram and Results

Injection Details

10

Injection Name:	**N053874-016AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 20:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	2.965	16.442	100.00	100.00	14.4300
Total:			**2.965**	**16.442**	**100.00**	**100.00**	

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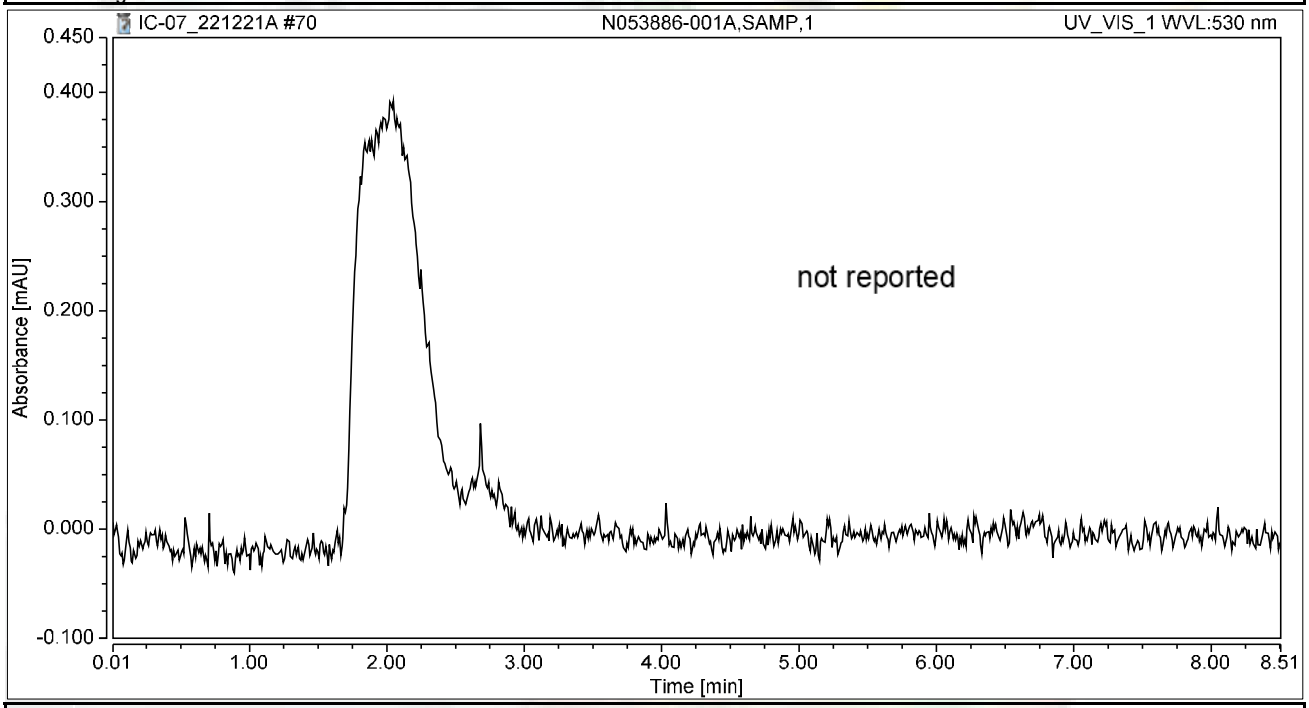
for RBA

Chromatogram and Results

Injection Details

Injection Name:	**N053886-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 21:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

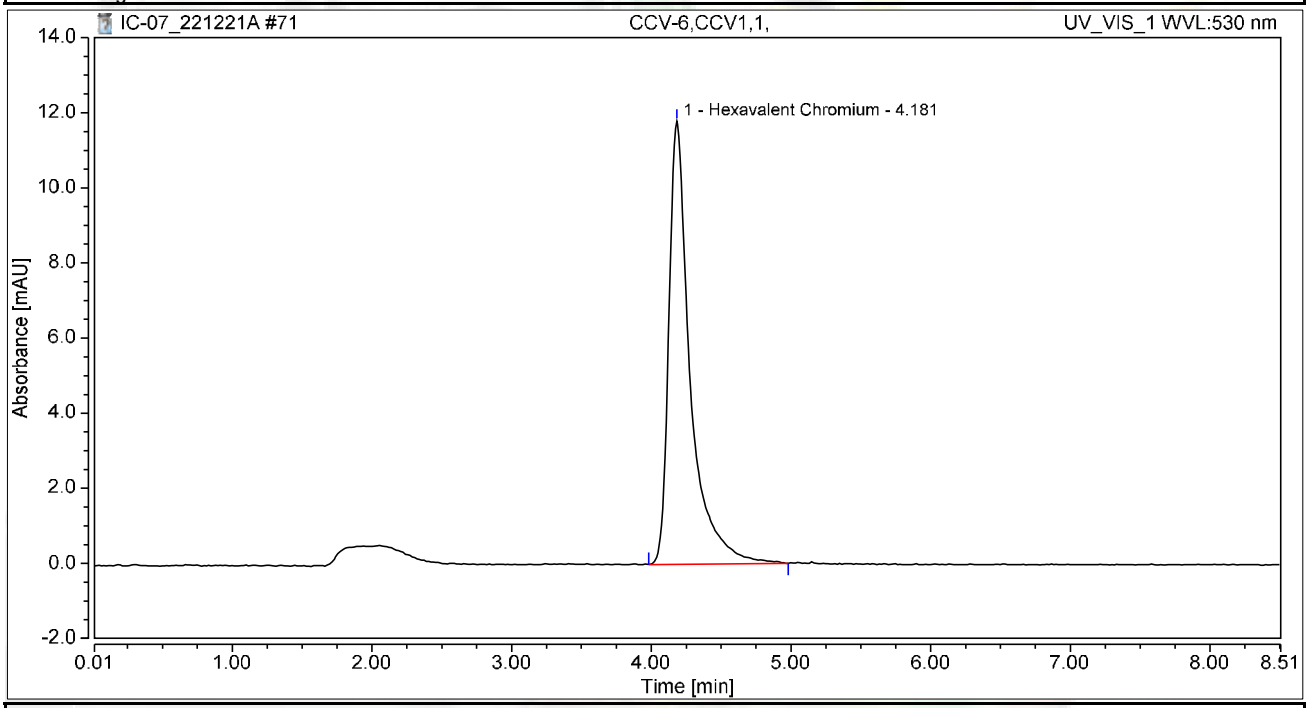
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-6,CCV1,1,**	*Run Time (min):*	**8.49**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 21:17**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

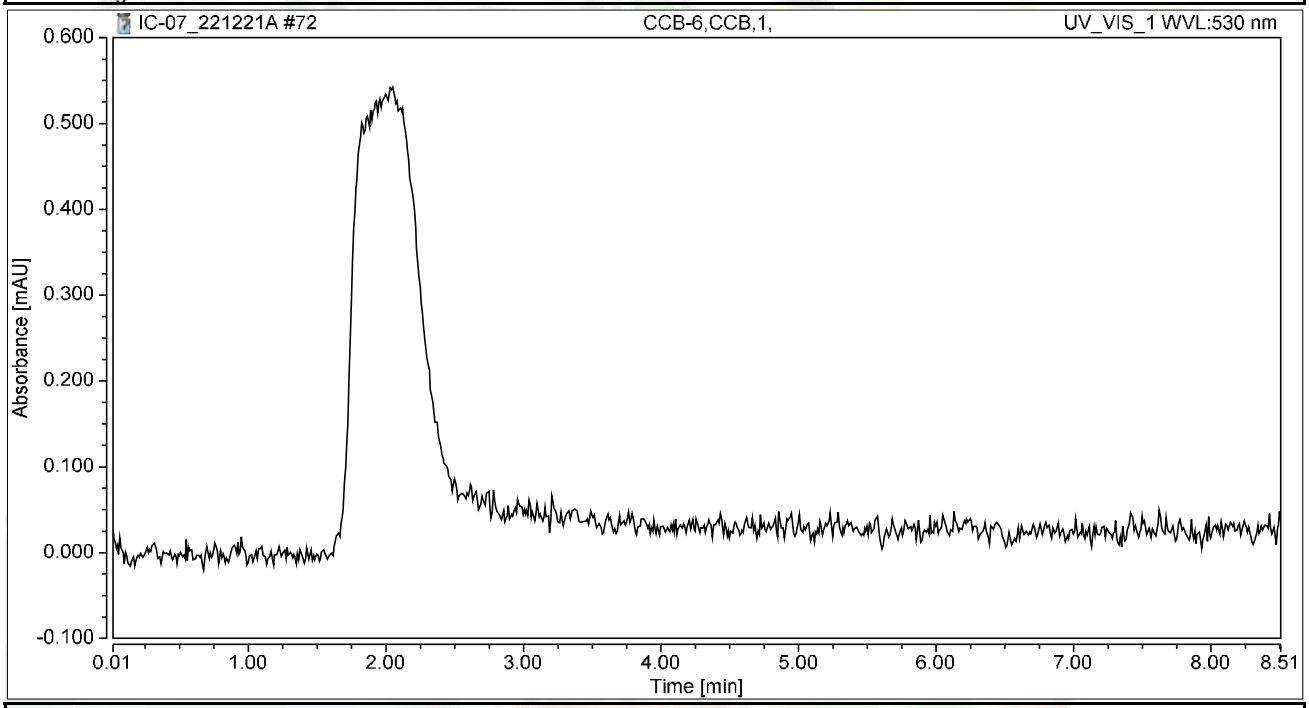
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	2.085	11.798	100.00	100.00	10.1457
Total:			**2.085**	**11.798**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-6,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 21:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

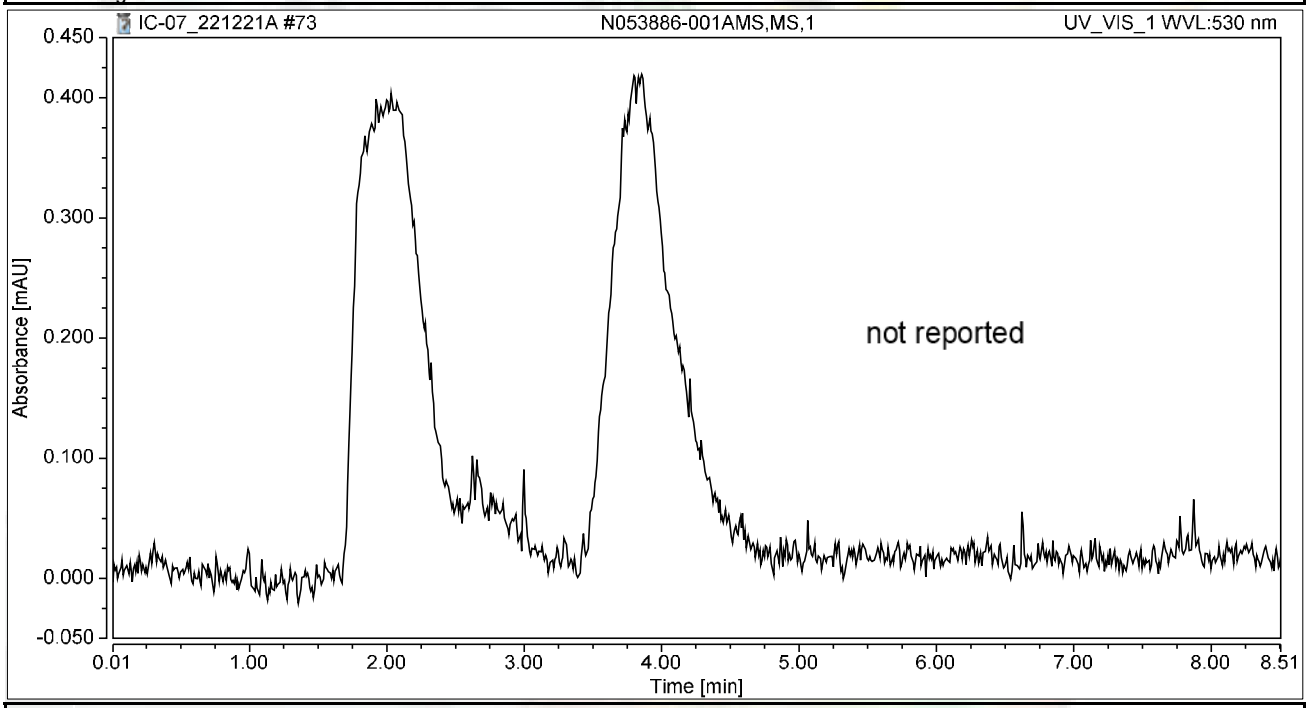
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 21:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

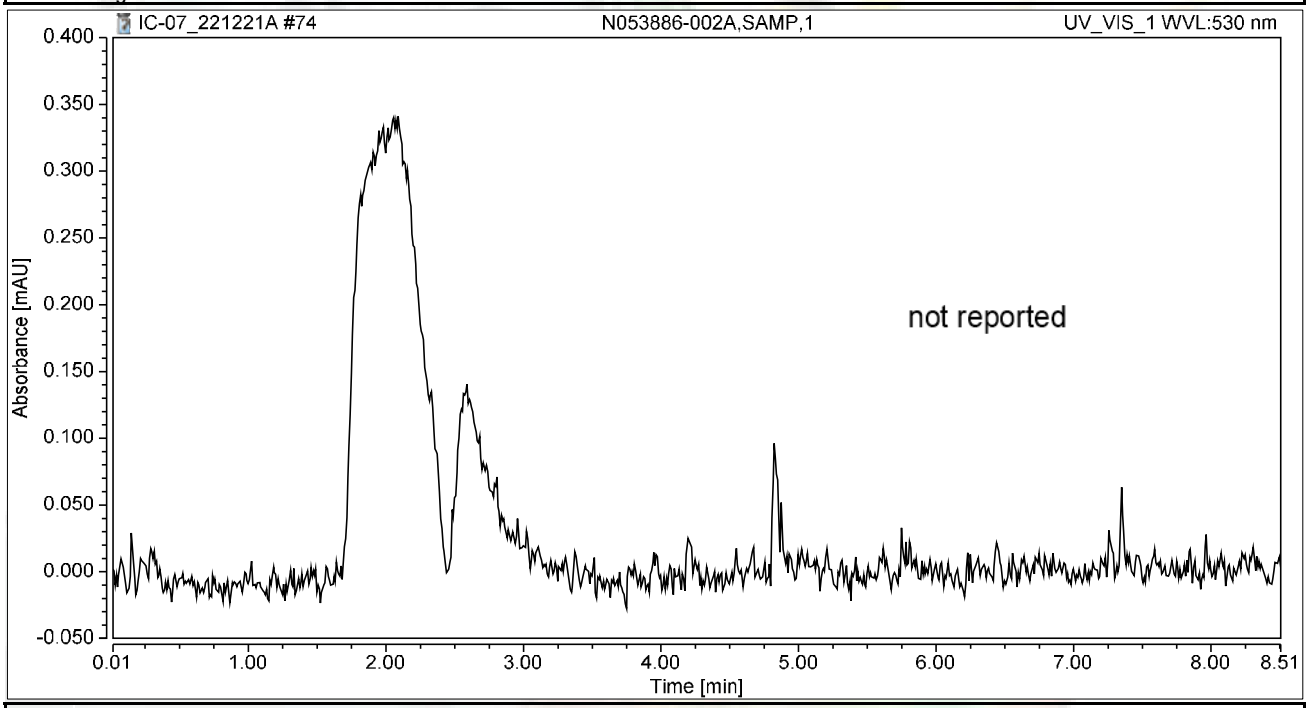
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 21:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

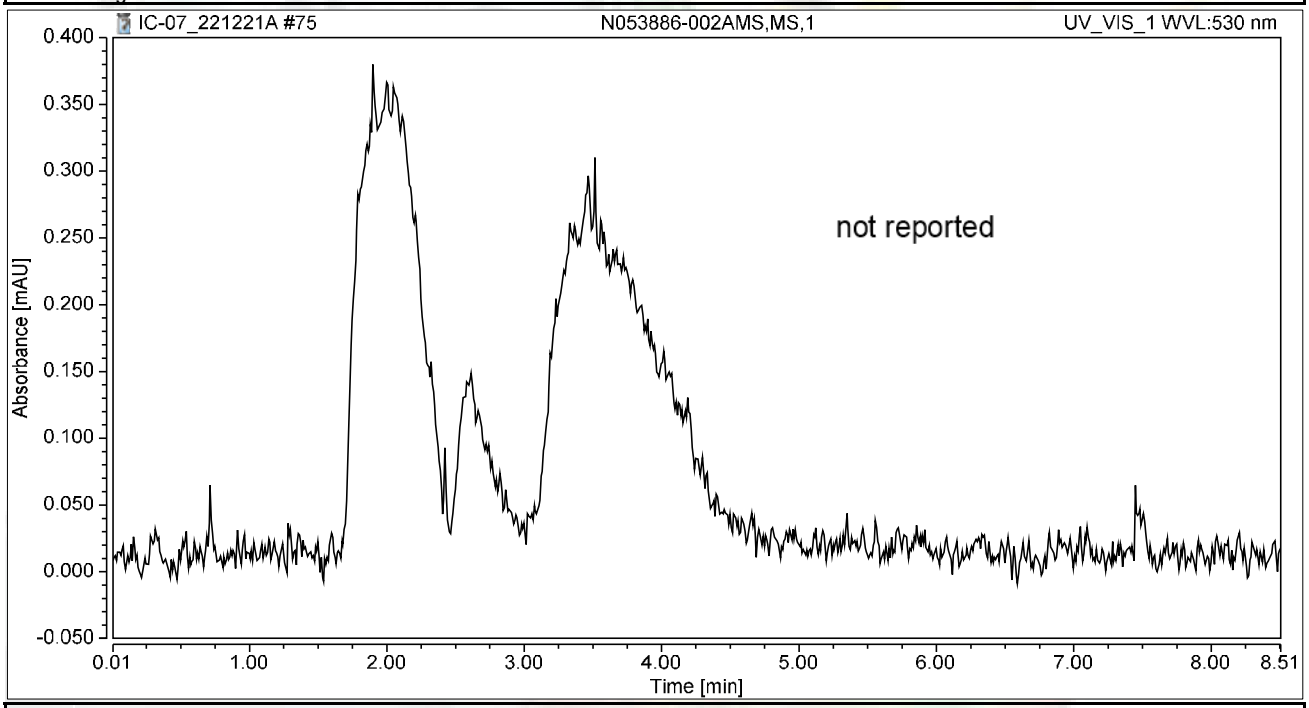
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 21:55**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

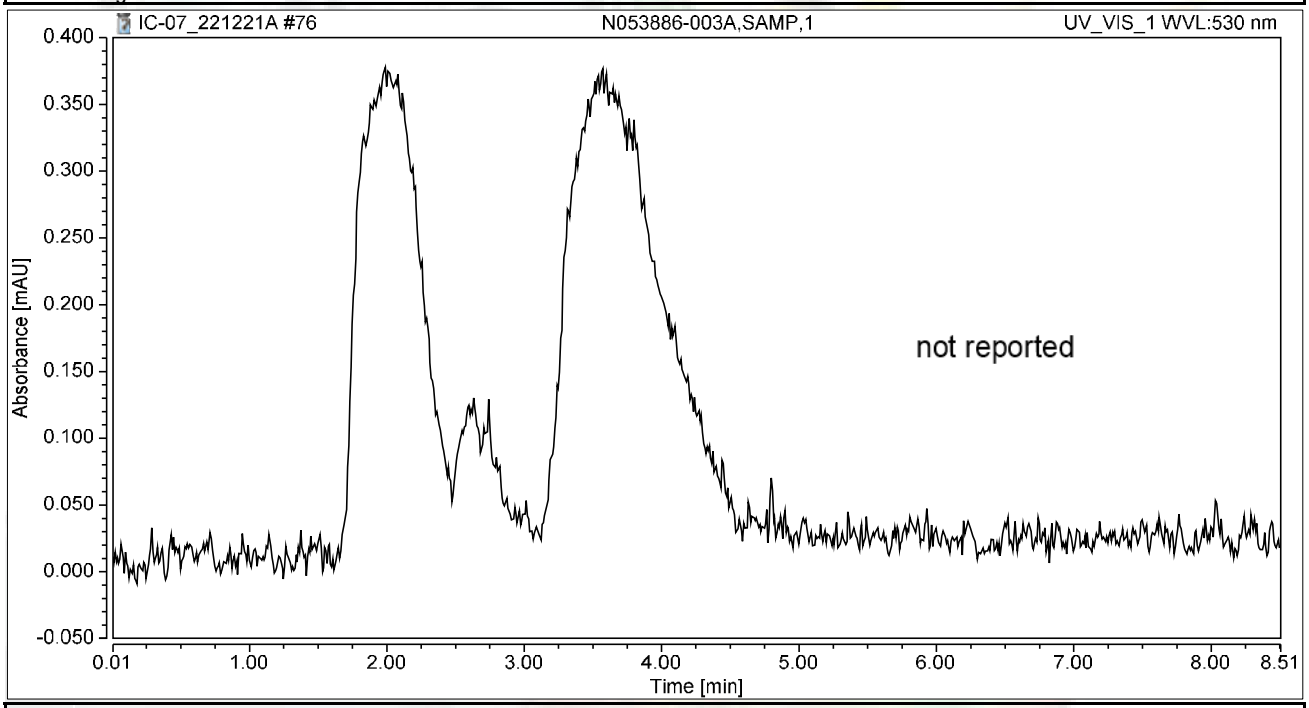
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 22:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

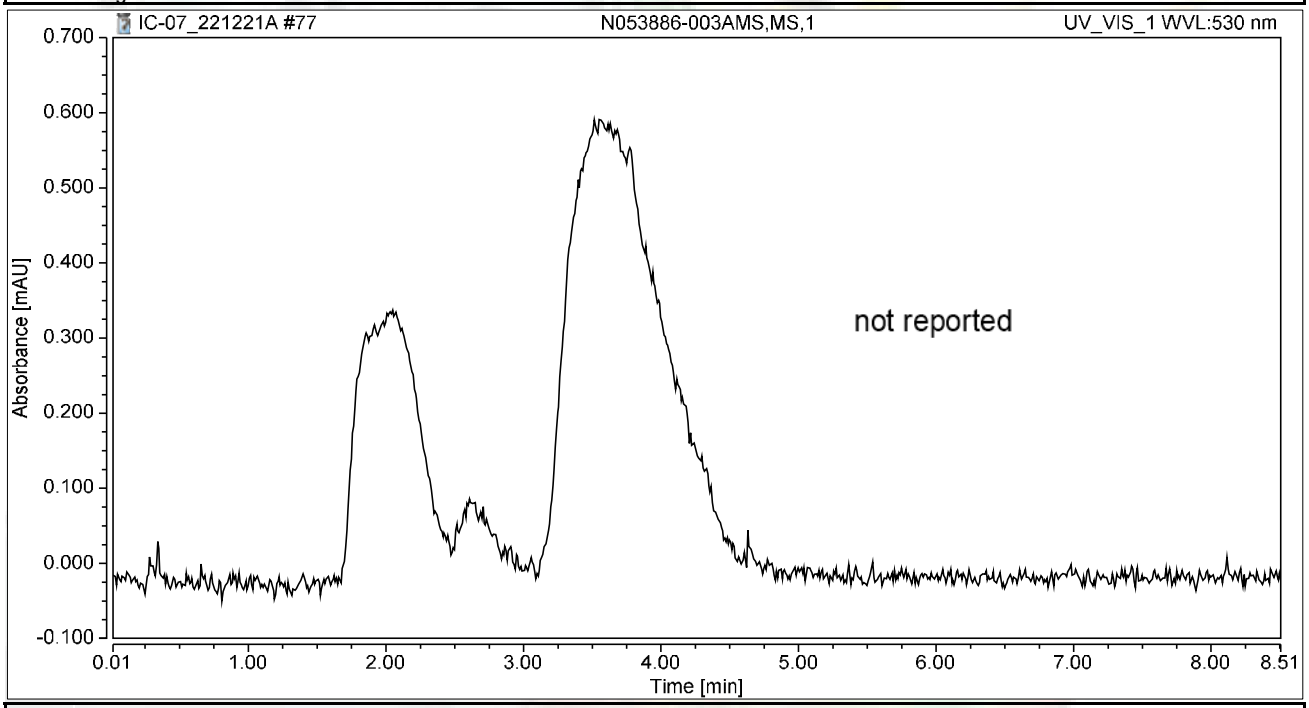
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-003AMS,MS,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 22:14**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

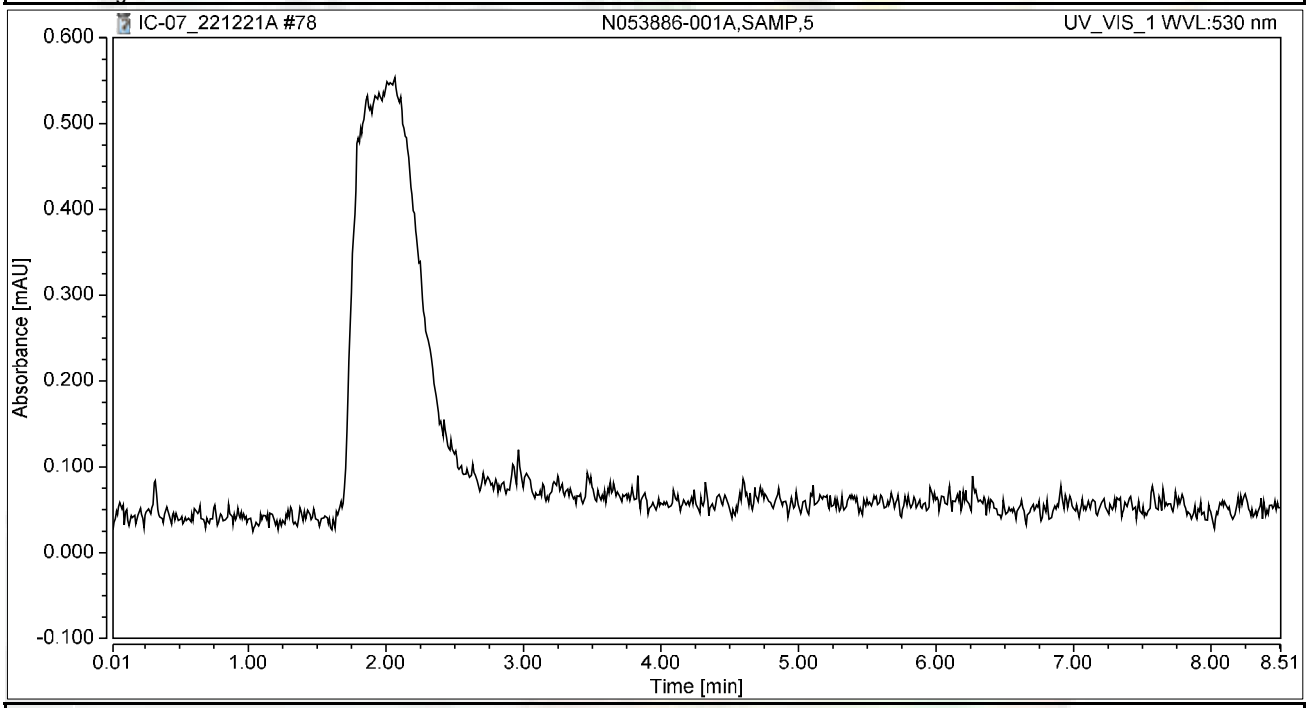
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-001A,SAMP,5**	*Run Time (min):*	**8.49**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 22:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

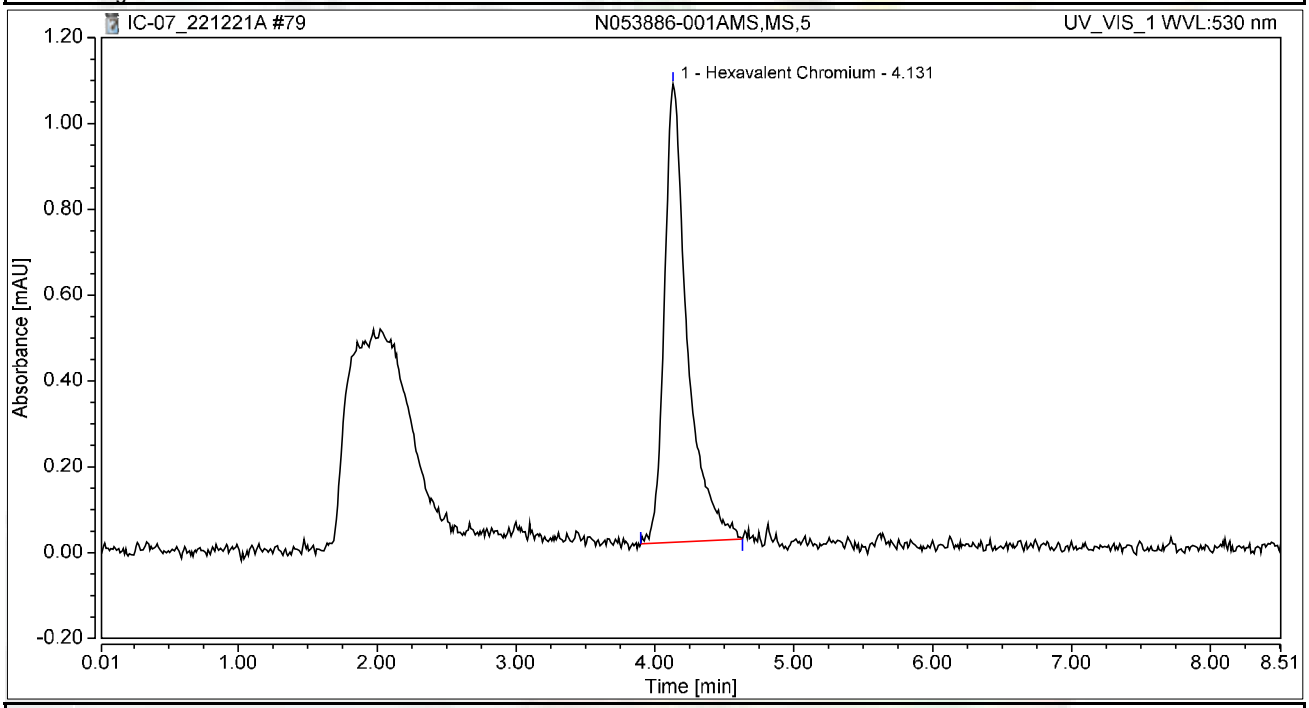
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-001AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 22:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

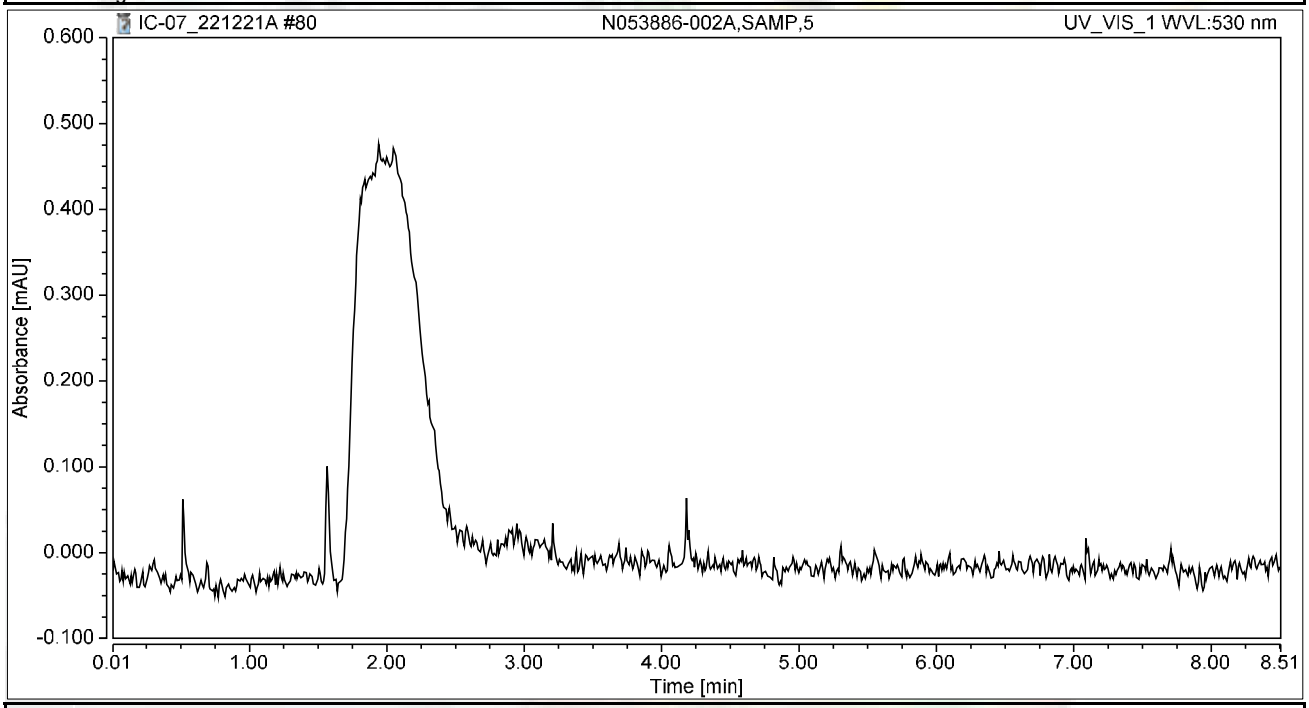
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	0.205	1.068	100.00	100.00	0.9970
Total:			**0.205**	**1.068**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-002A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 22:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

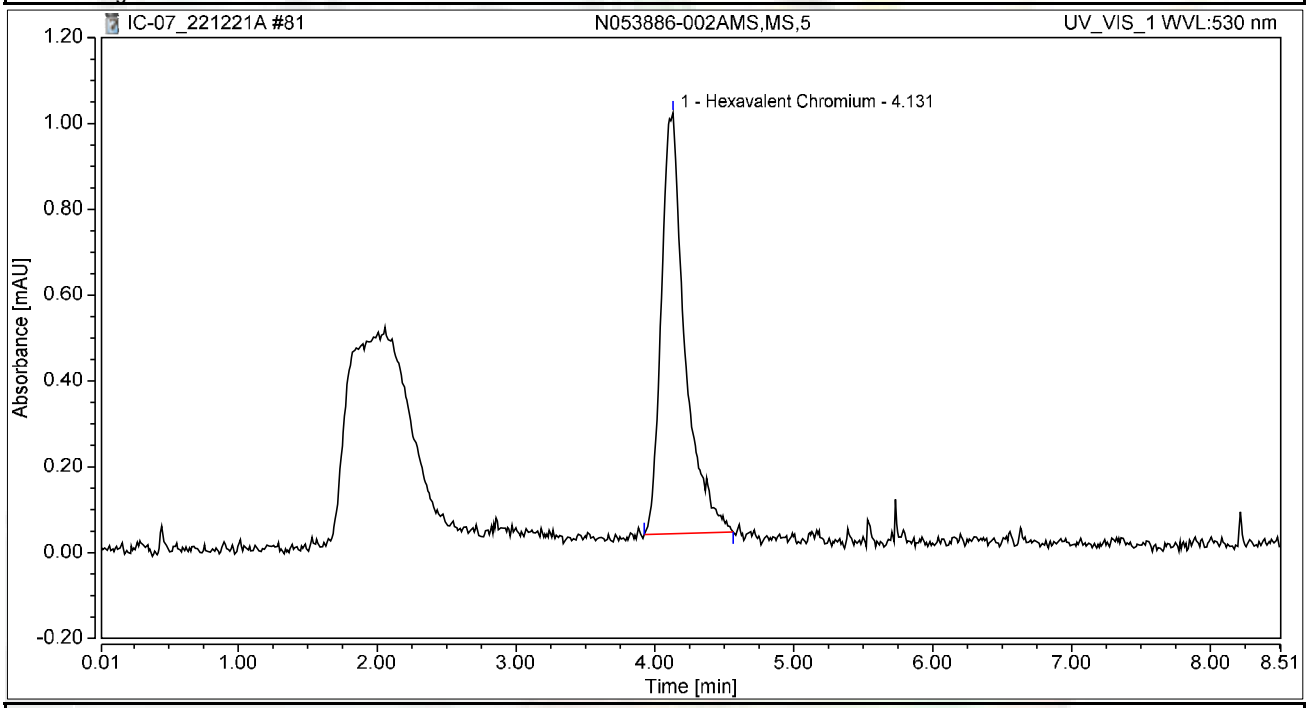
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-002AMS,MS,5**	*Run Time (min):*	**8.49**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 22:52**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

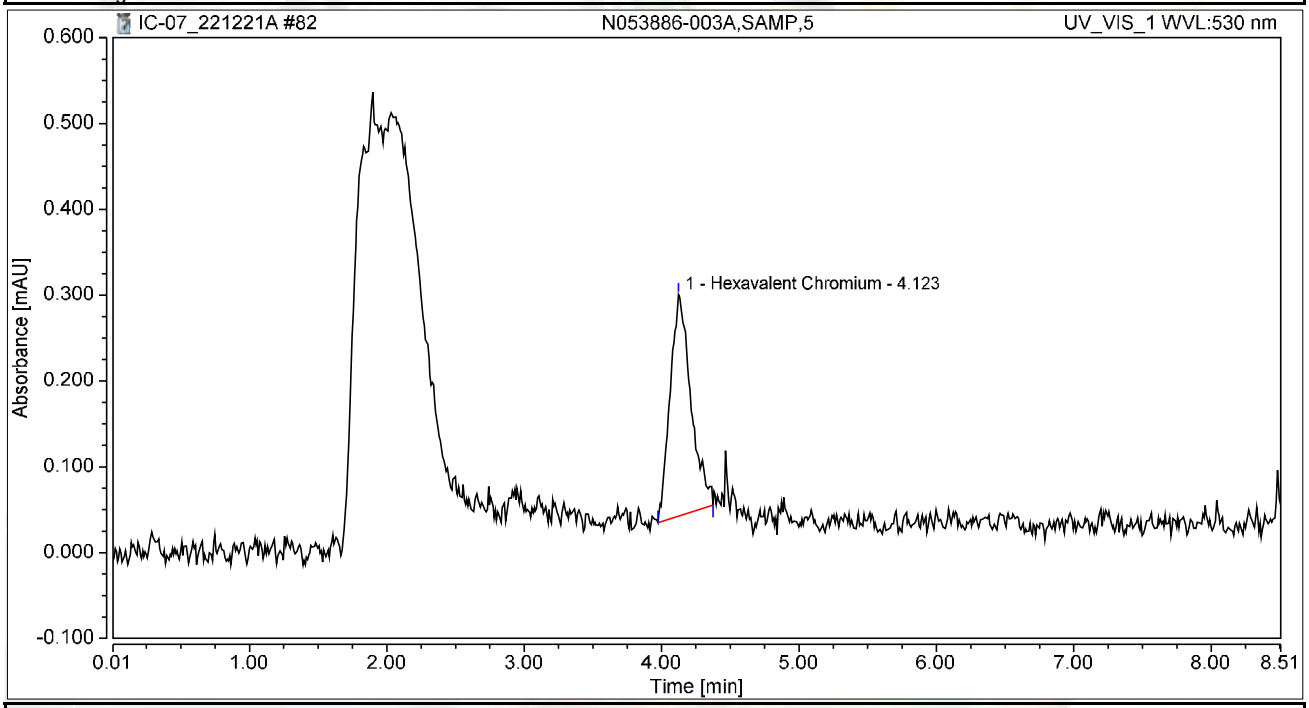
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	0.193	0.981	100.00	100.00	0.9386
Total:			**0.193**	**0.981**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-003A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**1**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 23:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

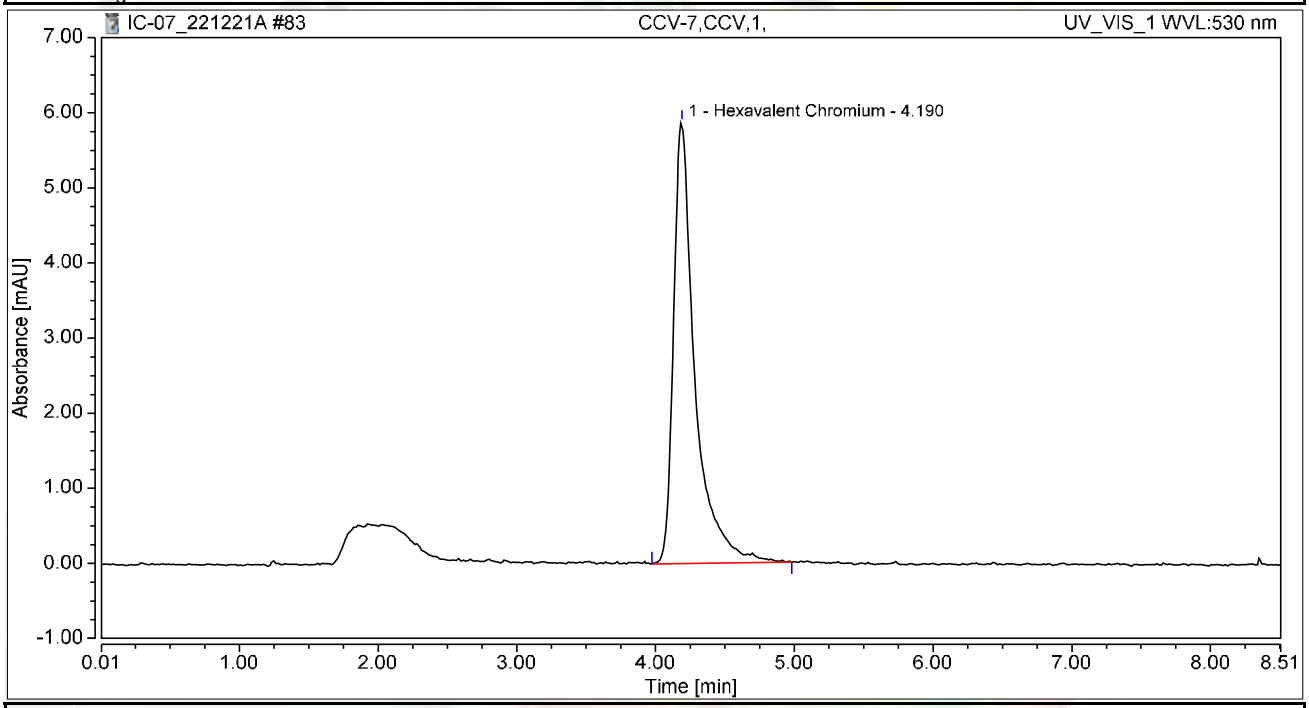
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.123	0.045	0.258	100.00	100.00	0.2198
Total:			**0.045**	**0.258**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-7,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**2**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 23:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

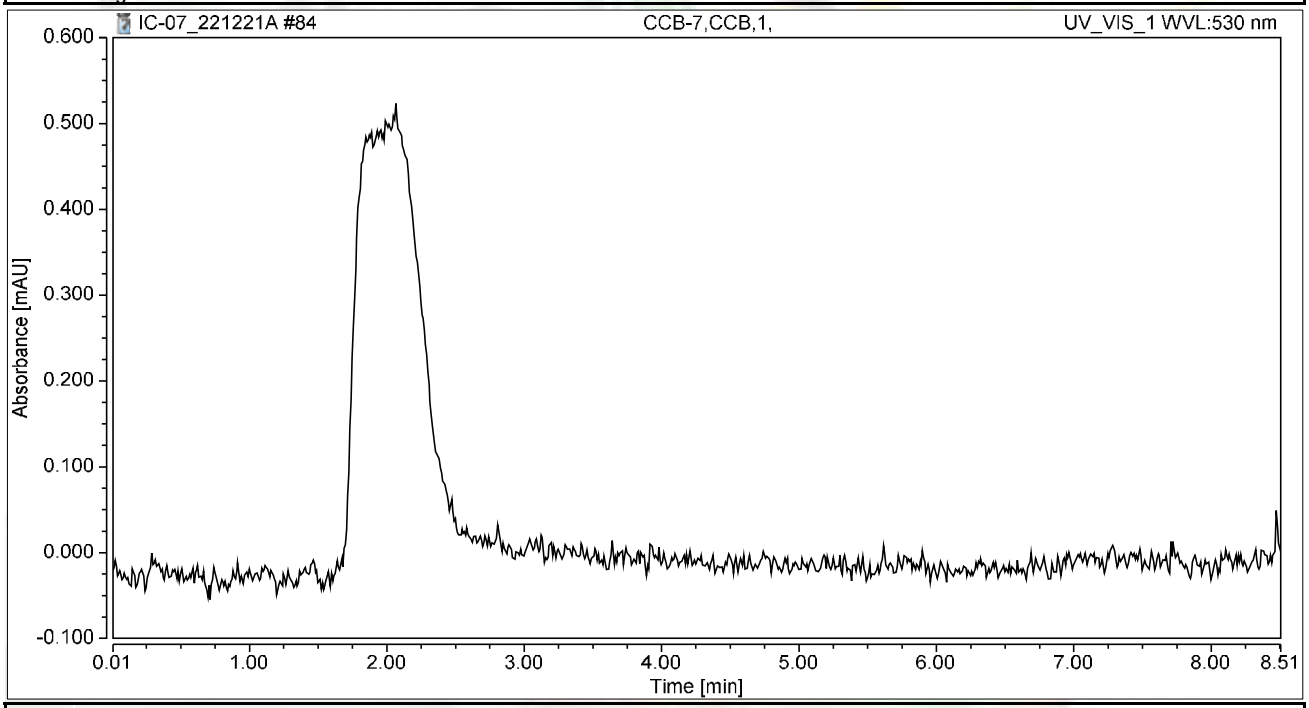
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.190	1.049	5.877	100.00	100.00	5.1070
Total:			**1.049**	**5.877**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-7,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**3**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 23:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

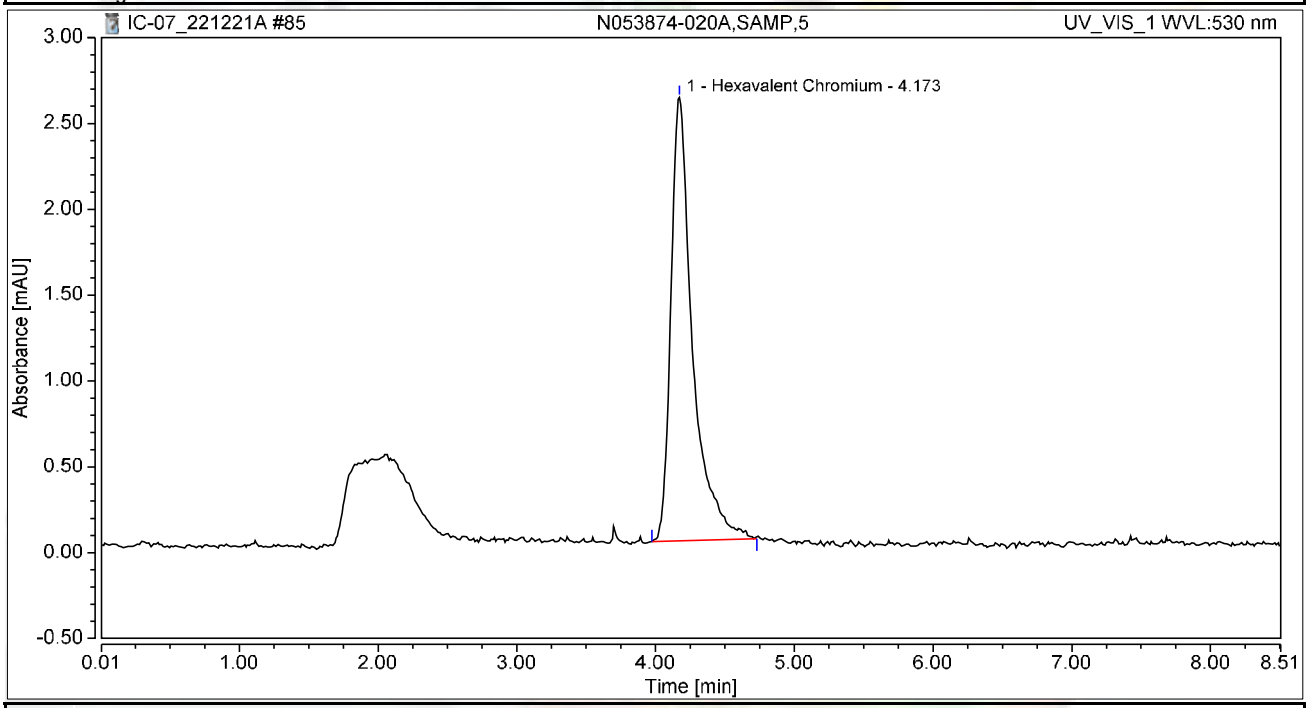
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-020A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**4**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 23:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

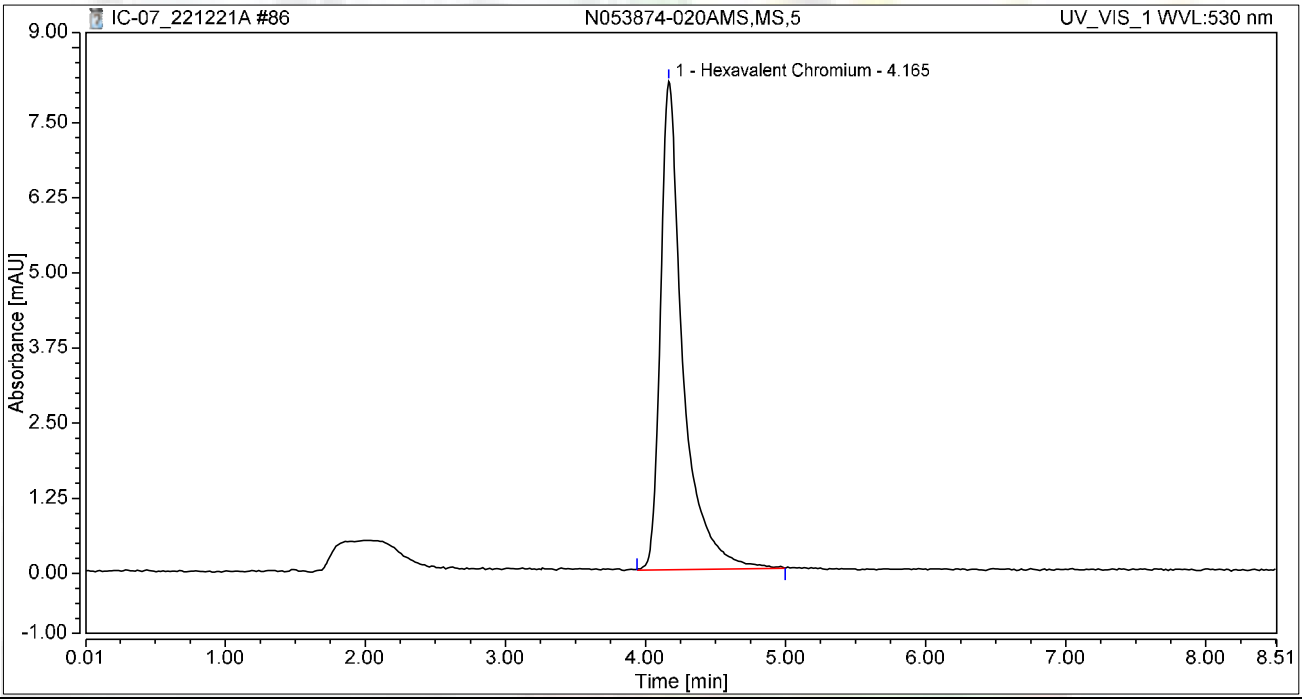
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.468	2.584	100.00	100.00	2.2797
Total:			**0.468**	**2.584**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-020AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**5**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 23:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

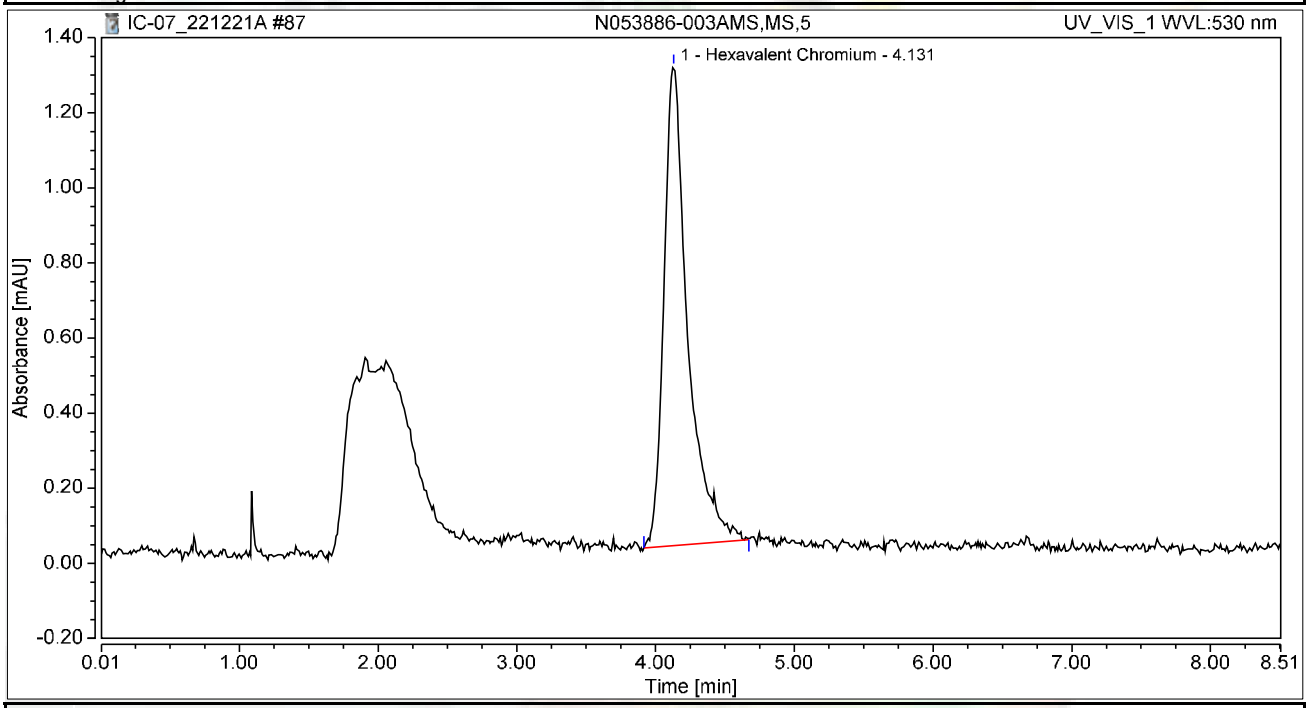
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.165	1.511	8.127	100.00	100.00	7.3523
Total:			**1.511**	**8.127**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-003AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**6**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**21/Dec/22 23:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

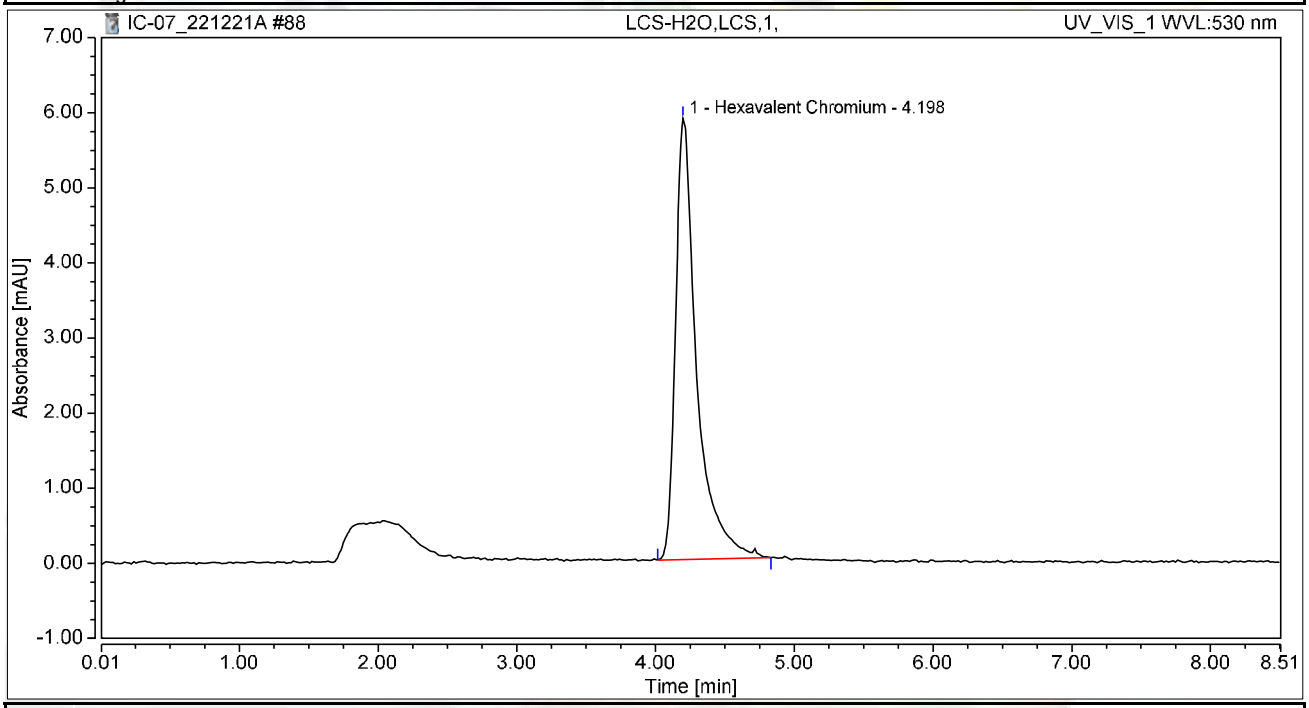
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.131	0.255	1.277	100.00	100.00	1.2392
Total:			**0.255**	**1.277**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**LCS-H2O,LCS,1,**	*Run Time (min):*	**8.50**
Vial Number:	**7**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:03**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

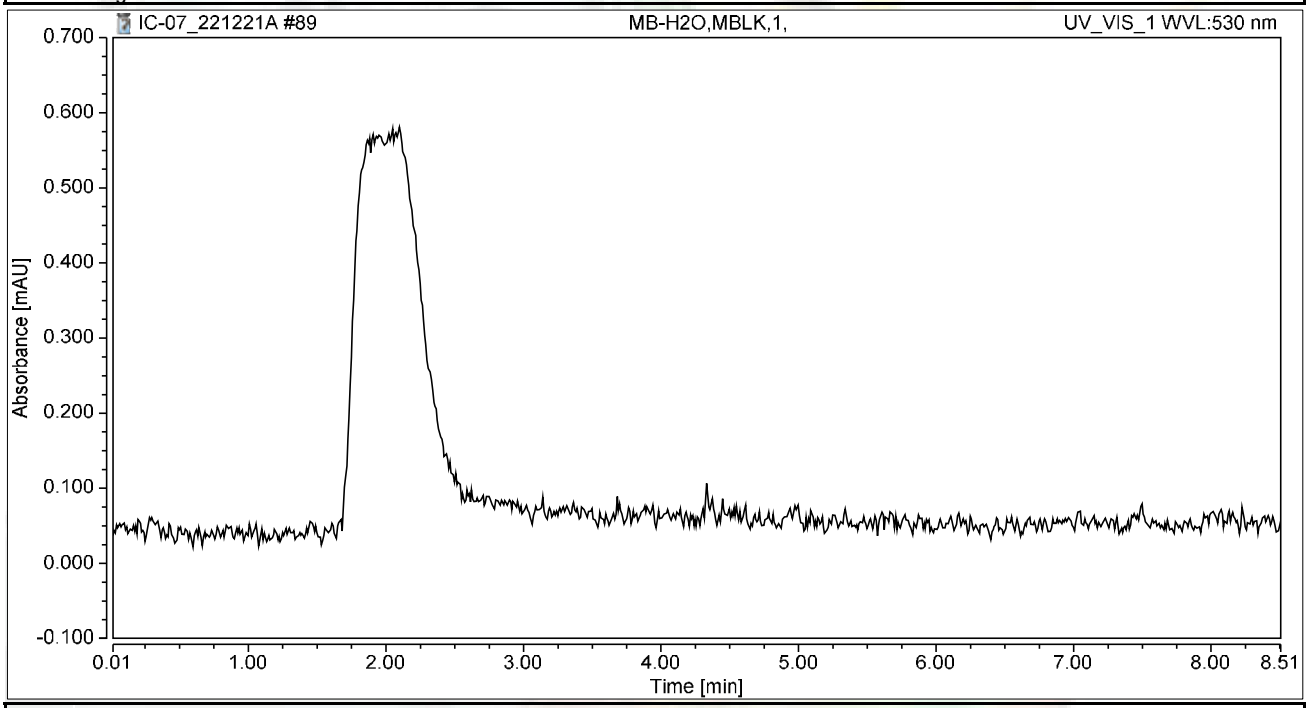
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.198	1.036	5.876	100.00	100.00	5.0424
Total:			**1.036**	**5.876**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**MB-H2O,MBLK,1,**	*Run Time (min):*	**8.49**
Vial Number:	**8**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

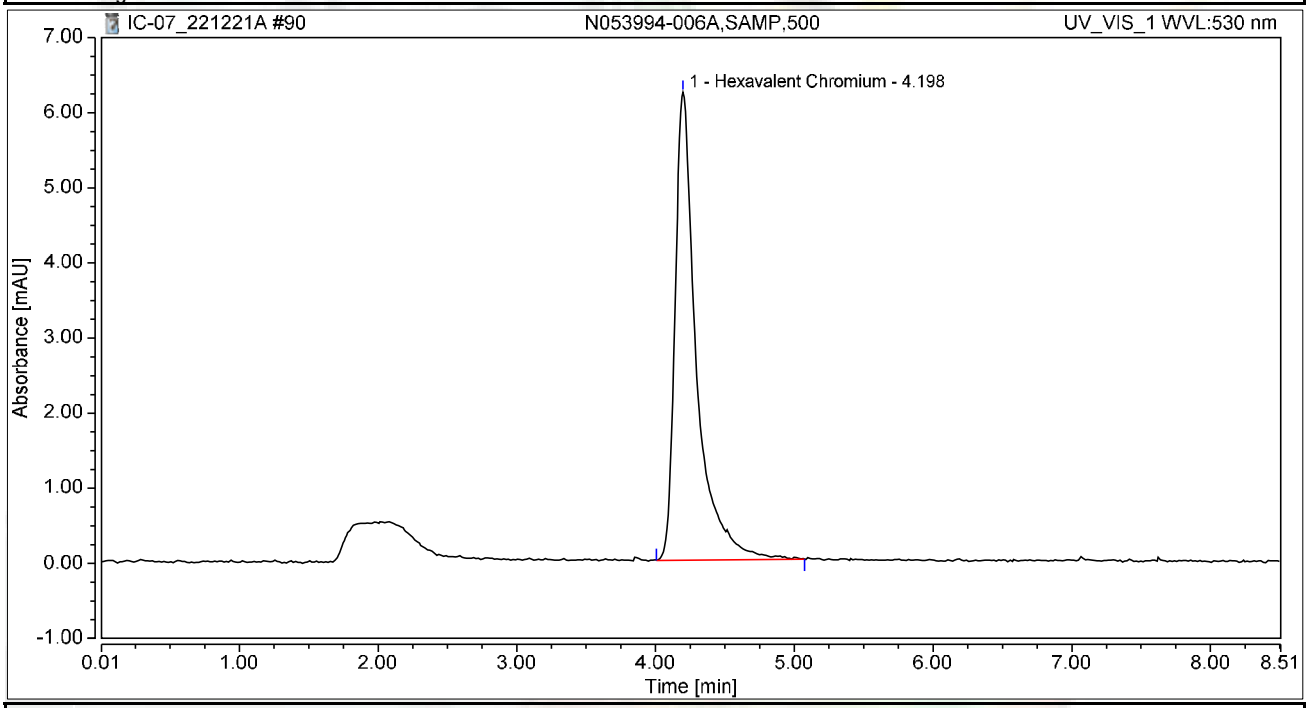
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-006A,SAMP,500**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

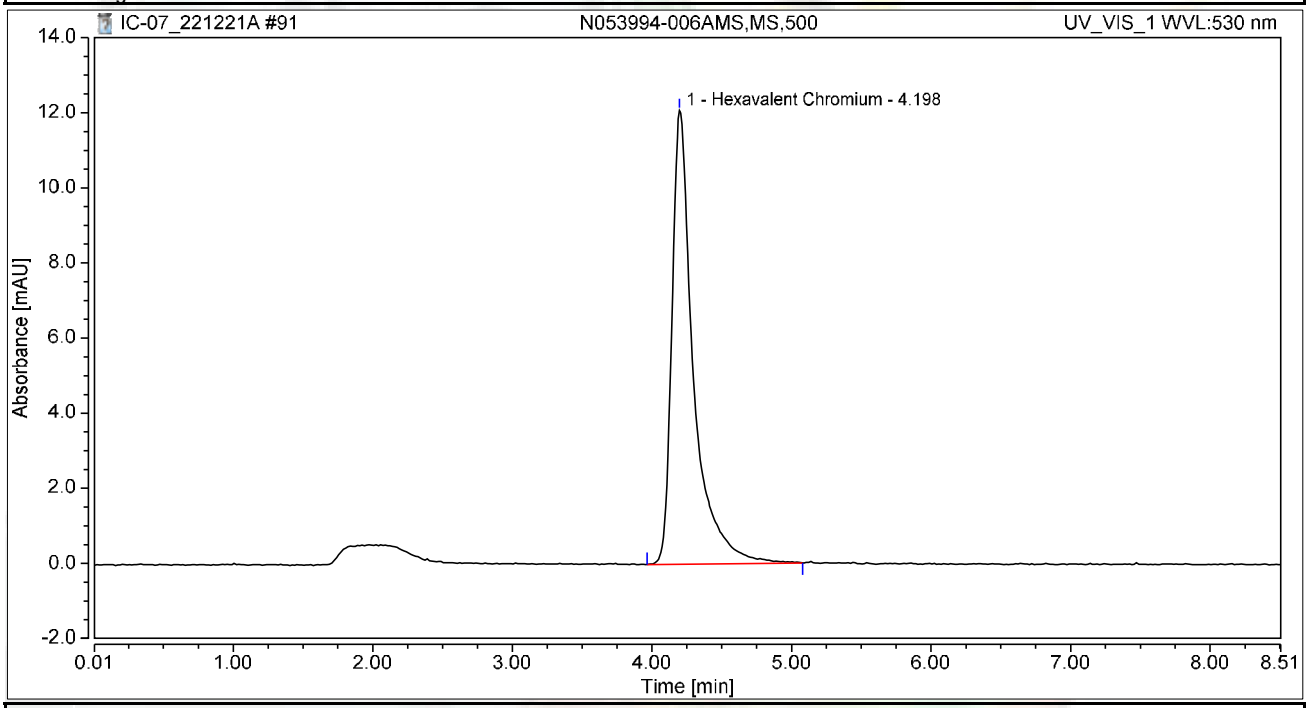
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.198	1.114	6.228	100.00	100.00	5.4222
Total:			**1.114**	**6.228**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-006AMS,MS,500**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

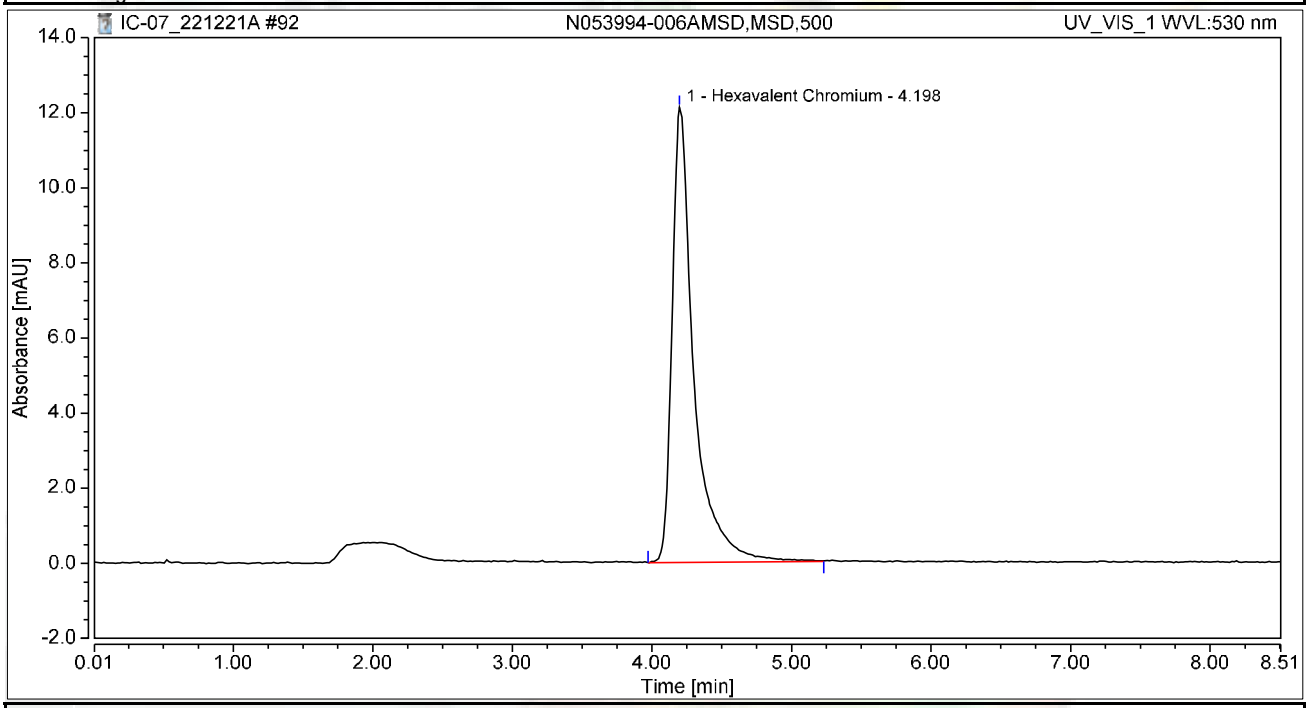
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.198	2.162	12.078	100.00	100.00	10.5205
Total:			**2.162**	**12.078**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-006AMSD,MSD,500**	*Run Time (min):*	**8.50**
Vial Number:	**11**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

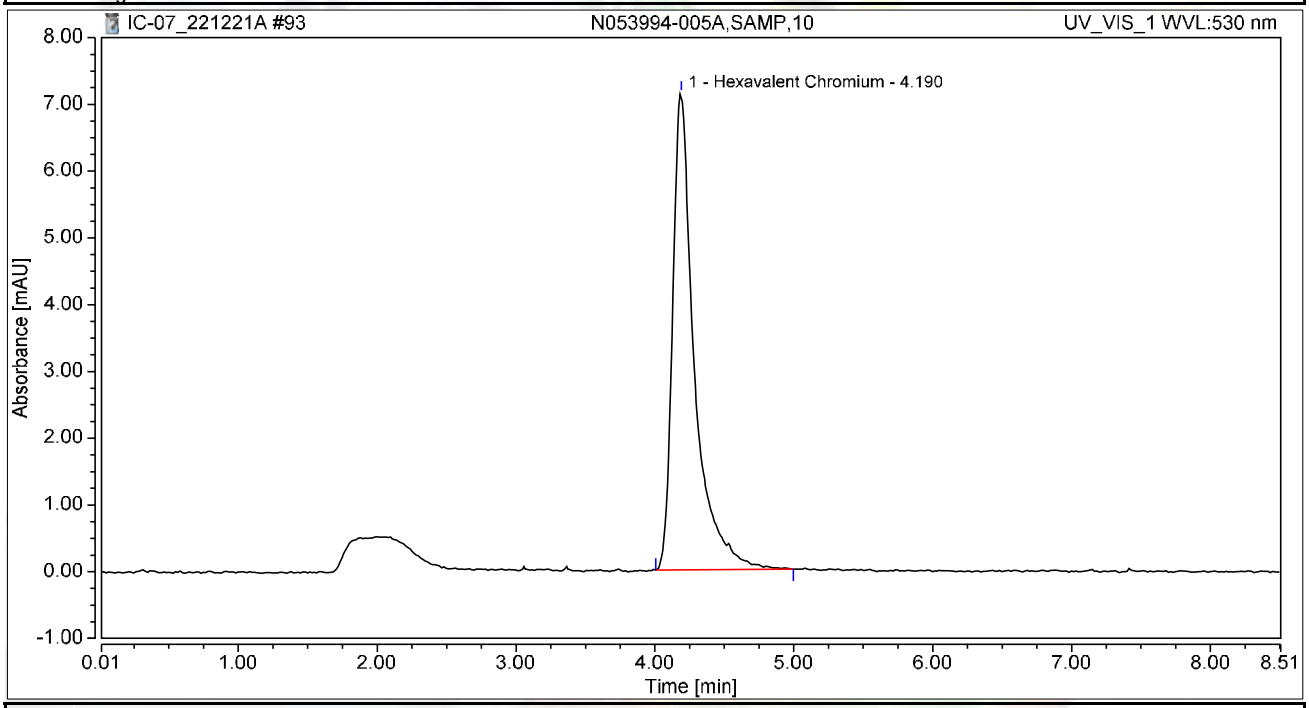
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.198	2.192	12.123	100.00	100.00	10.6657
Total:			**2.192**	**12.123**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-005A,SAMP,10**	*Run Time (min):*	**8.49**
Vial Number:	**12**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

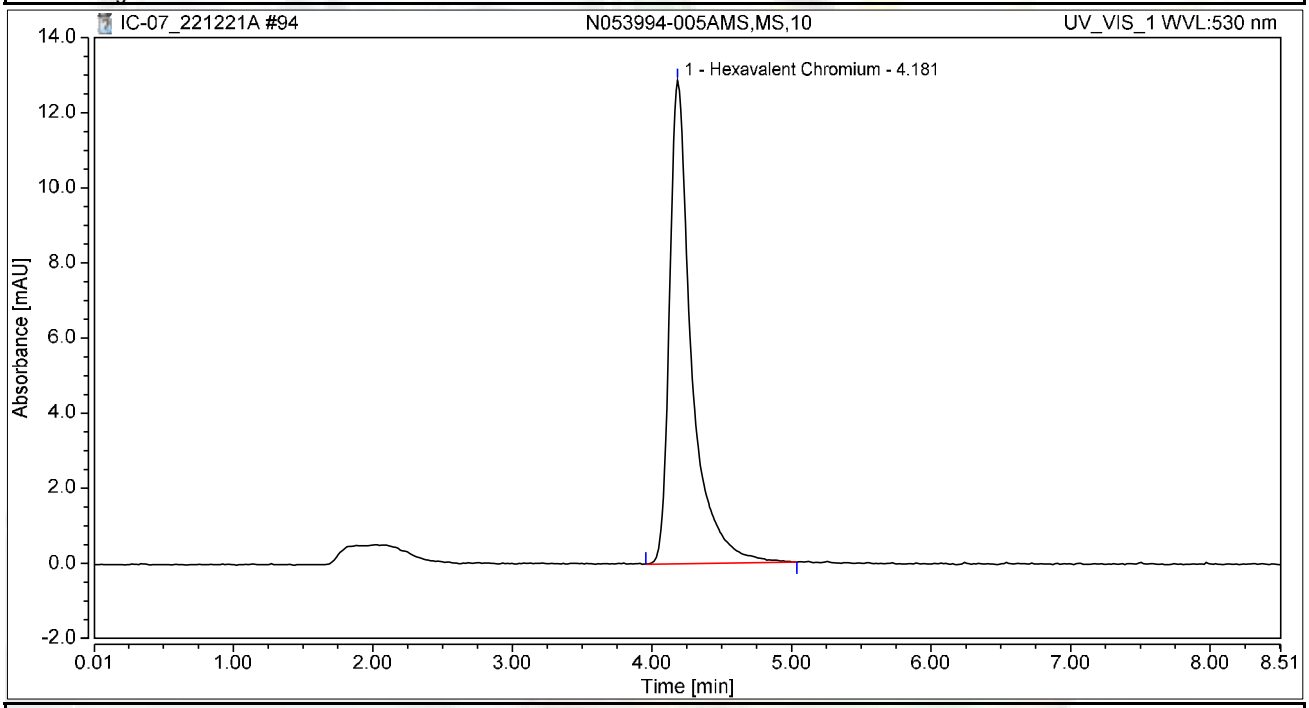
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.190	1.295	7.145	100.00	100.00	6.3020
Total:			**1.295**	**7.145**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-005AMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**13**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 00:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

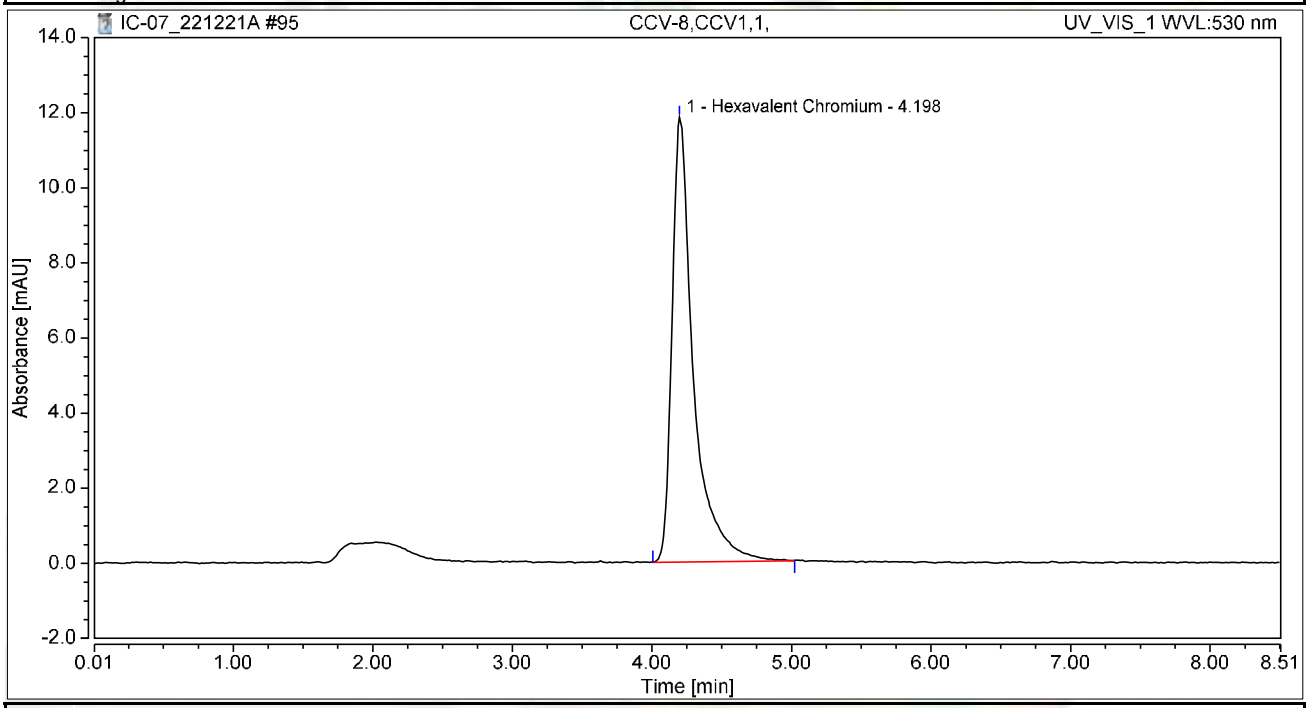
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.181	2.358	12.868	100.00	100.00	11.4763
Total:			**2.358**	**12.868**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-8,CCV1,1,**	*Run Time (min):*	**8.50**
Vial Number:	**14**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 01:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

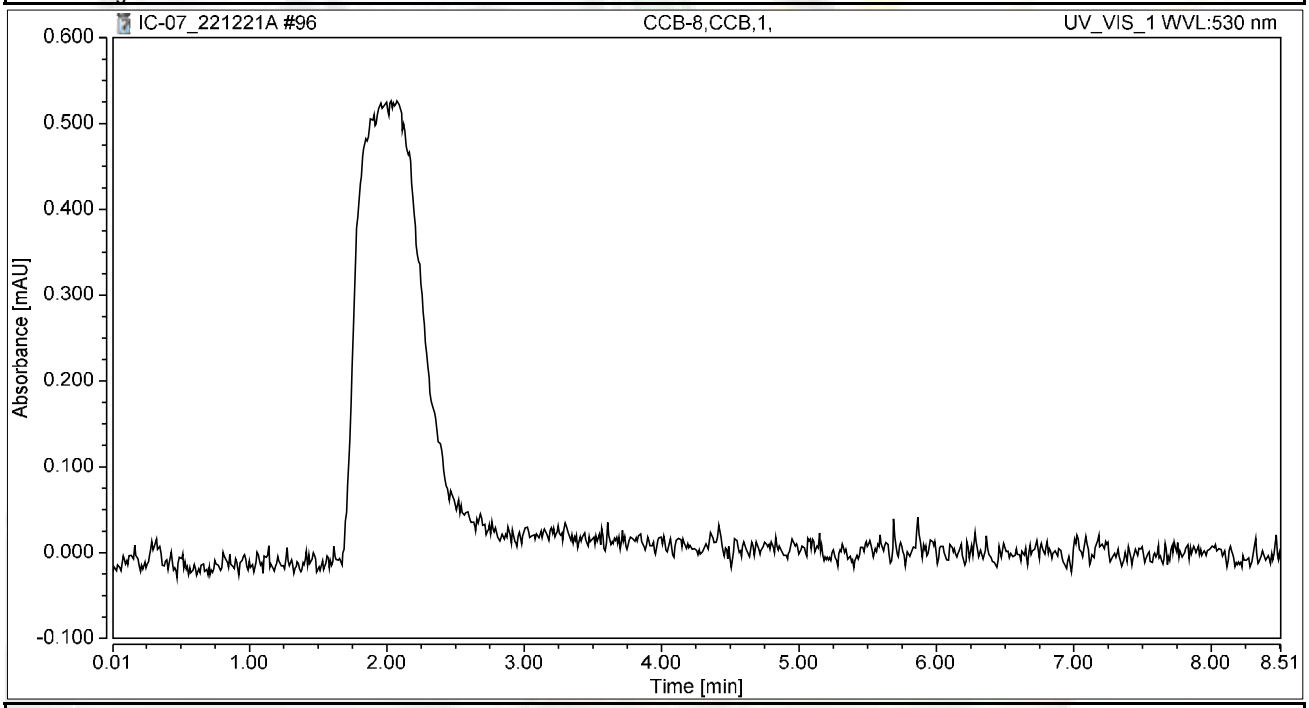
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.198	2.104	11.840	100.00	100.00	10.2405
Total:			**2.104**	**11.840**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-8,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**15**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 01:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

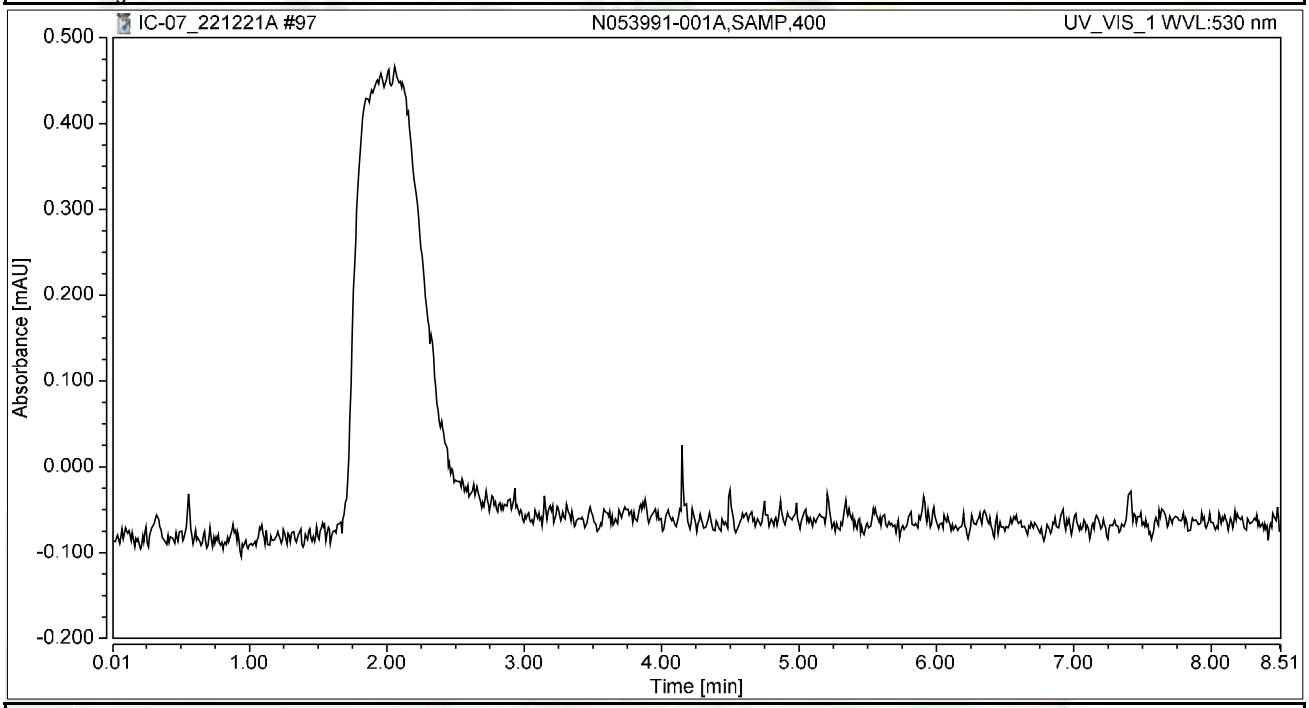
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053991-001A,SAMP,400**	*Run Time (min):*	**8.50**
Vial Number:	**16**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 01:28**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

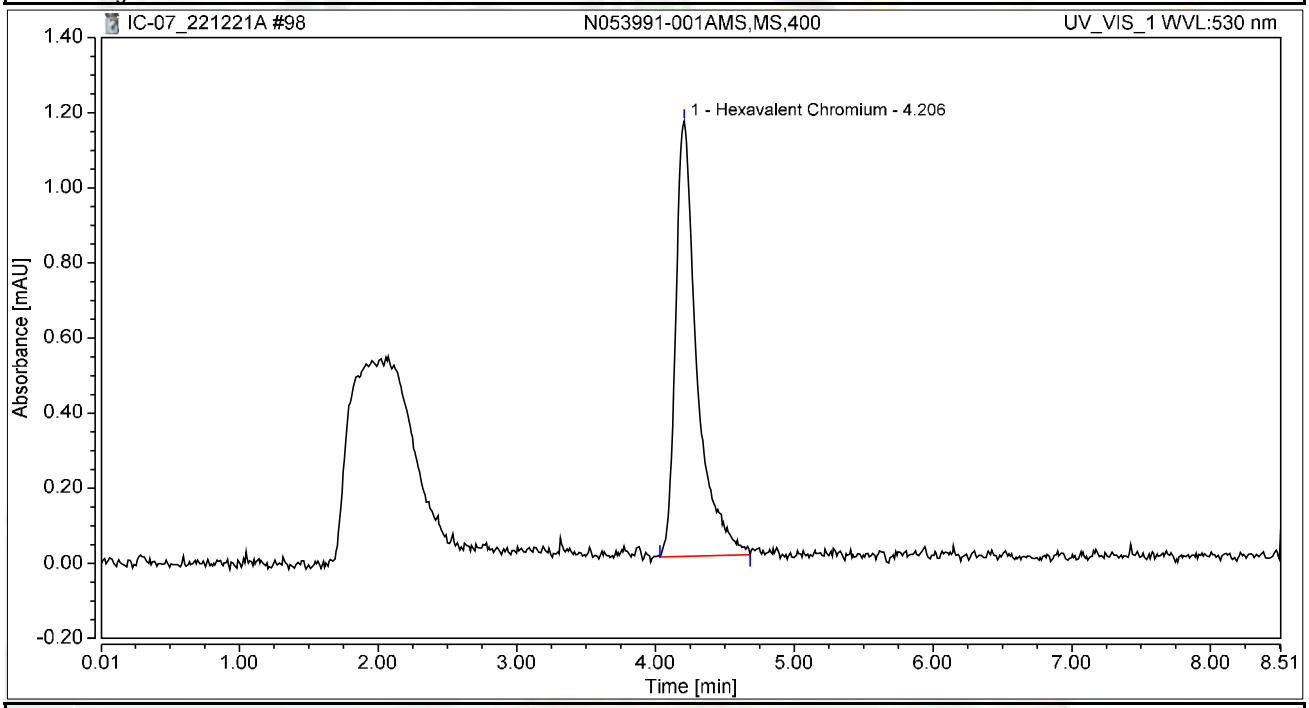
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053991-001AMS,MS,400**	*Run Time (min):*	**8.50**
Vial Number:	**17**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 01:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

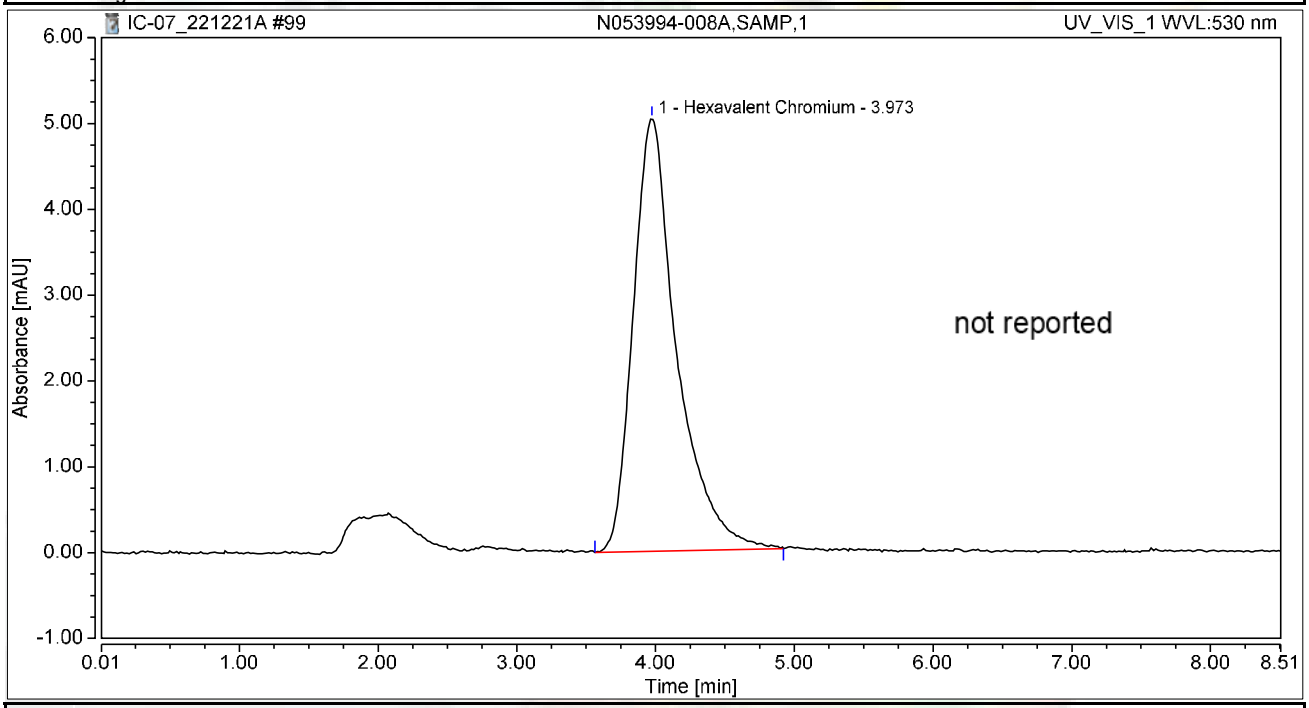
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.206	0.206	1.159	100.00	100.00	1.0032
Total:			**0.206**	**1.159**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-008A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**18**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 01:47**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

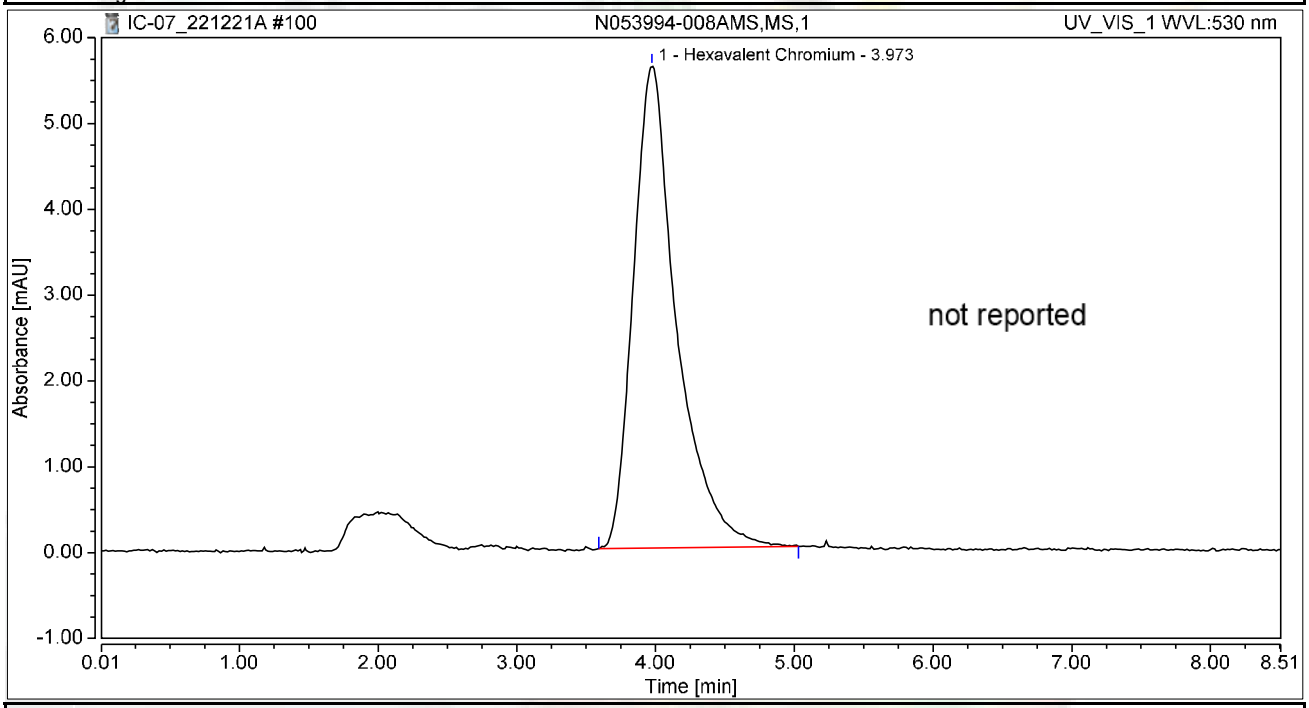
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	3.973	1.832	5.044	100.00	100.00	8.9144
Total:			**1.832**	**5.044**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-008AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**19**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 01:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

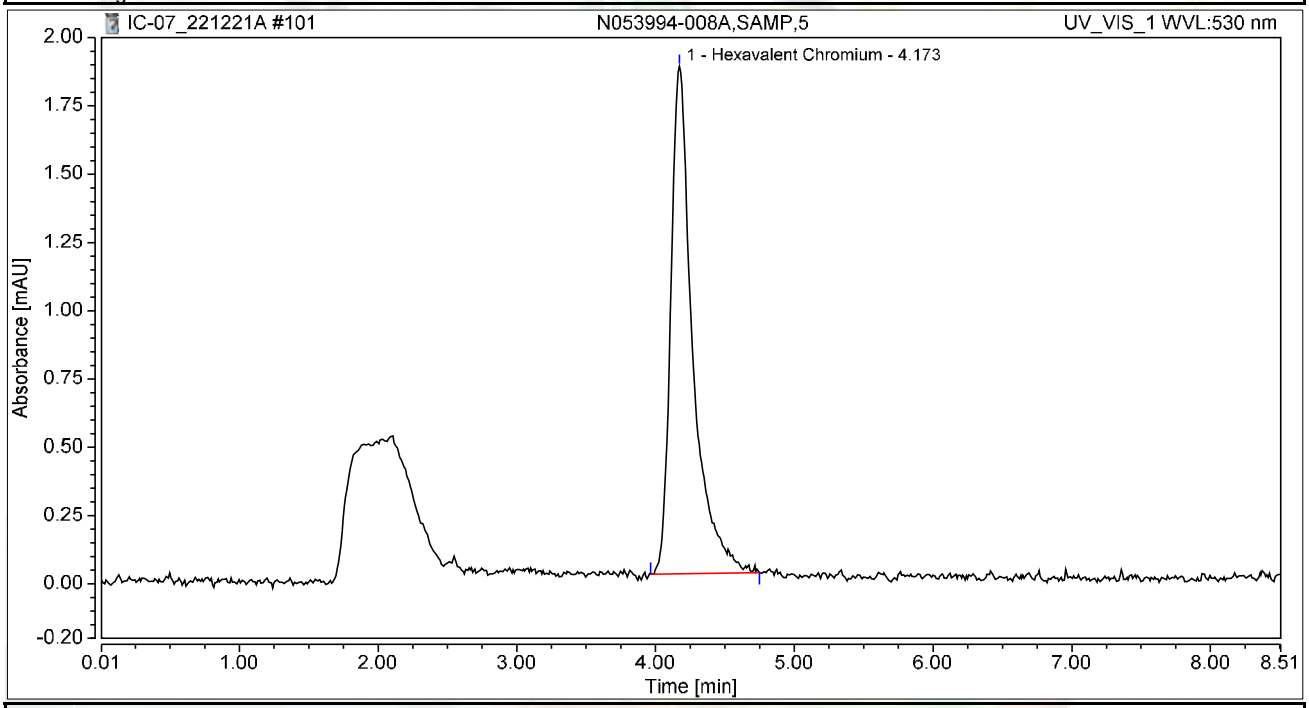
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	3.973	2.030	5.616	100.00	100.00	9.8806
Total:			**2.030**	**5.616**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-008A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**20**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 02:06**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

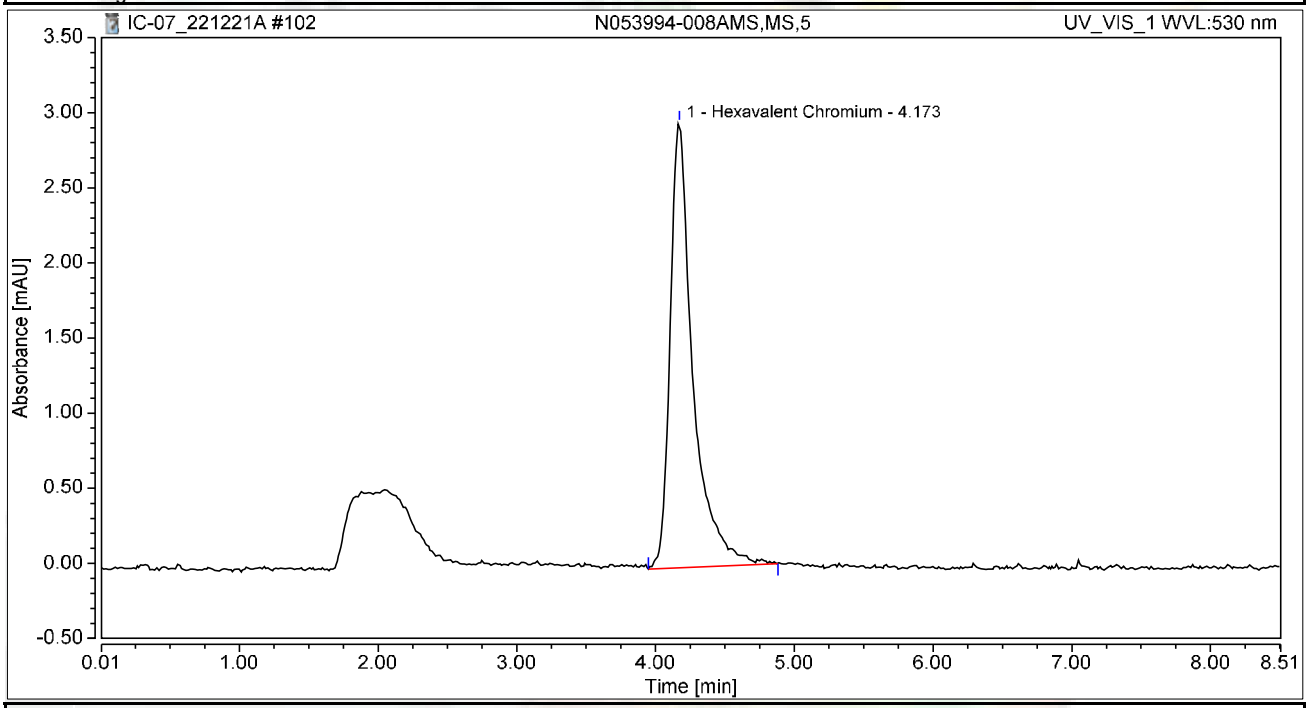
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.342	1.858	100.00	100.00	1.6641
Total:			**0.342**	**1.858**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053994-008AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 02:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

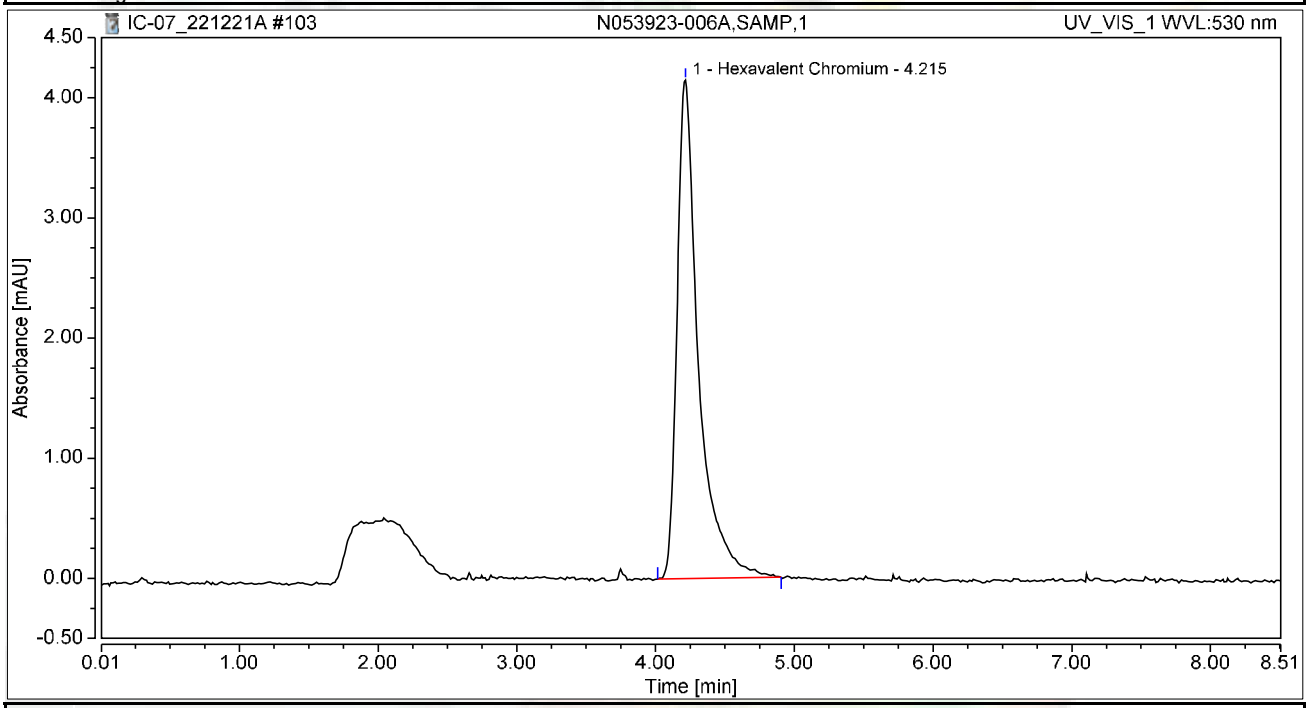
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.173	0.564	2.963	100.00	100.00	2.7441
Total:			**0.564**	**2.963**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-006A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 02:25**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

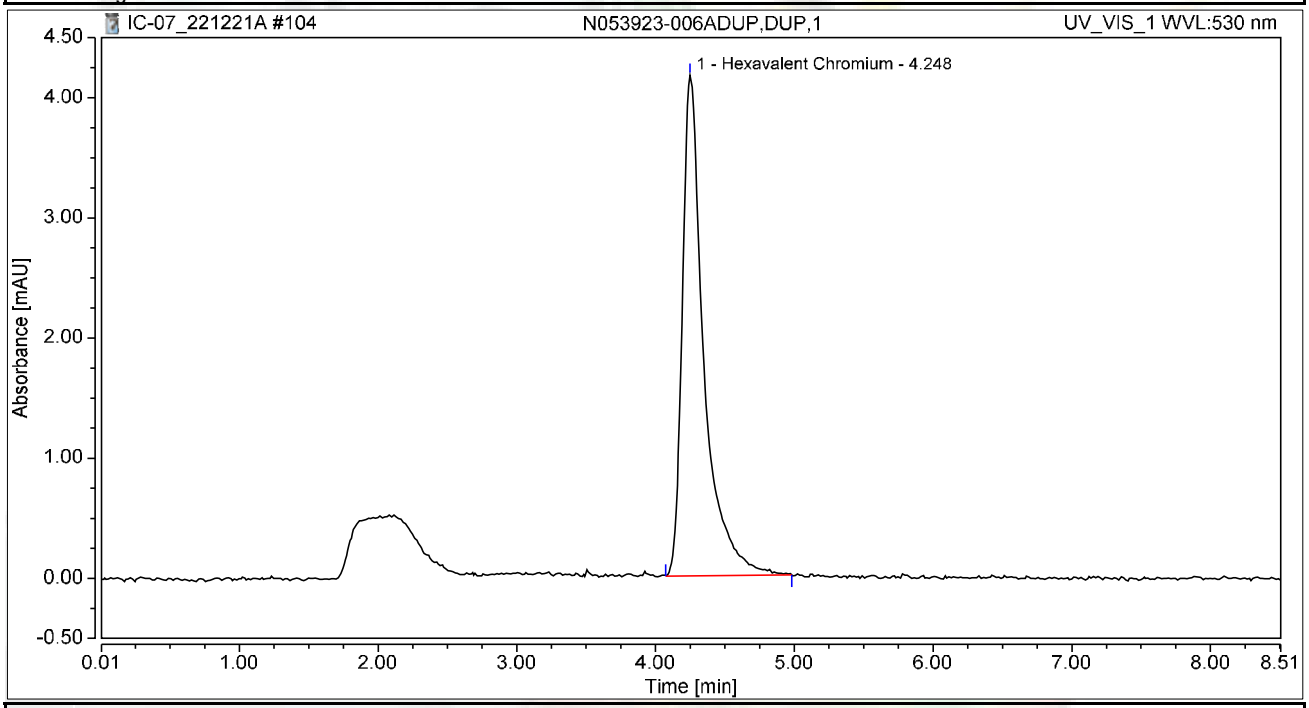
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.215	0.745	4.150	100.00	100.00	3.6231
Total:			**0.745**	**4.150**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-006ADUP,DUP,1**	*Run Time (min):*	**8.50**
Vial Number:	**23**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 02:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

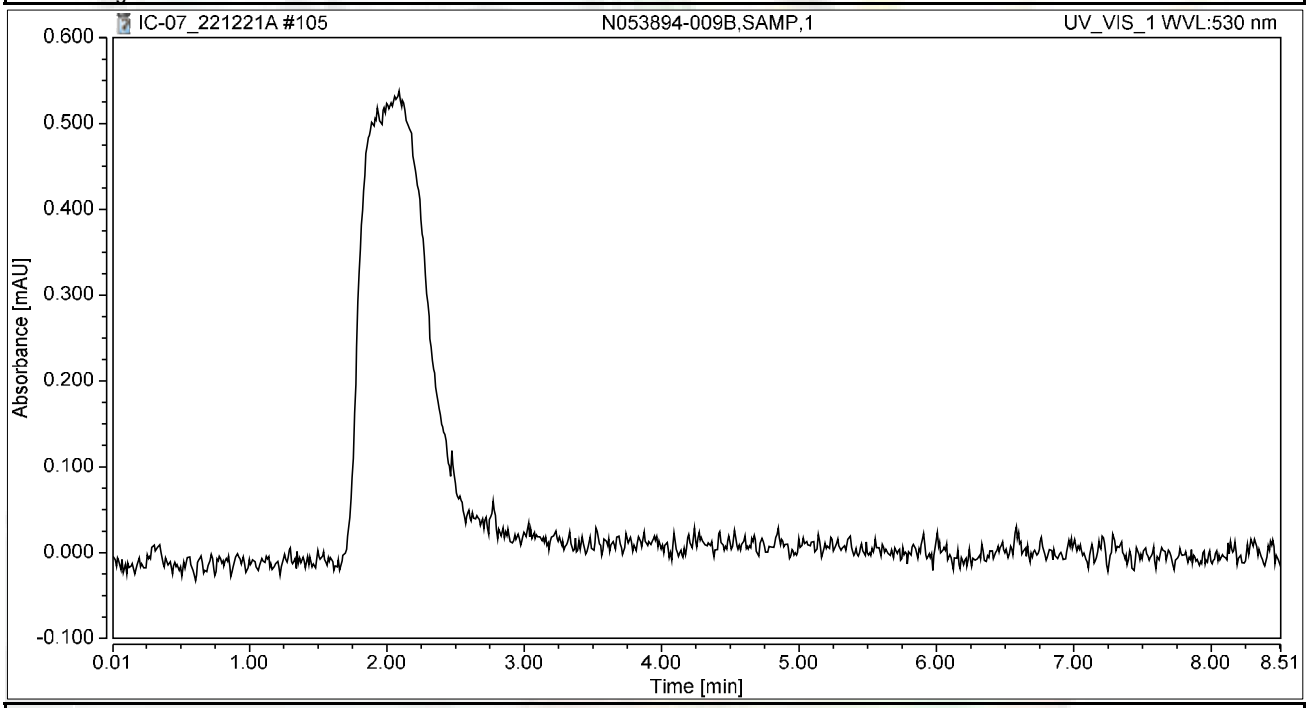
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.248	0.750	4.165	100.00	100.00	3.6493
Total:			**0.750**	**4.165**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053894-009B,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**24**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 02:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

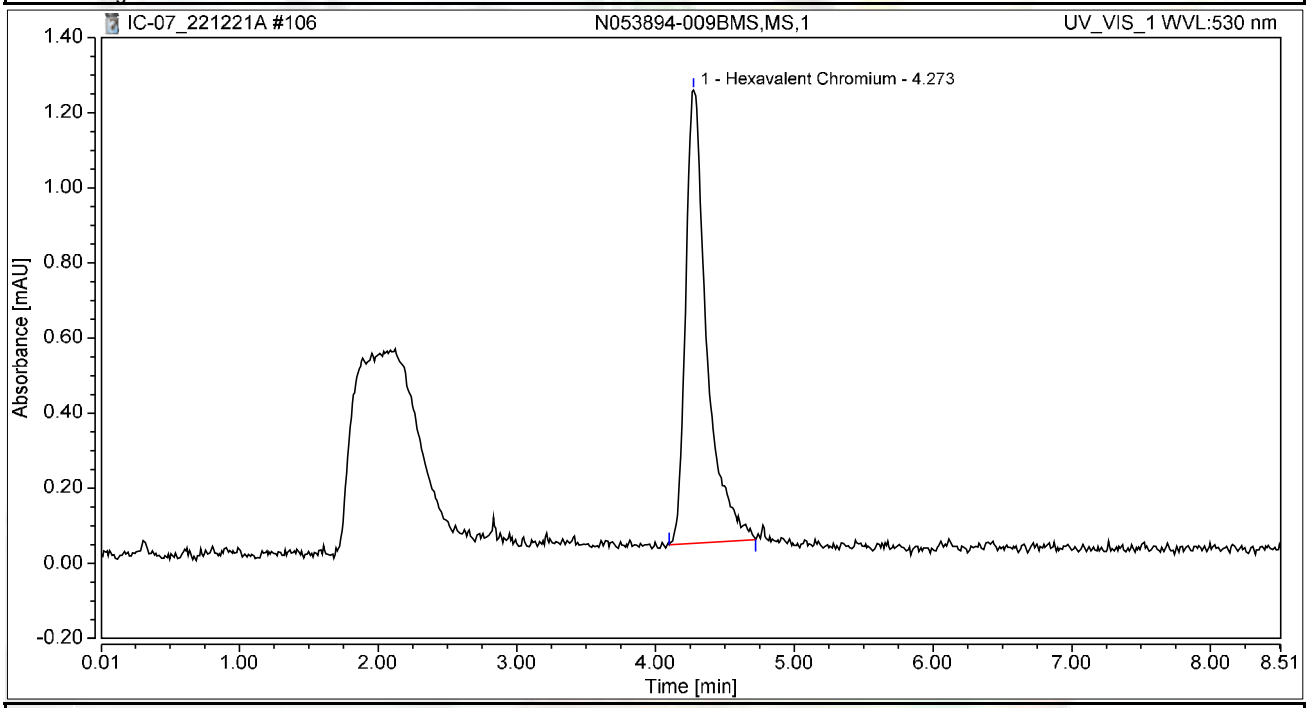
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053894-009BMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**25**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 02:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

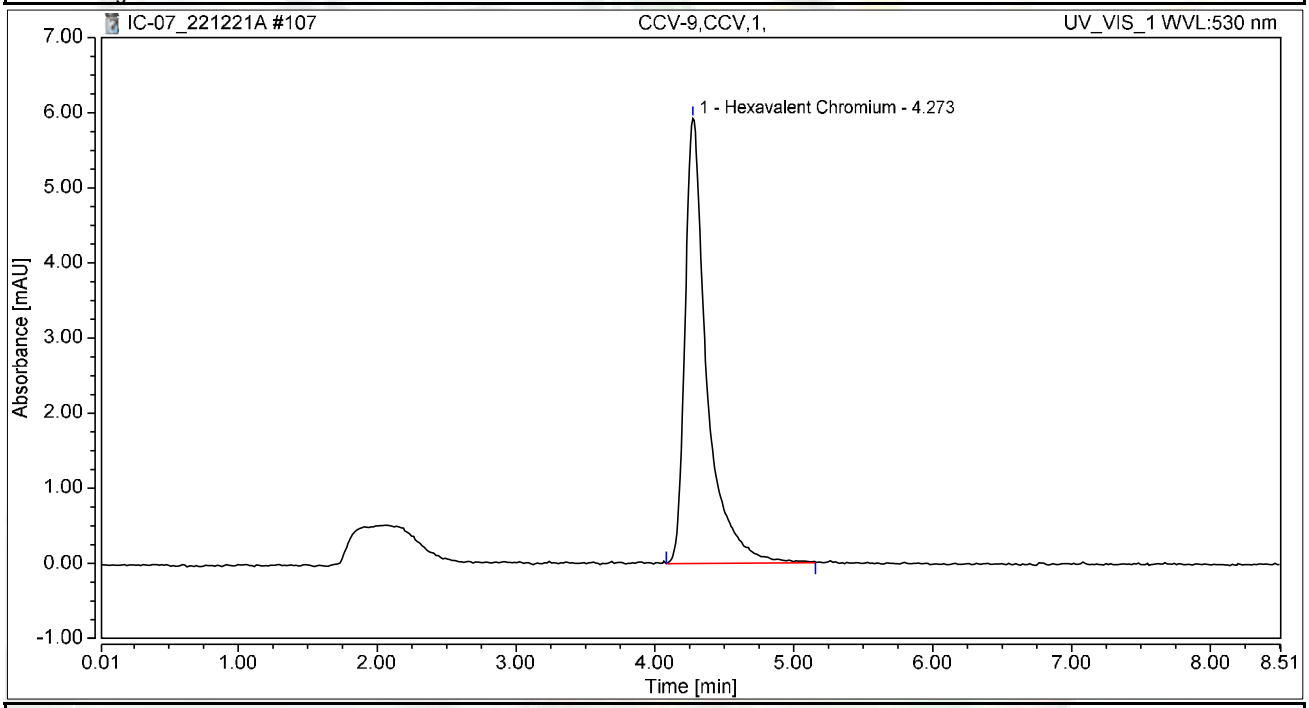
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.273	0.213	1.208	100.00	100.00	1.0362
Total:			**0.213**	**1.208**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-9,CCV,1,**	*Run Time (min):*	**8.49**
Vial Number:	**26**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

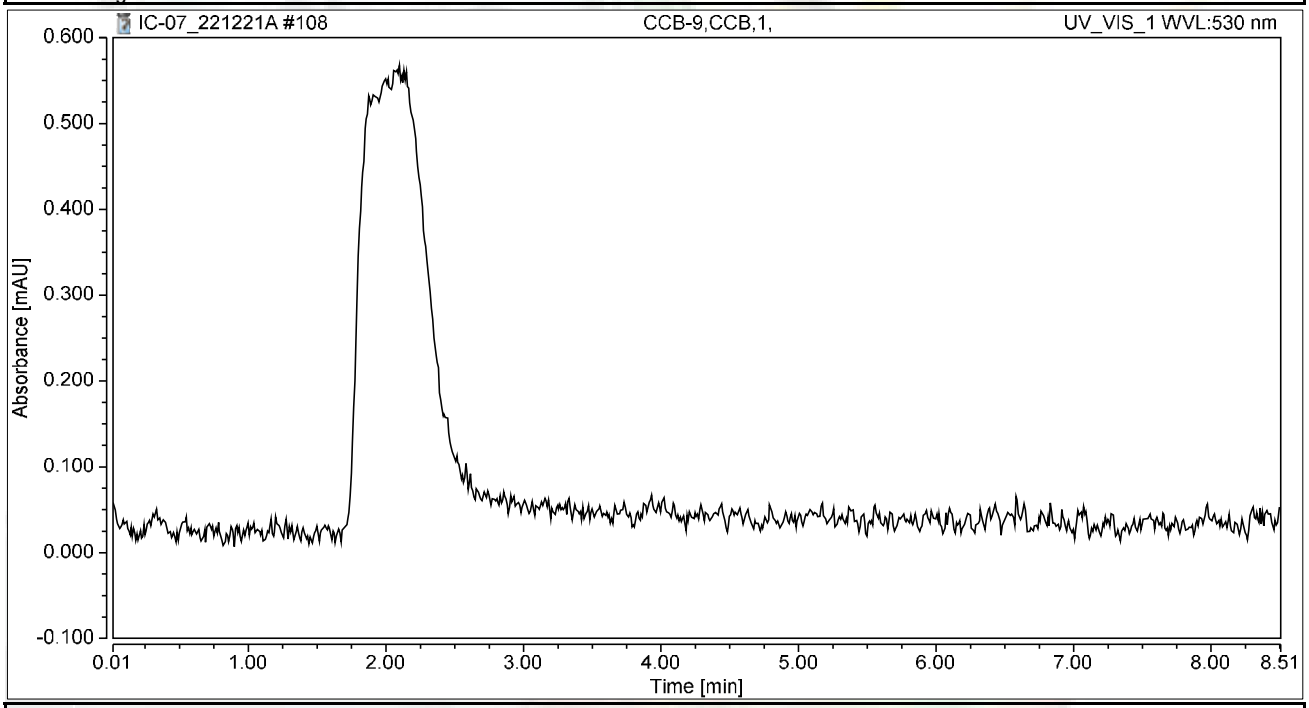
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.273	1.076	5.925	100.00	100.00	5.2385
Total:			**1.076**	**5.925**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-9,CCB,1,**	*Run Time (min):*	**8.49**
Vial Number:	**27**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

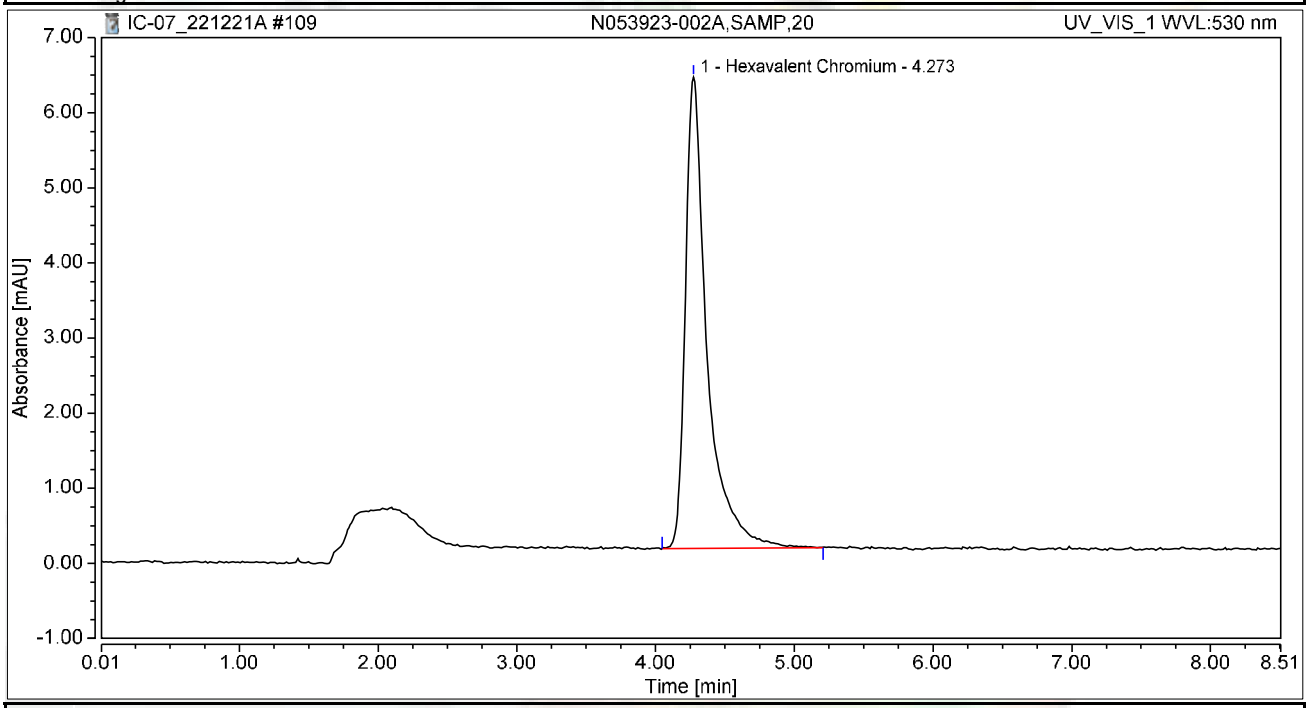
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-002A,SAMP,20**	*Run Time (min):*	**8.50**
Vial Number:	**28**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

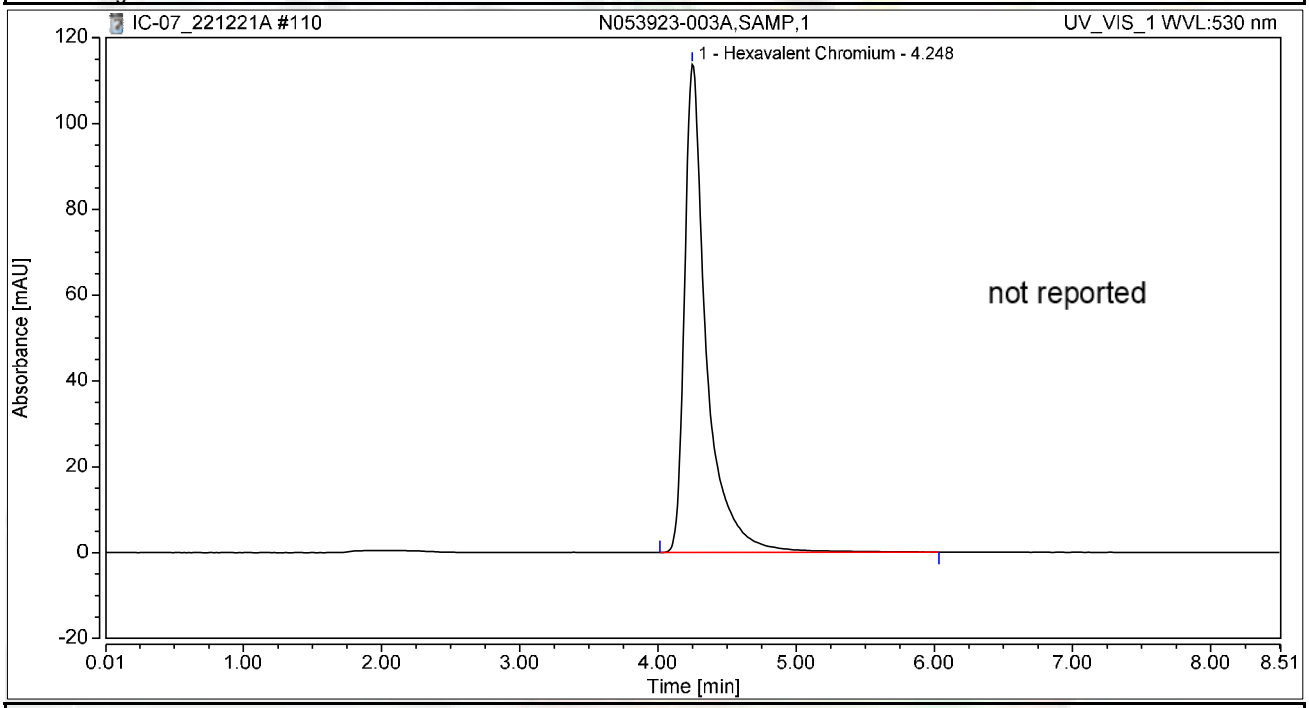
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.273	1.138	6.272	100.00	100.00	5.5368
Total:			**1.138**	**6.272**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-003A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**29**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:31**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

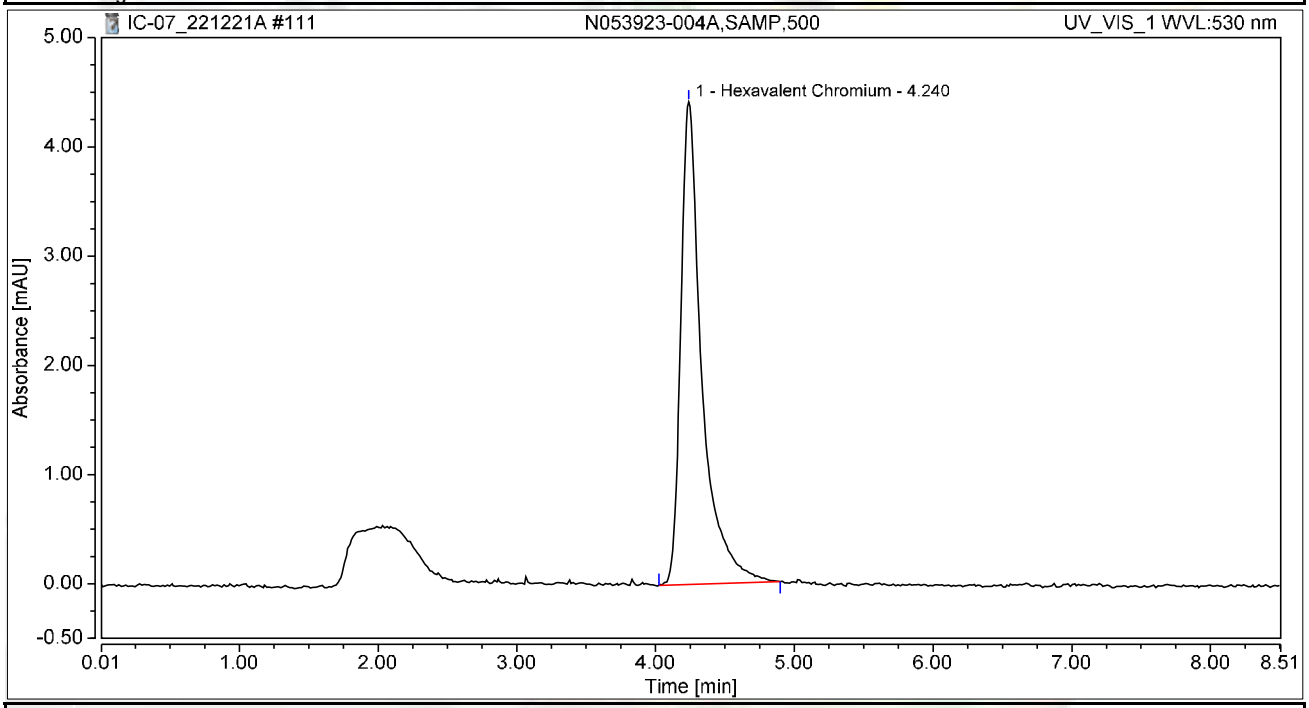
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.248	20.907	113.732	100.00	100.00	101.7418
Total:			**20.907**	**113.732**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-004A,SAMP,500**	*Run Time (min):*	**8.50**
Vial Number:	**30**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

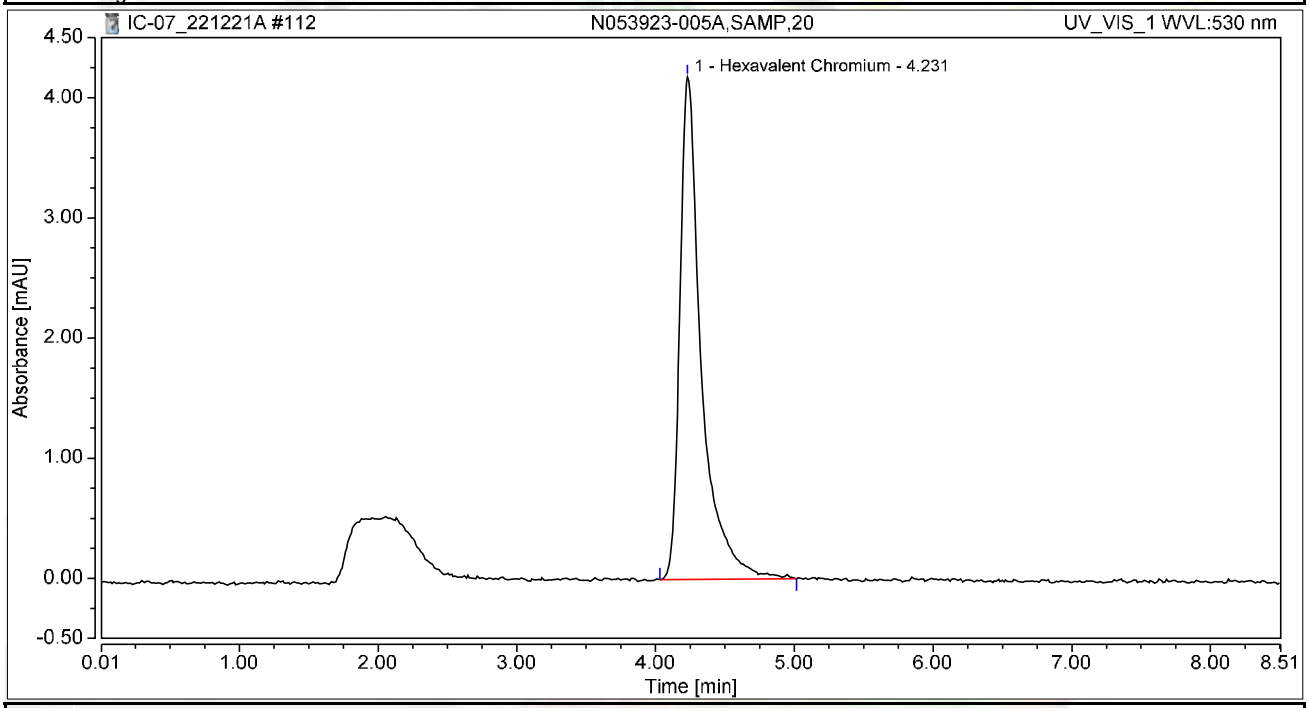
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.240	0.782	4.418	100.00	100.00	3.8061
Total:			**0.782**	**4.418**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-005A,SAMP,20**	*Run Time (min):*	**8.50**
Vial Number:	**31**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:50**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

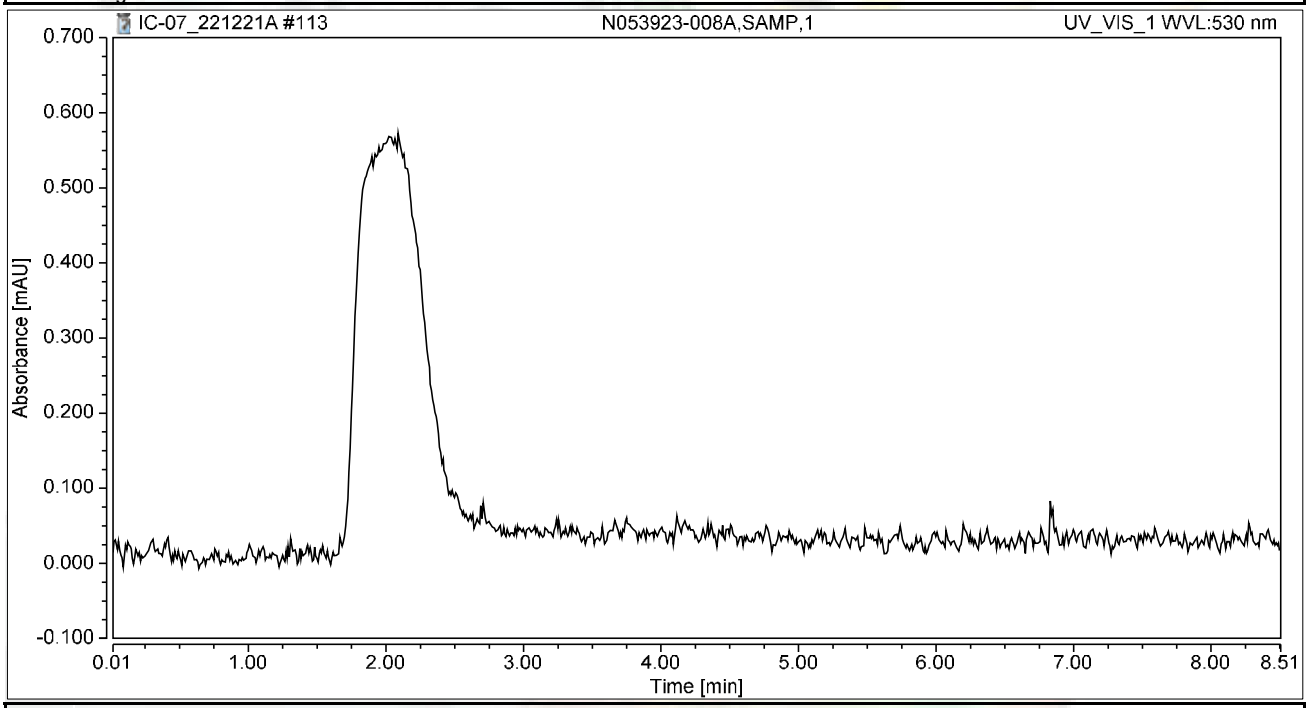
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.231	0.754	4.183	100.00	100.00	3.6689
Total:			**0.754**	**4.183**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053923-008A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**32**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 03:59**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

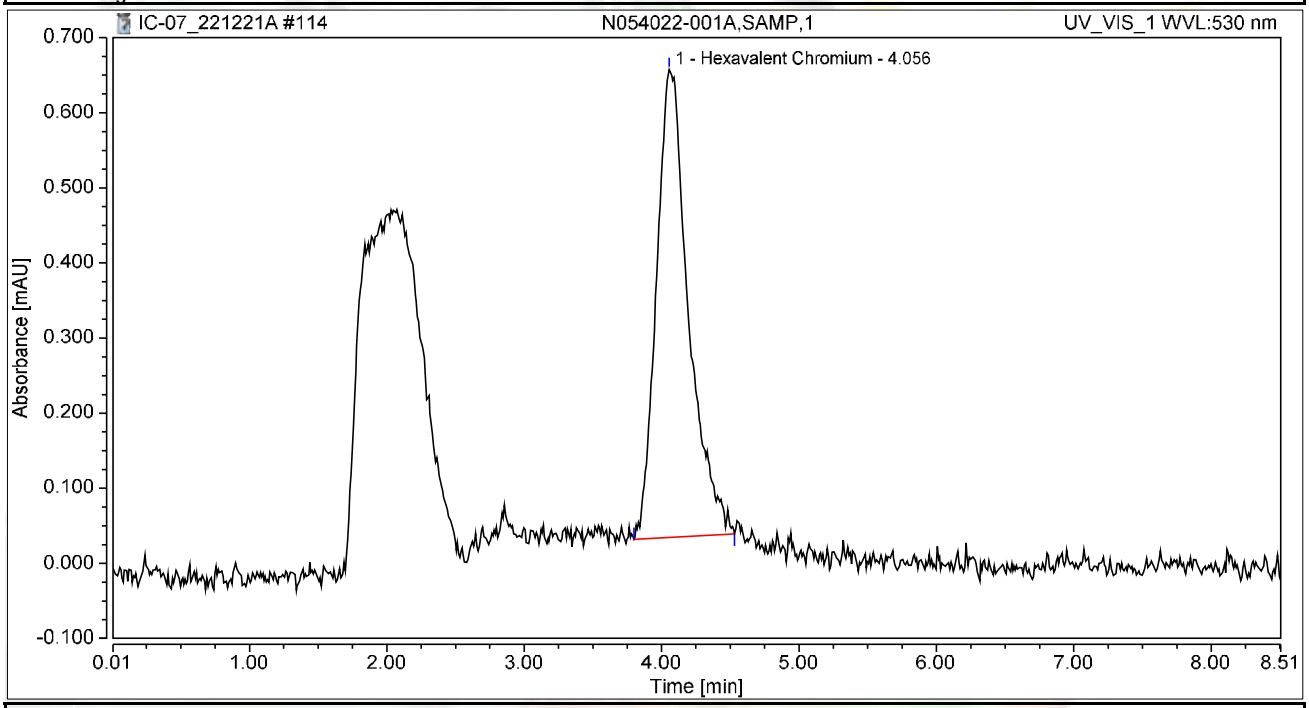
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054022-001A,SAMP,1**	*Run Time (min):*	**8.50**
Vial Number:	**33**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 04:09**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

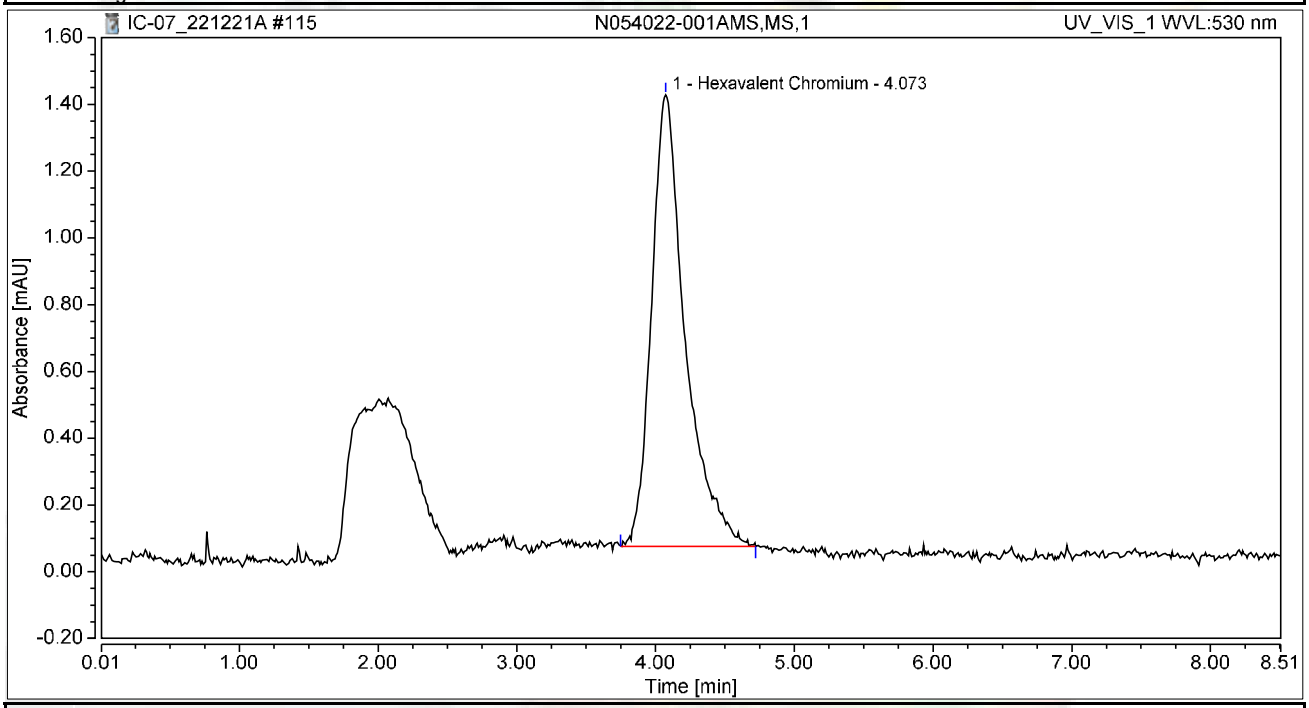
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.056	0.168	0.623	100.00	100.00	0.8175
Total:			**0.168**	**0.623**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054022-001AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**34**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 04:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

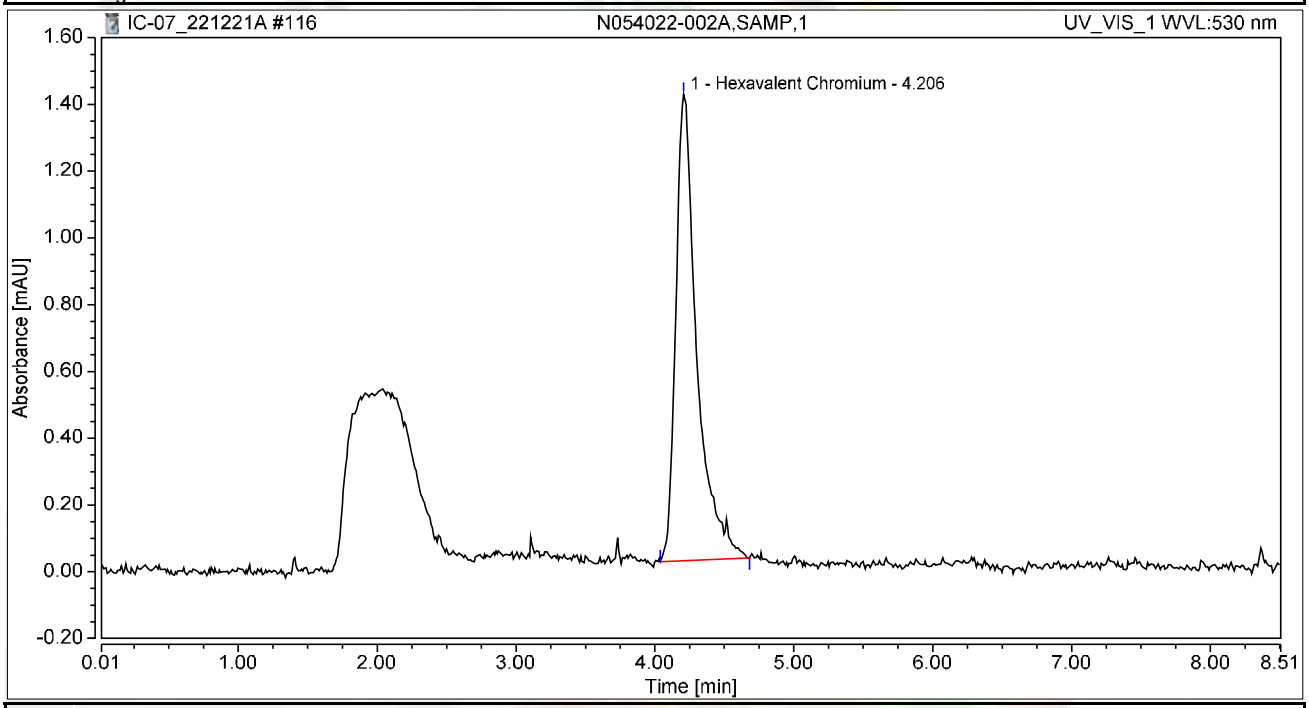
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.073	0.381	1.353	100.00	100.00	1.8523
Total:			**0.381**	**1.353**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054022-002A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**35**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 04:27**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

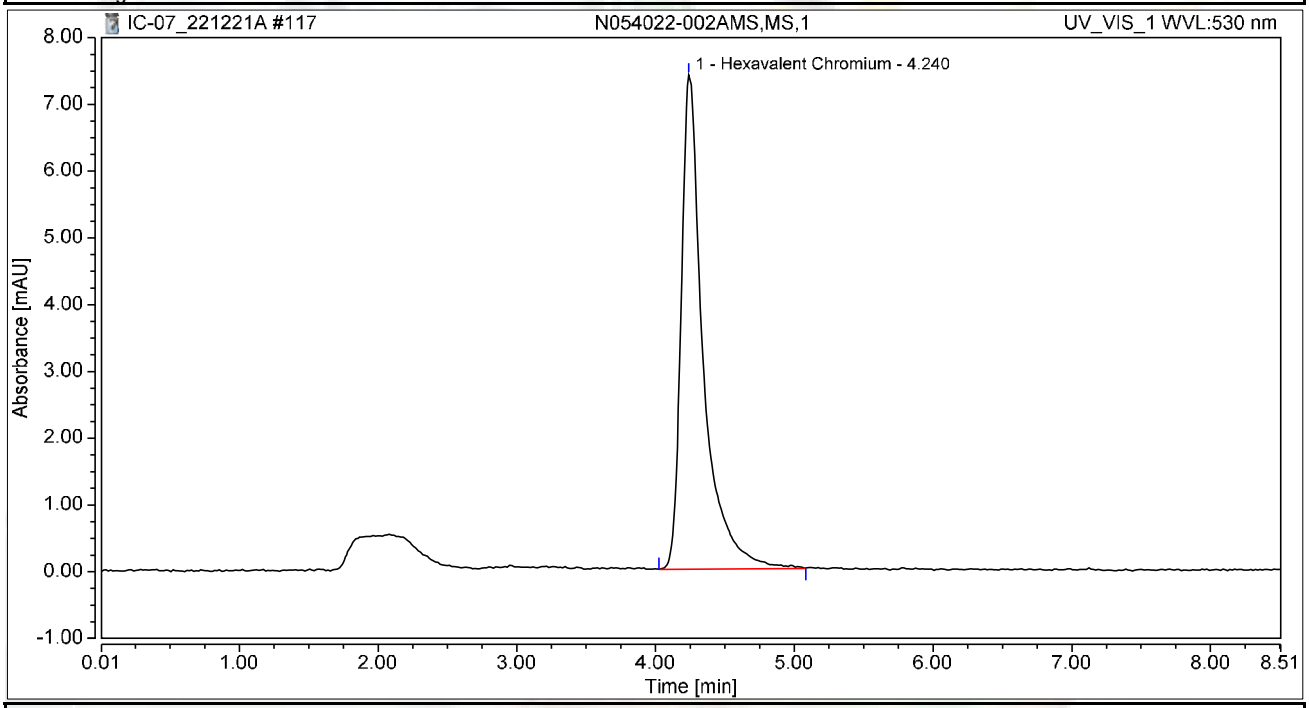
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.206	0.245	1.397	100.00	100.00	1.1910
Total:			**0.245**	**1.397**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N054022-002AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**36**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 04:37**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

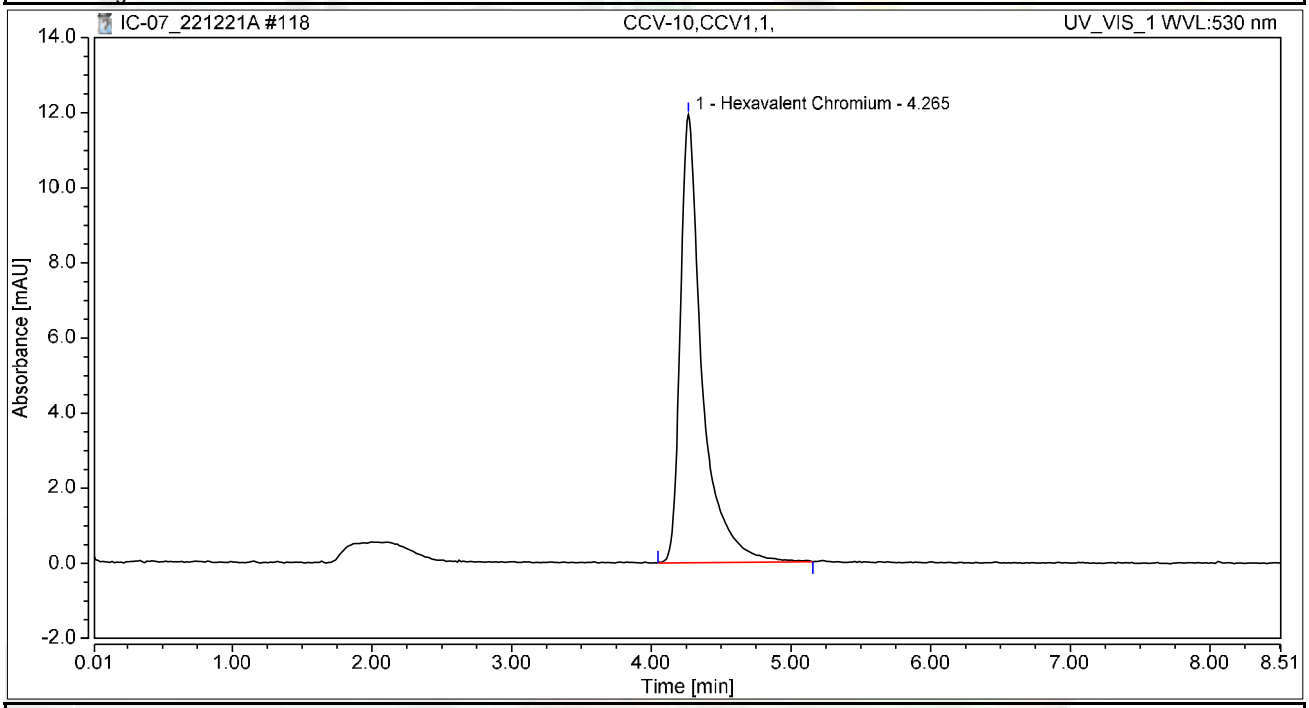
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.240	1.367	7.403	100.00	100.00	6.6524
Total:			**1.367**	**7.403**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-10,CCV1,1,**	*Run Time (min):*	**8.49**
Vial Number:	**37**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 04:46**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

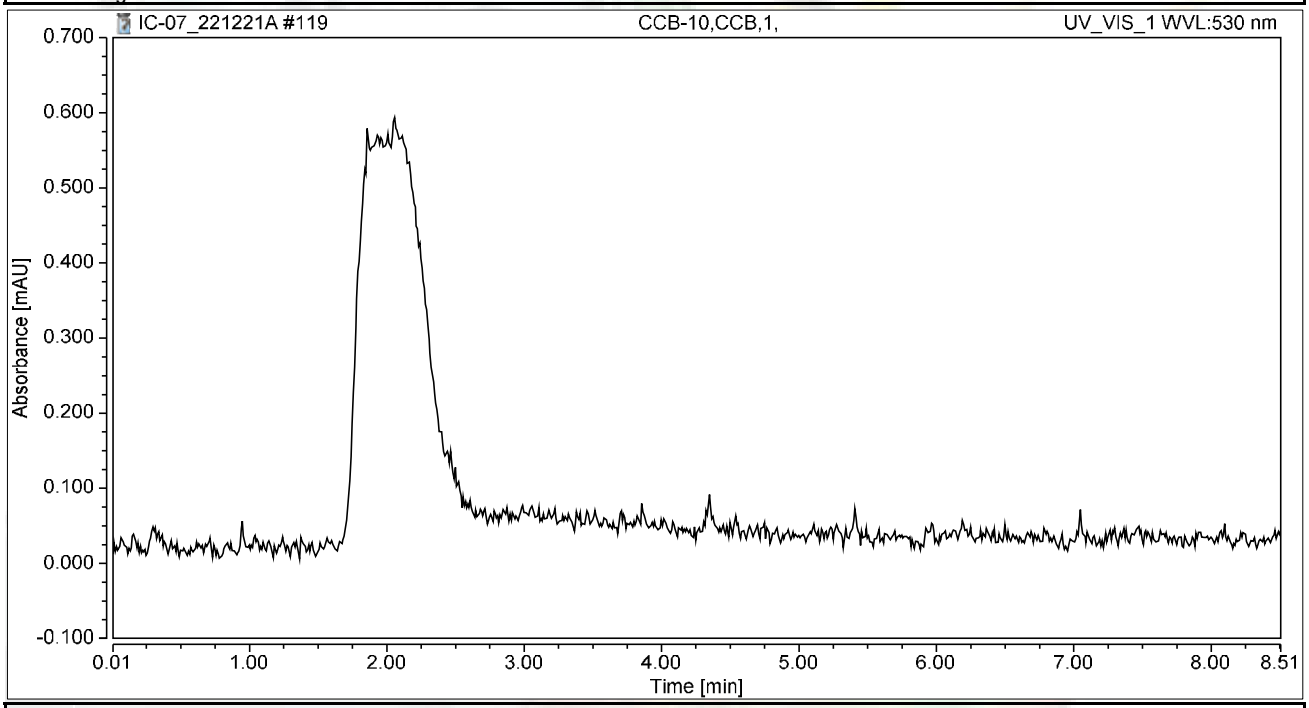
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.265	2.154	11.935	100.00	100.00	10.4833
Total:			**2.154**	**11.935**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-10,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**38**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 04:56**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

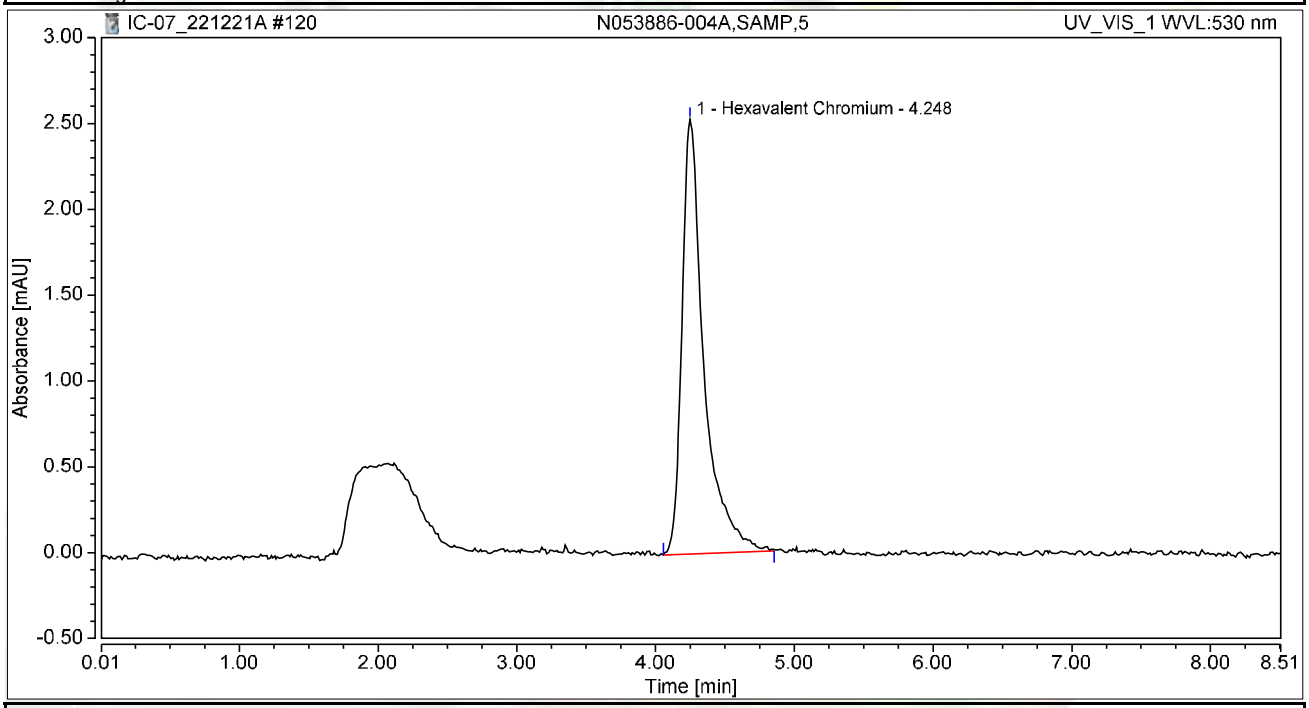
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-004A,SAMP,5**	*Run Time (min):*	**8.50**
Vial Number:	**39**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 05:05**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

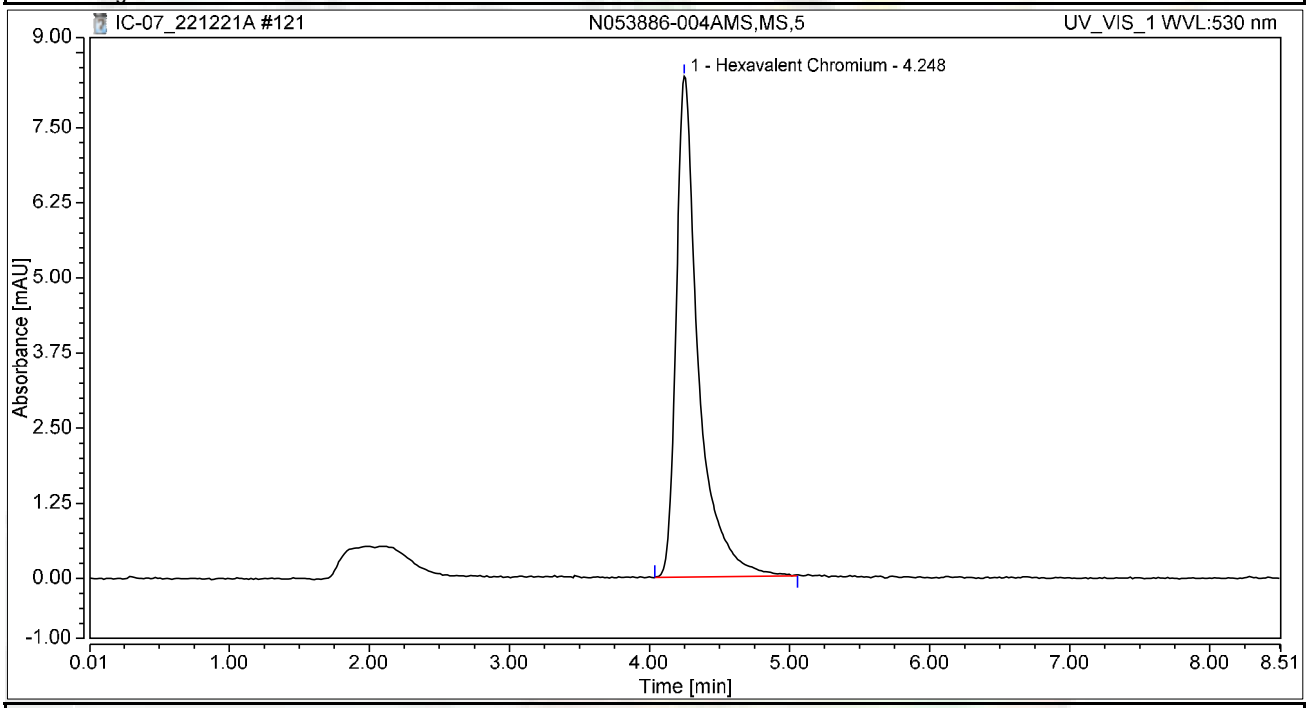
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.248	0.464	2.531	100.00	100.00	2.2596
Total:			**0.464**	**2.531**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-004AMS,MS,5**	*Run Time (min):*	**8.50**
Vial Number:	**40**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 05:15**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

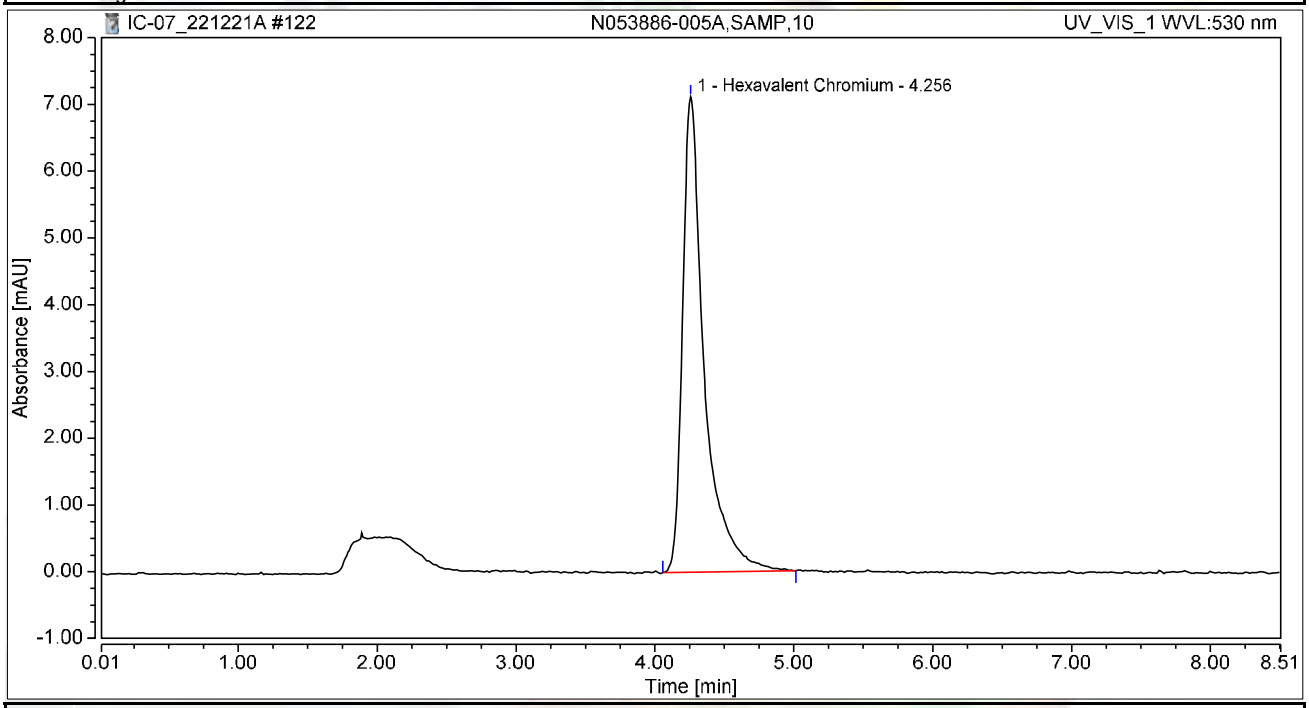
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.248	1.533	8.333	100.00	100.00	7.4626
Total:			**1.533**	**8.333**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-005A,SAMP,10**	*Run Time (min):*	**8.49**
Vial Number:	**41**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 05:24**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

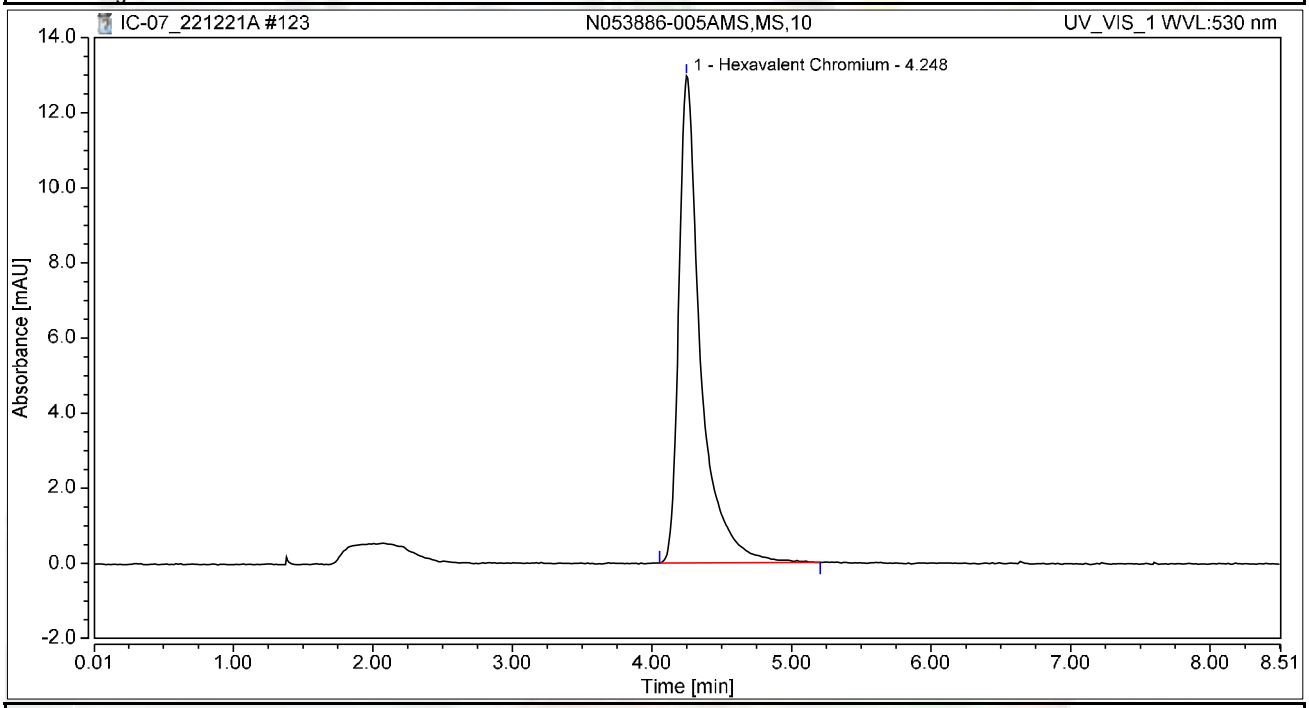
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.256	1.288	7.123	100.00	100.00	6.2684
Total:			**1.288**	**7.123**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-005AMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**42**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 05:34**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

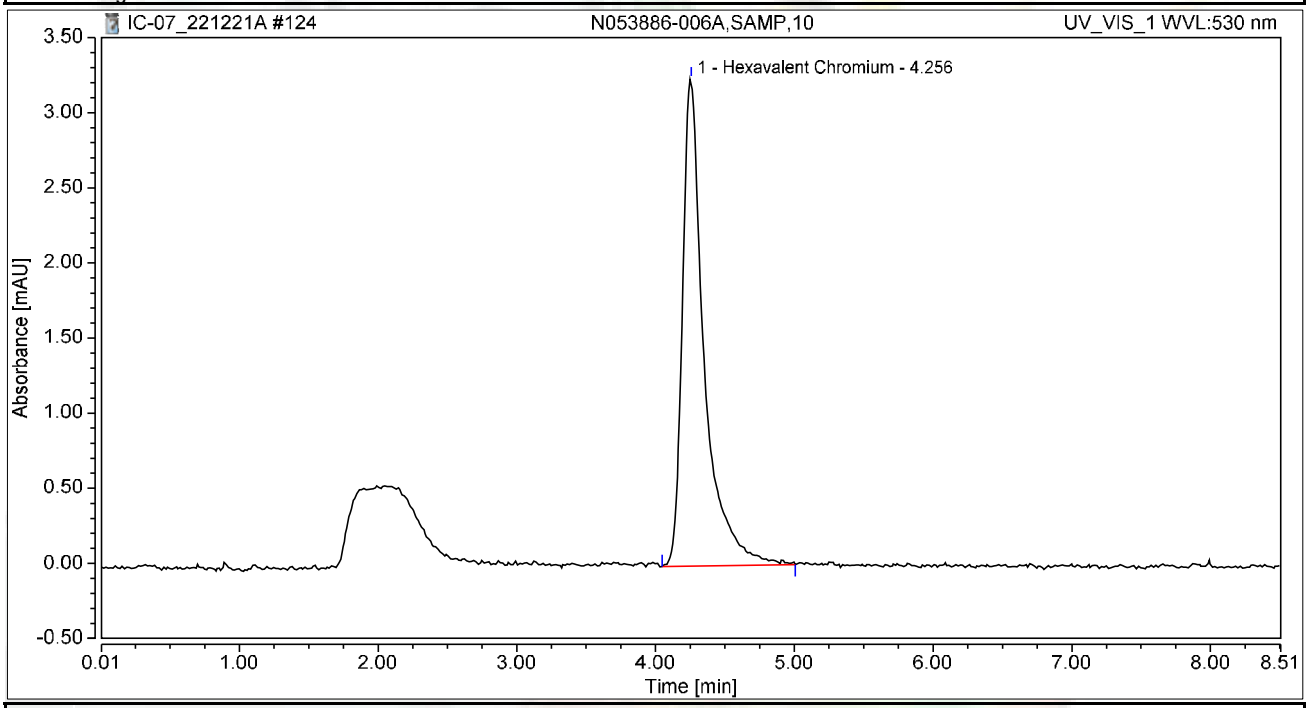
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.248	2.355	12.972	100.00	100.00	11.4584
Total:			**2.355**	**12.972**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-006A,SAMP,10**	*Run Time (min):*	**8.50**
Vial Number:	**43**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 05:43**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

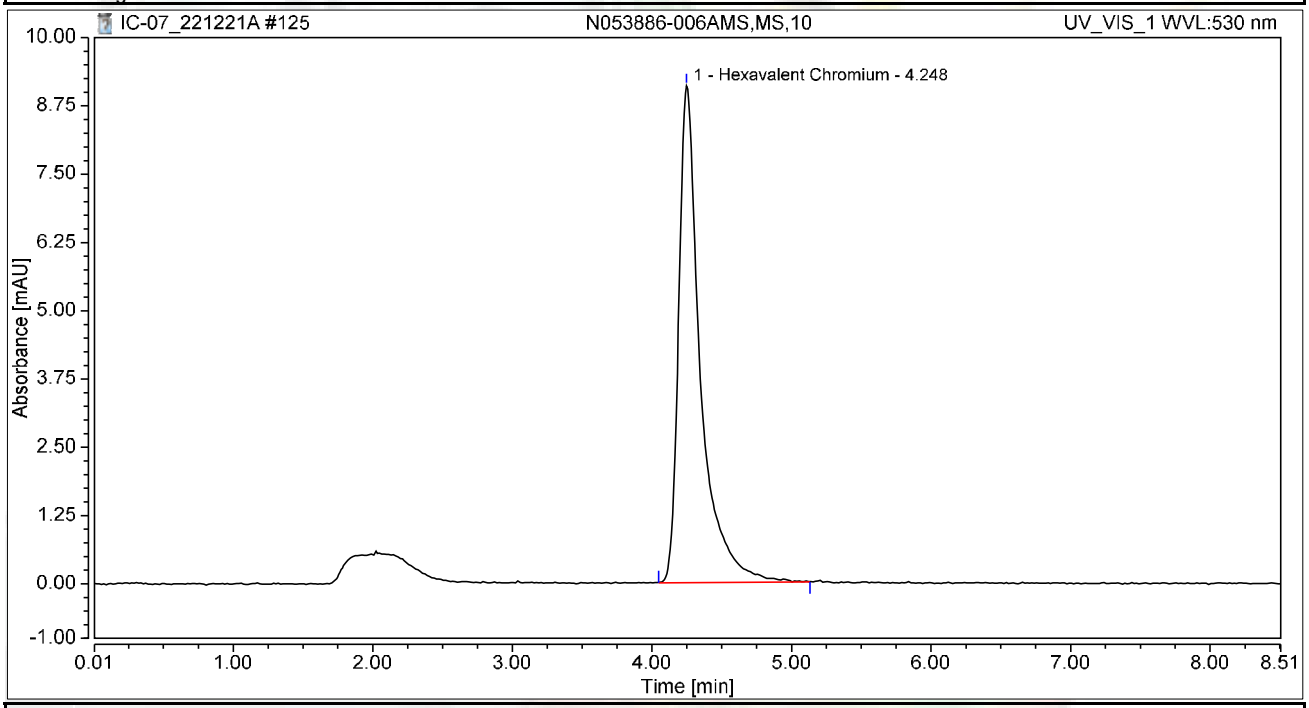
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.256	0.590	3.243	100.00	100.00	2.8731
Total:			**0.590**	**3.243**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-006AMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**44**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 05:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

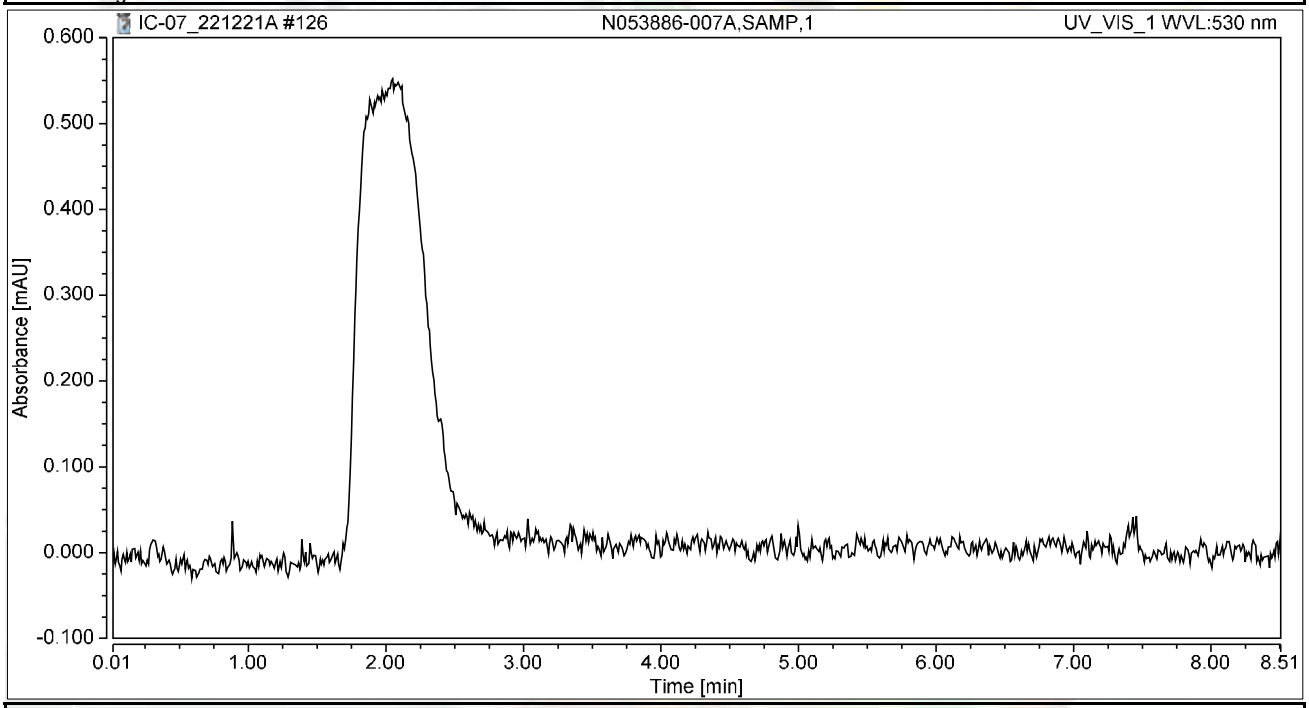
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.248	1.643	9.093	100.00	100.00	7.9964
Total:			**1.643**	**9.093**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-007A,SAMP,1**	*Run Time (min):*	**8.49**
Vial Number:	**45**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 06:02**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

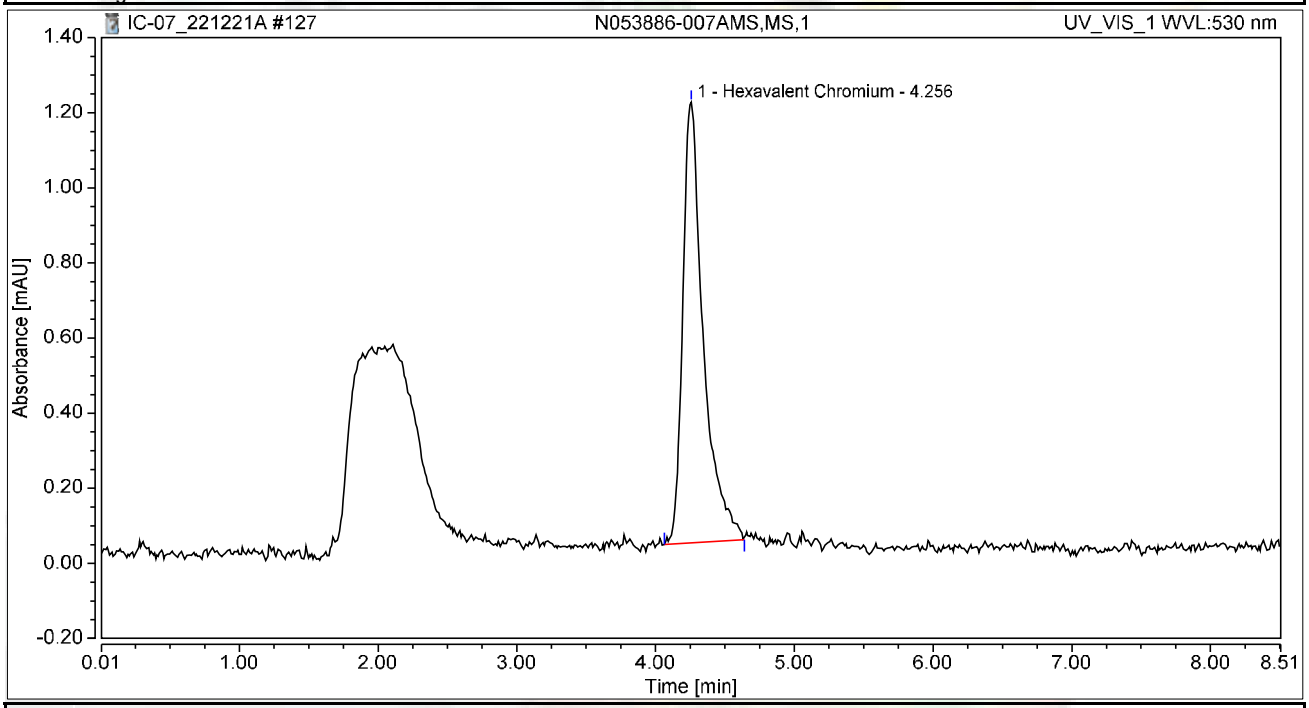
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053886-007AMS,MS,1**	*Run Time (min):*	**8.50**
Vial Number:	**46**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 06:12**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

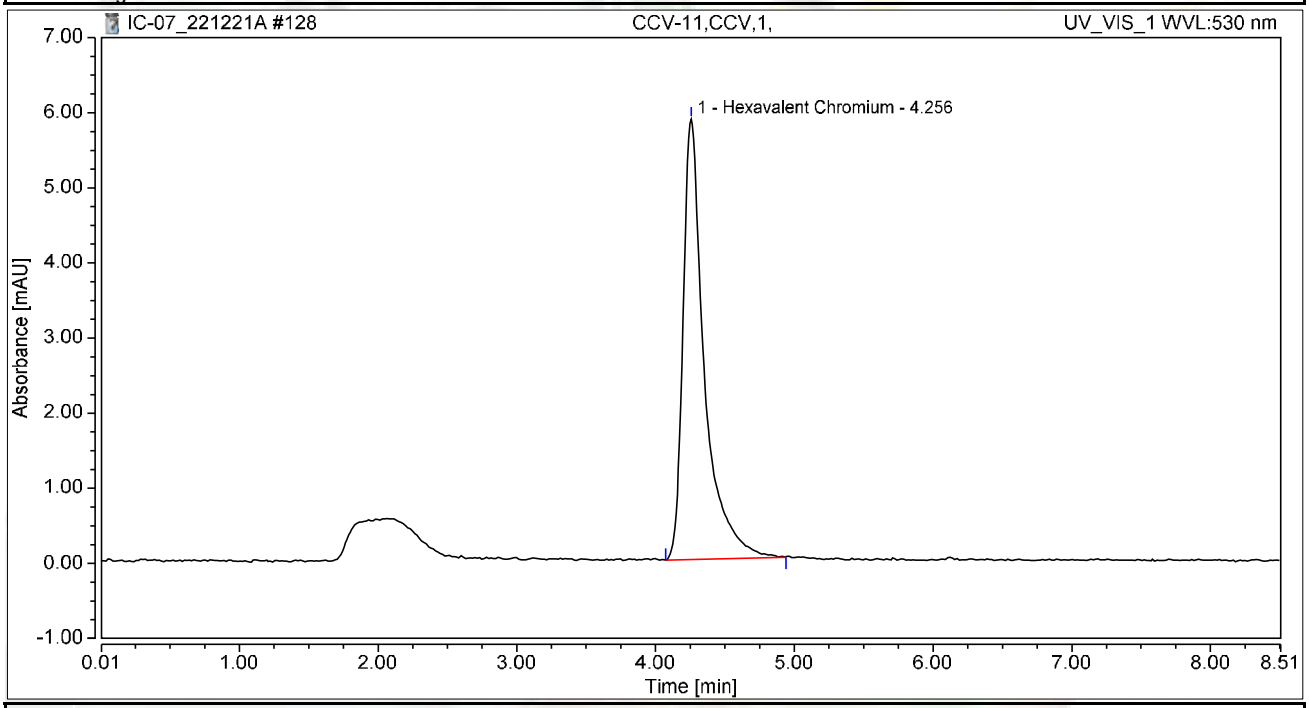
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.256	0.202	1.173	100.00	100.00	0.9813
Total:			**0.202**	**1.173**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCV-11,CCV,1,**	*Run Time (min):*	**8.50**
Vial Number:	**47**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 06:21**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

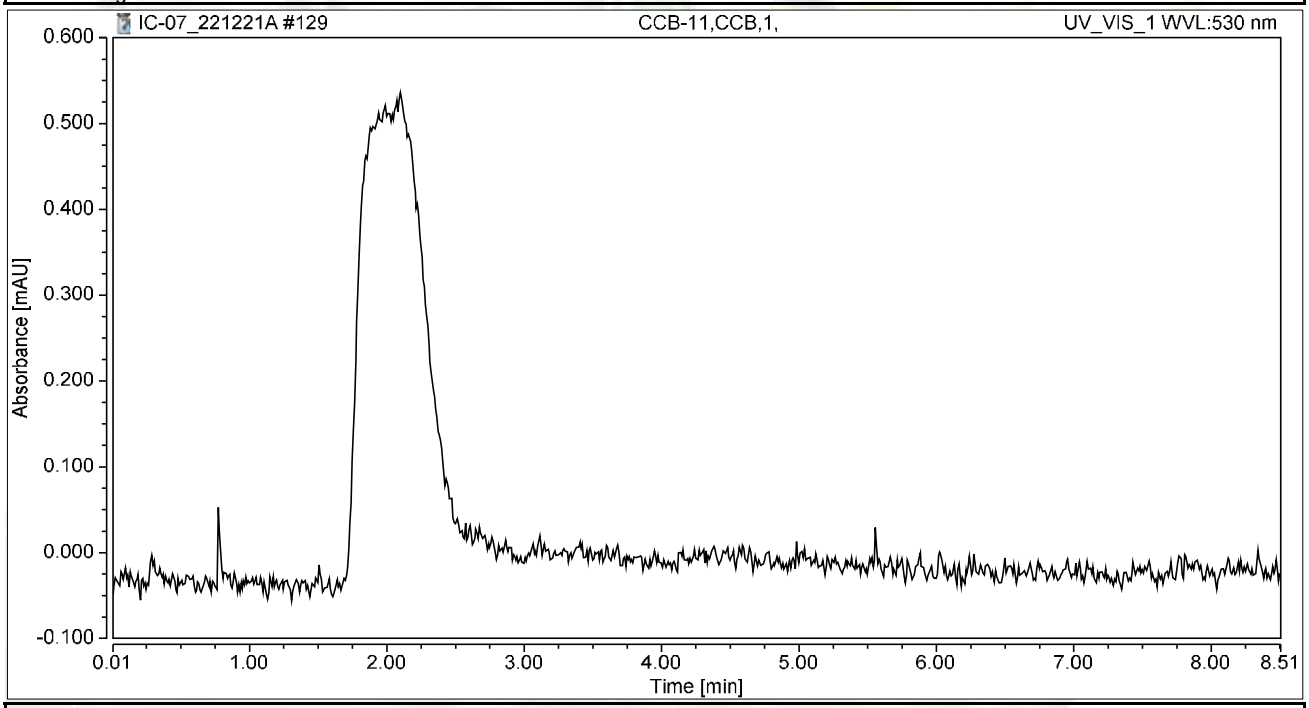
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.256	1.047	5.869	100.00	100.00	5.0949
Total:			**1.047**	**5.869**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**CCB-11,CCB,1,**	*Run Time (min):*	**8.50**
Vial Number:	**48**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 06:30**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

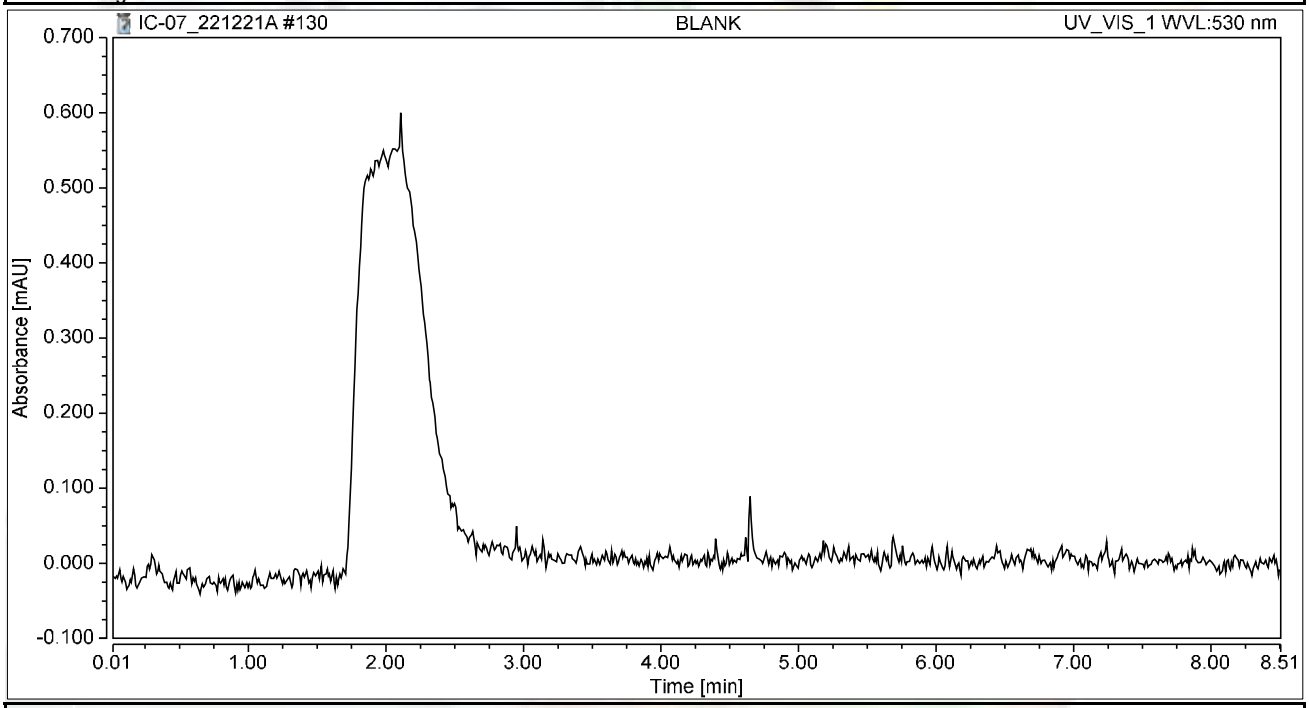
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**BLANK**	*Run Time (min):*	**8.49**
Vial Number:	**49**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221217_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**22/Dec/22 06:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

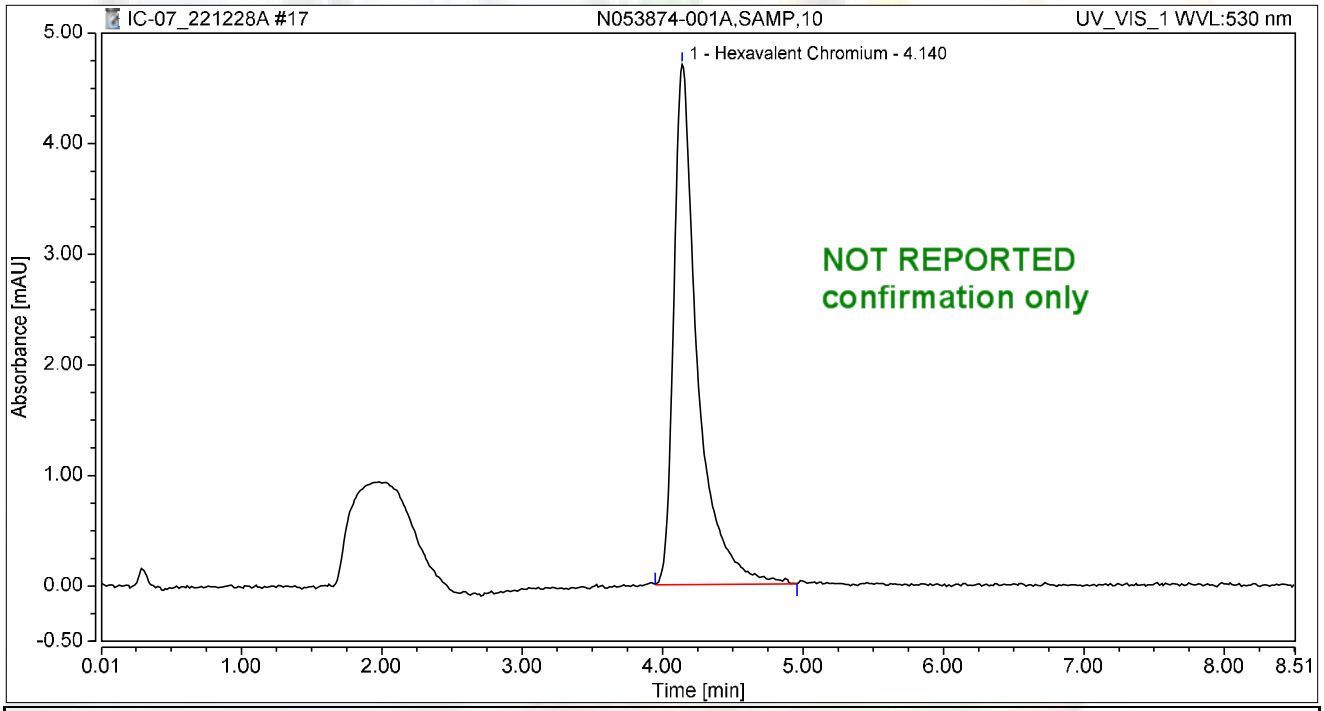
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
n.a.	Hexavalent Chromium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-001A,SAMP,10**	*Run Time (min):*	**8.50**
Vial Number:	**9**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221222_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Dec/22 12:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

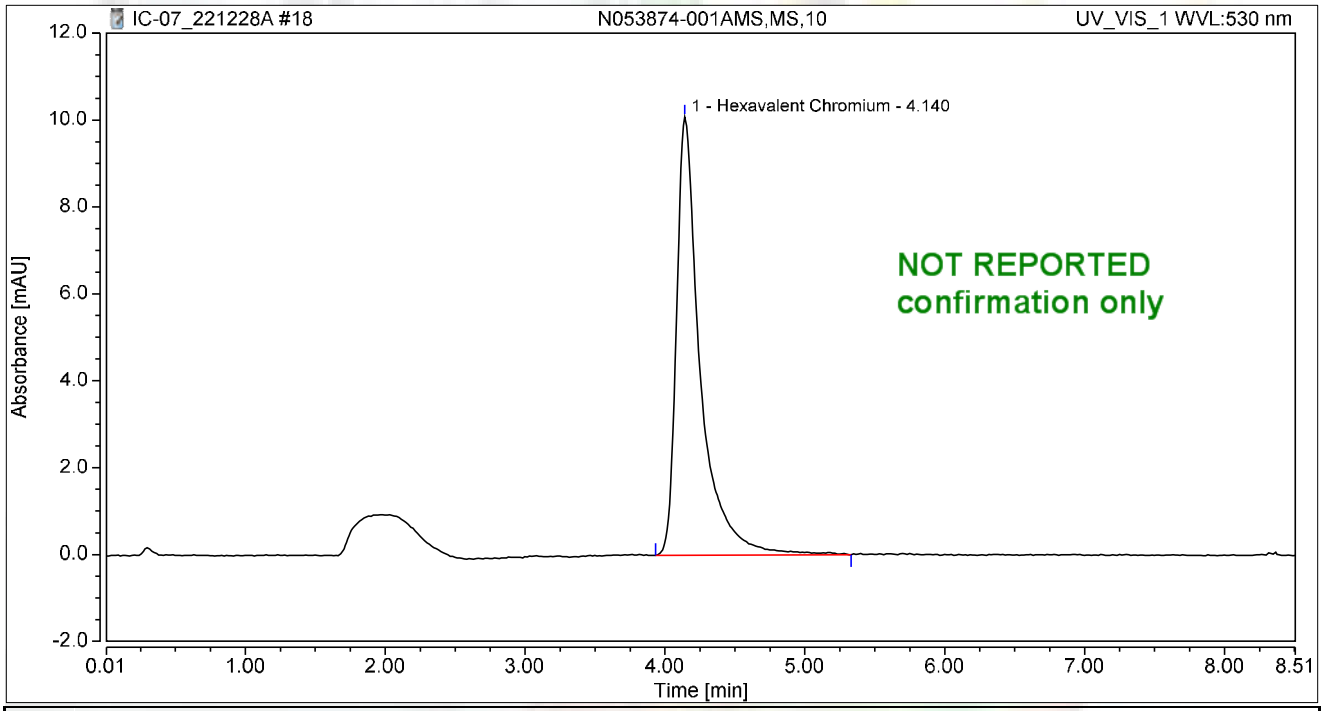
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	0.920	4.706	100.00	100.00	4.2326
Total:			**0.920**	**4.706**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-001AMS,MS,10**	*Run Time (min):*	**8.50**
Vial Number:	**10**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221222_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**28/Dec/22 12:39**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

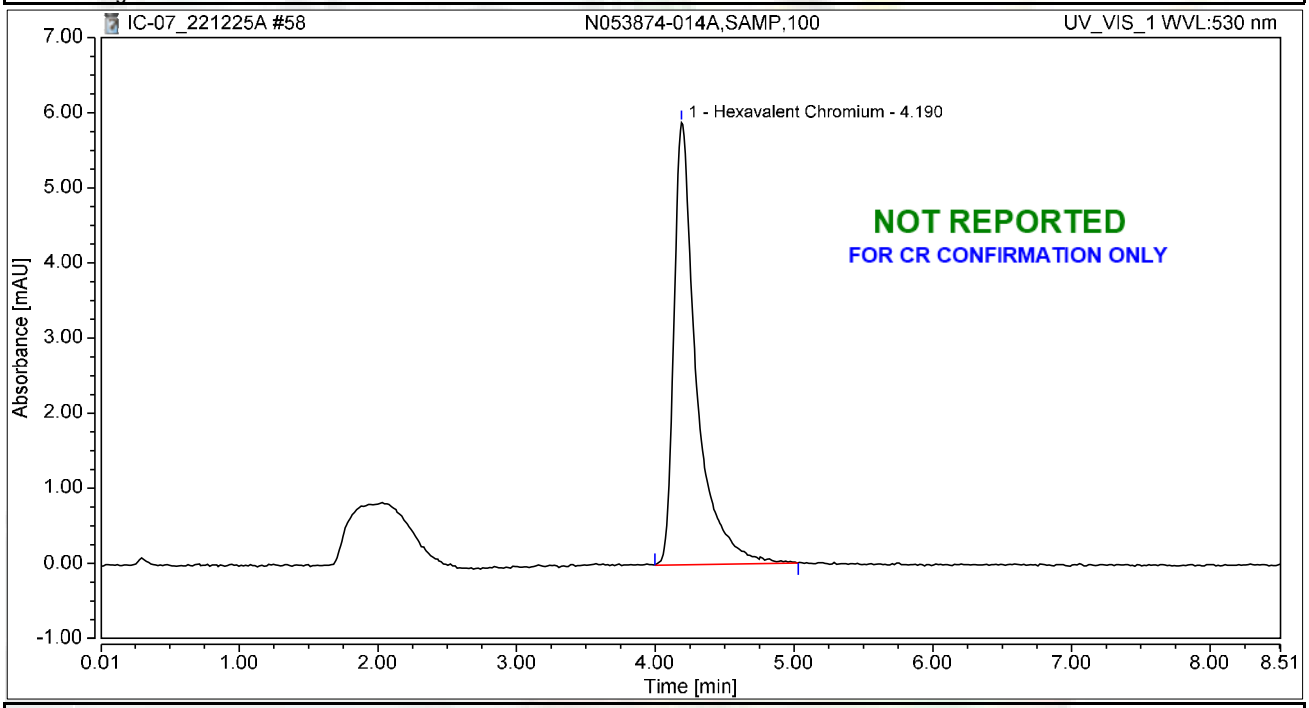
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.140	1.993	10.083	100.00	100.00	9.1742
Total:			**1.993**	**10.083**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-014A,SAMP,100**	*Run Time (min):*	**8.50**
Vial Number:	**21**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221222_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**25/Dec/22 21:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

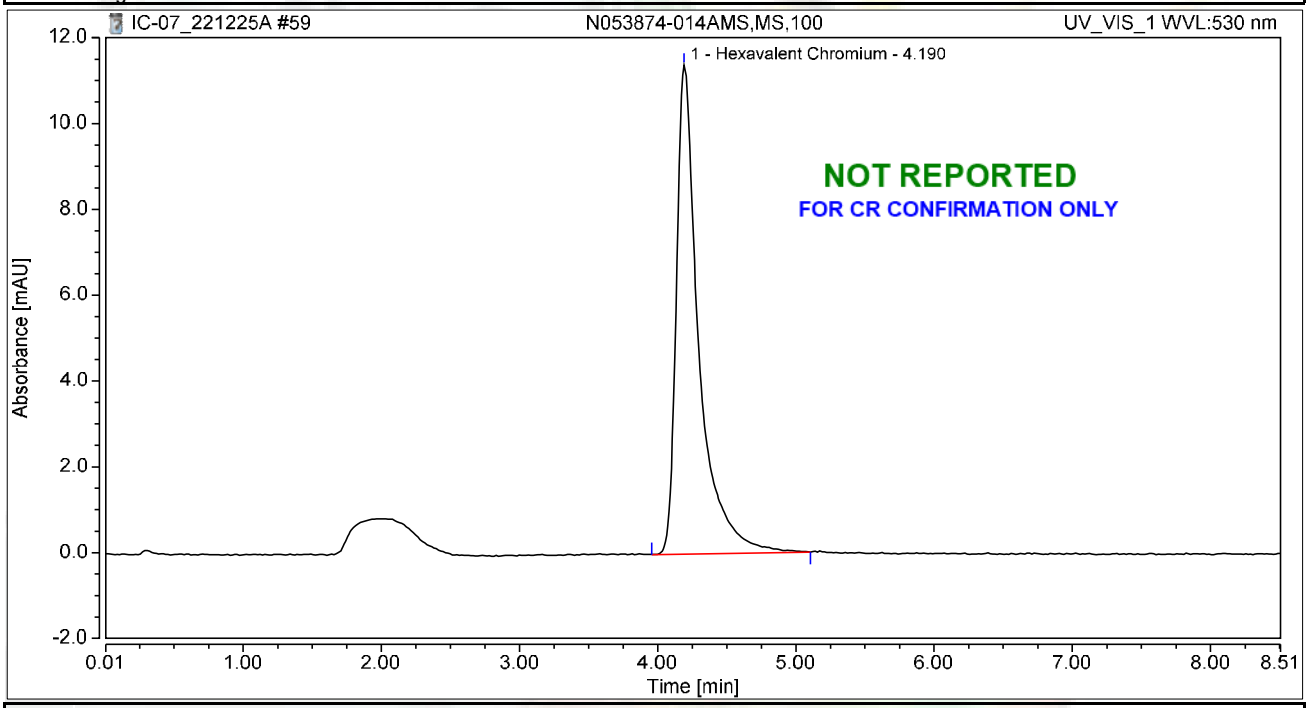
No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.190	1.104	5.887	100.00	100.00	5.0796
Total:			**1.104**	**5.887**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**N053874-014AMS,MS,100**	*Run Time (min):*	**8.50**
Vial Number:	**22**	*Injection Volume:*	**1000.00**
Injection Type:	**Unknown**	*Channel:*	**UV_VIS_1**
Calibration Level:		*Wavelength:*	**530.0**
Instrument Method:	**Hex Chrom 4 mm**	*Bandwidth:*	**n.a.**
Processing Method:	**221222_IC-07_Cr6_218_6_HIGH**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**25/Dec/22 21:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area mAU*min	Height mAU	Relative Area %	Relative Height %	Amount ug/L
1	Hexavalent Chromium	4.190	2.147	11.392	100.00	100.00	9.8813
Total:			**2.147**	**11.392**	**100.00**	**100.00**	

EPA 300.0

IC Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

QC Batch Number: R167841
ASSET #: N053874

Instrument ID: IC-08
Analyst: RBA
Date Analyzed: 12/2/2022

Method:

[X] EPA 300.0
[ ] EPA 7199

[ ] EPA 218.6/EPA 218.7
[ ] EPA 218.6/EPA 218.7 LL
[ ] Others _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. ICAL before initial sample analysis and is not more than 4 weeks old.	X			X		
2. Does correlation coefficient,r, meet criteria ?(r = 0.995, r =0.999 (Cr6+))	X			X		
3. ICV within ± 10% of expected value.	X			X		
Continuing Calibration						
4. CCV after every 10 injections and at the end of analysis sequence.	X			X		
5. CCV within ± 10% of expected value. (± 5% for EPA 218.6)	X			X		
6. Calibration blanks run after ICV and CCV?	X			X		
7. Is the buffer less than MDL? If not, discontinue analysis. (Cr6+ only)			X			X
8. Do all calibration blanks (ICB and CCBs) meet criteria? (<1/2PQL for 300, <0.02 for Cr6+)	X			X		
9. Is low level check at PQL within ± 20% for 218.6/218.7/7199? ± 30% for 218.6/218.7LL?			X			X
Sample Information						
10. All samples are within linear range.	X			X		
11. All samples pH within 9.3-9.7 when analyzed?			X			X
12. Duplicate sample injections for every sample. (7199 only)			X			X
13. For Topock, matrix spike protocol performed on all samples? (Cr6+ only)			X			X
14. For Hinkley DOM samples, matrix spike protocol performed on all samples ? (Cr6+ only)			X			X
15. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
16. For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
17. For samples that failed Cr vs Cr6+ criteria, is matrix spike protocol performed ?			X			X
18. For dilution and MS spike protocol, spike recovery within 90-110%? (Cr6+ only)			X			X
19. EPA 3060A digestion performed on solid samples (7199 only)			X			X
20. Are all peaks within RT window, ± 0.2 min?	X			X		
21. Are all samples analyzed within hold time?	X			X		
22. For Hinkley projects (DOM & ATU only), are samples with result ≤ 0.2 ug/L analyzed by low level method? (Cr6+ only)			X			X
QC Items						
23. Method blank values meets criteria. (<1/2 PQL for 300, <0.02 for Cr6+)	X			X		
24. LCS compounds are within control limits.	X			X		
25. MS/MSD, RPD's are within control limits.	X			X		
26. Soluble and Insoluble matrix spike within control limits (7199 solids only)			X			X
Raw Data and Miscellaneous Information						
27. Runlog complete and included in package.	X			X		
28. Extraction log complete and included in package (if applicable)			X			X
29. All manual integrations initialed, date and reasons included.	X			X		
30. Before and after manual integration chromatogram included in the package	X			X		
31. All samples and QC raw data present in package.	X			X		
Preliminary Report						
32. Does the raw data match the preliminary report?	X			X		
33. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
34 Is the QC summary report present and complete?	X			X		

Comments:

SECOND LEVEL REVIEW:

	Y	N	N/A
1. All assigned sample(s) analyzed			
2. Matrix / units correct			
3. Is QC present and complete?			
4. Are analytical results correct? (dilutions,calculations)			
5. Is first level review correct and complete?			

1st Level Reviewer RBA Date: —

2nd Level Reviewer 12/19/2022 Date: —

SAMPLE CALCULATION

Sample Calculation

METHOD: EPA 300
TEST NAME: INORGANIC ANIONS BY IC
MATRIX: GROUNDWATER

FORMULA:

Calculate the Nitrate concentration, in mg/L, in the orignal sample as follows:

Nitrate, mg/L = A * DF

where:

A = mg/L, IC calculated concentration
DF = dilution factor

For N053874-01B ~~**0.7057**~~ concentration in mg/L is calculated as follows:

Nitrate, mg/L = 0.7057 * 5

= 3.5285

Reporting result in two significant values,

Nitrate, mg/L = 3.5

12/18/2022

Reviewed by:

dlRocha 1/4/2023

ANALYSIS RUN LOG

Sequence: IC-08_221201D
Operator: IC-05
Printed: 12/2/2022 2:26:51 PM

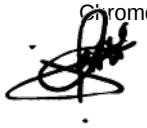
Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 40
Created: 12/1/2022 10:10:07 PM by IC-05
Last Update: 12/1/2022 11:40:09 PM by IC-05

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
1	Std - 0	Standard	1	1000.0	Anions Default	EPA 300_0_221201D	Finished
2	Std - 1	Standard	2	1000.0	Anions Default	EPA 300_0_221201D	Finished
3	Std - 2	Standard	3	1000.0	Anions Default	EPA 300_0_221201D	Finished
4	Std - 3	Standard	4	1000.0	Anions Default	EPA 300_0_221201D	Finished
5	Std - 4	Standard	5	1000.0	Anions Default	EPA 300_0_221201D	Finished
6	Std - 5	Standard	6	1000.0	Anions Default	EPA 300_0_221201D	Finished
7	Std - 1	Unknown	2	1000.0	Anions Default	EPA 300_0_221201D	Finished
8	ICV,ICV,1	Unknown	3	1000.0	Anions Default	EPA 300_0_221201D	Finished
9	ICB,ICB,1	Unknown	3	1000.0	Anions Default	EPA 300_0_221201D	Finished
10	MB-H2O,MBLK,1	Unknown	4	1000.0	Anions Default	EPA 300_0_221201D	Finished
11	LCS-H2O,LCS,1	Unknown	5	1000.0	Anions Default	EPA 300_0_221201D	Finished
12	N053852-003B,SAMP,10	Unknown	6	1000.0	Anions Default	EPA 300_0_221201D	Finished
13	N053852-014B,SAMP,10	Unknown	6	1000.0	Anions Default	EPA 300_0_221201D	Finished
14	N053852-015B,SAMP,10	Unknown	7	1000.0	Anions Default	EPA 300_0_221201D	Finished
15	N053852-002B,SAMP,10	Unknown	8	1000.0	Anions Default	EPA 300_0_221201D	Finished
16	N053853-006B,SAMP,10	Unknown	9	1000.0	Anions Default	EPA 300_0_221201D	Finished
17	N053852-001B,SAMP,10	Unknown	10	1000.0	Anions Default	EPA 300_0_221201D	Finished
18	N053852-010B,SAMP,10	Unknown	11	1000.0	Anions Default	EPA 300_0_221201D	Finished
19	N053852-012B,SAMP,10	Unknown	12	1000.0	Anions Default	EPA 300_0_221201D	Finished
20	CCV-1,CCV,1	Unknown	13	1000.0	Anions Default	EPA 300_0_221201D	Finished
21	CCB-1,CCB,1	Unknown	14	1000.0	Anions Default	EPA 300_0_221201D	Finished
22	N053853-001B,SAMP,20	Unknown	15	1000.0	Anions Default	EPA 300_0_221201D	Finished
23	N053853-002B,SAMP,5	Unknown	16	1000.0	Anions Default	EPA 300_0_221201D	Finished
24	N053853-003B,SAMP,10	Unknown	17	1000.0	Anions Default	EPA 300_0_221201D	Finished
25	N053853-005B,SAMP,10	Unknown	18	1000.0	Anions Default	EPA 300_0_221201D	Finished
26	N053853-007B,SAMP,10	Unknown	19	1000.0	Anions Default	EPA 300_0_221201D	Finished
27	N053853-008B,SAMP,10	Unknown	20	1000.0	Anions Default	EPA 300_0_221201D	Finished
28	N053853-010B,SAMP,10	Unknown	21	1000.0	Anions Default	EPA 300_0_221201D	Finished
29	N053853-011B,SAMP,10	Unknown	22	1000.0	Anions Default	EPA 300_0_221201D	Finished
30	N053853-012B,SAMP,10	Unknown	23	1000.0	Anions Default	EPA 300_0_221201D	Finished
31	N053853-013B,SAMP,10	Unknown	24	1000.0	Anions Default	EPA 300_0_221201D	Finished
32	CCV-2,CCV,1	Unknown	25	1000.0	Anions Default	EPA 300_0_221201D	Finished
33	CCB-2,CCB,1	Unknown	26	1000.0	Anions Default	EPA 300_0_221201D	Finished
34	N053853-014B,SAMP,10	Unknown	27	1000.0	Anions Default	EPA 300_0_221201D	Finished
35	N053852-010BMS,MS,10	Unknown	28	1000.0	Anions Default	EPA 300_0_221201D	Finished
36	N053852-010BMSD,MSD,10	Unknown	29	1000.0	Anions Default	EPA 300_0_221201D	Finished
37	N053853-012BDUP,DUP,10	Unknown	30	1000.0	Anions Default	EPA 300_0_221201D	Finished
38	N053853-012BMS,MS,10	Unknown	31	1000.0	Anions Default	EPA 300_0_221201D	Finished
39	CCV-3,CCV,1	Unknown	32	1000.0	Anions Default	EPA 300_0_221201D	Finished
40	CCB-3,CCB,1	Unknown	33	1000.0	Anions Default	EPA 300_0_221201D	Finished

Processed by:

reviewed by: 12/18/2022

Chromeleon © Dionex Corporation, Version 6.80 SR10 Build 2818 (166959)



12/2/2022

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Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
#Samples: 40
Created: 12/1/2022 10:10:07 PM by IC-05
Last Update: 12/1/2022 11:40:09 PM by IC-05

No.	Name	Inj. Date/Time	Comment
1	Std - 0	12/1/2022 10:13:26 PM	IBLANK
2	Std - 1	12/1/2022 10:41:03 PM	STD-LOW
3	Std - 2	12/1/2022 10:55:21 PM	STD
4	Std - 3	12/1/2022 11:09:39 PM	STD
5	Std - 4	12/1/2022 11:23:57 PM	STD
6	Std - 5	12/1/2022 11:38:16 PM	STD-HIGH
7	Std - 1	12/1/2022 11:52:34 PM	STD-LOW
8	ICV,ICV,1	12/2/2022 12:06:52 AM	ICV, IWST-221129B
9	ICB,ICB,1	12/2/2022 12:21:10 AM	ICB
10	MB-H2O,MBLK,1	12/2/2022 12:35:28 AM	MB
11	LCS-H2O,LCS,1	12/2/2022 12:49:46 AM	LCS, IWST-221129B
12	N053852-003B,SAMP,10	12/2/2022 1:04:04 AM	SAMP,1>10mL
13	N053852-014B,SAMP,10	12/2/2022 1:18:22 AM	SAMP,1>10mL
14	N053852-015B,SAMP,10	12/2/2022 1:32:40 AM	SAMP,1>10mL
15	N053852-002B,SAMP,10	12/2/2022 1:46:58 AM	SAMP,1>10mL
16	N053853-006B,SAMP,10	12/2/2022 2:01:17 AM	SAMP,1>10mL
17	N053852-001B,SAMP,10	12/2/2022 2:15:36 AM	SAMP,1>10mL
18	N053852-010B,SAMP,10	12/2/2022 2:29:54 AM	SAMP,1>10mL
19	N053852-012B,SAMP,10	12/2/2022 2:44:12 AM	SAMP,1>10mL
20	CCV-1,CCV,1	12/2/2022 2:58:31 AM	CCV, IWST-221129A
21	CCB-1,CCB,1	12/2/2022 3:12:48 AM	CCB
22	N053853-001B,SAMP,20	12/2/2022 3:27:07 AM	SAMP,0.5>10mL
23	N053853-002B,SAMP,5	12/2/2022 3:41:26 AM	SAMP,2>10mL
24	N053853-003B,SAMP,10	12/2/2022 3:55:44 AM	SAMP,1>10mL
25	N053853-005B,SAMP,10	12/2/2022 4:10:02 AM	SAMP,1>10mL
26	N053853-007B,SAMP,10	12/2/2022 4:24:21 AM	SAMP,1>10mL
27	N053853-008B,SAMP,10	12/2/2022 4:38:39 AM	SAMP,1>10mL
28	N053853-010B,SAMP,10	12/2/2022 4:52:57 AM	SAMP,1>10mL
29	N053853-011B,SAMP,10	12/2/2022 5:07:15 AM	SAMP,1>10mL
30	N053853-012B,SAMP,10	12/2/2022 5:21:33 AM	SAMP,1>10mL
31	N053853-013B,SAMP,10	12/2/2022 5:35:51 AM	SAMP,1>10mL
32	CCV-2,CCV,1	12/2/2022 5:50:09 AM	CCV, IWST-221129A
33	CCB-2,CCB,1	12/2/2022 6:04:28 AM	CCB
34	N053853-014B,SAMP,10	12/2/2022 6:18:46 AM	SAMP,1>10mL
35	N053852-010BMS,MS,10	12/2/2022 6:33:05 AM	MS,1>10mL
36	N053852-010BMSD,MSD,10	12/2/2022 6:47:23 AM	MSD,1>10mL
37	N053853-012BDUP,DUP,10	12/2/2022 7:01:42 AM	DUP,1>10mL
38	N053853-012BMS,MS,10	12/2/2022 7:16:00 AM	MS,1>10mL
39	CCV-3,CCV,1	12/2/2022 7:30:18 AM	CCV, IWST-221129A
40	CCB-3,CCB,1	12/2/2022 7:44:36 AM	CCB

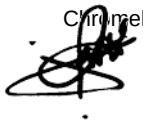
Sequence: IC-08_221202A
Operator: IC-05
Printed: 12/2/2022 5:34:00 PM

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
Created: 12/2/2022 8:55:35 AM by IC-05
#Samples: 40
(Modified, not saved)

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
1	Std - 0	Standard	1	1000.0	Anions Default	EPA 300_0_221201D	Finished
2	Std - 1	Standard	2	1000.0	Anions Default	EPA 300_0_221201D	Finished
3	Std - 2	Standard	3	1000.0	Anions Default	EPA 300_0_221201D	Finished
4	Std - 3	Standard	4	1000.0	Anions Default	EPA 300_0_221201D	Finished
5	Std - 4	Standard	5	1000.0	Anions Default	EPA 300_0_221201D	Finished
6	Std - 5	Standard	6	1000.0	Anions Default	EPA 300_0_221201D	Finished
7	Std - 1	Unknown	2	1000.0	Anions Default	EPA 300_0_221201D	Finished
8	CCV-1,CCV,1	Unknown	3	1000.0	Anions Default	EPA 300_0_221201D	Finished
9	CCB-1,CCB,1	Unknown	3	1000.0	Anions Default	EPA 300_0_221201D	Finished
10	MB-H2O,MBLK,1	Unknown	4	1000.0	Anions Default	EPA 300_0_221201D	Finished
11	LCS-H2O,LCS,1	Unknown	5	1000.0	Anions Default	EPA 300_0_221201D	Finished
12	N053874-018B,SAMP,5	Unknown	6	1000.0	Anions Default	EPA 300_0_221201D	Finished
13	N053874-018BMS,MS,5	Unknown	6	1000.0	Anions Default	EPA 300_0_221201D	Finished
14	N053874-018BMSD,MSD,5	Unknown	7	1000.0	Anions Default	EPA 300_0_221201D	Finished
15	N053874-001B,SAMP,5	Unknown	8	1000.0	Anions Default	EPA 300_0_221201D	Finished
16	N053874-005B,SAMP,5	Unknown	9	1000.0	Anions Default	EPA 300_0_221201D	Finished
17	N053874-002B,SAMP,10	Unknown	10	1000.0	Anions Default	EPA 300_0_221201D	Finished
18	N053874-003B,SAMP,10	Unknown	11	1000.0	Anions Default	EPA 300_0_221201D	Finished
19	N053874-004B,SAMP,10	Unknown	12	1000.0	Anions Default	EPA 300_0_221201D	Finished
20	CCV-2,CCV,1	Unknown	13	1000.0	Anions Default	EPA 300_0_221201D	Finished
21	CCB-2,CCB,1	Unknown	14	1000.0	Anions Default	EPA 300_0_221201D	Finished
22	N053874-006B,SAMP,10	Unknown	15	1000.0	Anions Default	EPA 300_0_221201D	Finished
23	N053874-007B,SAMP,10	Unknown	16	1000.0	Anions Default	EPA 300_0_221201D	Finished
24	N053874-009B,SAMP,10	Unknown	17	1000.0	Anions Default	EPA 300_0_221201D	Finished
25	N053874-010B,SAMP,10	Unknown	18	1000.0	Anions Default	EPA 300_0_221201D	Finished
26	N053874-011B,SAMP,10	Unknown	19	1000.0	Anions Default	EPA 300_0_221201D	Finished
27	N053874-013B,SAMP,5	Unknown	20	1000.0	Anions Default	EPA 300_0_221201D	Finished
28	N053874-014B,SAMP,5	Unknown	21	1000.0	Anions Default	EPA 300_0_221201D	Finished
29	N053874-015B,SAMP,5	Unknown	22	1000.0	Anions Default	EPA 300_0_221201D	Finished
30	N053874-017B,SAMP,5	Unknown	23	1000.0	Anions Default	EPA 300_0_221201D	Finished
31	N053874-016B,SAMP,10	Unknown	24	1000.0	Anions Default	EPA 300_0_221201D	Finished
32	CCV-3,CCV,1	Unknown	25	1000.0	Anions Default	EPA 300_0_221201D	Finished
33	CCB-3,CCB,1	Unknown	26	1000.0	Anions Default	EPA 300_0_221201D	Finished
34	N053874-019B,SAMP,5	Unknown	27	1000.0	Anions Default	EPA 300_0_221201D	Finished
35	N053874-020B,SAMP,5	Unknown	28	1000.0	Anions Default	EPA 300_0_221201D	Finished
36	N053874-020BDUP,DUP,5	Unknown	29	1000.0	Anions Default	EPA 300_0_221201D	Finished
37	N053874-020BMS,MS,5	Unknown	30	1000.0	Anions Default	EPA 300_0_221201D	Finished
38	N053874-005B,SAMP,20	Unknown	32	1000.0	Anions Default	EPA 300_0_221201D	Finished
39	CCV-4,CCV,1	Unknown	32	1000.0	Anions Default	EPA 300_0_221201D	Finished
40	CCB-4,CCB,1	Unknown	33	1000.0	Anions Default	EPA 300_0_221201D	Finished

Processed by:

Chromeleon © Dionex Corporation, Version 6.80 SR10 Build 2818 (166959)



12/2/2022

IC8 RBA 12/2/2022 5:35:03 PM

reviewed by:



12/18/2022

Title:
Datasource: D1NZHKQ1_local
Location: IC-08_ANIONS\2_Data\2018_Anions
Timebase: IC-08_ANIONS
Created: 12/2/2022 8:55:35 AM by IC-05
#Samples: 40
(Modified, not saved)

No.	Name	Inj. Date/Time	Comment
1	Std - 0	12/1/2022 10:13:26 PM	IBLANK
2	Std - 1	12/1/2022 10:41:03 PM	STD-LOW
3	Std - 2	12/1/2022 10:55:21 PM	STD
4	Std - 3	12/1/2022 11:09:39 PM	STD
5	Std - 4	12/1/2022 11:23:57 PM	STD
6	Std - 5	12/1/2022 11:38:16 PM	STD-HIGH
7	Std - 1	12/1/2022 11:52:34 PM	STD-LOW
8	CCV-1,CCV,1	12/2/2022 8:59:24 AM	CCV, IWST-221129A
9	CCB-1,CCB,1	12/2/2022 9:13:42 AM	CCB
10	MB-H2O,MBLK,1	12/2/2022 9:28:00 AM	MB
11	LCS-H2O,LCS,1	12/2/2022 9:42:18 AM	LCS, IWST-221129B
12	N053874-018B,SAMP,5	12/2/2022 10:35:01 AM	SAMP,2>10mL
13	N053874-018BMS,MS,5	12/2/2022 10:49:19 AM	MS,2>10mL
14	N053874-018BMSD,MSD,5	12/2/2022 11:03:37 AM	MSD,2>10mL
15	N053874-001B,SAMP,5	12/2/2022 11:17:55 AM	SAMP,2>10mL
16	N053874-005B,SAMP,5	12/2/2022 11:32:13 AM	SAMP,2>10mL
17	N053874-002B,SAMP,10	12/2/2022 11:46:31 AM	SAMP,1>10mL
18	N053874-003B,SAMP,10	12/2/2022 12:00:50 PM	SAMP,1>10mL
19	N053874-004B,SAMP,10	12/2/2022 12:15:08 PM	SAMP,1>10mL
20	CCV-2,CCV,1	12/2/2022 12:29:26 PM	CCV, IWST-221129A
21	CCB-2,CCB,1	12/2/2022 12:43:45 PM	CCB
22	N053874-006B,SAMP,10	12/2/2022 12:58:03 PM	SAMP,1>10mL
23	N053874-007B,SAMP,10	12/2/2022 1:12:22 PM	SAMP,1>10mL
24	N053874-009B,SAMP,10	12/2/2022 1:26:39 PM	SAMP,1>10mL
25	N053874-010B,SAMP,10	12/2/2022 1:40:58 PM	SAMP,1>10mL
26	N053874-011B,SAMP,10	12/2/2022 1:55:16 PM	SAMP,1>10mL
27	N053874-013B,SAMP,5	12/2/2022 2:09:34 PM	SAMP,2>10mL
28	N053874-014B,SAMP,5	12/2/2022 2:23:53 PM	SAMP,2>10mL
29	N053874-015B,SAMP,5	12/2/2022 2:38:11 PM	SAMP,2>10mL
30	N053874-017B,SAMP,5	12/2/2022 2:52:28 PM	SAMP,2>10mL
31	N053874-016B,SAMP,10	12/2/2022 3:06:46 PM	SAMP,1>10mL
32	CCV-3,CCV,1	12/2/2022 3:21:04 PM	CCV, IWST-221129A
33	CCB-3,CCB,1	12/2/2022 3:35:23 PM	CCB
34	N053874-019B,SAMP,5	12/2/2022 3:49:41 PM	SAMP,2>10mL
35	N053874-020B,SAMP,5	12/2/2022 4:03:59 PM	SAMP,2>10mL
36	N053874-020BDUP,DUP,5	12/2/2022 4:18:18 PM	DUP,2>10mL
37	N053874-020BMS,MS,5	12/2/2022 4:32:36 PM	MS,2>10mL
38	N053874-005B,SAMP,20	12/2/2022 4:46:54 PM	SAMP,0.5>10mL
39	CCV-4,CCV,1	12/2/2022 5:01:12 PM	CCV, IWST-221129A
40	CCB-4,CCB,1	12/2/2022 5:15:30 PM	CCB

INITIAL CALIBRATION DATA SUMMARY

(EPA 300) - INITIAL CALIBRATION

Instrument ID: IC-08
Date Calibrated: 12/1/2022

Initial Calibration:

Nitrate	STD0	STD1	STD2	STD3	STD4	STD5	
COMPOUND, in ug/L	0	0.05	0.25	0.5	1.25	2.5	R^2
Area,mAU*min	0.0000	0.0187	0.0947	0.1859	0.4565	0.9311	1.000

	Stock
Standard Concentration:	1000000 PPB
Standard ID:	ISST220527E

Calibration Acceptance Criteria: > 0.995 Correlation

* Please note that the instrument printout for Area were represented in three decimal places. The exact values are represented in the ICAL summary for calculation purposes.

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID **ICV**	SampType: **ICV**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **ICV**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.187	0.050	1.250	0	94.9	90	110				

Sample ID **CCV-1**	SampType: **CCV**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **CCV**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.286	0.050	1.250	0	103	90	110				

Sample ID **CCV-2**	SampType: **CCV**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **CCV**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.180	0.050	1.250	0	94.4	90	110				

Sample ID **CCV-3**	SampType: **CCV**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **CCV**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950971**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.222	0.050	1.250	0	97.8	90	110				

Sample ID **CCV-4**	SampType: **CCV**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167841**
Client ID: **CCV**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.229	0.050	1.250	0	98.4	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
ICB	**ICB**	**300WLLNO3**	**mg/L**		**167841**
Client ID: **ICB**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950947**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-1	**CCB**	**300WLLNO3**	**mg/L**		**167841**
Client ID: **CCB**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-2	**CCB**	**300WLLNO3**	**mg/L**		**167841**
Client ID: **CCB**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-3	**CCB**	**300WLLNO3**	**mg/L**		**167841**
Client ID: **CCB**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	SampType	TestCode	Units	Prep Date	RunNo
CCB-4	**CCB**	**300WLLNO3**	**mg/L**		**167841**
Client ID: **CCB**	Batch ID: **R167841**	TestNo: **EPA 300.0**		Analysis Date: **12/2/2022**	SeqNo: **4950979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

RETENTION TIME SUMMARY

RETENTION TIME (RT) SUMMARY

Instrument ID: IC-08

Analytical Sequence

Date Analyzed: 12/2/2022

Sample Name		Retention Time	Evaluation
ICV	Nitrate	6.797	
CCV-1	Nitrate	6.780	
CCV-2	Nitrate	6.777	
CCV-3	Nitrate	6.730	
CCV-4	Nitrate	6.724	
	Average	6.753	
	Applied RT Window	6.553 - 6.953	
MB-R167841_NO3	Nitrate	6.780	PASS
LCS-R167841_NO3	Nitrate	6.780	PASS
N053874-018B	Nitrate	6.777	PASS
N053874-018BMS	Nitrate	6.777	PASS
N053874-018BMSD	Nitrate	6.767	PASS
N053874-001B	Nitrate	6.777	PASS
N053874-002B	Nitrate	6.774	PASS
N053874-003B	Nitrate	6.777	PASS
N053874-004B	Nitrate	6.777	PASS
N053874-006B	Nitrate	6.770	PASS
N053874-007B	Nitrate	6.774	PASS
N053874-009B	Nitrate	6.774	PASS
N053874-010B	Nitrate	6.770	PASS
N053874-011B	Nitrate	6.740	PASS
N053874-013B	Nitrate	6.730	PASS
N053874-014B	Nitrate	6.730	PASS
N053874-015B	Nitrate	6.727	PASS
N053874-017B	Nitrate	6.733	PASS
N053874-016B	Nitrate	6.734	PASS
N053874-019B	Nitrate	6.730	PASS
N053874-020B	Nitrate	6.734	PASS
N053874-020BDUP	Nitrate	6.733	PASS
N053874-020BMS	Nitrate	6.730	PASS
N053874-005B	Nitrate	6.730	PASS

Reviewed by:

dMocha 1/4/2023

MDL STUDY

METHOD DETECTION LIMIT 2020

Method Name: **INORGANIC IONS by Ion Chromatography**
Method Number: EPA 300.0
Analysis Date(s): 10/7/2020,10/10/2020,10/13/202(
Analyst/Technician: Ria Abes

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-08**

Acceptance Criteria: MDL < PQL

Datafile	201007A #36	201007A #37	201007A #38	201010A #60	201010A #61	201013A #55	201013A #56					
Analyte	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**#7**	**Spike Conc., mg/L**	**SD**	**MDL**	**LOD**	**PQL**
Fluoride	0.049	0.041	0.042	0.037	0.046	0.042	0.042	0.020	0.0040	**0.0127**	0.020	0.10
Chloride	0.195	0.198	0.197	0.196	0.201	0.251	0.194	0.050	0.0207	**0.0652**	0.020	0.50
Nitrite	0.034	0.033	0.033	0.034	0.034	0.035	0.032	0.020	0.0009	**0.0029**	0.010	0.05
Bromide	0.050	0.037	0.031	0.028	0.036	0.041	0.041	0.040	0.0073	**0.0228**	0.040	0.50
Nitrate	0.037	0.035	0.039	0.044	0.036	0.041	0.038	0.020	0.0030	**0.0095**	0.010	0.05
Phosphate	0.085	0.076	0.067	0.062	0.000	0.067	0.088	0.040	0.0297	**0.0933**	0.030	0.10
Sulfate	0.331	0.332	0.326	0.379	0.326	0.343	0.325	0.100	0.0193	**0.0608**	0.050	0.50

Note: All 7 method blanks analyzed together with the MDL samples have 0 ppm concentrations

MDL/LOD & PQL Verification 2021

Method Name: **Inorganic Ions by Ion Chromatography for PG&E**
Method Number: EPA Method 300.0
Analysis Date(s): 6/8/2021
Analyst: Ria B. Abes

Matrix: **WATER**
Unit: mg/L

Instrument Name: **IC-08**

Compound	MDL	LOD Spike Conc., mg/L	LOD Actual Conc., mg/L	PQL Spike Conc., mg/L	PQL Actual Conc., mg/L	%Recovery
Fluoride	**0.0127**	0.020	0.0440	0.10	0.1152	**115**
Chloride	**0.0652**	0.100	0.2250	0.50	0.5841	**117**
Nitrite	**0.0029**	0.010	0.0270	0.50	0.4972	**99**
Bromide	**0.0228**	0.040	0.0630	0.50	0.5133	**103**
Nitrate	**0.0095**	0.010	0.0270	0.50	0.4958	**99**
Phosphate	**0.0933**	0.090	0.1050	0.10	0.1087	**109**
Sulfate	**0.0608**	0.100	0.3210	0.50	0.7085	**142**

EPA 6020
Dissolved

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97001
ASSET #: N053874
Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/5/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.		X			X	
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)		X			X	
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.		X			X	
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?	X			X		
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?		X			X	
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?	X			X		
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.		X			X	
24. LCS compounds within control limits.	X			X		
25. MS/MSD, RPD's are within control limits		X			X	
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

% Rec of Mo in N053874-018C-PS/MSD failed, high bias. However, LCS passed criteria.
Cr is OLR in N053874-005C/006C/013C/014C/015C/018C/PS/MS/MSD. For dilution.
Mn is OLR in N053874-003C/004C/012B/016C/022B. For dilution.
Detection of Mn in MB is greater than 1/2 PQL. N053874-001C/005C for rerun.
% RSD of Se in N053874-019C/020C failed. For rerun.
% RSD of As in N053874-001C/007C/012B/017C/020C failed. For rerun.
Dilution test for Mn failed. However, PS passed criteria.
Dilution test for Mo failed.
N053874-001C (first run) = 37 ug/L ; confirmation: 33 ug/L ; N053874-001A (218.6) = 46 ug/L ; confirmation: 44 ug/L

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: _____

2nd Level Reviewer LG 1/2/2023 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97001
ASSET #: N053874

Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/6/2022

Method:

[ ] EPA 6010B / 200.7
[ ] EPA 7470A / 7471A/245.1
[X] EPA 6020 / 200.8
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.		X			X	
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)		X			X	
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?		X			X	
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?	X			X		
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.			X			X
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits		X			X	
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

As, Cr and Mn rerun.
% Rec of Cr in N053874-018C-PS/MS/MSD failed. However, LCS passed criteria.
Cr is OLR in N053874-006C. For dilution.
Mn is OLR in N053874-012B. For dilution.
% RSD of As in N053874-001C/007C failed. For rerun.
N053874-014C (first run) = 760 ug/L ; confirmation: 340 ug/L ; N053874-014A (218.6) = 590 ug/L ; confirmation: 500 ug/L

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: _____

2nd Level Reviewer LG 1/2/2023 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97001
ASSET #: N053874
Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/7/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X			X		
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.			X			X
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits			X			X
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

As, Cr and Mn rerun.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: _____

2nd Level Reviewer LG 1/2/2023 Date: _____

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97001
ASSET #: N053874

Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/14/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.		X			X	
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)		X			X	
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.			X			X
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits			X			X
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

As, Cr, Mn and Se rerun.
% RSD of Se in N053874-020C failed. For rerun.
Cr is OLR in N053874-005C. For dilution.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: –

2nd Level Reviewer LG 1/2/2023 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97001
ASSET #: N053874
Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/21/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.			X			X
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits			X			X
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

Se rerun for N053874-020C.

	Yes	No	N/A
1. All assigned sample(s) analyzed	x		
2. Matrix / units correct	x		
3. Does batch meet QC requirements?	x		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	x		
5. Is first level review correct and complete?	x		

1st Level Reviewer DBJ Date: –

2nd Level Reviewer LG 1/2/2023 Date:

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97435
ASSET #: N053874

Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/29/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?	X			X		
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.	X			X		
24. LCS compounds within control limits.	X			X		
25. MS/MSD, RPD's are within control limits	X			X		
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

Cr redigestion.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: 1/2/2023
2nd Level Reviewer LG Date: 1/2/2023

Metals Technical Batch Review Checklist (ARCUS02)

ASSET LABORATORIES - LAS VEGAS

FIRST LEVEL REVIEW:

QC Batch Number: 97001
ASSET #: N053874

Instrument ID: ICPMS-03
Analyst: DBJ
Date Analyzed: 12/31/2022

Method:

[ ] EPA 6010B / 200.7
[X] EPA 6020 / 200.8
[ ] EPA 7470A / 7471A/245.1
[ ] Other _____

Initial Calibration and Initial Calibration Verification	1st Level Review			2nd Level Review		
	Y	N	N/A	Y	N	N/A
1. Does correlation coefficient,r, meet criteria ?(r = 0.995)	X			X		
2. For ICV, all analytes within ± 10% of expected value? (±5% for EPA 200.7)	X			X		
3. Does the ICP/MS meet tune criteria? (ICP/MS only)	X			X		
4. % RSD calculated from 3 injections?	X			X		
5. Is low level check at PQL within ± 20% of expected value? (ICP/ICPMS only)	X			X		
Interference Check						
6. ICS A and AB at the start and end of sequence or twice during an 8-hr period.	X			X		
7. Are ICSA and AB within ± 20% of expected value?	X			X		
Continuing Calibration						
8. CCV after every 10 samples and end of analysis sequence.	X			X		
9. For CCV, all analytes within ± 10% of expected value?	X			X		
10. Calibration blank after ICVand CCV analysis.	X			X		
11. Do all calibration blanks (ICB and CCBs) meet criteria? (< 1/2 PQL)	X			X		
12 Is low level check twice during 8 hr period or at end within ± 30% of expected value? (ICP/ICPMS only)	X			X		
Sample Information						
13. All samples are within linear dynamic range.	X			X		
14. All hits above PQL have %RSD of less than or equal to 15%? (ICP/ICPMS only)	X			X		
15. Are all samples analyzed/digested within hold time.	X			X		
16. Dilution test performed and within ± 10% of undiluted sample.	X			X		
17. When dilution test fails, post digestion spike recovery within 80-120% of expected value.			X			X
18. For samples < 4 ppb, does the Cr result differs with Cr6+ by no more than 0.7 ppb?			X			X
19 For samples > 4 ppb, does the Cr result differs with Cr6+ by no more than 20%?			X			X
20. For samples that failed Cr6 vs CrT criteria, are samples reanalyzed for confirmation?			X			X
21. For samples with Total and Dissolved analysis, is Total concentration higher or equal to Dissolved concentration?			X			X
QC Items						
22. IS are within control limits (70-125% for ICPMS).	X			X		
23. Method blank values are below 1/2 the reporting limit.	X			X		
24. LCS compounds within control limits.			X			X
25. MS/MSD, RPD's are within control limits			X			X
Raw Data and Miscellaneous Information						
26. Are Non-Conformances documented			X			X
27. Runlog complete and included in package.	X			X		
28. Digestion log complete and included in package (if applicable)	X			X		
29. All sample raw data present in package.	X			X		
Preliminary Report						
30. Does the raw data match the preliminary report?	X			X		
31. Are analytical results correct?(Ex. dilutions, calculations.etc.)	X			X		
32. Are special instructions met?	X			X		

Comments:

Mn rerun for MB.

	Yes	No	N/A
1. All assigned sample(s) analyzed	X		
2. Matrix / units correct	X		
3. Does batch meet QC requirements?	X		
4. Are analytical results correct? (Ex. dilutions, calculations.etc.)	X		
5. Is first level review correct and complete?	X		

1st Level Reviewer DBJ Date: –

2nd Level Reviewer LG 1/2/2023 Date:

SAMPLE CALCULATION

SAMPLE CALCULATION

METHOD: EPA 6020
TEST NAME: Heavy Metals by ICP-MS
MATRIX: Groundwater

FORMULA:

Calculate the Arsenic concentration, in ug/L in the original sample as follows:

Arsenic , ug/L = A * DF * PF

where:

A = ug/L, calculated concentration
DF = Dilution Factor
PF = Final Volume of Digestate, mL / Amount of Sample, mL

For Sample **N053874-004C** , the concentration in ug/L is calculated as follows:

Arsenic , ug/L = 17.7895 * 1 *(25 / 25)

Arsenic , ug/L = 17.7895

Reporting results in two significant figures,

Arsenic , ug/L = 18

Reviewed by:

JRB 1/23/2023

% RSD SUMMARY

PERCENT RSD SUMMARY: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	8.542	15	PASS	0.11	13.339	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.49	2.955	15	PASS	0.53	3.52	15	PASS
Std3-5/50 ppb	ICAL	1	5.01	0.332	15	PASS	5.35	0.186	15	PASS
Std4-10/100 ppb	ICAL	1	9.99	0.924	15	PASS	10.18	0.351	15	PASS
Std5-20/200 ppb	ICAL	1	20.27	0.953	15	PASS	19.82	0.27	15	PASS
Std6-40/400 ppb	ICAL	1	40.18	1.262	15	PASS	40.03	1.124	15	PASS
Std7-100/1000 ppb	ICAL	1	100.36	1.126	15	PASS	99.98	0.771	15	PASS
Std8-200/2000 ppb	ICAL	1	199.75	1.275	15	PASS	200	0.891	15	PASS
ICV	ICV	1	10.52	1.264	15	PASS	103.07	1.671	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0	16.619	15	<PQL
LLICV1	LLICV	1	1.05	0.635	20	PASS	0.54	3.111	20	PASS
MLCCV	CCV	1	20.32	0.685	15	PASS	20.19	0.703	15	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.72	1.761	15	PASS	19.79	1.386	15	PASS
CCV1	CCV	1	20.76	0.986	15	PASS	20.57	0.693	15	PASS
CCB1	CCB	1	0.03	23.481	15	<PQL	<0.000	N/A	15	<PQL
CCV2	CCV	1	21.39	2.572	15	PASS	20.66	2.366	15	PASS
CCB2	CCB	1	0.15	13.642	15	PASS	<0.000	N/A	15	<PQL
CCV3	CCV	1	21.41	1.78	15	PASS	20.75	2.897	15	PASS
CCB3	CCB	1	0.14	10.712	15	PASS	0	313.194	15	<PQL
ICSA2	ICSA	1	0.12	7.242	15	PASS	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	21.71	0.726	15	PASS	20.68	0.826	15	PASS
CCV4	CCV	1	21.44	1.108	15	PASS	20.7	1.261	15	PASS
CCB4	CCB	1	0.15	7.676	15	PASS	0	290.556	15	<PQL
ICSA3	ICSA	1	0.14	11.305	15	PASS	0	461.87	15	<PQL
ICSAB3	ICSAB	1	21.83	4.09	15	PASS	20.84	1.932	15	PASS
CCV5	CCV	1	21.23	1.707	15	PASS	20.52	0.196	15	PASS
CCB5	CCB	1	0.05	10.803	15	PASS	<0.000	N/A	15	<PQL
MB-97001	MBLK	1	0.04	27.623	15	<PQL	0.45	3.082	15	PASS
LCS-97001	LCS	1	10.49	2.415	15	PASS	101.01	1.507	15	PASS
N053874-001C	SAMP	1	36.68	2.993	15	PASS	1.51	4.287	15	PASS
N053874-002C	SAMP	1	9.26	0.947	15	PASS	0.21	5.489	15	PASS
N053874-003C	SAMP	1	0.58	3.984	15	PASS	2263.25	0.242	15	PASS
CCV6	CCV	1	20.97	2.83	15	PASS	20.68	2.054	15	PASS
CCB6	CCB	1	0.03	33.321	15	<PQL	0.04	15.158	15	<PQL
N053874-004C	SAMP	1	0.6	3.358	15	PASS	2275.02	0.199	15	PASS
N053874-005C	SAMP	1	186.39	1.044	15	PASS	0.71	11.18	15	PASS
N053874-006C	SAMP	1	605.75	1.512	15	PASS	2.68	3.783	15	PASS
N053874-007C	SAMP	1	74.98	0.353	15	PASS	70.62	0.65	15	PASS
N053874-009C	SAMP	1	1.25	1.344	15	PASS	<0.000	N/A	15	<PQL

PERCENT RSD SUMMARY: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N053874-010C	SAMP	1	1.18	1.899	15	PASS	<0.000	N/A	15	<PQL
N053874-011C	SAMP	1	0.69	6.271	15	PASS	0.3	4.539	15	PASS
N053874-012B	SAMP	1	108.52	0.982	15	PASS	730.86	1.414	15	PASS
N053874-013C	SAMP	1	4255.06	1.849	15	PASS	23.8	2.041	15	PASS
CCV7	CCV	1	21.47	1.895	15	PASS	20.68	2.025	15	PASS
CCB7	CCB	1	0.19	4.275	15	PASS	0	69.038	15	<PQL
ICSA4	ICSA	1	0.16	10.309	15	PASS	0	362.703	15	<PQL
ICSAB4	ICSAB	1	21.59	0.884	15	PASS	20.87	2.121	15	PASS
N053874-014C	SAMP	1	565.25	0.627	15	PASS	51.18	3.143	15	PASS
N053874-015C	SAMP	1	537.79	1.391	15	PASS	47.52	2.124	15	PASS
N053874-016C	SAMP	1	86.24	0.725	15	PASS	536.7	0.14	15	PASS
N053874-017C	SAMP	1	0.32	9.761	15	PASS	142.7	0.44	15	PASS
N053874-018C	SAMP	1	258.11	1.105	15	PASS	29.12	1.4	15	PASS
N053874-018C	SAMP	5	65.59	0.57	15	PASS	7.25	0.45	15	PASS
N053874-018C-PS	PS	1	288.6	1.554	15	PASS	123.01	1.093	15	PASS
N053874-018CMS	MS	1	286.66	1.938	15	PASS	123.54	0.898	15	PASS
N053874-018CMSD	MSD	1	296.61	0.882	15	PASS	124.94	1.147	15	PASS
CCV8	CCV	1	20.85	1.612	15	PASS	20.49	2.055	15	PASS
CCB8	CCB	1	0.09	13.063	15	PASS	0	156.501	15	<PQL
N053874-019C	SAMP	1	4.16	1.804	15	PASS	0.1	17.606	15	<PQL
N053874-020C	SAMP	1	11.93	1.182	15	PASS	0.05	30.568	15	<PQL
N053874-022B	SAMP	1	0.65	1.628	15	PASS	310.39	0.678	15	PASS
CCV9	CCV	1	21.22	2.89	15	PASS	20.65	2.824	15	PASS
CCB9	CCB	1	0.05	7.981	15	PASS	0	119.775	15	<PQL
CCV10	CCV	1	21	1.175	15	PASS	20.45	1.831	15	PASS
CCB10	CCB	1	0.05	4.051	15	PASS	0.01	107.534	15	<PQL
CCV11	CCV	1	21.38	1.148	15	PASS	20.73	1.111	15	PASS
CCB11	CCB	1	0.04	20.036	15	<PQL	0.01	132.645	15	<PQL
ICSA5	ICSA	1	0.06	22.033	15	<PQL	0.01	48.964	15	<PQL
ICSAB5	ICSAB	1	21.5	1.089	15	PASS	20.61	2.055	15	PASS

PERCENT RSD SUMMARY: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	28.311	15	<PQL	0.08	21.045	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.45	7.644	15	PASS	0.51	15.093	15	FAIL
Std3-5/50 ppb	ICAL	1	4.85	2.97	15	PASS	4.94	1.484	15	PASS
Std4-10/100 ppb	ICAL	1	9.94	0.96	15	PASS	9.72	2.866	15	PASS
Std5-20/200 ppb	ICAL	1	19.9	1.835	15	PASS	19.61	1.994	15	PASS
Std6-40/400 ppb	ICAL	1	39.08	1.385	15	PASS	39.31	1.186	15	PASS
Std7-100/1000 ppb	ICAL	1	100.01	1.014	15	PASS	99.76	1.211	15	PASS
Std8-200/2000 ppb	ICAL	1	200.2	0.904	15	PASS	200.31	1.187	15	PASS
ICV	ICV	1	10.02	2.549	15	PASS	10.09	2.164	15	PASS
ICB	ICB	1	0.01	632.659	15	<PQL	0.06	21.45	15	<PQL
LLICV1	LLICV	1	0.11	10.837	20	PASS	0.5	7.078	20	PASS
MLCCV	CCV	1	19.62	2.645	15	PASS	19.4	0.942	15	PASS
ICSA1	ICSA	1	0	324.679	15	<PQL	0.02	77.193	15	<PQL
ICSAB1	ICSAB	1	20.58	2.33	15	PASS	19.56	2.035	15	PASS
CCV1	CCV	1	19.44	1.581	15	PASS	20.4	2.322	15	PASS
CCB1	CCB	1	0.01	393.576	15	<PQL	0.02	61.83	15	<PQL
CCV2	CCV	1	20.05	0.978	15	PASS	20.91	1.631	15	PASS
CCB2	CCB	1	0.04	32.346	15	<PQL	0.02	80.084	15	<PQL
CCV3	CCV	1	19.57	3.236	15	PASS	21.1	3.837	15	PASS
CCB3	CCB	1	0.01	77.838	15	<PQL	0.01	130.617	15	<PQL
ICSA2	ICSA	1	0.01	231.489	15	<PQL	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.66	2.633	15	PASS	20.57	0.614	15	PASS
CCV4	CCV	1	19.86	1.654	15	PASS	19.76	2.234	15	PASS
CCB4	CCB	1	0.01	269.275	15	<PQL	0.01	117.145	15	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	20.82	0.879	15	PASS	20.63	4.012	15	PASS
CCV5	CCV	1	19.81	0.875	15	PASS	19.97	1.401	15	PASS
CCB5	CCB	1	0.01	252.376	15	<PQL	<0.000	N/A	15	<PQL
MB-97001	MBLK	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LCS-97001	LCS	1	9.44	3.001	15	PASS	9.68	4.35	15	PASS
N053874-001C	SAMP	1	0.88	17.574	15	NR!	0.84	13.311	15	PASS
N053874-002C	SAMP	1	1.22	4.31	15	PASS	2.04	6.786	15	PASS
N053874-003C	SAMP	1	17.4	2.411	15	PASS	0.21	17.569	15	<PQL
CCV6	CCV	1	19.59	2.453	15	PASS	19.97	1.696	15	PASS
CCB6	CCB	1	0.01	150.863	15	<PQL	<0.000	N/A	15	<PQL
N053874-004C	SAMP	1	17.79	1.736	15	PASS	0.25	25.997	15	<PQL
N053874-005C	SAMP	1	0.86	2.426	15	PASS	9.83	3.336	15	PASS
N053874-006C	SAMP	1	3.42	1.7	15	PASS	4.18	5.281	15	PASS
N053874-007C	SAMP	1	1.21	19.916	15	NR!	1.21	7.244	15	PASS
N053874-009C	SAMP	1	<0.000	N/A	15	<PQL	2.58	5.823	15	PASS

PERCENT RSD SUMMARY: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N053874-010C	SAMP	1	<0.000	N/A	15	<PQL	2.7	7.357	15	PASS
N053874-011C	SAMP	1	4.55	2.156	15	PASS	3.56	14.788	15	PASS
N053874-012B	SAMP	1	0.36	72.877	15	NR!	0.91	14.327	15	PASS
N053874-013C	SAMP	1	1.14	13.494	15	PASS	6.13	2.575	15	PASS
CCV7	CCV	1	19.8	2.166	15	PASS	19.9	2.609	15	PASS
CCB7	CCB	1	<0.000	N/A	15	<PQL	0.01	232.601	15	<PQL
ICSA4	ICSA	1	<0.000	N/A	15	<PQL	0	5722.08	15	<PQL
ICSAB4	ICSAB	1	19.56	1.921	15	PASS	20.15	2.144	15	PASS
N053874-014C	SAMP	1	<0.000	N/A	15	<PQL	5.69	4.866	15	PASS
N053874-015C	SAMP	1	<0.000	N/A	15	<PQL	5.81	6.22	15	PASS
N053874-016C	SAMP	1	0.98	1.013	15	PASS	1.49	12.907	15	PASS
N053874-017C	SAMP	1	0.25	28.172	15	NR!	0.47	16.711	15	<PQL
N053874-018C	SAMP	1	<0.000	N/A	15	<PQL	2.18	11.151	15	PASS
N053874-018C	SAMP	5	<0.000	N/A	15	<PQL	0.46	15.5	15	<PQL
N053874-018C-PS	PS	1	8.9	5.03	15	PASS	10.64	5.559	15	PASS
N053874-018CMS	MS	1	9.4	2.172	15	PASS	11.53	2.88	15	PASS
N053874-018CMSD	MSD	1	9	2.926	15	PASS	11.39	4.771	15	PASS
CCV8	CCV	1	19.33	2.076	15	PASS	20.44	0.6	15	PASS
CCB8	CCB	1	<0.000	N/A	15	<PQL	0.01	272.454	15	<PQL
N053874-019C	SAMP	1	2.21	8.872	15	PASS	1.63	16.269	15	NR!
N053874-020C	SAMP	1	0.26	27.943	15	NR!	0.65	18.059	15	NR!
N053874-022B	SAMP	1	<0.000	N/A	15	<PQL	1.48	23.189	15	NR!
CCV9	CCV	1	18.93	0.74	15	PASS	19.13	4.326	15	PASS
CCB9	CCB	1	<0.000	N/A	15	<PQL	0.01	699.572	15	<PQL
CCV10	CCV	1	18.63	2.366	15	PASS	19.35	7.876	15	PASS
CCB10	CCB	1	0.01	106.399	15	<PQL	0.04	91.623	15	<PQL
CCV11	CCV	1	18.59	1.828	15	PASS	19.02	2.939	15	PASS
CCB11	CCB	1	<0.000	N/A	15	<PQL	0	4085.253	15	<PQL
ICSA5	ICSA	1	<0.000	N/A	15	<PQL	0	2433.152	15	<PQL
ICSAB5	ICSAB	1	19.11	0.739	15	PASS	18.62	3.726	15	PASS

PERCENT RSD SUMMARY: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	14.333	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	4.741	15	PASS
Std3-5/50 ppb	ICAL	1	4.81	1.201	15	PASS
Std4-10/100 ppb	ICAL	1	9.72	0.519	15	PASS
Std5-20/200 ppb	ICAL	1	19.61	1.172	15	PASS
Std6-40/400 ppb	ICAL	1	39.03	0.475	15	PASS
Std7-100/1000 ppb	ICAL	1	100.34	0.403	15	PASS
Std8-200/2000 ppb	ICAL	1	200.08	0.924	15	PASS
ICV	ICV	1	10.68	1.295	15	PASS
ICB	ICB	1	0.13	14.442	15	PASS
LLICV1	LLICV	1	0.54	8.549	20	PASS
MLCCV	CCV	1	19.69	0.739	15	PASS
ICSA1	ICSA	1	0.05	7.194	15	PASS
ICSAB1	ICSAB	1	21.58	0.139	15	PASS
CCV1	CCV	1	19.43	1.058	15	PASS
CCB1	CCB	1	0.04	10.774	15	PASS
CCV2	CCV	1	18.91	1.323	15	PASS
CCB2	CCB	1	0.02	22.991	15	<PQL
CCV3	CCV	1	18.68	0.857	15	PASS
CCB3	CCB	1	0.03	3.387	15	PASS
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	21.52	1.172	15	PASS
CCV4	CCV	1	19.02	1.269	15	PASS
CCB4	CCB	1	0.04	28.891	15	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	21.61	0.954	15	PASS
CCV5	CCV	1	19.14	1.643	15	PASS
CCB5	CCB	1	0.02	25.376	15	<PQL
MB-97001	MBLK	1	<0.000	N/A	15	<PQL
LCS-97001	LCS	1	9.82	1.677	15	PASS
N053874-001C	SAMP	1	33.19	1.238	15	PASS
N053874-002C	SAMP	1	6.69	1.449	15	PASS
N053874-003C	SAMP	1	23.41	0.433	15	PASS
CCV6	CCV	1	18.83	0.374	15	PASS
CCB6	CCB	1	0.03	37.43	15	<PQL
N053874-004C	SAMP	1	23.38	1.073	15	PASS
N053874-005C	SAMP	1	2.6	4.756	15	PASS
N053874-006C	SAMP	1	46.94	0.855	15	PASS
N053874-007C	SAMP	1	81.01	1.104	15	PASS
N053874-009C	SAMP	1	6.7	1.868	15	PASS

PERCENT RSD SUMMARY: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	95 Mo [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N053874-010C	SAMP	1	6.39	1.642	15	PASS
N053874-011C	SAMP	1	34.65	1.627	15	PASS
N053874-012B	SAMP	1	20.56	0.943	15	PASS
N053874-013C	SAMP	1	28.72	1.253	15	PASS
CCV7	CCV	1	19.03	1.004	15	PASS
CCB7	CCB	1	0.03	88.595	15	<PQL
ICSA4	ICSA	1	<0.000	N/A	15	<PQL
ICSAB4	ICSAB	1	21.57	0.637	15	PASS
N053874-014C	SAMP	1	5.17	0.835	15	PASS
N053874-015C	SAMP	1	4.78	0.599	15	PASS
N053874-016C	SAMP	1	12.37	0.284	15	PASS
N053874-017C	SAMP	1	73.16	1.139	15	PASS
N053874-018C	SAMP	1	31.94	0.51	15	PASS
N053874-018C	SAMP	5	7.67	0.434	15	PASS
N053874-018C-PS	PS	1	45.08	0.6	15	PASS
N053874-018CMS	MS	1	44.15	0.941	15	PASS
N053874-018CMSD	MSD	1	45.44	0.624	15	PASS
CCV8	CCV	1	19.03	0.984	15	PASS
CCB8	CCB	1	0.03	12.988	15	PASS
N053874-019C	SAMP	1	73.7	0.75	15	PASS
N053874-020C	SAMP	1	12.64	0.767	15	PASS
N053874-022B	SAMP	1	24.23	1.132	15	PASS
CCV9	CCV	1	19.06	0.488	15	PASS
CCB9	CCB	1	0.03	29.23	15	<PQL
CCV10	CCV	1	18.91	0.132	15	PASS
CCB10	CCB	1	0.02	110.597	15	<PQL
CCV11	CCV	1	18.87	1.044	15	PASS
CCB11	CCB	1	0.03	11.501	15	PASS
ICSA5	ICSA	1	<0.000	N/A	15	<PQL
ICSAB5	ICSAB	1	21.56	2.045	15	PASS

PERCENT RSD SUMMARY: 221206A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	6.592	15	PASS	0.1	8.536	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.46	3.689	15	PASS	0.54	6.458	15	PASS
Std3-5/50 ppb	ICAL	1	4.89	1.135	15	PASS	5.36	1.111	15	PASS
Std4-10/100 ppb	ICAL	1	9.78	0.49	15	PASS	10.17	0.55	15	PASS
Std5-20/200 ppb	ICAL	1	19.99	0.803	15	PASS	20.07	1.61	15	PASS
Std6-40/400 ppb	ICAL	1	38.68	0.932	15	PASS	39.15	1.38	15	PASS
Std7-100/1000 ppb	ICAL	1	100.1	1.254	15	PASS	99.83	0.6	15	PASS
Std8-200/2000 ppb	ICAL	1	200.23	0.606	15	PASS	200.23	0.579	15	PASS
ICV	ICV	1	10.45	2.776	15	PASS	103.8	1.365	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0.01	41.101	15	<PQL
LLICV1	LLICV	1	1.01	0.278	20	PASS	0.51	2.494	20	PASS
MLCCV	CCV	1	19.82	2.429	15	PASS	20.18	0.603	15	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.01	10.607	15	PASS
ICSAB1	ICSAB	1	19.99	0.84	15	PASS	19.87	0.749	15	PASS
CCV1	CCV	1	19.92	1.662	15	PASS	19.88	1.882	15	PASS
CCB1	CCB	1	0.01	67.875	15	<PQL	0.01	120.034	15	<PQL
CCV2	CCV	1	19.5	0.715	15	PASS	19.69	0.216	15	PASS
CCB2	CCB	1	0.03	16.479	15	<PQL	0	142.757	15	<PQL
CCV3	CCV	1	19.62	0.984	15	PASS	19.73	1.496	15	PASS
CCB3	CCB	1	0.03	21.375	15	<PQL	0	40.952	15	<PQL
ICSA2	ICSA	1	0.03	32.643	15	<PQL	0	134.05	15	<PQL
ICSAB2	ICSAB	1	19.72	0.419	15	PASS	19.13	1.956	15	PASS
N053874-001C	SAMP	1	34.96	1.685	15	PASS	1.38	3.289	15	PASS
N053874-003C	SAMP	25	0.07	12.185	15	PASS	98.54	2.359	15	PASS
N053874-004C	SAMP	25	0.05	19.819	15	<PQL	102.84	1.679	15	PASS
N053874-006C	SAMP	5	211.43	1.103	15	PASS	0.98	11.056	15	PASS
N053874-007C	SAMP	1	70.57	1.378	15	PASS	70.19	0.356	15	PASS
N053874-007C	SAMP	5	18.63	1.155	15	PASS	17.95	0.949	15	PASS
N053874-012B	SAMP	1	104.33	1.337	15	PASS	745	1.259	15	PASS
N053874-012B	SAMP	5	26.94	1.714	15	PASS	186.1	1.584	15	PASS
N053874-013C	SAMP	125	35.25	3.087	15	PASS	0.25	8.656	15	PASS
CCV4	CCV	1	20.1	1.009	15	PASS	20.22	0.237	15	PASS
CCB4	CCB	1	0.02	10.342	15	PASS	0	45.534	15	<PQL
N053874-014C	SAMP	5	151.74	0.362	15	PASS	14.03	2.107	15	PASS
N053874-015C	SAMP	5	109.9	1.953	15	PASS	9.83	0.5	15	PASS
N053874-016C	SAMP	5	20.57	2.349	15	PASS	132.65	1.301	15	PASS
N053874-017C	SAMP	1	0.17	11.614	15	PASS	140.44	0.676	15	PASS
N053874-018C	SAMP	5	53.51	2.235	15	PASS	6.11	2.085	15	PASS
N053874-018C	SAMP	25	10.93	2.825	15	PASS	1.2	3.379	15	PASS
N053874-018C-PS	PS	5	71.6	1.712	15	PASS	31.64	0.749	15	PASS

PERCENT RSD SUMMARY: 221206A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
N053874-018CMS	MS	5	60.87	0.855	15	PASS	26.77	1.343	15	PASS
N053874-018CMSD	MSD	5	58.16	0.369	15	PASS	25.08	1.599	15	PASS
CCV5	CCV	1	19.81	1.254	15	PASS	19.6	1.281	15	PASS
CCB5	CCB	1	0.01	62.236	15	<PQL	0.01	56.236	15	<PQL
N053874-022B	SAMP	5	0.12	2.991	15	PASS	66.96	1.312	15	PASS
CCV6	CCV	1	19.77	2.087	15	PASS	19.7	1.382	15	PASS
CCB6	CCB	1	0.02	32.002	15	<PQL	0	66.295	15	<PQL
ICSA3	ICSA	1	0.01	45.288	15	<PQL	0.01	60.433	15	<PQL
ICSAB3	ICSAB	1	19.97	0.785	15	PASS	19.42	0.849	15	PASS
CCV7	CCV	1	19.1	0.886	15	PASS	19.14	0.727	15	PASS
CCB7	CCB	1	0.02	20.099	15	<PQL	0	61.371	15	<PQL
ICSA4	ICSA	1	0.01	13.563	15	PASS	0.01	68.045	15	<PQL
ICSAB4	ICSAB	1	19.29	0.981	15	PASS	18.8	0.793	15	PASS
CCV8	CCV	1	18.98	3.915	15	PASS	20.09	5.565	15	PASS
CCB8	CCB	1	0.12	35.626	15	<PQL	0.02	40.002	15	<PQL
CCV9	CCV	1	20.81	5.301	15	PASS	21.92	5.218	15	PASS
CCB9	CCB	1	0.16	6.631	15	PASS	0.03	103.946	15	<PQL
CCV10	CCV	1	21.44	7.884	15	PASS	23.85	6.634	15	PASS
CCB10	CCB	1	0.38	46.142	15	<PQL	0.02	119.553	15	<PQL
ICSA5	ICSA	1	0.44	13.284	15	PASS	0.05	78.781	15	<PQL
ICSAB5	ICSAB	1	20.13	7.4	15	PASS	22.11	5.329	15	PASS
CCV11	CCV	1	20.63	7.637	15	PASS	21.49	2.152	15	PASS
CCB11	CCB	1	1.56	21.239	15	NR!	0.13	47.454	15	<PQL
CCV12	CCV	1	21.27	15.781	15	NR!	20.14	10.558	15	PASS
CCB12	CCB	1	2.98	8.3	15	PASS	0.22	112.818	15	<PQL
CCV13	CCV	1	20.73	22.818	15	NR!	19.7	25.261	15	NR!
CCB13	CCB	1	5.43	17.766	15	NR!	0.36	89.161	15	<PQL
ICSA6	ICSA	1	6.12	3.642	15	PASS	0.17	90.68	15	<PQL
ICSAB6	ICSAB	1	23.26	13.136	15	PASS	21.86	14.989	15	PASS

PERCENT RSD SUMMARY: 221206A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	32.84	15	FAIL
Std2-0.5/5 ppb	ICAL	1	0.47	4.772	15	PASS
Std3-5/50 ppb	ICAL	1	4.87	2.156	15	PASS
Std4-10/100 ppb	ICAL	1	9.98	0.785	15	PASS
Std5-20/200 ppb	ICAL	1	20.04	0.855	15	PASS
Std6-40/400 ppb	ICAL	1	38.93	2.223	15	PASS
Std7-100/1000 ppb	ICAL	1	99.95	1.059	15	PASS
Std8-200/2000 ppb	ICAL	1	200.24	1.395	15	PASS
ICV	ICV	1	9.87	0.417	15	PASS
ICB	ICB	1	0.01	169.003	15	<PQL
LLICV1	LLICV	1	0.1	10.365	20	PASS
MLCCV	CCV	1	20.09	2.203	15	PASS
ICSA1	ICSA	1	0	418.489	15	<PQL
ICSAB1	ICSAB	1	20.66	0.833	15	PASS
CCV1	CCV	1	20.08	2.365	15	PASS
CCB1	CCB	1	0.02	65.431	15	<PQL
CCV2	CCV	1	20.29	2.425	15	PASS
CCB2	CCB	1	0.01	140.82	15	<PQL
CCV3	CCV	1	19.27	1.803	15	PASS
CCB3	CCB	1	0.04	63.863	15	<PQL
ICSA2	ICSA	1	0.02	101.79	15	<PQL
ICSAB2	ICSAB	1	19.77	1.226	15	PASS
N053874-001C	SAMP	1	0.75	31.666	15	NR!
N053874-003C	SAMP	25	0.77	10.104	15	PASS
N053874-004C	SAMP	25	0.88	8.479	15	PASS
N053874-006C	SAMP	5	1.16	9.521	15	PASS
N053874-007C	SAMP	1	1.35	21.202	15	NR!
N053874-007C	SAMP	5	0.31	25.423	15	NR!
N053874-012B	SAMP	1	0.67	8.965	15	PASS
N053874-012B	SAMP	5	0.07	42.128	15	<PQL
N053874-013C	SAMP	125	0.02	92.734	15	<PQL
CCV4	CCV	1	19.14	1.198	15	PASS
CCB4	CCB	1	0	160.812	15	<PQL
N053874-014C	SAMP	5	<0.000	N/A	15	<PQL
N053874-015C	SAMP	5	<0.000	N/A	15	<PQL
N053874-016C	SAMP	5	0.25	9.618	15	PASS
N053874-017C	SAMP	1	0.27	9.987	15	PASS
N053874-018C	SAMP	5	<0.000	N/A	15	<PQL
N053874-018C	SAMP	25	0.01	243.998	15	<PQL
N053874-018C-PS	PS	5	2.36	2.578	15	PASS

PERCENT RSD SUMMARY: 221206A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment
N053874-018CMS	MS	5	1.98	9.202	15	PASS
N053874-018CMSD	MSD	5	1.72	4.149	15	PASS
CCV5	CCV	1	19.31	1.131	15	PASS
CCB5	CCB	1	0.03	32.716	15	<PQL
N053874-022B	SAMP	5	<0.000	N/A	15	<PQL
CCV6	CCV	1	19.21	0.639	15	PASS
CCB6	CCB	1	0.03	53.25	15	<PQL
ICSA3	ICSA	1	0.01	136.583	15	<PQL
ICSAB3	ICSAB	1	20.52	1.365	15	PASS
CCV7	CCV	1	20.15	0.5	15	PASS
CCB7	CCB	1	0.03	8.987	15	PASS
ICSA4	ICSA	1	0.01	54.129	15	<PQL
ICSAB4	ICSAB	1	21.04	0.546	15	PASS
CCV8	CCV	1	26.03	2.362	15	PASS
CCB8	CCB	1	0.1	19.141	15	<PQL
CCV9	CCV	1	35.19	4.342	15	PASS
CCB9	CCB	1	0.04	161.829	15	<PQL
CCV10	CCV	1	38.67	2.905	15	PASS
CCB10	CCB	1	0.14	114.539	15	NR!
ICSA5	ICSA	1	0.14	66.341	15	NR!
ICSAB5	ICSAB	1	40.56	1.817	15	PASS
CCV11	CCV	1	41.23	14.054	15	PASS
CCB11	CCB	1	0.3	50.113	15	NR!
CCV12	CCV	1	47.97	19.234	15	NR!
CCB12	CCB	1	1.1	54.735	15	NR!
CCV13	CCV	1	58.54	14.158	15	PASS
CCB13	CCB	1	1.15	133.187	15	NR!
ICSA6	ICSA	1	0.15	242.837	15	NR!
ICSAB6	ICSAB	1	70.57	13.533	15	PASS

PERCENT RSD SUMMARY: 221207A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.1	10.705	15	PASS	0.12	13.491	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.49	3.111	15	PASS	0.54	3.365	15	PASS
Std3-5/50 ppb	ICAL	1	4.92	0.337	15	PASS	5.26	2.974	15	PASS
Std4-10/100 ppb	ICAL	1	10.12	1.77	15	PASS	10.57	2.302	15	PASS
Std5-20/200 ppb	ICAL	1	20.33	1.186	15	PASS	20.47	1.017	15	PASS
Std6-40/400 ppb	ICAL	1	39.36	2.551	15	PASS	39.35	1.445	15	PASS
Std7-100/1000 ppb	ICAL	1	100.49	1.477	15	PASS	100.58	2.135	15	PASS
Std8-200/2000 ppb	ICAL	1	199.84	1.838	15	PASS	199.76	1.347	15	PASS
ICV	ICV	1	10.73	0.95	15	PASS	104.14	1.092	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
LLICV1	LLICV	1	1.05	3.47	20	PASS	0.53	7.989	20	PASS
MLCCV	CCV	1	20.06	0.996	15	PASS	20.17	1.629	15	PASS
ICSA1	ICSA	1	0	265.031	15	<PQL	0	297.524	15	<PQL
ICSAB1	ICSAB	1	20.54	0.827	15	PASS	20.22	0.494	15	PASS
N053874-001C	SAMP	1	35.21	2.154	15	PASS	1.51	0.642	15	PASS
N053874-006C	SAMP	25	19.03	0.787	15	PASS	0.1	10.093	15	PASS
N053874-007C	SAMP	1	70.07	1.578	15	PASS	69.1	1.162	15	PASS
N053874-012B	SAMP	25	5.24	1.746	15	PASS	36.12	1.463	15	PASS
CCV1	CCV	1	19.8	2.337	15	PASS	19.65	1.27	15	PASS
CCB1	CCB	1	0	221.452	15	<PQL	<0.000	N/A	15	<PQL
N053874-001C	SAMP	1	36.1	0.588	15	PASS	1.76	3.389	15	PASS
N053874-007C	SAMP	1	72.33	3.692	15	PASS	72.95	2.205	15	PASS
CCV2	CCV	1	20.12	2.041	15	PASS	20.24	1.493	15	PASS
CCB2	CCB	1	0.01	143.906	15	<PQL	<0.000	N/A	15	<PQL
ICSA2	ICSA	1	0.01	13.36	15	PASS	0	148.058	15	<PQL
ICSAB2	ICSAB	1	20.47	1.994	15	PASS	20.13	1.305	15	PASS
CCV3	CCV	1	20.28	0.637	15	PASS	20.99	1.831	15	PASS
CCB3	CCB	1	0.03	55.103	15	<PQL	0	86.135	15	<PQL
CCV3	CCV	1	18.23	2.307	15	PASS	18.89	1.587	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
CCV4	CCV	1	19.46	2.772	15	PASS	19.33	2.108	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB3	ICSAB	1	19.91	1.594	15	PASS	19.21	0.803	15	PASS

PERCENT RSD SUMMARY: 221207A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	34.619	15	FAIL
Std2-0.5/5 ppb	ICAL	1	0.5	3.519	15	PASS
Std3-5/50 ppb	ICAL	1	4.92	1.151	15	PASS
Std4-10/100 ppb	ICAL	1	9.79	3.348	15	PASS
Std5-20/200 ppb	ICAL	1	19.88	1.223	15	PASS
Std6-40/400 ppb	ICAL	1	38.87	1.122	15	PASS
Std7-100/1000 ppb	ICAL	1	99.78	1.172	15	PASS
Std8-200/2000 ppb	ICAL	1	200.36	1.324	15	PASS
ICV	ICV	1	10.1	1.069	15	PASS
ICB	ICB	1	0.05	39.584	15	<PQL
LLICV1	LLICV	1	0.11	24.334	20	FAIL
MLCCV	CCV	1	19.87	1.891	15	PASS
ICSA1	ICSA	1	0.01	17.429	15	<PQL
ICSAB1	ICSAB	1	20.74	0.628	15	PASS
N053874-001C	SAMP	1	0.93	15.096	15	NR!
N053874-006C	SAMP	25	0.12	17.712	15	NR!
N053874-007C	SAMP	1	1.31	15.793	15	NR!
N053874-012B	SAMP	25	0.03	123.06	15	<PQL
CCV1	CCV	1	20.56	1.56	15	PASS
CCB1	CCB	1	0.03	75.714	15	<PQL
N053874-001C	SAMP	1	1.62	4.225	15	PASS
N053874-007C	SAMP	1	1.97	3.951	15	PASS
CCV2	CCV	1	20.84	2.266	15	PASS
CCB2	CCB	1	0.04	11.625	15	PASS
ICSA2	ICSA	1	0.02	32.853	15	<PQL
ICSAB2	ICSAB	1	22.08	1.442	15	PASS
CCV3	CCV	1	26.89	1.519	15	PASS
CCB3	CCB	1	0.09	40.176	15	<PQL
CCV3	CCV	1	19.93	2.269	15	PASS
CCB3	CCB	1	0.04	53.129	15	<PQL
CCV4	CCV	1	20.53	0.784	15	PASS
CCB4	CCB	1	0.04	28.507	15	<PQL
ICSA3	ICSA	1	0.03	93.306	15	<PQL
ICSAB3	ICSAB	1	21.49	0.952	15	PASS

PERCENT RSD SUMMARY: 221214A

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]				55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	5.302	15	PASS	0.09	2.985	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.44	2.404	15	PASS	0.43	3.292	15	PASS
Std3-5/50 ppb	ICAL	1	4.84	1.592	15	PASS	4.9	1.624	15	PASS
Std4-10/100 ppb	ICAL	1	9.77	0.785	15	PASS	9.77	1.057	15	PASS
Std5-20/200 ppb	ICAL	1	19.89	0.543	15	PASS	20.04	0.222	15	PASS
Std6-40/400 ppb	ICAL	1	39.48	1.712	15	PASS	39.84	1.934	15	PASS
Std7-100/1000 ppb	ICAL	1	101.07	0.271	15	PASS	101.38	0.742	15	PASS
Std8-200/2000 ppb	ICAL	1	199.6	0.944	15	PASS	199.35	0.243	15	PASS
ICV	ICV	1	10.43	0.832	15	PASS	102.19	0.621	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL	0	115.549	15	<PQL
LLICV1	LLICV	1	1.06	1.595	20	PASS	0.56	3.91	20	PASS
MLCCV	CCV	1	19.77	0.595	15	PASS	19.68	1.433	15	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL	0.01	63.007	15	<PQL
ICSAB1	ICSAB	1	20.62	1.622	15	PASS	20.68	1.426	15	PASS
LLICV1	LLICV	1	0.99	1.826	20	PASS	0.55	5.772	20	PASS
CCV1	CCV	1	21.55	0.804	15	PASS	21.99	1.841	15	PASS
CCB1	CCB	1	0	342.071	15	<PQL	0	165.477	15	<PQL
N053874-005C	SAMP	1	196.04	1.886	15	PASS	0.96	6.241	15	PASS
N053874-019C	SAMP	1	4.13	2.565	15	PASS	0.2	20.503	15	<PQL
N053874-020C	SAMP	1	11.93	2.467	15	PASS	0.24	21.255	15	<PQL
CCV2	CCV	1	20.1	1.005	15	PASS	21.12	1.106	15	PASS
CCB2	CCB	1	0	422.827	15	<PQL	0	1544.674	15	<PQL
ICSA2	ICSA	1	0	773.65	15	<PQL	0.01	81.351	15	<PQL
ICSAB2	ICSAB	1	21.78	0.392	15	PASS	23.45	0.865	15	PASS
CCV3	CCV	1	20.54	1.343	15	PASS	21.11	1.632	15	PASS
CCB3	CCB	1	0.04	29.751	15	<PQL	0	89.595	15	<PQL
CCV4	CCV	1	21.21	0.817	15	PASS	21.62	0.302	15	PASS
CCB4	CCB	1	0.01	25.431	15	<PQL	<0.000	N/A	15	<PQL
CCV5	CCV	1	20.73	0.54	15	PASS	20.91	1.149	15	PASS
CCB5	CCB	1	0.01	101.259	15	<PQL	0	117.721	15	<PQL
ICSA3	ICSA	1	0	118.518	15	<PQL	0.01	22.033	15	<PQL
ICSAB3	ICSAB	1	21.13	1.562	15	PASS	22.07	0.339	15	PASS
CCV6	CCV	1	20.01	1.943	15	PASS	20.62	1.867	15	PASS
CCB6	CCB	1	0.01	64.244	15	<PQL	0	86.18	15	<PQL
CCV7	CCV	1	20.32	2.062	15	PASS	21.76	2.633	15	PASS
CCB7	CCB	1	0.03	40.917	15	<PQL	0	97.169	15	<PQL
ICSA4	ICSA	1	0.04	11.255	15	PASS	0.01	26.825	15	<PQL
ICSAB4	ICSAB	1	21.23	2.361	15	PASS	23.85	2.687	15	PASS

PERCENT RSD SUMMARY: 221214A

Instrument ID: ICPMS-03

Sample Name	Type	DF	75 As [2]				78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment	Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	11.731	15	PASS	0.08	25.623	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.43	11.582	15	PASS	0.47	17.621	15	<PQL
Std3-5/50 ppb	ICAL	1	4.65	5.144	15	PASS	4.57	4.957	15	PASS
Std4-10/100 ppb	ICAL	1	9.71	2.445	15	PASS	9.72	4.454	15	PASS
Std5-20/200 ppb	ICAL	1	19.52	0.469	15	PASS	19.14	0.276	15	PASS
Std6-40/400 ppb	ICAL	1	38.35	0.999	15	PASS	38.95	2.153	15	PASS
Std7-100/1000 ppb	ICAL	1	98.65	0.518	15	PASS	99.61	0.268	15	PASS
Std8-200/2000 ppb	ICAL	1	201.08	0.911	15	PASS	200.51	0.831	15	PASS
ICV	ICV	1	10.03	2.252	15	PASS	9.91	4.086	15	PASS
ICB	ICB	1	0.02	76.221	15	<PQL	0.02	69.17	15	<PQL
LLICV1	LLICV	1	0.12	6.177	20	PASS	0.56	18.487	20	PASS
MLCCV	CCV	1	19.23	1.743	15	PASS	19.32	3.917	15	PASS
ICSA1	ICSA	1	0	488.09	15	<PQL	0.02	96.521	15	<PQL
ICSAB1	ICSAB	1	21.33	2.383	15	PASS	19.97	2.015	15	PASS
LLICV1	LLICV	1	0.1	5.571	20	PASS	0.58	11.617	20	PASS
CCV1	CCV	1	19	0.273	15	PASS	20.32	4.163	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL	0.02	105.804	15	<PQL
N053874-005C	SAMP	1	0.86	5.743	15	PASS	10.16	3.536	15	PASS
N053874-019C	SAMP	1	2.93	3.209	15	PASS	1.77	4.017	15	PASS
N053874-020C	SAMP	1	0.57	7.564	15	PASS	0.94	15.649	15	NR!
CCV2	CCV	1	19	0.742	15	PASS	19.95	2.257	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL	0.01	244.415	15	<PQL
ICSA2	ICSA	1	<0.000	N/A	15	<PQL	0.01	291.898	15	<PQL
ICSAB2	ICSAB	1	21.19	1.728	15	PASS	21.24	3.99	15	PASS
CCV3	CCV	1	19.46	1.386	15	PASS	20.15	0.794	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL	0.03	116.865	15	<PQL
CCV4	CCV	1	19.6	0.836	15	PASS	20.08	0.881	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL	0.01	382.227	15	<PQL
CCV5	CCV	1	20.2	1.439	15	PASS	19.39	4.909	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL	0.02	46.23	15	<PQL
ICSA3	ICSA	1	<0.000	N/A	15	<PQL	0.02	196.21	15	<PQL
ICSAB3	ICSAB	1	21.96	1.99	15	PASS	20.51	3.401	15	PASS
CCV6	CCV	1	21.41	1.621	15	PASS	18.93	1.86	15	PASS
CCB6	CCB	1	0.01	155.698	15	<PQL	0	478.102	15	<PQL
CCV7	CCV	1	26.63	4.398	15	PASS	22.16	5.585	15	PASS
CCB7	CCB	1	0.02	88.371	15	<PQL	0.02	172.625	15	<PQL
ICSA4	ICSA	1	<0.000	N/A	15	<PQL	<0.000	N/A	15	<PQL
ICSAB4	ICSAB	1	28.96	2.895	15	PASS	24.27	1.811	15	PASS

PERCENT RSD SUMMARY: 221221B

Instrument ID: ICPMS-03

Sample Name	Type	DF	78 Se [1]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.11	22.594	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.45	27.105	15	<PQL
Std3-5/50 ppb	ICAL	1	4.55	3.115	15	PASS
Std4-10/100 ppb	ICAL	1	9.27	1.273	15	PASS
Std5-20/200 ppb	ICAL	1	19.59	4.565	15	PASS
Std6-40/400 ppb	ICAL	1	39.28	1	15	PASS
Std7-100/1000 ppb	ICAL	1	100.06	0.355	15	PASS
Std8-200/2000 ppb	ICAL	1	200.2	0.681	15	PASS
ICV	ICV	1	10.64	1.261	15	PASS
ICB	ICB	1	0.06	47.932	15	<PQL
LLICV1	LLICV	1	0.57	7.715	20	PASS
MLCCV	CCV	1	19.13	2.209	15	PASS
ICSA1	ICSA	1	0.06	60.057	15	<PQL
ICSAB1	ICSAB	1	19.87	1.939	15	PASS
LLICV1	LLICV	1	19.59	1.879	20	PASS
LLICV1	LLICV	1	0.48	22.064	20	<PQL
N053874-020C	SAMP	1	0.87	13.163	15	PASS
CCV1	CCV	1	19	2.534	15	PASS
CCB1	CCB	1	0.03	100.161	15	<PQL
CCV2	CCV	1	18.79	0.986	15	PASS
CCB2	CCB	1	0.03	19.337	15	<PQL
CCV3	CCV	1	19.28	4.786	15	PASS
CCB3	CCB	1	0.02	1.691	15	PASS
ICSA2	ICSA	1	0.01	144.486	15	<PQL
ICSAB2	ICSAB	1	19.62	2.916	15	PASS

PERCENT RSD SUMMARY: 221229B

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.08	22.202	15	<PQL
Std2-0.5/5 ppb	ICAL	1	0.45	7.894	15	PASS
Std3-5/50 ppb	ICAL	1	4.97	2.453	15	PASS
Std4-10/100 ppb	ICAL	1	10.1	0.688	15	PASS
Std5-20/200 ppb	ICAL	1	20.11	1.618	15	PASS
Std6-40/400 ppb	ICAL	1	40.72	1.146	15	PASS
Std7-100/1000 ppb	ICAL	1	101.51	0.432	15	PASS
Std8-200/2000 ppb	ICAL	1	199.09	1.004	15	PASS
ICV	ICV	1	10.68	2.212	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV1	LLCCV	1	1.01	2.375	20	PASS
MLCCV	CCV	1	20.05	2.459	15	PASS
ICSA1	ICSA	1	0.18	2.706	15	PASS
ICSAB1	ICSAB	1	20.72	0.941	15	PASS
MB-97435	MBLK	1	0.41	18.974	15	<PQL
LCS-97435	LCS	1	9.97	0.587	15	PASS
N054022-001C	SAMP	1	1.08	2.977	15	PASS
N054022-001C	SAMP	5	0.3	5.67	15	PASS
N054022-001C-PS	PS	1	10.53	3.089	15	PASS
N054022-001C-MS	MS	1	10.3	3.176	15	PASS
N054022-001C-MSD	MSD	1	10.31	0.623	15	PASS
N053874-005C	SAMP	5	36.84	2.966	15	PASS
N053874-014C	SAMP	5	163.78	1.025	15	PASS
CCV1	CCV	1	19.93	1.283	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
N054166-001H	SAMP	5	96.46	0.851	15	PASS
N054166-003H	SAMP	5	124.2	0.525	15	PASS
N054166-001H	SAMP	5	82.01	1.001	15	PASS
CCV2	CCV	1	19.85	3.237	15	PASS
CCB2	CCB	1	<0.000	N/A	15	<PQL
ICSA2	ICSA	1	0.14	10.465	15	PASS
ICSAB2	ICSAB	1	20.7	1.532	15	PASS
CCV3	CCV	1	19.64	0.927	15	PASS
CCB3	CCB	1	<0.000	N/A	15	<PQL
CCV4	CCV	1	19.79	0.274	15	PASS
CCB4	CCB	1	<0.000	N/A	15	<PQL
CCV5	CCV	1	20.12	1.269	15	PASS
CCB5	CCB	1	<0.000	N/A	15	<PQL
ICSA3	ICSA	1	0.11	1.671	15	PASS
ICSAB3	ICSAB	1	20.2	1.524	15	PASS

PERCENT RSD SUMMARY: 221229B

Instrument ID: ICPMS-03

Sample Name	Type	DF	52 Cr [2]			
			Conc. [ppb]	RSD	Criteria	Comment
CCV6	CCV	1	20.21	1.797	15	PASS
CCB6	CCB	1	<0.000	N/A	15	<PQL
CCV7	CCV	1	20.07	0.941	15	PASS
CCB7	CCB	1	<0.000	N/A	15	<PQL
CCV8	CCV	1	20.08	2.993	15	PASS
CCB8	CCB	1	<0.000	N/A	15	<PQL
ICSA4	ICSA	1	0.09	8.492	15	PASS
ICSAB4	ICSAB	1	20.94	1.68	15	PASS

PERCENT RSD SUMMARY: 221231A

Instrument ID: ICPMS-03

Sample Name	Type	DF	55 Mn [2]			
			Conc. [ppb]	RSD	Criteria	Comment
Cal Blk	IBLK	1	0	N/A	15	<PQL
Std1-0.1/1 ppb	ICAL	1	0.09	4.505	15	PASS
Std2-0.5/5 ppb	ICAL	1	0.49	7.7	15	PASS
Std3-5/50 ppb	ICAL	1	4.99	1.295	15	PASS
Std4-10/100 ppb	ICAL	1	10.25	0.585	15	PASS
Std5-20/200 ppb	ICAL	1	20.3	1.521	15	PASS
Std6-40/400 ppb	ICAL	1	40	1.127	15	PASS
Std7-100/1000 ppb	ICAL	1	99.76	0.567	15	PASS
Std8-200/2000 ppb	ICAL	1	200.08	1.565	15	PASS
ICV	ICV	1	103.26	1.144	15	PASS
ICB	ICB	1	<0.000	N/A	15	<PQL
LLICV1	LLCCV	1	0.53	2.671	20	PASS
MLCCV	CCV	1	20.34	1.029	15	PASS
ICSA1	ICSA	1	<0.000	N/A	15	<PQL
ICSAB1	ICSAB	1	20.44	2.227	15	PASS
LLICV1	LLCCV	1	0.56	3.559	20	PASS
MB-97001	MBLK	1	1.11	3.459	15	PASS
MB-97001	MBLK	1	<0.000	N/A	15	<PQL
CCV1	CCV	1	20.06	0.299	15	PASS
CCB1	CCB	1	<0.000	N/A	15	<PQL
ICSA2	ICSA	1	<0.000	N/A	15	<PQL
ICSAB2	ICSAB	1	20.51	0.998	15	PASS

ANALYSIS RUN LOG

INJECTION LOG: 221205B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1205001.d	RINSE	ICAL	1	12/05/22 5:16 PM
B1205002.d	Cal Blk	IBLK	1	12/05/22 5:22 PM
B1205003.d	Std1-0.1/1 ppb	ICAL	1	12/05/22 5:28 PM
B1205004.d	Std2-0.5/5 ppb	ICAL	1	12/05/22 5:34 PM
B1205005.d	Std3-5/50 ppb	ICAL	1	12/05/22 5:40 PM
B1205006.d	Std4-10/100 ppb	ICAL	1	12/05/22 5:46 PM
B1205007.d	Std5-20/200 ppb	ICAL	1	12/05/22 5:53 PM
B1205008.d	Std6-40/400 ppb	ICAL	1	12/05/22 5:59 PM
B1205009.d	Std7-100/1000 ppb	ICAL	1	12/05/22 6:05 PM
B1205010.d	Std8-200/2000 ppb	ICAL	1	12/05/22 6:11 PM
B1205011.d	ICV	ICV	1	12/05/22 6:17 PM
B1205012.d	ICB	ICB	1	12/05/22 6:23 PM
B1205013.d	LLICV1	LLICV	1	12/05/22 6:29 PM
B1205014.d	MLCCV	CCV	1	12/05/22 6:35 PM
B1205015.d	ICSA1	ICSA	1	12/05/22 6:40 PM
B1205016.d	ICSAB1	ICSAB	1	12/05/22 6:46 PM
B1205017.d	MB-96999	MBLK	1	12/05/22 6:58 PM
B1205018.d	LCS-96999	LCS	1	12/05/22 7:04 PM
B1205019.d	N053852-001C	SAMP	1	12/05/22 7:10 PM
B1205020.d	N053852-002C	SAMP	1	12/05/22 7:16 PM
B1205021.d	N053852-003C	SAMP	1	12/05/22 7:22 PM
B1205022.d	N053852-005B	SAMP	1	12/05/22 7:28 PM
B1205023.d	N053852-006B	SAMP	1	12/05/22 7:33 PM
B1205024.d	N053852-007B	SAMP	1	12/05/22 7:39 PM
B1205025.d	N053852-008B	SAMP	1	12/05/22 7:45 PM
B1205026.d	RINSE	ICAL	1	12/05/22 7:51 PM
B1205027.d	CCV1	CCV	1	12/05/22 7:57 PM
B1205028.d	CCB1	CCB	1	12/05/22 8:03 PM
B1205029.d	N053852-009B	SAMP	1	12/05/22 8:09 PM
B1205030.d	N053852-010C	SAMP	1	12/05/22 8:15 PM
B1205031.d	N053852-010C	SAMP	5	12/05/22 8:21 PM
B1205032.d	N053852-010C-PS	PS	1	12/05/22 8:27 PM
B1205033.d	N053852-010CMS	MS	1	12/05/22 8:33 PM
B1205034.d	N053852-010CMSD	MSD	1	12/05/22 8:39 PM
B1205035.d	N053852-011B	SAMP	1	12/05/22 8:45 PM
B1205036.d	N053852-012C	SAMP	1	12/05/22 8:51 PM
B1205037.d	N053852-014C	SAMP	1	12/05/22 8:57 PM
B1205038.d	RINSE	ICAL	1	12/05/22 9:03 PM
B1205039.d	CCV2	CCV	1	12/05/22 9:08 PM
B1205040.d	CCB2	CCB	1	12/05/22 9:14 PM
B1205041.d	N053852-015C	SAMP	1	12/05/22 9:20 PM
B1205042.d	N053853-001C	SAMP	1	12/05/22 9:26 PM

INJECTION LOG: 221205B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1205043.d	N053853-002C	SAMP	1	12/05/22 9:32 PM
B1205044.d	N053853-003C	SAMP	1	12/05/22 9:38 PM
B1205045.d	N053853-004B	SAMP	1	12/05/22 9:44 PM
B1205046.d	N053853-005C	SAMP	1	12/05/22 9:50 PM
B1205047.d	N053853-006C	SAMP	1	12/05/22 9:56 PM
B1205048.d	N053853-007C	SAMP	1	12/05/22 10:02 PM
B1205049.d	RINSE	ICAL	1	12/05/22 10:08 PM
B1205050.d	CCV3	CCV	1	12/05/22 10:14 PM
B1205051.d	CCB3	CCB	1	12/05/22 10:19 PM
B1205052.d	ICSA2	ICSA	1	12/05/22 10:25 PM
B1205053.d	ICSAB2	ICSAB	1	12/05/22 10:31 PM
B1205054.d	MB-97000	MBLK	1	12/05/22 10:37 PM
B1205055.d	LCS-97000	LCS	1	12/05/22 10:43 PM
B1205056.d	N053853-008C	SAMP	1	12/05/22 10:49 PM
B1205057.d	N053853-010C	SAMP	1	12/05/22 10:55 PM
B1205058.d	N053853-011C	SAMP	1	12/05/22 11:01 PM
B1205059.d	N053853-012C	SAMP	1	12/05/22 11:07 PM
B1205060.d	N053853-013C	SAMP	1	12/05/22 11:13 PM
B1205061.d	N053853-014C	SAMP	1	12/05/22 11:19 PM
B1205062.d	N053873-001C	SAMP	1	12/05/22 11:25 PM
B1205063.d	RINSE	ICAL	1	12/05/22 11:30 PM
B1205064.d	CCV4	CCV	1	12/05/22 11:36 PM
B1205065.d	CCB4	CCB	1	12/05/22 11:42 PM
B1205066.d	ICSA3	ICSA	1	12/05/22 11:48 PM
B1205067.d	ICSAB3	ICSAB	1	12/05/22 11:54 PM
B1205068.d	N053873-002C	SAMP	1	12/06/22 12:00 AM
B1205069.d	N053873-003C	SAMP	1	12/06/22 12:06 AM
B1205070.d	N053873-004C	SAMP	1	12/06/22 12:12 AM
B1205071.d	N053873-005C	SAMP	1	12/06/22 12:18 AM
B1205072.d	N053873-006C	SAMP	1	12/06/22 12:24 AM
B1205073.d	N053873-007C	SAMP	1	12/06/22 12:30 AM
B1205074.d	N053873-008C	SAMP	1	12/06/22 12:36 AM
B1205075.d	N053873-009C	SAMP	1	12/06/22 12:41 AM
B1205076.d	N053873-009C	SAMP	5	12/06/22 12:47 AM
B1205077.d	RINSE	ICAL	1	12/06/22 12:53 AM
B1205078.d	CCV5	CCV	1	12/06/22 12:59 AM
B1205079.d	CCB5	CCB	1	12/06/22 1:05 AM
B1205080.d	N053873-009C-PS	PS	1	12/06/22 1:11 AM
B1205081.d	N053873-009CMS	MS	1	12/06/22 1:17 AM
B1205082.d	N053873-009CMSD	MSD	1	12/06/22 1:23 AM
B1205083.d	RINSE	ICAL	1	12/06/22 1:29 AM
B1205084.d	MB-97001	MBLK	1	12/06/22 1:35 AM

INJECTION LOG: 221205B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1205085.d	LCS-97001	LCS	1	12/06/22 1:40 AM
B1205086.d	N053874-001C	SAMP	1	12/06/22 1:46 AM
B1205087.d	N053874-002C	SAMP	1	12/06/22 1:52 AM
B1205088.d	N053874-003C	SAMP	1	12/06/22 1:58 AM
B1205089.d	RINSE	ICAL	1	12/06/22 2:04 AM
B1205090.d	CCV6	CCV	1	12/06/22 2:10 AM
B1205091.d	CCB6	CCB	1	12/06/22 2:16 AM
B1205092.d	N053874-004C	SAMP	1	12/06/22 2:22 AM
B1205093.d	N053874-005C	SAMP	1	12/06/22 2:28 AM
B1205094.d	N053874-006C	SAMP	1	12/06/22 2:34 AM
B1205095.d	N053874-007C	SAMP	1	12/06/22 2:40 AM
B1205096.d	N053874-009C	SAMP	1	12/06/22 2:45 AM
B1205097.d	N053874-010C	SAMP	1	12/06/22 2:51 AM
B1205098.d	N053874-011C	SAMP	1	12/06/22 2:57 AM
B1205099.d	N053874-012B	SAMP	1	12/06/22 3:03 AM
B1205100.d	N053874-013C	SAMP	1	12/06/22 3:09 AM
B1205101.d	RINSE	ICAL	1	12/06/22 3:15 AM
B1205102.d	CCV7	CCV	1	12/06/22 3:21 AM
B1205103.d	CCB7	CCB	1	12/06/22 3:27 AM
B1205104.d	ICSA4	ICSA	1	12/06/22 3:33 AM
B1205105.d	ICSAB4	ICSAB	1	12/06/22 3:39 AM
B1205106.d	N053874-014C	SAMP	1	12/06/22 3:45 AM
B1205107.d	N053874-015C	SAMP	1	12/06/22 3:51 AM
B1205108.d	N053874-016C	SAMP	1	12/06/22 3:57 AM
B1205109.d	N053874-017C	SAMP	1	12/06/22 4:03 AM
B1205110.d	N053874-018C	SAMP	1	12/06/22 4:09 AM
B1205111.d	N053874-018C	SAMP	5	12/06/22 4:15 AM
B1205112.d	N053874-018C-PS	PS	1	12/06/22 4:20 AM
B1205113.d	N053874-018CMS	MS	1	12/06/22 4:26 AM
B1205114.d	N053874-018CMSD	MSD	1	12/06/22 4:32 AM
B1205115.d	RINSE	ICAL	1	12/06/22 4:38 AM
B1205116.d	CCV8	CCV	1	12/06/22 4:44 AM
B1205117.d	CCB8	CCB	1	12/06/22 4:50 AM
B1205118.d	N053874-019C	SAMP	1	12/06/22 4:56 AM
B1205119.d	N053874-020C	SAMP	1	12/06/22 5:02 AM
B1205120.d	N053874-022B	SAMP	1	12/06/22 5:08 AM
B1205121.d	RINSE	ICAL	1	12/06/22 5:14 AM
B1205122.d	MB-97050	MBLK	1	12/06/22 5:20 AM
B1205123.d	LCS-97050	LCS	1	12/06/22 5:26 AM
B1205124.d	N053885-001C	SAMP	1	12/06/22 5:31 AM
B1205125.d	N053885-002C	SAMP	1	12/06/22 5:37 AM
B1205126.d	N053885-003C	SAMP	1	12/06/22 5:43 AM

INJECTION LOG: 221205B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1205127.d	RINSE	ICAL	1	12/06/22 5:49 AM
B1205128.d	CCV9	CCV	1	12/06/22 5:55 AM
B1205129.d	CCB9	CCB	1	12/06/22 6:01 AM
B1205130.d	N053885-004C	SAMP	1	12/06/22 6:07 AM
B1205131.d	N053886-001B	SAMP	1	12/06/22 6:13 AM
B1205132.d	N053886-002B	SAMP	1	12/06/22 6:19 AM
B1205133.d	N053886-003C	SAMP	1	12/06/22 6:25 AM
B1205134.d	N053886-004C	SAMP	1	12/06/22 6:31 AM
B1205135.d	N053886-005C	SAMP	1	12/06/22 6:37 AM
B1205136.d	N053886-005C	SAMP	5	12/06/22 6:43 AM
B1205137.d	N053886-005C-PS	PS	1	12/06/22 6:48 AM
B1205138.d	N053886-005CMS	MS	1	12/06/22 6:54 AM
B1205139.d	RINSE	ICAL	1	12/06/22 7:00 AM
B1205140.d	CCV10	CCV	1	12/06/22 7:06 AM
B1205141.d	CCB10	CCB	1	12/06/22 7:12 AM
B1205142.d	N053886-005CMSD	MSD	1	12/06/22 7:18 AM
B1205143.d	N053886-006B	SAMP	1	12/06/22 7:24 AM
B1205144.d	RINSE	ICAL	1	12/06/22 7:30 AM
B1205145.d	CCV11	CCV	1	12/06/22 7:35 AM
B1205146.d	CCB11	CCB	1	12/06/22 7:41 AM
B1205147.d	ICSA5	ICSA	1	12/06/22 7:47 AM
B1205148.d	ICSAB5	ICSAB	1	12/06/22 7:53 AM
B1205149.d	RINSE	ICAL	1	12/06/22 7:59 AM
B1205150.d	RINSE	ICAL	1	12/06/22 8:05 AM
B1205151.d	RINSE	ICAL	1	12/06/22 8:11 AM

INJECTION LOG: 221206A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1206001.d	RINSE	ICAL	1	12/06/22 3:03 PM
A1206002.d	Cal Blk	IBLK	1	12/06/22 3:09 PM
A1206003.d	Std1-0.1/1 ppb	ICAL	1	12/06/22 3:15 PM
A1206004.d	Std2-0.5/5 ppb	ICAL	1	12/06/22 3:21 PM
A1206005.d	Std3-5/50 ppb	ICAL	1	12/06/22 3:27 PM
A1206006.d	Std4-10/100 ppb	ICAL	1	12/06/22 3:33 PM
A1206007.d	Std5-20/200 ppb	ICAL	1	12/06/22 3:39 PM
A1206008.d	Std6-40/400 ppb	ICAL	1	12/06/22 3:45 PM
A1206009.d	Std7-100/1000 ppb	ICAL	1	12/06/22 3:51 PM
A1206010.d	Std8-200/2000 ppb	ICAL	1	12/06/22 3:58 PM
A1206011.d	ICV	ICV	1	12/06/22 4:04 PM
A1206012.d	ICB	ICB	1	12/06/22 4:09 PM
A1206013.d	LLICV1	LLICV	1	12/06/22 4:15 PM
A1206014.d	MLCCV	CCV	1	12/06/22 4:21 PM
A1206015.d	ICSA1	ICSA	1	12/06/22 4:27 PM
A1206016.d	ICSAB1	ICSAB	1	12/06/22 4:33 PM
A1206017.d	N053547-011A	SAMP	5	12/06/22 4:42 PM
A1206018.d	N053547-011C	SAMP	5	12/06/22 4:48 PM
A1206019.d	N053547-011C	SAMP	25	12/06/22 4:54 PM
A1206020.d	N053852-001C	SAMP	1	12/06/22 5:00 PM
A1206021.d	N053852-003C	SAMP	1	12/06/22 5:06 PM
A1206022.d	N053852-005B	SAMP	5	12/06/22 5:12 PM
A1206023.d	N053852-008B	SAMP	5	12/06/22 5:18 PM
A1206024.d	N053852-009B	SAMP	5	12/06/22 5:24 PM
A1206025.d	N053852-011B	SAMP	1	12/06/22 5:30 PM
A1206026.d	N053852-012C	SAMP	25	12/06/22 5:36 PM
A1206027.d	CCV1	CCV	1	12/06/22 5:42 PM
A1206028.d	CCB1	CCB	1	12/06/22 5:48 PM
A1206029.d	N053852-014C	SAMP	25	12/06/22 5:53 PM
A1206030.d	N053852-015C	SAMP	25	12/06/22 5:59 PM
A1206031.d	N053853-001C	SAMP	125	12/06/22 6:05 PM
A1206032.d	N053853-002C	SAMP	5	12/06/22 6:11 PM
A1206033.d	N053853-003C	SAMP	25	12/06/22 6:17 PM
A1206034.d	N053853-005C	SAMP	1	12/06/22 6:23 PM
A1206035.d	RINSE	ICAL	1	12/06/22 6:29 PM
A1206036.d	CCV2	CCV	1	12/06/22 6:35 PM
A1206037.d	CCB2	CCB	1	12/06/22 6:41 PM
A1206038.d	N053853-005C	SAMP	5	12/06/22 6:47 PM
A1206039.d	N053853-006C	SAMP	5	12/06/22 6:53 PM
A1206040.d	N053852-003C	SAMP	1	12/06/22 6:59 PM
A1206041.d	N053852-005B	SAMP	25	12/06/22 7:05 PM
A1206042.d	N053852-011B	SAMP	1	12/06/22 7:10 PM

INJECTION LOG: 221206A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1206043.d	N053853-013C	SAMP	25	12/06/22 7:16 PM
A1206044.d	N053853-014C	SAMP	25	12/06/22 7:22 PM
A1206045.d	N053873-002C	SAMP	1	12/06/22 7:28 PM
A1206046.d	N053853-005C	SAMP	1	12/06/22 7:34 PM
A1206047.d	RINSE	ICAL	1	12/06/22 7:40 PM
A1206048.d	CCV3	CCV	1	12/06/22 7:46 PM
A1206049.d	CCB3	CCB	1	12/06/22 7:52 PM
A1206050.d	ICSA2	ICSA	1	12/06/22 7:58 PM
A1206051.d	ICSAB2	ICSAB	1	12/06/22 8:04 PM
A1206052.d	N053874-001C	SAMP	1	12/06/22 8:09 PM
A1206053.d	N053874-003C	SAMP	25	12/06/22 8:15 PM
A1206054.d	N053874-004C	SAMP	25	12/06/22 8:21 PM
A1206055.d	N053874-006C	SAMP	5	12/06/22 8:27 PM
A1206056.d	N053874-007C	SAMP	1	12/06/22 8:33 PM
A1206057.d	N053874-007C	SAMP	5	12/06/22 8:39 PM
A1206058.d	N053874-012B	SAMP	1	12/06/22 8:45 PM
A1206059.d	N053874-012B	SAMP	5	12/06/22 8:51 PM
A1206060.d	N053874-013C	SAMP	125	12/06/22 8:57 PM
A1206061.d	RINSE	ICAL	1	12/06/22 9:03 PM
A1206062.d	CCV4	CCV	1	12/06/22 9:09 PM
A1206063.d	CCB4	CCB	1	12/06/22 9:15 PM
A1206064.d	N053874-014C	SAMP	5	12/06/22 9:20 PM
A1206065.d	N053874-015C	SAMP	5	12/06/22 9:26 PM
A1206066.d	N053874-016C	SAMP	5	12/06/22 9:32 PM
A1206067.d	N053874-017C	SAMP	1	12/06/22 9:38 PM
A1206068.d	N053874-018C	SAMP	5	12/06/22 9:44 PM
A1206069.d	N053874-018C	SAMP	25	12/06/22 9:50 PM
A1206070.d	N053874-018C-PS	PS	5	12/06/22 9:56 PM
A1206071.d	N053874-018CMS	MS	5	12/06/22 10:02 PM
A1206072.d	N053874-018CMSD	MSD	5	12/06/22 10:08 PM
A1206073.d	RINSE	ICAL	1	12/06/22 10:14 PM
A1206074.d	CCV5	CCV	1	12/06/22 10:20 PM
A1206075.d	CCB5	CCB	1	12/06/22 10:26 PM
A1206076.d	N053874-022B	SAMP	5	12/06/22 10:31 PM
A1206077.d	N053885-002C	SAMP	1	12/06/22 10:37 PM
A1206078.d	N053886-002B	SAMP	5	12/06/22 10:43 PM
A1206079.d	RINSE	ICAL	1	12/06/22 10:49 PM
A1206080.d	CCV6	CCV	1	12/06/22 10:55 PM
A1206081.d	CCB6	CCB	1	12/06/22 11:01 PM
A1206082.d	ICSA3	ICSA	1	12/06/22 11:07 PM
A1206083.d	ICSAB3	ICSAB	1	12/06/22 11:13 PM
A1206084.d	MB-97078	MBLK	1	12/06/22 11:19 PM

INJECTION LOG: 221206A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1206085.d	LCS-97078	LCS	1	12/06/22 11:24 PM
A1206086.d	N053941-001A	SAMP	1	12/06/22 11:30 PM
A1206087.d	N053941-001A	SAMP	5	12/06/22 11:36 PM
A1206088.d	N053941-001A-PS	PS	1	12/06/22 11:42 PM
A1206089.d	N053941-001A-MS	MS	1	12/06/22 11:48 PM
A1206090.d	N053941-001A-MSD	MSD	1	12/06/22 11:54 PM
A1206091.d	N053947-001A	SAMP	1	12/07/22 12:00 AM
A1206092.d	RINSE	ICAL	1	12/07/22 12:06 AM
A1206093.d	CCV7	CCV	1	12/07/22 12:12 AM
A1206094.d	CCB7	CCB	1	12/07/22 12:17 AM
A1206095.d	ICSA4	ICSA	1	12/07/22 12:23 AM
A1206096.d	ICSAB4	ICSAB	1	12/07/22 12:29 AM
A1206097.d	MB-97069	MBLK	1	12/07/22 12:35 AM
A1206098.d	LCS-97069	LCS	1	12/07/22 12:41 AM
A1206099.d	N053883-001H	SAMP	1	12/07/22 12:47 AM
A1206100.d	N053883-001H	SAMP	5	12/07/22 12:53 AM
A1206101.d	N053883-001H	SAMP	25	12/07/22 12:59 AM
A1206102.d	N053883-001H-PS	PS	1	12/07/22 1:05 AM
A1206103.d	N053883-001H-PS	PS	5	12/07/22 1:11 AM
A1206104.d	N053883-001H-MS	MS	1	12/07/22 1:16 AM
A1206105.d	N053883-001H-MS	MS	5	12/07/22 1:22 AM
A1206106.d	RINSE	ICAL	1	12/07/22 1:28 AM
A1206107.d	CCV8	CCV	1	12/07/22 1:34 AM
A1206108.d	CCB8	CCB	1	12/07/22 1:40 AM
A1206109.d	N053883-001H-MSD	MSD	1	12/07/22 1:46 AM
A1206110.d	N053883-001H-MSD	MSD	5	12/07/22 1:52 AM
A1206111.d	MB-97062	MBLK	1	12/07/22 1:58 AM
A1206112.d	LCS-97062	LCS	1	12/07/22 2:03 AM
A1206113.d	N053921-001B	SAMP	1	12/07/22 2:09 AM
A1206114.d	N053921-002B	SAMP	1	12/07/22 2:15 AM
A1206115.d	N053921-002B	SAMP	5	12/07/22 2:21 AM
A1206116.d	N053921-002B-PS	PS	1	12/07/22 2:27 AM
A1206117.d	N053921-002B-MS	MS	1	12/07/22 2:33 AM
A1206118.d	RINSE	ICAL	1	12/07/22 2:39 AM
A1206119.d	CCV9	CCV	1	12/07/22 2:45 AM
A1206120.d	CCB9	CCB	1	12/07/22 2:50 AM
A1206121.d	N053921-002B-MSD	MSD	1	12/07/22 2:56 AM
A1206122.d	N053921-003B	SAMP	1	12/07/22 3:02 AM
A1206123.d	N053921-004B	SAMP	1	12/07/22 3:08 AM
A1206124.d	N053883-001I	SAMP	1	12/07/22 3:14 AM
A1206125.d	RINSE	ICAL	1	12/07/22 3:20 AM
A1206126.d	CCV10	CCV	1	12/07/22 3:26 AM

INJECTION LOG: 221206A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1206127.d	CCB10	CCB	1	12/07/22 3:31 AM
A1206128.d	ICSA5	ICSA	1	12/07/22 3:37 AM
A1206129.d	ICSAB5	ICSAB	1	12/07/22 3:43 AM
A1206130.d	MB-97070	MBLK	1	12/07/22 3:49 AM
A1206131.d	LCS-97070	LCS	1	12/07/22 3:55 AM
A1206132.d	N053923-001B	SAMP	1	12/07/22 4:01 AM
A1206133.d	N053923-002D	SAMP	1	12/07/22 4:07 AM
A1206134.d	N053923-003D	SAMP	1	12/07/22 4:12 AM
A1206135.d	N053923-004D	SAMP	1	12/07/22 4:18 AM
A1206136.d	N053923-005D	SAMP	1	12/07/22 4:24 AM
A1206137.d	N053923-006B	SAMP	1	12/07/22 4:30 AM
A1206138.d	N053925-001B	SAMP	1	12/07/22 4:36 AM
A1206139.d	RINSE	ICAL	1	12/07/22 4:42 AM
A1206140.d	CCV11	CCV	1	12/07/22 4:48 AM
A1206141.d	CCB11	CCB	1	12/07/22 4:53 AM
A1206142.d	N053925-001B	SAMP	5	12/07/22 4:59 AM
A1206143.d	N053925-001B-PS	PS	1	12/07/22 5:05 AM
A1206144.d	N053925-001B-MS	MS	1	12/07/22 5:11 AM
A1206145.d	N053925-001B-MSD	MSD	1	12/07/22 5:17 AM
A1206146.d	N053925-002B	SAMP	1	12/07/22 5:23 AM
A1206147.d	N053925-003B	SAMP	1	12/07/22 5:29 AM
A1206148.d	N053925-004B	SAMP	1	12/07/22 5:35 AM
A1206149.d	N053925-005B	SAMP	1	12/07/22 5:40 AM
A1206150.d	N053925-006B	SAMP	1	12/07/22 5:46 AM
A1206151.d	RINSE	ICAL	1	12/07/22 5:52 AM
A1206152.d	CCV12	CCV	1	12/07/22 5:58 AM
A1206153.d	CCB12	CCB	1	12/07/22 6:04 AM
A1206154.d	N053925-007B	SAMP	1	12/07/22 6:10 AM
A1206155.d	N053925-008B	SAMP	1	12/07/22 6:16 AM
A1206156.d	N053925-009B	SAMP	1	12/07/22 6:21 AM
A1206157.d	RINSE	ICAL	1	12/07/22 6:27 AM
A1206158.d	CCV13	CCV	1	12/07/22 6:33 AM
A1206159.d	CCB13	CCB	1	12/07/22 6:39 AM
A1206160.d	ICSA6	ICSA	1	12/07/22 6:45 AM
A1206161.d	ICSAB6	ICSAB	1	12/07/22 6:51 AM
A1206162.d	RINSE	ICAL	1	12/07/22 6:57 AM
A1206163.d	RINSE	ICAL	1	12/07/22 7:02 AM
A1206164.d	RINSE	ICAL	1	12/07/22 7:08 AM
A1206165.d	RINSE	ICAL	1	12/07/22 7:14 AM

INJECTION LOG: 221207A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1207001.d	RINSE	ICAL	1	12/07/22 12:09 PM
B1207002.d	Cal Blk	IBLK	1	12/07/22 12:15 PM
B1207003.d	Std1-0.1/1 ppb	ICAL	1	12/07/22 12:21 PM
B1207004.d	Std2-0.5/5 ppb	ICAL	1	12/07/22 12:27 PM
B1207005.d	Std3-5/50 ppb	ICAL	1	12/07/22 12:33 PM
B1207006.d	Std4-10/100 ppb	ICAL	1	12/07/22 12:39 PM
B1207007.d	Std5-20/200 ppb	ICAL	1	12/07/22 12:45 PM
B1207008.d	Std6-40/400 ppb	ICAL	1	12/07/22 12:51 PM
B1207009.d	Std7-100/1000 ppb	ICAL	1	12/07/22 12:58 PM
B1207010.d	Std8-200/2000 ppb	ICAL	1	12/07/22 1:04 PM
B1207011.d	ICV	ICV	1	12/07/22 1:10 PM
B1207012.d	ICB	ICB	1	12/07/22 1:16 PM
B1207013.d	LLICV1	LLICV	1	12/07/22 1:21 PM
B1207014.d	MLCCV	CCV	1	12/07/22 1:27 PM
B1207015.d	ICSA1	ICSA	1	12/07/22 1:33 PM
B1207016.d	ICSAB1	ICSAB	1	12/07/22 1:39 PM
B1207017.d	N053852-003C	SAMP	1	12/07/22 1:59 PM
B1207018.d	N053852-011B	SAMP	1	12/07/22 2:05 PM
B1207019.d	N053853-005C	SAMP	1	12/07/22 2:11 PM
B1207020.d	N053874-001C	SAMP	1	12/07/22 2:17 PM
B1207021.d	N053874-006C	SAMP	25	12/07/22 2:23 PM
B1207022.d	N053874-007C	SAMP	1	12/07/22 2:29 PM
B1207023.d	N053885-002C	SAMP	1	12/07/22 2:35 PM
B1207024.d	N053874-012B	SAMP	25	12/07/22 2:41 PM
B1207025.d	N053886-002B	SAMP	25	12/07/22 2:47 PM
B1207026.d	RINSE	ICAL	1	12/07/22 2:58 PM
B1207027.d	CCV1	CCV	1	12/07/22 3:03 PM
B1207028.d	CCB1	CCB	1	12/07/22 3:09 PM
B1207029.d	N053852-003C	SAMP	1	12/07/22 3:15 PM
B1207030.d	N053874-001C	SAMP	1	12/07/22 3:21 PM
B1207031.d	N053874-007C	SAMP	1	12/07/22 3:27 PM
B1207032.d	N053679-001C	SAMP	5	12/07/22 3:36 PM
B1207033.d	N053679-002C	SAMP	5	12/07/22 3:42 PM
B1207034.d	N053679-003C	SAMP	5	12/07/22 3:48 PM
B1207035.d	N053787-006B	SAMP	1	12/07/22 3:54 PM
B1207036.d	N053787-009C	SAMP	1	12/07/22 4:00 PM
B1207037.d	N053787-009C	SAMP	1	12/07/22 4:07 PM
B1207038.d	RINSE	ICAL	1	12/07/22 4:13 PM
B1207039.d	CCV2	CCV	1	12/07/22 4:19 PM
B1207040.d	CCB2	CCB	1	12/07/22 4:25 PM
B1207041.d	ICSA2	ICSA	1	12/07/22 4:31 PM
B1207042.d	ICSAB2	ICSAB	1	12/07/22 4:37 PM

INJECTION LOG: 221207A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1207043.d	N053787-009C	SAMP	1	12/07/22 4:43 PM
B1207044.d	N053816-008C	SAMP	1	12/07/22 4:49 PM
B1207045.d	N053817-009C	SAMP	1	12/07/22 4:55 PM
B1207046.d	N053815-001C	SAMP	25	12/07/22 5:01 PM
B1207047.d	N053788-003C	SAMP	1	12/07/22 5:07 PM
B1207048.d	N053788-004C	SAMP	1	12/07/22 5:13 PM
B1207049.d	N053787-009C	SAMP	1	12/07/22 5:19 PM
B1207050.d	N053665-007B	SAMP	1	12/07/22 5:28 PM
B1207051.d	N053665-007B	SAMP	1	12/07/22 5:34 PM
B1207052.d	RINSE	ICAL	1	12/07/22 5:40 PM
B1207053.d	CCV3	CCV	1	12/07/22 5:46 PM
B1207054.d	CCB3	CCB	1	12/07/22 5:52 PM
B1207055.d	CCV3	CCV	1	12/07/22 6:17 PM
B1207056.d	CCB3	CCB	1	12/07/22 6:23 PM
B1207057.d	MB-97078	MBLK	1	12/07/22 6:29 PM
B1207058.d	LCS-97078	LCS	1	12/07/22 6:35 PM
B1207059.d	N053941-001A	SAMP	1	12/07/22 6:41 PM
B1207060.d	N053941-001A	SAMP	5	12/07/22 6:47 PM
B1207061.d	N053941-001A-PS	PS	1	12/07/22 6:53 PM
B1207062.d	N053941-001A-MS	MS	1	12/07/22 6:59 PM
B1207063.d	N053941-001A-MSD	MSD	1	12/07/22 7:05 PM
B1207064.d	N053947-001A	SAMP	1	12/07/22 7:10 PM
B1207065.d	RINSE	ICAL	1	12/07/22 7:16 PM
B1207066.d	CCV4	CCV	1	12/07/22 7:22 PM
B1207067.d	CCB4	CCB	1	12/07/22 7:28 PM
B1207068.d	ICSA3	ICSA	1	12/07/22 7:34 PM
B1207069.d	ICSAB3	ICSAB	1	12/07/22 7:40 PM

INJECTION LOG: 221214A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1214001.d	RINSE	ICAL	1	12/14/22 1:28 PM
A1214002.d	Cal Blk	IBLK	1	12/14/22 1:34 PM
A1214003.d	Std1-0.1/1 ppb	ICAL	1	12/14/22 1:40 PM
A1214004.d	Std2-0.5/5 ppb	ICAL	1	12/14/22 1:46 PM
A1214005.d	Std3-5/50 ppb	ICAL	1	12/14/22 1:52 PM
A1214006.d	Std4-10/100 ppb	ICAL	1	12/14/22 1:58 PM
A1214007.d	Std5-20/200 ppb	ICAL	1	12/14/22 2:04 PM
A1214008.d	Std6-40/400 ppb	ICAL	1	12/14/22 2:10 PM
A1214009.d	Std7-100/1000 ppb	ICAL	1	12/14/22 2:16 PM
A1214010.d	Std8-200/2000 ppb	ICAL	1	12/14/22 2:22 PM
A1214011.d	ICV	ICV	1	12/14/22 2:28 PM
A1214012.d	ICB	ICB	1	12/14/22 2:34 PM
A1214013.d	LLICV1	LLICV	1	12/14/22 2:40 PM
A1214014.d	MLCCV	CCV	1	12/14/22 2:45 PM
A1214015.d	ICSA1	ICSA	1	12/14/22 2:51 PM
A1214016.d	ICSAB1	ICSAB	1	12/14/22 2:57 PM
A1214017.d	LLICV1	LLICV	1	12/14/22 3:03 PM
A1214018.d	N053665-007B	SAMP	1	12/14/22 3:12 PM
A1214019.d	N053665-007B	SAMP	1	12/14/22 3:18 PM
A1214020.d	N053665-007B	SAMP	5	12/14/22 3:24 PM
A1214021.d	MB-97069	MBLK	1	12/14/22 3:30 PM
A1214022.d	LCS-97069	LCS	1	12/14/22 3:36 PM
A1214023.d	N053883-001H	SAMP	1	12/14/22 3:42 PM
A1214024.d	N053883-001H	SAMP	5	12/14/22 3:47 PM
A1214025.d	N053883-001H-PS	PS	1	12/14/22 3:53 PM
A1214026.d	N053883-001H-MS	MS	1	12/14/22 3:59 PM
A1214027.d	N053883-001H-MSD	MSD	1	12/14/22 4:05 PM
A1214028.d	CCV1	CCV	1	12/14/22 4:11 PM
A1214029.d	CCB1	CCB	1	12/14/22 4:16 PM
A1214030.d	N053788-003C	SAMP	1	12/14/22 4:22 PM
A1214031.d	N053686-001A	SAMP	125	12/14/22 4:28 PM
A1214032.d	N053874-005C	SAMP	1	12/14/22 4:34 PM
A1214034.d	N053874-019C	SAMP	1	12/14/22 4:40 PM
A1214035.d	N053874-020C	SAMP	1	12/14/22 4:46 PM
A1214036.d	CCV2	CCV	1	12/14/22 4:51 PM
A1214037.d	CCB2	CCB	1	12/14/22 4:57 PM
A1214038.d	ICSA2	ICSA	1	12/14/22 5:03 PM
A1214039.d	ICSAB2	ICSAB	1	12/14/22 5:09 PM
A1214040.d	MB-97086	MBLK	1	12/14/22 5:15 PM
A1214041.d	LCS-97086	LCS	1	12/14/22 5:20 PM
A1214042.d	N053953-002A	SAMP	1	12/14/22 5:26 PM
A1214043.d	N053954-001B	SAMP	1	12/14/22 5:32 PM

INJECTION LOG: 221214A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1214044.d	N053954-002B	SAMP	1	12/14/22 5:38 PM
A1214045.d	N053954-003B	SAMP	1	12/14/22 5:44 PM
A1214046.d	N053956-001B	SAMP	1	12/14/22 5:50 PM
A1214047.d	N053956-001B	SAMP	5	12/14/22 5:55 PM
A1214048.d	N053956-001B-PS	PS	1	12/14/22 6:01 PM
A1214049.d	RINSE	ICAL	1	12/14/22 6:07 PM
A1214050.d	CCV3	CCV	1	12/14/22 6:13 PM
A1214051.d	CCB3	CCB	1	12/14/22 6:19 PM
A1214052.d	N053956-001B-MS	MS	1	12/14/22 6:25 PM
A1214053.d	N053956-001B-MSD	MSD	1	12/14/22 6:30 PM
A1214054.d	N053953-002A	SAMP	5	12/14/22 6:36 PM
A1214055.d	MB-97205	MBLK	1	12/14/22 6:42 PM
A1214056.d	LCS-97205	LCS	1	12/14/22 6:48 PM
A1214057.d	N053987-001B	SAMP	1	12/14/22 6:54 PM
A1214058.d	N053987-001B	SAMP	5	12/14/22 7:00 PM
A1214059.d	N053987-001B	SAMP	25	12/14/22 7:05 PM
A1214060.d	N053987-001B-PS	PS	1	12/14/22 7:11 PM
A1214061.d	RINSE	ICAL	1	12/14/22 7:17 PM
A1214062.d	CCV4	CCV	1	12/14/22 7:23 PM
A1214063.d	CCB4	CCB	1	12/14/22 7:29 PM
A1214064.d	N053987-001B-PS	PS	5	12/14/22 7:35 PM
A1214065.d	N053987-001B-MS	MS	1	12/14/22 7:40 PM
A1214066.d	N053987-001B-MS	MS	5	12/14/22 7:46 PM
A1214067.d	N053987-001B-MSD	MSD	1	12/14/22 7:52 PM
A1214068.d	N053987-001B-MSD	MSD	5	12/14/22 7:58 PM
A1214069.d	N053988-001B	SAMP	1	12/14/22 8:04 PM
A1214070.d	N053989-001B	SAMP	1	12/14/22 8:10 PM
A1214071.d	N053989-001B	SAMP	5	12/14/22 8:15 PM
A1214072.d	N053990-001B	SAMP	1	12/14/22 8:21 PM
A1214073.d	RINSE	ICAL	1	12/14/22 8:27 PM
A1214074.d	CCV5	CCV	1	12/14/22 8:33 PM
A1214075.d	CCB5	CCB	1	12/14/22 8:39 PM
A1214076.d	ICSA3	ICSA	1	12/14/22 8:45 PM
A1214077.d	ICSAB3	ICSAB	1	12/14/22 8:50 PM
A1214078.d	N053990-002B	SAMP	1	12/14/22 8:56 PM
A1214079.d	N053990-003B	SAMP	1	12/14/22 9:02 PM
A1214080.d	N053990-004B	SAMP	1	12/14/22 9:08 PM
A1214081.d	N054039-001B	SAMP	1	12/14/22 9:14 PM
A1214082.d	N054045-001A	SAMP	1	12/14/22 9:20 PM
A1214083.d	N054045-002A	SAMP	1	12/14/22 9:25 PM
A1214084.d	N054045-003B	SAMP	1	12/14/22 9:31 PM
A1214085.d	N054046-001B	SAMP	1	12/14/22 9:37 PM

INJECTION LOG: 221214A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1214086.d	N054047-001B	SAMP	1	12/14/22 9:43 PM
A1214087.d	RINSE	ICAL	1	12/14/22 9:49 PM
A1214088.d	CCV6	CCV	1	12/14/22 9:55 PM
A1214089.d	CCB6	CCB	1	12/14/22 10:01 PM
A1214090.d	N054047-002B	SAMP	1	12/14/22 10:06 PM
A1214091.d	N054047-003B	SAMP	1	12/14/22 10:12 PM
A1214092.d	N054047-004B	SAMP	1	12/14/22 10:18 PM
A1214093.d	N054047-005B	SAMP	1	12/14/22 10:24 PM
A1214094.d	N054047-006B	SAMP	1	12/14/22 10:30 PM
A1214095.d	N054048-001B	SAMP	1	12/14/22 10:36 PM
A1214096.d	RINSE	ICAL	1	12/14/22 10:41 PM
A1214097.d	CCV7	CCV	1	12/14/22 10:47 PM
A1214098.d	CCB7	CCB	1	12/14/22 10:53 PM
A1214099.d	ICSA4	ICSA	1	12/14/22 10:59 PM
A1214100.d	ICSAB4	ICSAB	1	12/14/22 11:05 PM
A1214159.d	RINSE	ICAL	1	12/14/22 11:11 PM
A1214160.d	RINSE	ICAL	1	12/14/22 11:17 PM
A1214161.d	RINSE	ICAL	1	12/14/22 11:23 PM

INJECTION LOG: 221221B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1221001.d	RINSE	ICAL	1	12/21/22 4:02 PM
B1221002.d	Cal Blk	IBLK	1	12/21/22 4:08 PM
B1221003.d	Std1-0.1/1 ppb	ICAL	1	12/21/22 4:14 PM
B1221004.d	Std2-0.5/5 ppb	ICAL	1	12/21/22 4:20 PM
B1221005.d	Std3-5/50 ppb	ICAL	1	12/21/22 4:26 PM
B1221006.d	Std4-10/100 ppb	ICAL	1	12/21/22 4:32 PM
B1221007.d	Std5-20/200 ppb	ICAL	1	12/21/22 4:38 PM
B1221008.d	Std6-40/400 ppb	ICAL	1	12/21/22 4:44 PM
B1221009.d	Std7-100/1000 ppb	ICAL	1	12/21/22 4:50 PM
B1221010.d	Std8-200/2000 ppb	ICAL	1	12/21/22 4:56 PM
B1221011.d	ICV	ICV	1	12/21/22 5:02 PM
B1221012.d	ICB	ICB	1	12/21/22 5:07 PM
B1221013.d	LLICV1	LLICV	1	12/21/22 5:13 PM
B1221014.d	MLCCV	CCV	1	12/21/22 5:19 PM
B1221015.d	ICSA1	ICSA	1	12/21/22 5:25 PM
B1221016.d	ICSAB1	ICSAB	1	12/21/22 5:31 PM
B1221017.d	LLICV1	LLICV	1	12/21/22 5:36 PM
B1221018.d	LLICV1	LLICV	1	12/21/22 5:44 PM
B1221019.d	N053874-020C	SAMP	1	12/21/22 6:07 PM
B1221020.d	MB-97291	MBLK	1	12/21/22 6:12 PM
B1221021.d	LCS-97291	LCS	1	12/21/22 6:18 PM
B1221022.d	N054085-001H	SAMP	1	12/21/22 6:24 PM
B1221023.d	N054085-001H	SAMP	5	12/21/22 6:30 PM
B1221024.d	N054085-001H-PS	PS	1	12/21/22 6:36 PM
B1221025.d	N054085-001H-MS	MS	1	12/21/22 6:42 PM
B1221026.d	N054085-001H-MSD	MSD	1	12/21/22 6:47 PM
B1221027.d	RINSE	ICAL	1	12/21/22 6:53 PM
B1221028.d	CCV1	CCV	1	12/21/22 6:59 PM
B1221029.d	CCB1	CCB	1	12/21/22 7:05 PM
B1221030.d	MB-97292	MBLK	1	12/21/22 7:11 PM
B1221031.d	LCS-97292	LCS	1	12/21/22 7:17 PM
B1221032.d	N054085-001I	SAMP	1	12/21/22 7:22 PM
B1221033.d	N054085-001I	SAMP	5	12/21/22 7:28 PM
B1221034.d	N054085-001I-PS	PS	1	12/21/22 7:34 PM
B1221035.d	N054085-001I-MS	MS	1	12/21/22 7:40 PM
B1221036.d	N054085-001I-MSD	MSD	1	12/21/22 7:46 PM
B1221037.d	N054086-001E	SAMP	1	12/21/22 7:52 PM
B1221038.d	RINSE	ICAL	1	12/21/22 7:57 PM
B1221039.d	CCV2	CCV	1	12/21/22 8:03 PM
B1221040.d	CCB2	CCB	1	12/21/22 8:09 PM
B1221041.d	N054086-002E	SAMP	1	12/21/22 8:15 PM
B1221042.d	N054086-002E	SAMP	5	12/21/22 8:21 PM

INJECTION LOG: 221221B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1221043.d	N054130-001A	SAMP	1	12/21/22 8:27 PM
B1221044.d	N054130-001A	SAMP	5	12/21/22 8:32 PM
B1221045.d	N054130-003A	SAMP	1	12/21/22 8:38 PM
B1221046.d	N054130-003A	SAMP	5	12/21/22 8:44 PM
B1221047.d	N054144-001C	SAMP	1	12/21/22 8:50 PM
B1221048.d	RINSE	ICAL	1	12/21/22 8:56 PM
B1221049.d	CCV3	CCV	1	12/21/22 9:01 PM
B1221050.d	CCB3	CCB	1	12/21/22 9:07 PM
B1221051.d	ICSA2	ICSA	1	12/21/22 9:13 PM
B1221052.d	ICSAB2	ICSAB	1	12/21/22 9:19 PM

INJECTION LOG: 221229B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1229001.d	RINSE	ICAL	1	12/29/22 2:01 PM
B1229002.d	Cal Blk	IBLK	1	12/29/22 2:07 PM
B1229003.d	Std1-0.1/1 ppb	ICAL	1	12/29/22 2:13 PM
B1229004.d	Std2-0.5/5 ppb	ICAL	1	12/29/22 2:19 PM
B1229005.d	Std3-5/50 ppb	ICAL	1	12/29/22 2:25 PM
B1229006.d	Std4-10/100 ppb	ICAL	1	12/29/22 2:31 PM
B1229007.d	Std5-20/200 ppb	ICAL	1	12/29/22 2:37 PM
B1229008.d	Std6-40/400 ppb	ICAL	1	12/29/22 2:43 PM
B1229009.d	Std7-100/1000 ppb	ICAL	1	12/29/22 2:49 PM
B1229010.d	Std8-200/2000 ppb	ICAL	1	12/29/22 2:55 PM
B1229011.d	ICV	ICV	1	12/29/22 3:02 PM
B1229012.d	ICB	ICB	1	12/29/22 3:07 PM
B1229013.d	LLICV1	LLCCV	1	12/29/22 3:13 PM
B1229014.d	MLCCV	CCV	1	12/29/22 3:19 PM
B1229015.d	ICSA1	ICSA	1	12/29/22 3:25 PM
B1229016.d	ICSAB1	ICSAB	1	12/29/22 3:31 PM
B1229017.d	MB-97435	MBLK	1	12/29/22 3:47 PM
B1229018.d	LCS-97435	LCS	1	12/29/22 3:53 PM
B1229019.d	N054022-001C	SAMP	1	12/29/22 3:59 PM
B1229020.d	N054022-001C	SAMP	5	12/29/22 4:05 PM
B1229021.d	N054022-001C-PS	PS	1	12/29/22 4:10 PM
B1229022.d	N054022-001C-MS	MS	1	12/29/22 4:16 PM
B1229023.d	N054022-001C-MSD	MSD	1	12/29/22 4:22 PM
B1229024.d	N053874-005C	SAMP	5	12/29/22 4:28 PM
B1229025.d	N053874-014C	SAMP	5	12/29/22 4:34 PM
B1229026.d	RINSE	ICAL	1	12/29/22 4:40 PM
B1229027.d	CCV1	CCV	1	12/29/22 4:46 PM
B1229028.d	CCB1	CCB	1	12/29/22 4:52 PM
B1229029.d	N054166-001H	SAMP	5	12/29/22 4:57 PM
B1229030.d	N054166-003H	SAMP	5	12/29/22 5:03 PM
B1229031.d	RINSE	ICAL	1	12/29/22 5:09 PM
B1229032.d	N054166-001H	SAMP	5	12/29/22 5:19 PM
B1229033.d	RINSE	ICAL	1	12/29/22 5:25 PM
B1229034.d	CCV2	CCV	1	12/29/22 5:30 PM
B1229035.d	CCB2	CCB	1	12/29/22 5:36 PM
B1229036.d	ICSA2	ICSA	1	12/29/22 5:42 PM
B1229037.d	ICSAB2	ICSAB	1	12/29/22 5:48 PM
B1229038.d	MB-97437	MBLK	1	12/29/22 5:54 PM
B1229039.d	LCS-97437	LCS	1	12/29/22 6:00 PM
B1229040.d	N054231-001A	SAMP	1	12/29/22 6:06 PM
B1229041.d	N054231-001A	SAMP	5	12/29/22 6:11 PM
B1229042.d	N054231-001A-PS	PS	1	12/29/22 6:17 PM

INJECTION LOG: 221229B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1229043.d	N054231-001A-MS	MS	1	12/29/22 6:23 PM
B1229044.d	N054231-001A-MSD	MSD	1	12/29/22 6:29 PM
B1229045.d	N054233-001A	SAMP	1	12/29/22 6:35 PM
B1229046.d	N054261-001A	SAMP	1	12/29/22 6:41 PM
B1229047.d	RINSE	ICAL	1	12/29/22 6:47 PM
B1229048.d	CCV3	CCV	1	12/29/22 6:52 PM
B1229049.d	CCB3	CCB	1	12/29/22 6:58 PM
B1229050.d	N054291-001D	SAMP	1	12/29/22 7:04 PM
B1229051.d	N054303-001J	SAMP	1	12/29/22 7:10 PM
B1229052.d	MB-97429	MBLK	1	12/29/22 7:16 PM
B1229053.d	LCS-97429	LCS	1	12/29/22 7:22 PM
B1229054.d	N054305-005A	SAMP	1	12/29/22 7:27 PM
B1229055.d	N054305-005A	SAMP	5	12/29/22 7:33 PM
B1229056.d	N054305-005A-PS	PS	1	12/29/22 7:39 PM
B1229057.d	N054305-005A-MS	MS	1	12/29/22 7:45 PM
B1229058.d	N054305-005A-MSD	MSD	1	12/29/22 7:51 PM
B1229059.d	RINSE	ICAL	1	12/29/22 7:57 PM
B1229060.d	CCV4	CCV	1	12/29/22 8:02 PM
B1229061.d	CCB4	CCB	1	12/29/22 8:08 PM
B1229062.d	N054305-010A	SAMP	1	12/29/22 8:14 PM
B1229063.d	N054305-015A	SAMP	1	12/29/22 8:20 PM
B1229064.d	N054305-020A	SAMP	1	12/29/22 8:26 PM
B1229065.d	N054305-025A	SAMP	1	12/29/22 8:31 PM
B1229066.d	N054305-030A	SAMP	1	12/29/22 8:37 PM
B1229067.d	N054305-035A	SAMP	1	12/29/22 8:43 PM
B1229068.d	N054305-040A	SAMP	1	12/29/22 8:49 PM
B1229069.d	RINSE	ICAL	1	12/29/22 8:55 PM
B1229070.d	CCV5	CCV	1	12/29/22 9:01 PM
B1229071.d	CCB5	CCB	1	12/29/22 9:06 PM
B1229072.d	ICSA3	ICSA	1	12/29/22 9:12 PM
B1229073.d	ICSAB3	ICSAB	1	12/29/22 9:18 PM
B1229074.d	MB-97396	MBLK	1	12/29/22 9:24 PM
B1229075.d	LCS-97396	LCS	1	12/29/22 9:30 PM
B1229076.d	N054182-006A	SAMP	5	12/29/22 9:36 PM
B1229077.d	N054182-006A	SAMP	25	12/29/22 9:42 PM
B1229078.d	N054182-006A	SAMP	125	12/29/22 9:47 PM
B1229079.d	N054182-006A	SAMP	625	12/29/22 9:53 PM
B1229080.d	N054182-006A	SAMP	3125	12/29/22 9:59 PM
B1229081.d	RINSE	ICAL	1	12/29/22 10:05 PM
B1229082.d	CCV6	CCV	1	12/29/22 10:11 PM
B1229083.d	CCB6	CCB	1	12/29/22 10:17 PM
B1229084.d	N054182-006A-PS	PS	5	12/29/22 10:23 PM

INJECTION LOG: 221229B

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
B1229085.d	N054182-006A-PS	PS	25	12/29/22 10:28 PM
B1229086.d	N054182-006A-PS	PS	125	12/29/22 10:34 PM
B1229087.d	N054182-006A-PS	PS	625	12/29/22 10:40 PM
B1229088.d	N054182-006A-MS	MS	5	12/29/22 10:46 PM
B1229089.d	N054182-006A-MS	MS	25	12/29/22 10:52 PM
B1229090.d	N054182-006A-MS	MS	125	12/29/22 10:58 PM
B1229091.d	N054182-006A-MS	MS	625	12/29/22 11:03 PM
B1229092.d	RINSE	ICAL	1	12/29/22 11:09 PM
B1229093.d	CCV7	CCV	1	12/29/22 11:15 PM
B1229094.d	CCB7	CCB	1	12/29/22 11:21 PM
B1229095.d	N054182-006A-MSD	MSD	5	12/29/22 11:27 PM
B1229096.d	N054182-006A-MSD	MSD	25	12/29/22 11:33 PM
B1229097.d	N054182-006A-MSD	MSD	125	12/29/22 11:39 PM
B1229098.d	N054182-006A-MSD	MSD	625	12/29/22 11:44 PM
B1229099.d	RINSE	ICAL	1	12/29/22 11:50 PM
B1229100.d	CCV8	CCV	1	12/29/22 11:56 PM
B1229101.d	CCB8	CCB	1	12/30/22 12:02 AM
B1229102.d	ICSA4	ICSA	1	12/30/22 12:08 AM
B1229103.d	ICSAB4	ICSAB	1	12/30/22 12:14 AM
B1229104.d	RINSE	ICAL	1	12/30/22 12:19 AM
B1229105.d	RINSE	ICAL	1	12/30/22 12:25 AM
B1229106.d	RINSE	ICAL	1	12/30/22 12:31 AM
B1229107.d	RINSE	ICAL	1	12/30/22 12:37 AM

INJECTION LOG: 221231A

Instrument ID: ICPMS-03

Data File	Sample Name	Type	DF	Acq. Date-Time
A1231001.d	RINSE	ICAL	1	12/31/22 11:51 AM
A1231002.d	Cal Blk	IBLK	1	12/31/22 11:57 AM
A1231003.d	Std1-0.1/1 ppb	ICAL	1	12/31/22 12:03 PM
A1231004.d	Std2-0.5/5 ppb	ICAL	1	12/31/22 12:09 PM
A1231005.d	Std3-5/50 ppb	ICAL	1	12/31/22 12:15 PM
A1231006.d	Std4-10/100 ppb	ICAL	1	12/31/22 12:21 PM
A1231007.d	Std5-20/200 ppb	ICAL	1	12/31/22 12:27 PM
A1231008.d	Std6-40/400 ppb	ICAL	1	12/31/22 12:33 PM
A1231009.d	Std7-100/1000 ppb	ICAL	1	12/31/22 12:39 PM
A1231010.d	Std8-200/2000 ppb	ICAL	1	12/31/22 12:45 PM
A1231011.d	ICV	ICV	1	12/31/22 12:51 PM
A1231012.d	ICB	ICB	1	12/31/22 12:57 PM
A1231013.d	LLICV1	LLCCV	1	12/31/22 1:03 PM
A1231014.d	MLCCV	CCV	1	12/31/22 1:08 PM
A1231015.d	ICSA1	ICSA	1	12/31/22 1:14 PM
A1231016.d	ICSAB1	ICSAB	1	12/31/22 1:20 PM
A1231017.d	LLICV1	LLCCV	1	12/31/22 1:26 PM
A1231018.d	MB-97001	MBLK	1	12/31/22 1:32 PM
A1231019.d	MB-97001	MBLK	1	12/31/22 1:37 PM
A1231020.d	CCV1	CCV	1	12/31/22 1:43 PM
A1231021.d	CCB1	CCB	1	12/31/22 1:49 PM
A1231022.d	ICSA2	ICSA	1	12/31/22 1:55 PM
A1231023.d	ICSAB2	ICSAB	1	12/31/22 2:01 PM

SAMPLE PREPARATION LOG

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/2/2022 10:35:15**
Prep End Date: **12/2/2022 3:00:00 P**

Reviewed/ Date: JRB 1/13/2023

Initials/ Date: for

Prep Batch **97001** Prep Code: **3010_W_MSDI** Technician: **Diane Jetajobe**

Prep Factor Units: **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
LCS-97001	Aqueous		25	☐	25	1.000		
MB-97001	Aqueous		25	☐	25	1.000		
N053874-001C	Groundwater	<2	25	☐	25	1.000		
N053874-002C	Groundwater	<2	25	☐	25	1.000		
N053874-003C	Groundwater	<2	25	☐	25	1.000		
N053874-004C	Groundwater	<2	25	☐	25	1.000		
N053874-005C	Groundwater	<2	25	☐	25	1.000		
N053874-006C	Groundwater	<2	25	☐	25	1.000		
N053874-007C	Groundwater	<2	25	☐	25	1.000		
N053874-009C	Groundwater	<2	25	☐	25	1.000		
N053874-010C	Groundwater	<2	25	☐	25	1.000		
N053874-011C	Groundwater	<2	25	☐	25	1.000		
N053874-012B	Groundwater	<2	25	☐	25	1.000		
N053874-013C	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14382	NITRIC ACID
14383	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution D		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/2/2022 10:35:15**
Prep End Date: **12/2/2022 3:00:00 P**

Reviewed/ Date: JRB 1/13/2023

Initials/ Date: for

Prep Batch **97001** Prep Code: **3010_W_MSDI** Technician: **Diane Jetajobe**

Prep Factor Units: **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
N053874-014C	Groundwater	<2	25	☐	25	1.000		
N053874-015C	Groundwater	<2	25	☐	25	1.000		
N053874-016C	Groundwater	<2	25	☐	25	1.000		
N053874-017C	Groundwater	<2	25	☐	25	1.000		
N053874-018C	Groundwater	<2	25	☐	25	1.000		
N053874-018CMS	Groundwater	<2	25	☐	25	1.000		
N053874-018CMS	Groundwater	<2	25	☐	25	1.000		
N053874-019C	Groundwater	<2	25	☐	25	1.000		
N053874-020C	Groundwater	<2	25	☐	25	1.000		
N053874-022B	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14382	NITRIC ACID
14383	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution D		0.25

ASSET Laboratories

PREP BATCH REPORT

Prep Start Date: **12/29/2022 11:02:1**
Prep End Date: **12/29/2022 3:10:00**
Reviewed/ Date: JRB 1/13/2023
Initials/ Date: for
Prep Batch **97435** Prep Code: **3010_W_MSDI** Technician: **Diane Jetajobe**
Prep Factor Units: **mL / mL**

Sample ID	Matrix	pH	SampAmt	3 Replicates	Fin Vol	factor	Clean Up Code	TURB Check
LCS-97435	Aqueous		25	☐	25	1.000		
MB-97435	Aqueous		25	☐	25	1.000		
N053874-005C	Groundwater	<2	25	☐	25	1.000		
N053874-014C	Groundwater	<2	25	☐	25	1.000		
N054022-001C	Groundwater	<2	25	☐	25	1.000		
N054022-001C-MS	Groundwater	<2	25	☐	25	1.000		
N054022-001C-MS	Groundwater	<2	25	☐	25	1.000		

Clean Up Code: A = ACID; F = FLORISIL; S = SILICA GEL; M = MERCURY; G = GPC

Number	Reagent Name
14585	NITRIC ACID
14586	HYDROCHLORIC ACID

Spk ID	Spike Name	SampType	AmtAdd
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution A		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution B		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution C		0.25
2MWST-220801	ICV/MS/MSD/LCS/LCSD Solution D		0.25

INSTRUMENT TUNING CHECK

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221202A.b
Acq. Date-Time	2022-12-05 10:53:29
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

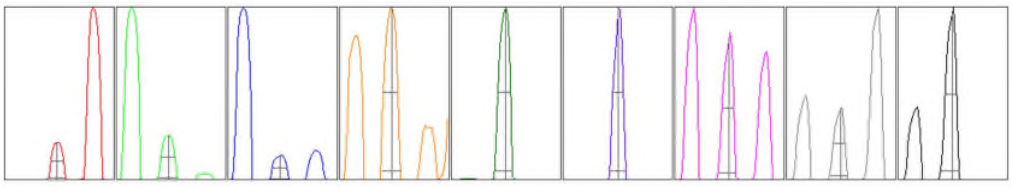
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	3804	38038.61	500.00		4.269	5.000
24	10.00	11358	113584.21	500.00		4.798	5.000
25	10.00	1558	15582.31	500.00		4.779	5.000
26	10.00	1851	18512.05	500.00		4.991	5.000
59	10.00	36914	369140.31	500.00		3.307	5.000
115	10.00	62898	628984.57	500.00		3.358	5.000
206	10.00	14982	149819.51	500.00		3.791	5.000
207	10.00	13360	133599.79	500.00		3.883	5.000
208	10.00	30787	307871.79	500.00		3.625	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.540 %
Doubly Charged	70 / 140 0.497 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	3669.56	8.95	8.90 - 9.10	
24	11159.83	23.95	23.90 - 24.10	
25	1531.00	24.95	24.90 - 25.10	
26	1829.56	25.95	25.90 - 26.10	
59	36117.18	59.00	58.90 - 59.10	
115	68427.83	115.05	114.90 - 115.10	
206	13735.05	206.00	205.90 - 206.10	
207	12368.56	207.00	206.90 - 207.10	
208	29249.17	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.36	0.463	0.900	
24	0.39	0.519	0.900	
25	0.41	0.497	0.900	
26	0.40	0.535	0.900	
59	0.36	0.486	0.900	
115	0.30	0.438	0.900	
206	0.34	0.485	0.900	
207	0.33	0.487	0.900	
208	0.32	0.504	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.12		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	1.1 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2121 V	Pulse HV	1067 V

[H2]

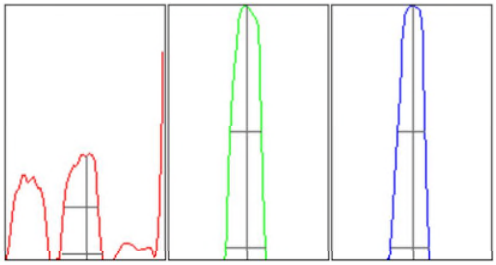
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		131	1311.45			10.021	
59		2931	29309.40			3.397	
115		60852	608523.95			2.681	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.447 %
Doubly Charged	70 / 140 0.170 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	131.01	26.05	25.90 - 26.10	
59	3034.13	59.00	58.90 - 59.10	
115	62070.61	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.65	0.784	0.900	
59	0.60	0.736	0.900	
115	0.53	0.725	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9998	QP Bias	-15.0 V
Mass Offset	125	Axis Offset	-0.01		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2121 V	Pulse HV	1067 V

[He]

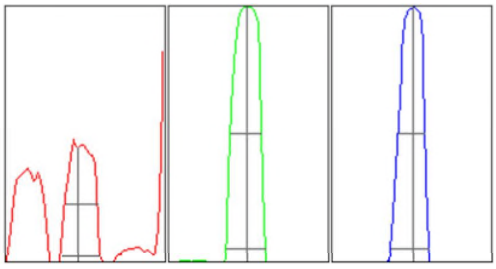
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		117	1165.44			16.587	
59		13394	133941.09			3.052	
115		19371	193712.77			3.079	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.224 %
Doubly Charged	70 / 140 0.533 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	119.76	25.90	25.90 - 26.10	
59	13195.07	59.00	58.90 - 59.10	
115	19595.33	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.62	0.742	0.900	
59	0.60	0.736	0.900	
115	0.52	0.722	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9998	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	-0.01		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	1.1 mm

EM

Discriminator	4.5 mV	Analog HV	2121 V	Pulse HV	1067 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221205B.b
Acq. Date-Time	2022-12-06 12:37:12
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

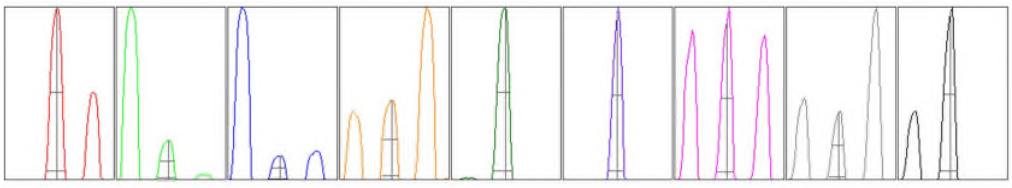
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	4777	47770.88	500.00		3.247	5.000
24	10.00	14884	148837.39	500.00		3.629	5.000
25	10.00	2000	20004.91	500.00		3.713	5.000
26	10.00	2347	23466.33	500.00		3.938	5.000
59	10.00	35242	352419.12	500.00		3.179	5.000
115	10.00	37847	378472.40	500.00		2.748	5.000
206	10.00	9834	98340.29	500.00		3.217	5.000
207	10.00	8500	84996.73	500.00		2.816	5.000
208	10.00	20880	208796.82	500.00		2.949	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.605 %
Doubly Charged	70 / 140 0.586 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4552.64	8.95	8.90 - 9.10	
24	14833.76	23.95	23.90 - 24.10	
25	1977.72	24.95	24.90 - 25.10	
26	2390.99	25.95	25.90 - 26.10	
59	33763.03	59.00	58.90 - 59.10	
115	36929.93	115.00	114.90 - 115.10	
206	9148.14	205.95	205.90 - 206.10	
207	8011.28	206.95	206.90 - 207.10	
208	20346.56	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.35	0.520	0.900	
24	0.39	0.496	0.900	
25	0.39	0.493	0.900	
26	0.41	0.494	0.900	
59	0.35	0.522	0.900	
115	0.30	0.436	0.900	
206	0.32	0.480	0.900	
207	0.32	0.487	0.900	
208	0.32	0.484	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.14		

Hardware Settings

Torch

Torch H	1.6 mm	Torch V	0.9 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2121 V	Pulse HV	1071 V

[H2]

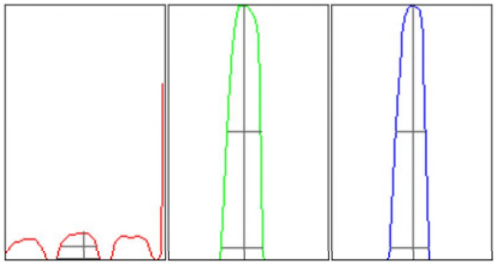
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		139	1387.66			10.018	
59		3227	32271.28			3.407	
115		35610	356101.27			3.365	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.443 %
Doubly Charged	70 / 140 0.188 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	149.51	26.00	25.90 - 26.10	
59	3348.52	58.95	58.90 - 59.10	
115	37199.61	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.67	0.793	0.900	
59	0.64	0.782	0.900	
115	0.57	0.735	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0004	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.07		

Hardware Settings

Torch

Torch H	1.6 mm	Torch V	0.9 mm		

EM

Discriminator	4.5 mV	Analog HV	2121 V	Pulse HV	1071 V

[He]

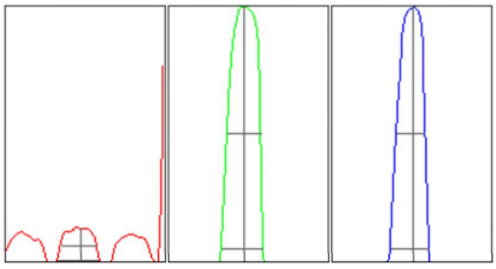
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		116	1156.24			10.262	
59		11750	117504.76			3.035	
115		12437	124366.03			3.048	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.241 %
Doubly Charged	70 / 140 0.667 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	109.76	25.95	25.90 - 26.10	
59	11741.01	58.95	58.90 - 59.10	
115	12636.68	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.67	0.789	0.900	
59	0.64	0.783	0.900	
115	0.56	0.733	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0004	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.07		

Hardware Settings

Torch

Torch H	1.6 mm	Torch V	0.9 mm

EM

Discriminator	4.5 mV	Analog HV	2121 V	Pulse HV	1071 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221206A1.b
Acq. Date-Time	2022-12-07 09:57:01
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

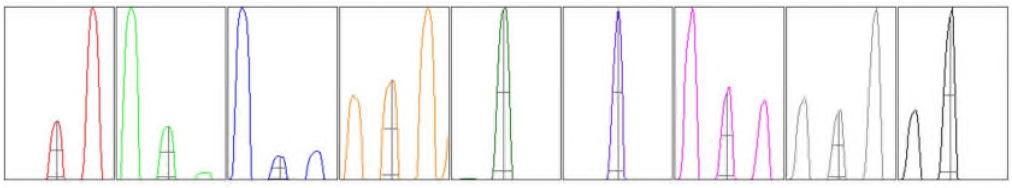
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	4820	48202.49	500.00		3.591	5.000
24	10.00	14262	142615.57	500.00		3.390	5.000
25	10.00	1936	19357.17	500.00		4.033	5.000
26	10.00	2286	22856.90	500.00		3.628	5.000
59	10.00	40032	400315.03	500.00		2.776	5.000
115	10.00	61761	617611.73	500.00		2.769	5.000
206	10.00	15490	154899.92	500.00		2.541	5.000
207	10.00	13312	133123.56	500.00		2.809	5.000
208	10.00	32978	329778.26	500.00		2.578	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.592 %
Doubly Charged	70 / 140 0.464 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4743.14	8.95	8.90 - 9.10	
24	13991.34	23.95	23.90 - 24.10	
25	1843.31	24.95	24.90 - 25.10	
26	2277.86	25.95	25.90 - 26.10	
59	38624.10	58.95	58.90 - 59.10	
115	61644.00	115.05	114.90 - 115.10	
206	14583.30	205.95	205.90 - 206.10	
207	12826.47	206.95	206.90 - 207.10	
208	32032.51	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.34	0.449	0.900	
24	0.39	0.494	0.900	
25	0.39	0.492	0.900	
26	0.40	0.493	0.900	
59	0.35	0.518	0.900	
115	0.29	0.432	0.900	
206	0.32	0.460	0.900	
207	0.32	0.484	0.900	
208	0.32	0.481	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0003	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.14		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	1.1 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2122 V	Pulse HV	1074 V

[H2]

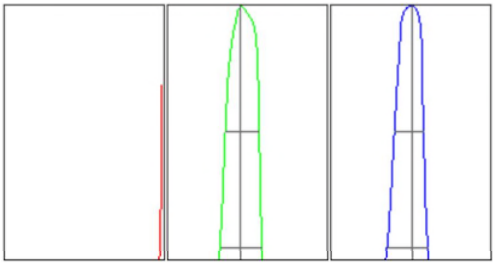
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		154	1542.47			8.537	
59		3064	30643.63			4.362	
115		53774	537742.13			3.332	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.448 %
Doubly Charged	70 / 140 0.157 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	137.01	25.95	25.90 - 26.10	
59	3213.97	58.90	58.90 - 59.10	
115	55908.11	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.69	0.776	0.900	
59	0.64	0.782	0.900	
115	0.56	0.762	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0004	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.09		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2122 V	Pulse HV	1074 V

[He]

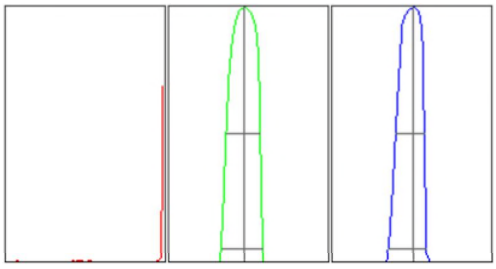
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		134	1339.45			10.356	
59		14007	140065.39			2.981	
115		17207	172067.72			2.355	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.238 %
Doubly Charged	70 / 140 0.542 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	124.01	26.00	25.90 - 26.10	
59	14098.65	58.95	58.90 - 59.10	
115	17152.65	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.68	0.782	0.900	
59	0.64	0.782	0.900	
115	0.55	0.717	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.08 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0004	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.09		

Hardware Settings

Torch

Torch H	1.2 mm	Torch V	1.1 mm

EM

Discriminator	4.5 mV	Analog HV	2122 V	Pulse HV	1074 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221213A1.b
Acq. Date-Time	2022-12-14 11:36:19
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

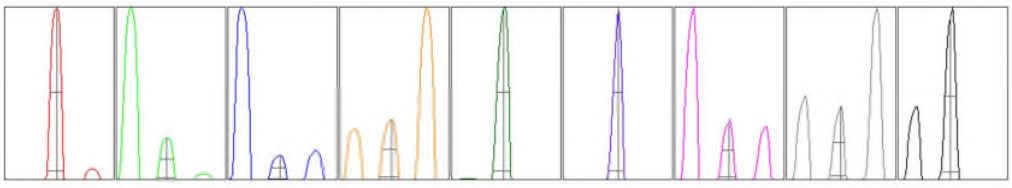
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	4453	44529.68	500.00		4.197	5.000
24	10.00	13534	135342.83	500.00		3.527	5.000
25	10.00	1847	18472.79	500.00		3.928	5.000
26	10.00	2198	21976.35	500.00		3.903	5.000
59	10.00	46095	460945.72	500.00		2.880	5.000
115	10.00	93569	935690.94	500.00		2.179	5.000
206	10.00	17506	175061.73	500.00		3.458	5.000
207	10.00	16290	162897.75	500.00		2.746	5.000
208	10.00	37744	377441.29	500.00		3.293	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.768 %
Doubly Charged	70 / 140 0.488 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	4397.55	8.95	8.90 - 9.10	
24	13732.90	23.90	23.90 - 24.10	
25	1865.09	24.95	24.90 - 25.10	
26	2235.32	25.95	25.90 - 26.10	
59	45014.39	58.95	58.90 - 59.10	
115	93029.69	115.05	114.90 - 115.10	
206	17287.23	206.00	205.90 - 206.10	
207	15829.26	207.00	206.90 - 207.10	
208	35696.12	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.34	0.442	0.900	
24	0.38	0.492	0.900	
25	0.39	0.493	0.900	
26	0.41	0.534	0.900	
59	0.34	0.482	0.900	
115	0.26	0.427	0.900	
206	0.32	0.463	0.900	
207	0.31	0.445	0.900	
208	0.31	0.482	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0005	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.17		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2133 V	Pulse HV	1092 V

[H2]

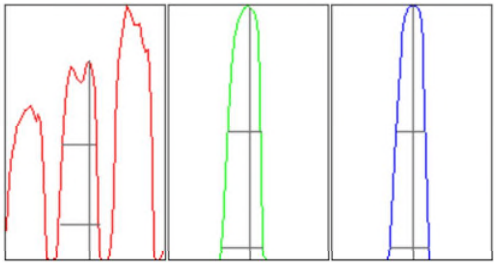
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		155	1551.27			8.056	
59		4329	43293.49			3.604	
115		80850	808498.36			2.489	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.567 %
Doubly Charged	70 / 140 0.139 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	162.51	26.10	25.90 - 26.10	
59	4460.62	59.05	58.90 - 59.10	
115	81831.29	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.64	0.755	0.900	
59	0.63	0.777	0.900	
115	0.56	0.735	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	128	Axis Gain	1.0002	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2133 V	Pulse HV	1092 V

[He]

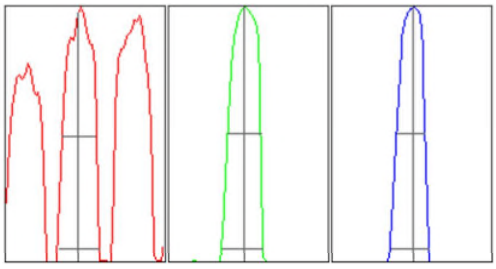
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		132	1315.05			9.449	
59		15154	151535.14			2.661	
115		24420	244197.50			2.373	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.296 %
Doubly Charged	70 / 140 0.515 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	142.51	25.90	25.90 - 26.10	
59	15405.33	58.95	58.90 - 59.10	
115	24763.92	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.65	0.787	0.900	
59	0.63	0.778	0.900	
115	0.55	0.733	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	128	Axis Gain	1.0002	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.06		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.1 mm		

EM

Discriminator	4.5 mV	Analog HV	2133 V	Pulse HV	1092 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221220B1.b
Acq. Date-Time	2022-12-21 10:07:16
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

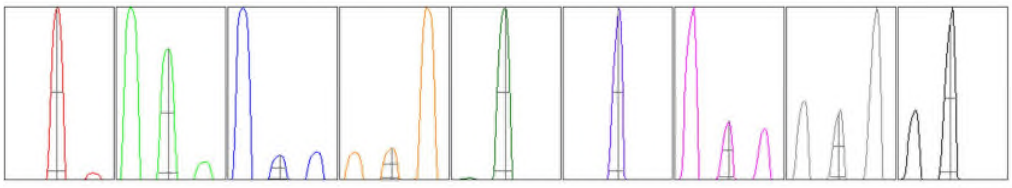
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	11657	116574.56	500.00		2.561	5.000
24	10.00	42866	428656.39	500.00		2.660	5.000
25	10.00	5847	58470.31	500.00		3.184	5.000
26	10.00	6765	67648.79	500.00		2.868	5.000
59	10.00	73611	736114.04	500.00		2.689	5.000
115	10.00	101620	1016196.92	500.00		2.396	5.000
206	10.00	17838	178378.64	500.00		2.533	5.000
207	10.00	15642	156421.93	500.00		2.827	5.000
208	10.00	38477	384773.69	500.00		2.334	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 0.963 %
Doubly Charged	70 / 140 0.853 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	11706.93	8.95	8.90 - 9.10	
24	44063.23	23.95	23.90 - 24.10	
25	5934.51	24.95	24.90 - 25.10	
26	6924.01	25.95	25.90 - 26.10	
59	72889.49	59.00	58.90 - 59.10	
115	104563.86	115.05	114.90 - 115.10	
206	17221.33	206.00	205.90 - 206.10	
207	14373.32	206.95	206.90 - 207.10	
208	35280.05	207.95	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.35	0.484	0.900	
24	0.38	0.531	0.900	
25	0.40	0.521	0.900	
26	0.39	0.494	0.900	
59	0.36	0.490	0.900	
115	0.29	0.429	0.900	
206	0.30	0.449	0.900	
207	0.31	0.459	0.900	
208	0.32	0.476	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0002	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.13		

Hardware Settings

Torch

Torch H	1.4 mm	Torch V	1.2 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1101 V

[H2]

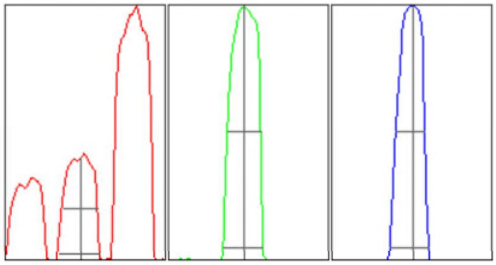
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		383	3825.63			6.367	
59		6321	63210.69			3.354	
115		99091	990908.42			3.108	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.766 %
Doubly Charged	70 / 140 0.266 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	395.56	25.95	25.90 - 26.10	
59	6619.13	58.95	58.90 - 59.10	
115	103277.83	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.67	0.790	0.900	
59	0.63	0.742	0.900	
115	0.56	0.731	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9999	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	1.4 mm	Torch V	1.2 mm		

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1101 V

[He]

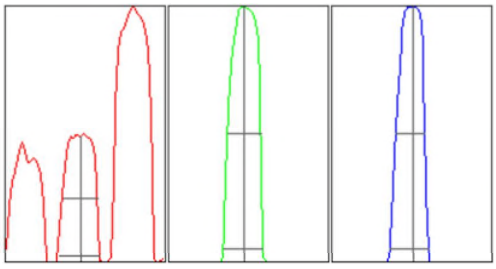
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		302	3023.87			6.135	
59		22644	226444.90			2.855	
115		29794	297939.56			3.001	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.382 %
Doubly Charged	70 / 140 0.797 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	308.54	25.95	25.90 - 26.10	
59	23636.74	58.95	58.90 - 59.10	
115	30405.49	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.66	0.790	0.900	
59	0.63	0.742	0.900	
115	0.56	0.730	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	0.9999	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.04		

Hardware Settings

Torch

Torch H	1.4 mm	Torch V	1.2 mm

EM

Discriminator	4.5 mV	Analog HV	2129 V	Pulse HV	1101 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221228B.b
Acq. Date-Time	2022-12-29 10:46:16
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

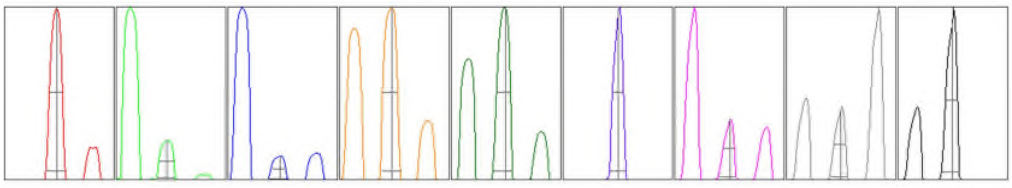
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	2751	27508.86	500.00		3.170	5.000
24	10.00	70243	702429.86	500.00		1.549	5.000
25	10.00	9167	91674.00	500.00		1.743	5.000
26	10.00	10335	103352.18	500.00		1.563	5.000
59	10.00	26060	260600.92	500.00		1.871	5.000
115	10.00	43161	431607.73	500.00		2.539	5.000
206	10.00	7628	76279.53	500.00		2.803	5.000
207	10.00	6665	66648.77	500.00		2.991	5.000
208	10.00	15144	151444.90	500.00		2.693	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 1.258 %
Doubly Charged	70 / 140 0.683 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	2861.70	8.95	8.90 - 9.10	
24	72622.91	23.90	23.90 - 24.10	
25	9469.50	24.95	24.90 - 25.10	
26	10755.30	25.95	25.90 - 26.10	
59	26107.03	59.00	58.90 - 59.10	
115	47024.90	115.05	114.90 - 115.10	
206	8025.56	206.05	205.90 - 206.10	
207	6741.96	207.00	206.90 - 207.10	
208	15443.09	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.37	0.526	0.900	
24	0.42	0.497	0.900	
25	0.41	0.498	0.900	
26	0.41	0.536	0.900	
59	0.39	0.530	0.900	
115	0.31	0.441	0.900	
206	0.32	0.483	0.900	
207	0.34	0.487	0.900	
208	0.34	0.485	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.07 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0004	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.13		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.2 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2130 V	Pulse HV	1113 V

[H2]

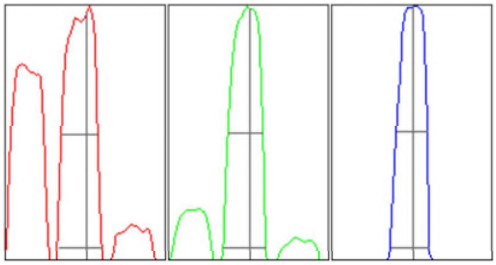
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		551	5513.29			5.321	
59		1761	17609.12			3.915	
115		33824	338242.15			3.722	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.966 %
Doubly Charged	70 / 140 0.210 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	588.62	26.05	25.90 - 26.10	
59	1912.41	59.05	58.90 - 59.10	
115	36784.81	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.69	0.832	0.900	
59	0.67	0.790	0.900	
115	0.59	0.737	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.07 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0001	QP Bias	-15.0 V
Mass Offset	124	Axis Offset	-0.02		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.2 mm		

EM

Discriminator	4.5 mV	Analog HV	2130 V	Pulse HV	1113 V

[He]

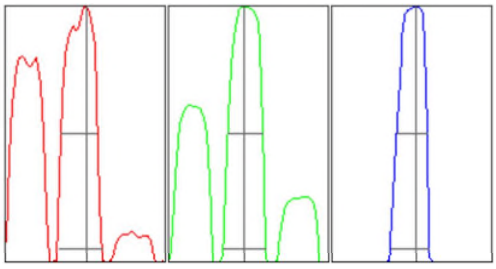
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		493	4927.31			4.900	
59		7758	77583.70			2.975	
115		10578	105784.15			3.391	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.459 %
Doubly Charged	70 / 140 0.681 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	524.35	26.05	25.90 - 26.10	
59	7889.45	58.95	58.90 - 59.10	
115	10905.82	115.10	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.69	0.832	0.900	
59	0.67	0.791	0.900	
115	0.58	0.735	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.07 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	129	Axis Gain	1.0001	QP Bias	-13.0 V
Mass Offset	124	Axis Offset	-0.02		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.2 mm

EM

Discriminator	4.5 mV	Analog HV	2130 V	Pulse HV	1113 V

US EPA Tune Check Report

Operator Name	Admin
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\221230B.b
Acq. Date-Time	2022-12-31 11:48:18
Report Comment	---
Instrument Name	G8421A SG19193757

[No Gas]

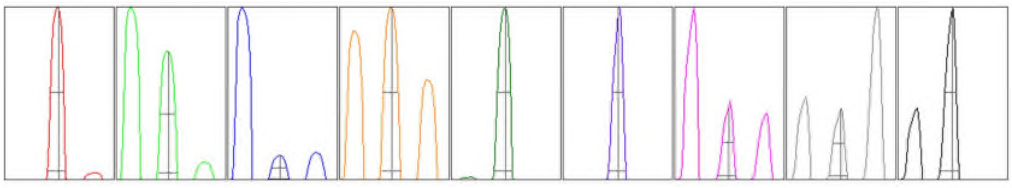
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	8177	81768.76	500.00		2.679	5.000
24	10.00	28890	288896.33	500.00		2.898	5.000
25	10.00	3877	38773.16	500.00		2.987	5.000
26	10.00	4526	45260.96	500.00		3.651	5.000
59	10.00	50371	503706.43	500.00		2.739	5.000
115	10.00	56812	568121.74	500.00		2.768	5.000
206	10.00	10852	108521.44	500.00		2.534	5.000
207	10.00	9793	97930.15	500.00		2.749	5.000
208	10.00	24297	242966.57	500.00		2.648	5.000

Mass	RSD% (Flag)
9	
24	
25	
26	
59	
115	
206	
207	
208	

Integration Time [sec]	0.1
Oxide	156 / 140 1.082 %
Doubly Charged	70 / 140 0.878 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	7791.01	9.00	8.90 - 9.10	
24	28187.04	23.95	23.90 - 24.10	
25	3810.38	24.95	24.90 - 25.10	
26	4395.29	25.95	25.90 - 26.10	
59	47671.95	59.00	58.90 - 59.10	
115	60777.73	115.05	114.90 - 115.10	
206	10428.02	206.00	205.90 - 206.10	
207	9322.48	207.00	206.90 - 207.10	
208	23094.44	208.00	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.37	0.487	0.900	
24	0.42	0.537	0.900	
25	0.42	0.539	0.900	
26	0.41	0.538	0.900	
59	0.37	0.492	0.900	
115	0.31	0.476	0.900	
206	0.33	0.492	0.900	
207	0.34	0.504	0.900	
208	0.32	0.519	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	47.0000000000001
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	15.2 V
Extract 2	-185.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-70 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0002	QP Bias	-3.0 V
Mass Offset	133	Axis Offset	-0.11		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.2 mm

US EPA Tune Check Report

EM

Discriminator	4.5 mV	Analog HV	2131 V	Pulse HV	1115 V

[H2]

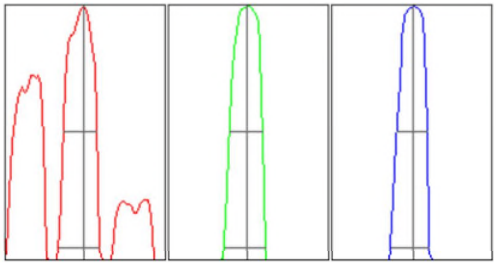
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		213	2133.73			7.023	
59		3643	36425.05			3.381	
115		54032	540321.81			2.805	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.690 %
Doubly Charged	70 / 140 0.688 %

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	227.52	26.00	25.90 - 26.10	
59	3717.27	59.00	58.90 - 59.10	
115	55513.38	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.64	0.776	0.900	
59	0.63	0.782	0.900	
115	0.58	0.733	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min

US EPA Tune Check Report

Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.2 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-60 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	3.0 V
He Flow	0.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	5.7 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	128	Axis Gain	1.0002	QP Bias	-15.0 V
Mass Offset	125	Axis Offset	-0.03		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.2 mm		

EM

Discriminator	4.5 mV	Analog HV	2131 V	Pulse HV	1115 V

[He]

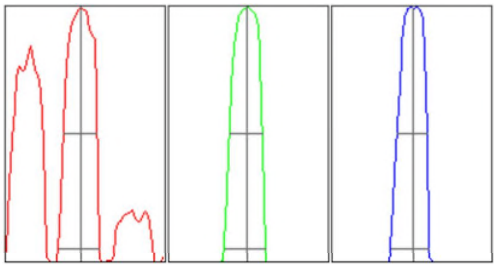
Sensitivity

Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
26		175	1750.09			7.470	
59		13658	136581.72			2.721	
115		16532	165320.94			2.828	

Mass	RSD% (Flag)
26	
59	
115	

Integration Time [sec]	0.1
Oxide	156 / 140 0.371 %
Doubly Charged	70 / 140 0.777 %

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
26	181.02	25.95	25.90 - 26.10	
59	13733.22	59.00	58.90 - 59.10	
115	16422.32	115.05	114.90 - 115.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
26	0.64	0.777	0.900	
59	0.63	0.781	0.900	
115	0.58	0.731	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	22.34
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	Low Matrix	Nebulizer Gas	1.09 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	—	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.2 V	Deflect	3.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-55 V
Omega Bias	-70 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	—	Energy Discrimination	5.0 V
He Flow	3.5 mL/min	OctP Bias	-18.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	128	Axis Gain	1.0002	QP Bias	-13.0 V
Mass Offset	125	Axis Offset	-0.03		

Hardware Settings

Torch

Torch H	1.3 mm	Torch V	1.2 mm

EM

Discriminator	4.5 mV	Analog HV	2131 V	Pulse HV	1115 V

INITIAL CALIBRATION DATA SUMMARY

INITIAL CALIBRATION SUMMARY: 221205B

Instrument ID: ICPMS-03

Analyte	Data File	B1205002.d	B1205003.d	B1205004.d	B1205005.d	B1205006.d	B1205007.d	B1205008.d	B1205009.d	B1205010.d	
	Acq. Date-Time	12/05/2022 05:22 PM	12/05/2022 05:28 PM	12/05/2022 05:34 PM	12/05/2022 05:40 PM	12/05/2022 05:46 PM	12/05/2022 05:53 PM	12/05/2022 05:59 PM	12/05/2022 06:05 PM	12/05/2022 06:11 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	91690.2		89778.9	90703.7	91458.8	92414.1	92242.1	93849.8	93470.3	
55 Mn [2]	CPS	44.5		1969.4	19717.5	37829.1	74371.1	149863.7	380745.1	758495.7	1.0000
52 Cr [2]	CPS	265.6		3029.2	28828.4	57679.8	118029.8	233239	592258.3	1173685.2	1.0000
72 Ge (ISTD) [1]	CPS	121744		119300.6	119032.2	118560.5	122227.4	123604.5	121730.3	121477.3	
78 Se [1]	CPS	5.6		181.1	1687.9	3304.8	6864.8	13908.2	34755.9	69632.5	1.0000
72 Ge (ISTD) [2]	CPS	67841.2	66926.1	66301.4	66841.4	67303.4	68011.7	69480.1	68651.1	68815.1	
75 As [2]	CPS	53.3	133.3	485.5	4760.6	9776.1	19719.4	39502.7	99827.1	200263.5	1.0000
103 Rh (ISTD) [2]	CPS	1507960.4		1460021.8	1477154	1485569.7	1480265.5	1505403.6	1489416.7	1495152.7	
95 Mo [2]	CPS	186.7		1917.9	18563	37580.5	75333.2	152292.8	387046.2	774595.2	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221206A

Instrument ID: ICPMS-03

Analyte	Data File	A1206002.d	A1206003.d	A1206004.d	A1206005.d	A1206006.d	A1206007.d	A1206008.d	A1206009.d	A1206010.d	
	Acq. Date-Time	12/06/2022 03:09 PM	12/06/2022 03:15 PM	12/06/2022 03:21 PM	12/06/2022 03:27 PM	12/06/2022 03:33 PM	12/06/2022 03:39 PM	12/06/2022 03:45 PM	12/06/2022 03:51 PM	12/06/2022 03:58 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	70854.2		72191.2	70315.2	70997.1	69550.9	69987.5	68566.9	67846.3	
55 Mn [2]	CPS	20		1648.4	15749.1	30158.2	58270.1	114400.7	285730.3	567058.3	1.0000
52 Cr [2]	CPS	212.2		2413.5	22868	45964.7	91832.7	178573.2	452450.6	895426.6	1.0000
72 Ge (ISTD) [2]	CPS	54339.9	54774.7	55506.1	54741.2	54837.2	54264.1	54959.8	53841.7	52814	
75 As [2]	CPS	35.5	118.8	423.3	3976	8125.2	16106.6	31645.8	79534.9	156271.5	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221207A

Instrument ID: ICPMS-03

Analyte	Data File	B1207002.d	B1207003.d	B1207004.d	B1207005.d	B1207006.d	B1207007.d	B1207008.d	B1207009.d	B1207010.d	
	Acq. Date-Time	12/07/2022 12:15 PM	12/07/2022 12:21 PM	12/07/2022 12:27 PM	12/07/2022 12:33 PM	12/07/2022 12:39 PM	12/07/2022 12:45 PM	12/07/2022 12:51 PM	12/07/2022 12:58 PM	12/07/2022 01:04 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	69893.4		69817.6	67925.4	68292.7	65536.1	69224.6	68173.2	66873.5	
55 Mn [2]	CPS	24.4		1637.4	15347.8	30982.2	57567.1	116842.3	294029.7	572837.6	1.0000
52 Cr [2]	CPS	174.4		2473.5	22782.3	46911.7	90294.5	184438	463486.1	903928	1.0000
72 Ge (ISTD) [2]	CPS	57188.5	58373.6	58736.2	57247.6	57974.5	55594.1	58201.1	57204	56131.5	
75 As [2]	CPS	21.1	114.4	443.3	4076	8185.3	15918.7	32570.9	82124.2	161790	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221214A

Instrument ID: ICPMS-03

Analyte	Data File	A1214002.d	A1214003.d	A1214004.d	A1214005.d	A1214006.d	A1214007.d	A1214008.d	A1214009.d	A1214010.d	
	Acq. Date-Time	12/14/2022 01:34 PM	12/14/2022 01:40 PM	12/14/2022 01:46 PM	12/14/2022 01:52 PM	12/14/2022 01:58 PM	12/14/2022 02:04 PM	12/14/2022 02:10 PM	12/14/2022 02:16 PM	12/14/2022 02:22 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	2	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std1-0.1/1 ppb	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.1/1 ug/L	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	83242		85555.8	83373.5	84598.6	82583	82829.9	81918.7	81160.7	
55 Mn [2]	CPS	11.1		1479.6	16115.2	32636.5	65299.9	130171.6	327649.2	638285.9	1.0000
52 Cr [2]	CPS	117.8		2518	25775.6	52717.8	104655.4	208194.3	527061.5	1031014.9	1.0000
72 Ge (ISTD) [1]	CPS	105704.7		108413	109126.7	108745.5	107891	104790.8	103365.3	100886.7	
78 Se [1]	CPS	4.4		157.8	1492.3	3160.3	6169	12183.5	30734.6	60377	1.0000
72 Ge (ISTD) [2]	CPS	58571.1	60096.5	60133.4	60133.5	60230.5	59745.2	59439.8	58752.9	57413.8	
75 As [2]	CPS	35.5	102.2	412.2	4057.1	8439.8	16809.5	32810.2	83375.9	166036.5	0.9999

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221221B

Instrument ID: ICPMS-03

Analyte	Data File	B1221002.d	B1221004.d	B1221005.d	B1221006.d	B1221007.d	B1221008.d	B1221009.d	B1221010.d	
	Acq. Date-Time	12/21/2022 04:08 PM	12/21/2022 04:20 PM	12/21/2022 04:26 PM	12/21/2022 04:32 PM	12/21/2022 04:38 PM	12/21/2022 04:44 PM	12/21/2022 04:50 PM	12/21/2022 04:56 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
72 Ge (ISTD) [1]	CPS	121488.5	111632.9	114074.6	111841.3	113130.3	113103.3	111655.8	110074.2	
78 Se [1]	CPS	1.1	147.8	1525.6	3045.9	6502.4	13045.3	32799.6	64701.4	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221229B

Instrument ID: ICPMS-03

Analyte	Data File	B1229002.d	B1229004.d	B1229005.d	B1229006.d	B1229007.d	B1229008.d	B1229009.d	B1229010.d	
	Acq. Date-Time	12/29/2022 02:07 PM	12/29/2022 02:19 PM	12/29/2022 02:25 PM	12/29/2022 02:31 PM	12/29/2022 02:37 PM	12/29/2022 02:43 PM	12/29/2022 02:49 PM	12/29/2022 02:55 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	35685.8	35321.7	35731.5	35156.9	36081.1	35544.4	35866.2	35365.1	
52 Cr [2]	CPS	296.7	1327.8	11720.8	23160.6	47017.4	93487.7	234723.6	453577.2	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION SUMMARY: 221231A

Instrument ID: ICPMS-03

Analyte	Data File	A1231002.d	A1231004.d	A1231005.d	A1231006.d	A1231007.d	A1231008.d	A1231009.d	A1231010.d	
	Acq. Date-Time	12/31/2022 11:57 AM	12/31/2022 12:09 PM	12/31/2022 12:15 PM	12/31/2022 12:21 PM	12/31/2022 12:27 PM	12/31/2022 12:33 PM	12/31/2022 12:39 PM	12/31/2022 12:45 PM	
	Type	CalBlk	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	CalStd	
	Level	1	3	4	5	6	7	8	9	
	Sample Name	Cal Blk	Std2-0.5/5 ppb	Std3-5/50 ppb	Std4-10/100 ppb	Std5-20/200 ppb	Std6-40/400 ppb	Std7-100/1000 ppb	Std8-200/2000 ppb	
	Concentration	0.00	0.5/5 ug/L	5/50 ug/L	10/100 ug/L	20/200 ug/L	40/400 ug/L	100/1000 ug/L	200/2000 ug/L	R
45 Sc (ISTD) [2]	CPS	84130.8	84513.7	87043	88456.1	90615.5	91636.4	88376.7	88949.8	
55 Mn [2]	CPS	103.3	1739.5	17285.6	35946.4	72846.4	145064.1	348731.1	703743.6	1.0000

Standard Code
ICAL: 2MSST-220427A
ICAL: 2MSST-220427B
ICAL: 2MWST-220801M
IS Mix: 2MWST-220801C

Calibration Acceptance Criteria: > 0.995 Correlation

INITIAL CALIBRATION AND CONTINUING CALIBRATION VERIFICATION SUMMARY

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.019	0.10	10.00	0	100	90	110				
Manganese	103.073	0.50	100.0	0	103	90	110				
Molybdenum	10.679	0.50	10.00	0	107	90	110				
Selenium	10.086	0.50	10.00	0	101	90	110				

Sample ID **LLICV1** SampType: **CCV1** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.107	0.10	0.1000	0	107	80	120				
Manganese	0.545	0.50	0.5000	0	109	80	120				
Molybdenum	0.541	0.50	0.5000	0	108	80	120				
Selenium	0.496	0.50	0.5000	0	99.1	80	120				

Sample ID **MLCCV** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.622	0.10	20.00	0	98.1	90	110				
Manganese	20.193	0.50	20.00	0	101	90	110				
Molybdenum	19.690	0.50	20.00	0	98.4	90	110				
Selenium	19.402	0.50	20.00	0	97.0	90	110				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.438	0.10	20.00	0	97.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.573	0.50	20.00	0	103	90	110				
Molybdenum	19.430	0.50	20.00	0	97.2	90	110				
Selenium	20.405	0.50	20.00	0	102	90	110				

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.047	0.10	20.00	0	100	90	110				
Manganese	20.657	0.50	20.00	0	103	90	110				
Molybdenum	18.914	0.50	20.00	0	94.6	90	110				
Selenium	20.915	0.50	20.00	0	105	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.568	0.10	20.00	0	97.8	90	110				
Manganese	20.751	0.50	20.00	0	104	90	110				
Molybdenum	18.675	0.50	20.00	0	93.4	90	110				
Selenium	21.098	0.50	20.00	0	105	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.859	0.10	20.00	0	99.3	90	110				
Manganese	20.701	0.50	20.00	0	104	90	110				
Molybdenum	19.025	0.50	20.00	0	95.1	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV4**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCV**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	19.762	0.50	20.00	0	98.8	90	110				

Sample ID **CCV5**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCV**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.809	0.10	20.00	0	99.0	90	110				
Manganese	20.516	0.50	20.00	0	103	90	110				
Molybdenum	19.140	0.50	20.00	0	95.7	90	110				
Selenium	19.973	0.50	20.00	0	99.9	90	110				

Sample ID **CCV6**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCV**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.586	0.10	20.00	0	97.9	90	110				
Manganese	20.683	0.50	20.00	0	103	90	110				
Molybdenum	18.835	0.50	20.00	0	94.2	90	110				
Selenium	19.970	0.50	20.00	0	99.9	90	110				

Sample ID **CCV7**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCV**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.797	0.10	20.00	0	99.0	90	110				
Manganese	20.682	0.50	20.00	0	103	90	110				
Molybdenum	19.032	0.50	20.00	0	95.2	90	110				
Selenium	19.901	0.50	20.00	0	99.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV8** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.334	0.10	20.00	0	96.7	90	110				
Manganese	20.486	0.50	20.00	0	102	90	110				
Molybdenum	19.029	0.50	20.00	0	95.1	90	110				
Selenium	20.443	0.50	20.00	0	102	90	110				

Sample ID **CCV9** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956867**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.926	0.10	20.00	0	94.6	90	110				
Manganese	20.648	0.50	20.00	0	103	90	110				
Molybdenum	19.055	0.50	20.00	0	95.3	90	110				
Selenium	19.129	0.50	20.00	0	95.6	90	110				

Sample ID **CCV10** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.632	0.10	20.00	0	93.2	90	110				
Manganese	20.453	0.50	20.00	0	102	90	110				
Molybdenum	18.913	0.50	20.00	0	94.6	90	110				
Selenium	19.352	0.50	20.00	0	96.8	90	110				

Sample ID **CCV11** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCV** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	18.586	0.10	20.00	0	92.9	90	110				
Manganese	20.730	0.50	20.00	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV11**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCV**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	18.866	0.50	20.00	0	94.3	90	110				
Selenium	19.016	0.50	20.00	0	95.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.871	0.10	10.00	0	98.7	90	110				
Manganese	103.803	0.50	100.0	0	104	90	110				
Selenium	10.073	0.50	10.00	0	101	90	110				

Sample ID **LLICV1** SampType: **CCV1** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ZZZZZZ** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.095	0.10	0.1000	0	95.1	80	120				
Manganese	0.514	0.50	0.5000	0	103	80	120				
Selenium	0.459	0.50	0.5000	0	91.7	80	120				

Sample ID **MLCCV** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.092	0.10	20.00	0	100	90	110				
Manganese	20.183	0.50	20.00	0	101	90	110				
Selenium	20.506	0.50	20.00	0	103	90	110				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.084	0.10	20.00	0	100	90	110				
Manganese	19.875	0.50	20.00	0	99.4	90	110				
Selenium	20.542	0.50	20.00	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959132**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.290	0.10	20.00	0	101	90	110				
Manganese	19.689	0.50	20.00	0	98.4	90	110				
Selenium	19.818	0.50	20.00	0	99.1	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.272	0.10	20.00	0	96.4	90	110				
Manganese	19.730	0.50	20.00	0	98.7	90	110				
Selenium	19.235	0.50	20.00	0	96.2	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.145	0.10	20.00	0	95.7	90	110				
Manganese	20.225	0.50	20.00	0	101	90	110				
Selenium	19.300	0.50	20.00	0	96.5	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.309	0.10	20.00	0	96.5	90	110				
Manganese	19.600	0.50	20.00	0	98.0	90	110				
Selenium	19.487	0.50	20.00	0	97.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV6** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.211	0.10	20.00	0	96.1	90	110				
Manganese	19.705	0.50	20.00	0	98.5	90	110				
Selenium	18.886	0.50	20.00	0	94.4	90	110				

Sample ID **CCV7** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.149	0.10	20.00	0	101	90	110				
Manganese	19.136	0.50	20.00	0	95.7	90	110				
Selenium	18.804	0.50	20.00	0	94.0	90	110				

Sample ID **CCV8** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.033	0.10	20.00	0	130	90	110				S
Manganese	20.090	0.50	20.00	0	100	90	110				
Selenium	22.195	0.50	20.00	0	111	90	110				S

Sample ID **CCV9** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959208**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	35.185	0.10	20.00	0	176	90	110				S
Manganese	21.917	0.50	20.00	0	110	90	110				
Selenium	28.105	0.50	20.00	0	141	90	110				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

%Rec of As, Mn, and Se in several CCVs failed, high bias. However, N053874 samples are reported within CCV3/CCB3 to CCV6/CCB6. Thus, unaffected by the failed CCVs.

1/8/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV10** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.670	0.10	20.00	0	193	90	110				S
Manganese	23.854	0.50	20.00	0	119	90	110				S
Selenium	29.125	0.50	20.00	0	146	90	110				S

Sample ID **CCV11** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	41.232	0.10	20.00	0	206	90	110				S
Manganese	21.485	0.50	20.00	0	107	90	110				
Selenium	37.814	0.50	20.00	0	189	90	110				S

Sample ID **CCV12** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.974	0.10	20.00	0	240	90	110				S
Manganese	20.140	0.50	20.00	0	101	90	110				
Selenium	54.124	0.50	20.00	0	271	90	110				S

Sample ID **CCV13** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCV** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	58.539	0.10	20.00	0	293	90	110				S
Manganese	19.700	0.50	20.00	0	98.5	90	110				
Selenium	49.251	0.50	20.00	0	246	90	110				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **ICV** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.095	0.10	10.00	0	101	90	110				
Manganese	104.140	0.50	100.0	0	104	90	110				
Selenium	10.344	0.50	10.00	0	103	90	110				

Sample ID **LLICV1** SampType: **CCV1** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **ZZZZZZ** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.111	0.10	0.1000	0	111	80	120				
Manganese	0.532	0.50	0.5000	0	106	80	120				
Selenium	0.562	0.50	0.5000	0	112	80	120				

Sample ID **MLCCV** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **CCV** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.870	0.10	20.00	0	99.4	90	110				
Manganese	20.165	0.50	20.00	0	101	90	110				
Selenium	19.647	0.50	20.00	0	98.2	90	110				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **CCV** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.560	0.10	20.00	0	103	90	110				
Manganese	19.655	0.50	20.00	0	98.3	90	110				
Selenium	19.803	0.50	20.00	0	99.0	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **CCV** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.840	0.10	20.00	0	104	90	110				
Manganese	20.243	0.50	20.00	0	101	90	110				
Selenium	19.932	0.50	20.00	0	99.7	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **CCV** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	26.894	0.10	20.00	0	134	90	110				S
Manganese	20.986	0.50	20.00	0	105	90	110				
Selenium	21.886	0.50	20.00	0	109	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **CCV** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959819**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.527	0.10	20.00	0	103	90	110				
Manganese	19.326	0.50	20.00	0	96.6	90	110				
Selenium	19.340	0.50	20.00	0	96.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

%Rec of As in CCv3 failed, high bias. However, N053874 samples are reported within CCV1/CCB1 to CCV2/CCB. Thus, unaffected by the failed CCVs.

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV** SampType: **ICV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **ICV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4971990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.029	0.10	10.00	0	100	90	110				
Manganese	102.193	0.50	100.0	0	102	90	110				
Selenium	9.906	0.50	10.00	0	99.1	90	110				

Sample ID **MLCCV** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **CCV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4971993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.232	0.10	20.00	0	96.2	90	110				
Manganese	19.679	0.50	20.00	0	98.4	90	110				
Selenium	19.316	0.50	20.00	0	96.6	90	110				

Sample ID **LLICV1** SampType: **CCV1** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **ZZZZZZ** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4971996**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.100	0.10	0.1000	0	100	80	120				
Manganese	0.553	0.50	0.5000	0	111	80	120				
Selenium	0.584	0.50	0.5000	0	117	80	120				

Sample ID **CCV1** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **CCV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972007**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.000	0.10	20.00	0	95.0	90	110				
Manganese	21.989	0.50	20.00	0	110	90	110				
Selenium	20.322	0.50	20.00	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCV2** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **CCV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.000	0.10	20.00	0	95.0	90	110				
Manganese	21.125	0.50	20.00	0	106	90	110				
Selenium	19.948	0.50	20.00	0	99.7	90	110				

Sample ID **CCV3** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **CCV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.456	0.10	20.00	0	97.3	90	110				
Manganese	21.107	0.50	20.00	0	106	90	110				
Selenium	20.147	0.50	20.00	0	101	90	110				

Sample ID **CCV4** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **CCV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.601	0.10	20.00	0	98.0	90	110				
Manganese	21.622	0.50	20.00	0	108	90	110				
Selenium	20.078	0.50	20.00	0	100	90	110				

Sample ID **CCV5** SampType: **CCV** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **CCV** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972049**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.201	0.10	20.00	0	101	90	110				
Manganese	20.906	0.50	20.00	0	105	90	110				
Selenium	19.386	0.50	20.00	0	96.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ICV**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	10.639	0.50	10.00	0	106	90	110				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCV**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983492**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	19.135	0.50	20.00	0	95.7	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCV**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983503**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	18.999	0.50	20.00	0	95.0	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCV**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	18.789	0.50	20.00	0	93.9	90	110				

Sample ID **CCV3**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCV**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	19.283	0.50	20.00	0	96.4	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ZZZZZZ**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4984754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.567	0.50	0.5000	0	113	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ICV**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	103.263	0.50	100.0	0	103	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ZZZZZZ**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.527	0.50	0.5000	0	105	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **CCV**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.343	0.50	20.00	0	102	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **CCV**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.063	0.50	20.00	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **ICV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.522	1.0	10.00	0	105	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **ZZZZZZ**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.049	1.0	1.000	0	105	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.316	1.0	20.00	0	102	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956609**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.757	1.0	20.00	0	104	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.390	1.0	20.00	0	107	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCV3**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.408	1.0	20.00	0	107	90	110				

Sample ID **CCV4**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.444	1.0	20.00	0	107	90	110				

Sample ID **CCV5**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.229	1.0	20.00	0	106	90	110				

Sample ID **CCV6**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.968	1.0	20.00	0	105	90	110				

Sample ID **CCV7**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.471	1.0	20.00	0	107	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCV8**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.847	1.0	20.00	0	104	90	110				

Sample ID **CCV9**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.216	1.0	20.00	0	106	90	110				

Sample ID **CCV10**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.004	1.0	20.00	0	105	90	110				

Sample ID **CCV11**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCV**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.383	1.0	20.00	0	107	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.446	1.0	10.00	0	104	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ZZZZZZ**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958737**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.005	1.0	1.000	0	101	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.817	1.0	20.00	0	99.1	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.921	1.0	20.00	0	99.6	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.502	1.0	20.00	0	97.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCV3**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.618	1.0	20.00	0	98.1	90	110				

Sample ID **CCV4**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.103	1.0	20.00	0	101	90	110				

Sample ID **CCV5**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.806	1.0	20.00	0	99.0	90	110				

Sample ID **CCV6**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCV**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.771	1.0	20.00	0	98.9	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICV**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.732	1.0	10.00	0	107	90	110				

Sample ID **LLICV1**	SampType: **CCV1**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ZZZZZZ**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.051	1.0	1.000	0	105	80	120				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCV**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.063	1.0	20.00	0	100	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCV**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.802	1.0	20.00	0	99.0	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCV**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.117	1.0	20.00	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICV**	SampType: **ICV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ICV**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.683	1.0	10.00	0	107	90	110				

Sample ID **MLCCV**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **CCV**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.045	1.0	20.00	0	100	90	110				

Sample ID **CCV1**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **CCV**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.931	1.0	20.00	0	99.7	90	110				

Sample ID **CCV2**	SampType: **CCV**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **CCV**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995958**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.853	1.0	20.00	0	99.3	90	110				

Sample ID **LLICV1**	SampType: **CCV2**	TestCode: **6020DIS_CR**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ZZZZZZ**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4996351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1.008	1.0	1.000	0	101	70	130				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

SUMMARY OF INSTRUMENT BLANKS

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB** SampType: **ICB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	0.125	0.50									
Selenium	0.058	0.50									

Sample ID **CCB1** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB3** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.035	0.50									
Molybdenum	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID **CCB7**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956845**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB8**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB9**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **CCB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB10** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB11** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **CCB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956883**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	ICB	SampType:	ICB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	ICB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959109

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB1	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959125

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB2	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959133

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB3	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959144

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	CCB4	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959157

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB5	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959168

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB6	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/6/2022	SeqNo:	4959173

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID	CCB7	SampType:	CCB	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	167984
Client ID:	CCB	Batch ID:	R167984	TestNo:	EPA 6020			Analysis Date:	12/7/2022	SeqNo:	4959185

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB8** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.098	0.10									
Manganese	ND	0.50									
Selenium	0.073	0.50									

Sample ID **CCB9** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959209**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.034	0.50									
Selenium	ND	0.50									

Sample ID **CCB10** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959215**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.142	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB11** SampType: **CCB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **CCB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.298	0.10									
Manganese	0.130	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

Detect of As and Mn in several CCBs are >1/2RL. Howwver, samples are reported within CCB3 to CCB6. Thus, unaffected.

1/8/2023

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB12**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167984**
Client ID: **CCB**	Batch ID: **R167984**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.096	0.10									
Manganese	0.219	0.50									
Selenium	ND	0.50									

Sample ID **CCB13**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167984**
Client ID: **CCB**	Batch ID: **R167984**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.154	0.10									
Manganese	0.363	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	0.060	0.50									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **ICB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4971991**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **CCB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **CCB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972015**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **CCB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **CCB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **CCB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ICB**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.059	0.50									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCB**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCB**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **CCB**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ICB**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **CCB**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997789**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
  Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **ICB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.149	1.0									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.137	1.0									

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/5/2022**	SeqNo: **4956644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.154	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**CCB5**	SampType:	**CCB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**CCB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.052	1.0									

Sample ID	**CCB6**	SampType:	**CCB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**CCB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	**CCB7**	SampType:	**CCB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**CCB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.194	1.0									

Sample ID	**CCB8**	SampType:	**CCB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**CCB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.091	1.0									

Sample ID	**CCB9**	SampType:	**CCB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**CCB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.047	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCB10**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.047	1.0									

Sample ID **CCB11**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID: **CCB**	Batch ID: **R167935**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.043	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB3**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB4**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **CCB5**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB6**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **CCB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **CCB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICB**	SampType: **ICB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ICB**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995940**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB1**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **CCB**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **CCB2**	SampType: **CCB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **CCB**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

SUMMARY OF INSTRUMENT CHECK (ICSA & ICSAB)

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSA** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSAB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.579	0.10	20.00	0	103	80	120				
Manganese	19.794	0.50	20.00	0	99.0	80	120				
Molybdenum	21.576	0.50	20.00	0	108	80	120				
Selenium	19.556	0.50	20.00	0	97.8	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSA** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSAB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.658	0.10	20.00	0	103	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSAB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.680	0.50	20.00	0	103	80	120				
Molybdenum	21.519	0.50	20.00	0	108	80	120				
Selenium	20.574	0.50	20.00	0	103	80	120				

Sample ID **ICSA3** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSA** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956812**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSAB** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/5/2022** SeqNo: **4956813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.820	0.10	20.00	0	104	80	120				
Manganese	20.845	0.50	20.00	0	104	80	120				
Molybdenum	21.610	0.50	20.00	0	108	80	120				
Selenium	20.633	0.50	20.00	0	103	80	120				

Sample ID **ICSA4** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ICSA** Batch ID: **R167938** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4956846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA4**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **ICSA**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID **ICSAB4**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **ICSAB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956847**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.558	0.10	20.00	0	97.8	80	120				
Manganese	20.875	0.50	20.00	0	104	80	120				
Molybdenum	21.566	0.50	20.00	0	108	80	120				
Selenium	20.154	0.50	20.00	0	101	80	120				

Sample ID **ICSA5**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **ICSA**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB5**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID: **ICSAB**	Batch ID: **R167938**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4956885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.114	0.10	20.00	0	95.6	80	120				
Manganese	20.612	0.50	20.00	0	103	80	120				
Molybdenum	21.558	0.50	20.00	0	108	80	120				
Selenium	18.625	0.50	20.00	0	93.1	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSA** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSAB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.661	0.10	20.00	0	103	80	120				
Manganese	19.867	0.50	20.00	0	99.3	80	120				
Selenium	19.453	0.50	20.00	0	97.3	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSA** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSAB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/6/2022** SeqNo: **4959146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	19.772	0.10	20.00	0	98.9	80	120				
Manganese	19.130	0.50	20.00	0	95.7	80	120				
Selenium	19.627	0.50	20.00	0	98.1	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA3**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167984**
Client ID: **ICSA**	Batch ID: **R167984**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4959174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167984**
Client ID: **ICSAB**	Batch ID: **R167984**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4959175**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.524	0.10	20.00	0	103	80	120				
Manganese	19.417	0.50	20.00	0	97.1	80	120				
Selenium	18.970	0.50	20.00	0	94.9	80	120				

Sample ID **ICSA4**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167984**
Client ID: **ICSA**	Batch ID: **R167984**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB4**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167984**
Client ID: **ICSAB**	Batch ID: **R167984**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.042	0.10	20.00	0	105	80	120				
Manganese	18.795	0.50	20.00	0	94.0	80	120				
Selenium	19.284	0.50	20.00	0	96.4	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA5** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSA** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.139	0.10									
Manganese	0.054	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB5** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSAB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	40.557	0.10	20.00	0	203	80	120				S
Manganese	22.107	0.50	20.00	0	111	80	120				
Selenium	36.168	0.50	20.00	0	181	80	120				S

Sample ID **ICSA6** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSA** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959245**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.152	0.10									
Manganese	0.169	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB6** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167984**
Client ID: **ICSAB** Batch ID: **R167984** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	70.573	0.10	20.00	0	353	80	120				S
Manganese	21.864	0.50	20.00	0	109	80	120				
Selenium	65.172	0.50	20.00	0	326	80	120				S

1/8/2023

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

%Rec of As and Se in ICSAB5 and ICSAB6 failed, high bias. However, N053874 samples are reported within ICSA2/ICSAB2 to ICSA3/ICSAB3. Thus, unaffected by the failed ICSABs.

Detect of As in several ICSA is >1/2RL. However, N053874 samples are reported within ICSA2/ICSAB2 to ICSA3/ICSAB3. Thus, unaffected by the ICSA detection.

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **ICSA** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **ICSAB** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.744	0.10	20.00	0	104	80	120				
Manganese	20.217	0.50	20.00	0	101	80	120				
Selenium	19.219	0.50	20.00	0	96.1	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **ICSA** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959796**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167989**
Client ID: **ICSAB** Batch ID: **R167989** TestNo: **EPA 6020** Analysis Date: **12/7/2022** SeqNo: **4959797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	22.078	0.10	20.00	0	110	80	120				
Manganese	20.129	0.50	20.00	0	101	80	120				
Selenium	20.234	0.50	20.00	0	101	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA3**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICSA**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959821**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICSAB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959822**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.495	0.10	20.00	0	107	80	120				
Manganese	19.207	0.50	20.00	0	96.0	80	120				
Selenium	19.918	0.50	20.00	0	99.6	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **ICSA** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4971994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB1** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **ICSAB** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4971995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.332	0.10	20.00	0	107	80	120				
Manganese	20.676	0.50	20.00	0	103	80	120				
Selenium	19.965	0.50	20.00	0	99.8	80	120				

Sample ID **ICSA2** SampType: **ICSA** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **ICSA** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB2** SampType: **ICSAB** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168221**
Client ID: **ICSAB** Batch ID: **R168221** TestNo: **EPA 6020** Analysis Date: **12/14/2022** SeqNo: **4972017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.194	0.10	20.00	0	106	80	120				
Manganese	23.453	0.50	20.00	0	117	80	120				
Selenium	21.236	0.50	20.00	0	106	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA3**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **ICSA**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972051**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **ICSAB3**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168221**
Client ID: **ICSAB**	Batch ID: **R168221**	TestNo: **EPA 6020**		Analysis Date: **12/14/2022**	SeqNo: **4972052**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	21.965	0.10	20.00	0	110	80	120				
Manganese	22.071	0.50	20.00	0	110	80	120				
Selenium	20.512	0.50	20.00	0	103	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ICSA**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.064	0.50									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ICSAB**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	19.866	0.50	20.00	0	99.3	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ICSA**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168411**
Client ID: **ICSAB**	Batch ID: **R168411**	TestNo: **EPA 6020**		Analysis Date: **12/21/2022**	SeqNo: **4983525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	19.617	0.50	20.00	0	98.1	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ICSA**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ICSAB**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.442	0.50	20.00	0	102	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ICSA**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168602**
Client ID: **ICSAB**	Batch ID: **R168602**	TestNo: **EPA 6020**		Analysis Date: **12/31/2022**	SeqNo: **4997791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	20.514	0.50	20.00	0	103	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	ICSA1	SampType:	ICSA	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167935
Client ID:	ICSA	Batch ID:	R167935	TestNo:	EPA 6020			Analysis Date:	12/5/2022	SeqNo:	4956598

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	ICSAB1	SampType:	ICSAB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167935
Client ID:	ICSAB	Batch ID:	R167935	TestNo:	EPA 6020			Analysis Date:	12/5/2022	SeqNo:	4956599

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.724	1.0	20.00	0	104	80	120				

Sample ID	ICSA2	SampType:	ICSA	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167935
Client ID:	ICSA	Batch ID:	R167935	TestNo:	EPA 6020			Analysis Date:	12/5/2022	SeqNo:	4956632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.116	1.0									

Sample ID	ICSAB2	SampType:	ICSAB	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167935
Client ID:	ICSAB	Batch ID:	R167935	TestNo:	EPA 6020			Analysis Date:	12/5/2022	SeqNo:	4956633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.706	1.0	20.00	0	109	80	120				

Sample ID	ICSA3	SampType:	ICSA	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167935
Client ID:	ICSA	Batch ID:	R167935	TestNo:	EPA 6020			Analysis Date:	12/5/2022	SeqNo:	4956645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.137	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**ICSAB3**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**ICSAB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/5/2022**	SeqNo:	**4956646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.826	1.0	20.00	0	109	80	120				

Sample ID	**ICSA4**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**ICSA**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.162	1.0									

Sample ID	**ICSAB4**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**ICSAB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.594	1.0	20.00	0	108	80	120				

Sample ID	**ICSA5**	SampType:	**ICSA**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**ICSA**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.058	1.0									

Sample ID	**ICSAB5**	SampType:	**ICSAB**	TestCode:	**6020DIS_CrP**	Units:	**µg/L**	Prep Date:		RunNo:	**167935**
Client ID:	**ICSAB**	Batch ID:	**R167935**	TestNo:	**EPA 6020**			Analysis Date:	**12/6/2022**	SeqNo:	**4956718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.496	1.0	20.00	0	107	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICSA**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICSAB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.987	1.0	20.00	0	99.9	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICSA**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICSAB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.722	1.0	20.00	0	98.6	80	120				

Sample ID **ICSA3**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICSA**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSAB3**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID: **ICSAB**	Batch ID: **R167980**	TestNo: **EPA 6020**		Analysis Date: **12/6/2022**	SeqNo: **4958802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	19.970	1.0	20.00	0	99.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICSA**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICSAB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.538	1.0	20.00	0	103	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICSA**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167989**
Client ID: **ICSAB**	Batch ID: **R167989**	TestNo: **EPA 6020**		Analysis Date: **12/7/2022**	SeqNo: **4959742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.468	1.0	20.00	0	102	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID **ICSA1**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ICSA**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.181	1.0									

Sample ID **ICSAB1**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ICSAB**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.721	1.0	20.00	0	104	80	120				

Sample ID **ICSA2**	SampType: **ICSA**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ICSA**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.138	1.0									

Sample ID **ICSAB2**	SampType: **ICSAB**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID: **ICSAB**	Batch ID: **R168559**	TestNo: **EPA 6020**		Analysis Date: **12/29/2022**	SeqNo: **4995961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.701	1.0	20.00	0	104	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

INTERNAL STANDARD SUMMARY

INTERNAL STANDARD: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	91690.2	91690.2	100	PASS	30-150	67841.2	67841.2	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	89244.9	91690.2	97.33	PASS	30-150	66926.1	67841.2	98.65	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	89778.9	91690.2	97.92	PASS	30-150	66301.4	67841.2	97.73	PASS	30-150
Std3-5/50 ppb	ICAL	1	90703.7	91690.2	98.92	PASS	30-150	66841.4	67841.2	98.53	PASS	30-150
Std4-10/100 ppb	ICAL	1	91458.8	91690.2	99.75	PASS	30-150	67303.4	67841.2	99.21	PASS	30-150
Std5-20/200 ppb	ICAL	1	92414.1	91690.2	100.79	PASS	30-150	68011.7	67841.2	100.25	PASS	30-150
Std6-40/400 ppb	ICAL	1	92242.1	91690.2	100.6	PASS	30-150	69480.1	67841.2	102.42	PASS	30-150
Std7-100/1000 ppb	ICAL	1	93849.8	91690.2	102.36	PASS	30-150	68651.1	67841.2	101.19	PASS	30-150
Std8-200/2000 ppb	ICAL	1	93470.3	91690.2	101.94	PASS	30-150	68815.1	67841.2	101.44	PASS	30-150
ICV	ICV	1	89062.8	91690.2	97.13	PASS	30-150	67243	67841.2	99.12	PASS	30-150
ICB	ICB	1	89014.9	91690.2	97.08	PASS	30-150	67403.8	67841.2	99.36	PASS	30-150
LLICV1	LLICV	1	89129.9	91690.2	97.21	PASS	30-150	67437.4	67841.2	99.4	PASS	30-150
MLCCV	CCV	1	90125.1	91690.2	98.29	PASS	30-150	68149	67841.2	100.45	PASS	30-150
ICSA1	ICSA	1	89203.5	91690.2	97.29	PASS	30-150	66729.9	67841.2	98.36	PASS	30-150
ICSAB1	ICSAB	1	85069	91690.2	92.78	PASS	30-150	61877.7	67841.2	91.21	PASS	30-150
CCV1	CCV	1	78806.7	91690.2	85.95	PASS	30-150	61423.8	67841.2	90.54	PASS	30-150
CCB1	CCB	1	77554.9	91690.2	84.58	PASS	30-150	59997.2	67841.2	88.44	PASS	30-150
CCV2	CCV	1	70540.8	91690.2	76.93	PASS	30-150	55589.6	67841.2	81.94	PASS	30-150
CCB2	CCB	1	69334.5	91690.2	75.62	PASS	30-150	54853.9	67841.2	80.86	PASS	30-150
CCV3	CCV	1	65557.2	91690.2	71.5	PASS	30-150	51878.7	67841.2	76.47	PASS	30-150
CCB3	CCB	1	64531	91690.2	70.38	PASS	30-150	51893.2	67841.2	76.49	PASS	30-150
ICSA2	ICSA	1	63370.8	91690.2	69.11	PASS	30-150	50828.8	67841.2	74.92	PASS	30-150
ICSAB2	ICSAB	1	60534.9	91690.2	66.02	PASS	30-150	46762.2	67841.2	68.93	PASS	30-150
CCV4	CCV	1	62371.7	91690.2	68.02	PASS	30-150	49343	67841.2	72.73	PASS	30-150
CCB4	CCB	1	61295.3	91690.2	66.85	PASS	30-150	49412.2	67841.2	72.84	PASS	30-150
ICSA3	ICSA	1	60287.4	91690.2	65.75	PASS	30-150	48807	67841.2	71.94	PASS	30-150
ICSAB3	ICSAB	1	57542.3	91690.2	62.76	PASS	30-150	45359.4	67841.2	66.86	PASS	30-150
CCV5	CCV	1	57660.2	91690.2	62.89	PASS	30-150	46307.6	67841.2	68.26	PASS	30-150
CCB5	CCB	1	56707.1	91690.2	61.85	PASS	30-150	46030.1	67841.2	67.85	PASS	30-150
MB-97001	MBLK	1	56398.3	91690.2	61.51	PASS	30-150	45097.5	67841.2	66.48	PASS	30-150
LCS-97001	LCS	1	55370.5	91690.2	60.39	PASS	30-150	44338.8	67841.2	65.36	PASS	30-150
N053874-001C	SAMP	1	41950.4	91690.2	45.75	PASS	30-150	33786	67841.2	49.8	PASS	30-150
N053874-002C	SAMP	1	53924.5	91690.2	58.81	PASS	30-150	42118.6	67841.2	62.08	PASS	30-150
N053874-003C	SAMP	1	57804.2	91690.2	63.04	PASS	30-150	45688.1	67841.2	67.35	PASS	30-150
CCV6	CCV	1	56647.9	91690.2	61.78	PASS	30-150	45916.5	67841.2	67.68	PASS	30-150
CCB6	CCB	1	55169.7	91690.2	60.17	PASS	30-150	45520.9	67841.2	67.1	PASS	30-150
N053874-004C	SAMP	1	53543.3	91690.2	58.4	PASS	30-150	42785.8	67841.2	63.07	PASS	30-150
N053874-005C	SAMP	1	51817.9	91690.2	56.51	PASS	30-150	41351	67841.2	60.95	PASS	30-150
N053874-006C	SAMP	1	44473.5	91690.2	48.5	PASS	30-150	35330.3	67841.2	52.08	PASS	30-150
N053874-007C	SAMP	1	39522.3	91690.2	43.1	PASS	30-150	32328.6	67841.2	47.65	PASS	30-150
N053874-009C	SAMP	1	48365.5	91690.2	52.75	PASS	30-150	38007.4	67841.2	56.02	PASS	30-150

INTERNAL STANDARD: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N053874-010C	SAMP	1	46596	91690.2	50.82	PASS	30-150	36368.1	67841.2	53.61	PASS	30-150
N053874-011C	SAMP	1	46350.9	91690.2	50.55	PASS	30-150	36100.8	67841.2	53.21	PASS	30-150
N053874-012B	SAMP	1	40822.1	91690.2	44.52	PASS	30-150	32983.2	67841.2	48.62	PASS	30-150
N053874-013C	SAMP	1	37782.7	91690.2	41.21	PASS	30-150	30676.5	67841.2	45.22	PASS	30-150
CCV7	CCV	1	54349.2	91690.2	59.27	PASS	30-150	42945.1	67841.2	63.3	PASS	30-150
CCB7	CCB	1	51921.5	91690.2	56.63	PASS	30-150	41945.9	67841.2	61.83	PASS	30-150
ICSA4	ICSA	1	51124.7	91690.2	55.76	PASS	30-150	41459.1	67841.2	61.11	PASS	30-150
ICSAB4	ICSAB	1	49175.6	91690.2	53.63	PASS	30-150	39035.4	67841.2	57.54	PASS	30-150
N053874-014C	SAMP	1	42048.4	91690.2	45.86	PASS	30-150	32887.5	67841.2	48.48	PASS	30-150
N053874-015C	SAMP	1	41235.3	91690.2	44.97	PASS	30-150	32202.8	67841.2	47.47	PASS	30-150
N053874-016C	SAMP	1	45430.4	91690.2	49.55	PASS	30-150	35151.1	67841.2	51.81	PASS	30-150
N053874-017C	SAMP	1	46036.5	91690.2	50.21	PASS	30-150	36525.1	67841.2	53.84	PASS	30-150
N053874-018C	SAMP	1	36687	91690.2	40.01	PASS	30-150	28321.2	67841.2	41.75	PASS	30-150
N053874-018C	SAMP	5	44209.5	91690.2	48.22	PASS	30-150	34268	67841.2	50.51	PASS	30-150
N053874-018C-PS	PS	1	35158.1	91690.2	38.34	PASS	30-150	26988.9	67841.2	39.78	PASS	30-150
N053874-018CMS	MS	1	35177.1	91690.2	38.37	PASS	30-150	27621.1	67841.2	40.71	PASS	30-150
N053874-018CMSD	MSD	1	33224.2	91690.2	36.24	PASS	30-150	26310.1	67841.2	38.78	PASS	30-150
CCV8	CCV	1	49806.2	91690.2	54.32	PASS	30-150	40255	67841.2	59.34	PASS	30-150
CCB8	CCB	1	47707.9	91690.2	52.03	PASS	30-150	38423.9	67841.2	56.64	PASS	30-150
N053874-019C	SAMP	1	38731.6	91690.2	42.24	PASS	30-150	30324.7	67841.2	44.7	PASS	30-150
N053874-020C	SAMP	1	41518.3	91690.2	45.28	PASS	30-150	32038	67841.2	47.22	PASS	30-150
N053874-022B	SAMP	1	36309.4	91690.2	39.6	PASS	30-150	27690.1	67841.2	40.82	PASS	30-150
CCV9	CCV	1	40837.6	91690.2	44.54	PASS	30-150	33276	67841.2	49.05	PASS	30-150
CCB9	CCB	1	38760.4	91690.2	42.27	PASS	30-150	31657.2	67841.2	46.66	PASS	30-150
CCV10	CCV	1	33352.1	91690.2	36.37	PASS	30-150	26882.1	67841.2	39.63	PASS	30-150
CCB10	CCB	1	33334.3	91690.2	36.36	PASS	30-150	26784.1	67841.2	39.48	PASS	30-150
CCV11	CCV	1	36367.2	91690.2	39.66	PASS	30-150	29631.2	67841.2	43.68	PASS	30-150
CCB11	CCB	1	34294	91690.2	37.4	PASS	30-150	28135.3	67841.2	41.47	PASS	30-150
ICSA5	ICSA	1	33251.9	91690.2	36.27	PASS	30-150	27209.3	67841.2	40.11	PASS	30-150
ICSAB5	ICSAB	1	29909	91690.2	32.62	PASS	30-150	23663.8	67841.2	34.88	PASS	30-150

INTERNAL STANDARD: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	121744	121744	100	PASS	30-150	1507960.4	1507960.4	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	119968.6	121744	98.54	PASS	30-150	1492540	1507960.4	98.98	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	119300.6	121744	97.99	PASS	30-150	1460021.8	1507960.4	96.82	PASS	30-150
Std3-5/50 ppb	ICAL	1	119032.2	121744	97.77	PASS	30-150	1477154	1507960.4	97.96	PASS	30-150
Std4-10/100 ppb	ICAL	1	118560.5	121744	97.39	PASS	30-150	1485569.7	1507960.4	98.52	PASS	30-150
Std5-20/200 ppb	ICAL	1	122227.4	121744	100.4	PASS	30-150	1480265.5	1507960.4	98.16	PASS	30-150
Std6-40/400 ppb	ICAL	1	123604.5	121744	101.53	PASS	30-150	1505403.6	1507960.4	99.83	PASS	30-150
Std7-100/1000 ppb	ICAL	1	121730.3	121744	99.99	PASS	30-150	1489416.7	1507960.4	98.77	PASS	30-150
Std8-200/2000 ppb	ICAL	1	121477.3	121744	99.78	PASS	30-150	1495152.7	1507960.4	99.15	PASS	30-150
ICV	ICV	1	120557.2	121744	99.03	PASS	30-150	1466959.8	1507960.4	97.28	PASS	30-150
ICB	ICB	1	120755.4	121744	99.19	PASS	30-150	1467762.2	1507960.4	97.33	PASS	30-150
LLICV1	LLICV	1	121495.8	121744	99.8	PASS	30-150	1470874.7	1507960.4	97.54	PASS	30-150
MLCCV	CCV	1	120606.8	121744	99.07	PASS	30-150	1469452.3	1507960.4	97.45	PASS	30-150
ICSA1	ICSA	1	119602	121744	98.24	PASS	30-150	1473462.4	1507960.4	97.71	PASS	30-150
ICSAB1	ICSAB	1	109634	121744	90.05	PASS	30-150	1304996.6	1507960.4	86.54	PASS	30-150
CCV1	CCV	1	107184.5	121744	88.04	PASS	30-150	1401284.2	1507960.4	92.93	PASS	30-150
CCB1	CCB	1	106919.4	121744	87.82	PASS	30-150	1377149.1	1507960.4	91.33	PASS	30-150
CCV2	CCV	1	96792.1	121744	79.5	PASS	30-150	1329688.9	1507960.4	88.18	PASS	30-150
CCB2	CCB	1	96020.2	121744	78.87	PASS	30-150	1310313.4	1507960.4	86.89	PASS	30-150
CCV3	CCV	1	90563.6	121744	74.39	PASS	30-150	1253343.9	1507960.4	83.12	PASS	30-150
CCB3	CCB	1	90239.7	121744	74.12	PASS	30-150	1243975	1507960.4	82.49	PASS	30-150
ICSA2	ICSA	1	88528.1	121744	72.72	PASS	30-150	1217292	1507960.4	80.72	PASS	30-150
ICSAB2	ICSAB	1	81312.2	121744	66.79	PASS	30-150	1071027.6	1507960.4	71.03	PASS	30-150
CCV4	CCV	1	86415.8	121744	70.98	PASS	30-150	1193911	1507960.4	79.17	PASS	30-150
CCB4	CCB	1	85158.2	121744	69.95	PASS	30-150	1190509.8	1507960.4	78.95	PASS	30-150
ICSA3	ICSA	1	84340.5	121744	69.28	PASS	30-150	1185459.1	1507960.4	78.61	PASS	30-150
ICSAB3	ICSAB	1	78342.1	121744	64.35	PASS	30-150	1042017.7	1507960.4	69.1	PASS	30-150
CCV5	CCV	1	80706	121744	66.29	PASS	30-150	1109882.4	1507960.4	73.6	PASS	30-150
CCB5	CCB	1	80300.3	121744	65.96	PASS	30-150	1104857.9	1507960.4	73.27	PASS	30-150
MB-97001	MBLK	1	79102.2	121744	64.97	PASS	30-150	1085282.7	1507960.4	71.97	PASS	30-150
LCS-97001	LCS	1	75777.8	121744	62.24	PASS	30-150	1062565.4	1507960.4	70.46	PASS	30-150
N053874-001C	SAMP	1	57524	121744	47.25	PASS	30-150	789714.2	1507960.4	52.37	PASS	30-150
N053874-002C	SAMP	1	73761	121744	60.59	PASS	30-150	964942.7	1507960.4	63.99	PASS	30-150
N053874-003C	SAMP	1	79188.3	121744	65.05	PASS	30-150	1049230.6	1507960.4	69.58	PASS	30-150
CCV6	CCV	1	79703	121744	65.47	PASS	30-150	1085238.7	1507960.4	71.97	PASS	30-150
CCB6	CCB	1	77816.1	121744	63.92	PASS	30-150	1088462.4	1507960.4	72.18	PASS	30-150
N053874-004C	SAMP	1	73960.7	121744	60.75	PASS	30-150	980467.4	1507960.4	65.02	PASS	30-150
N053874-005C	SAMP	1	71910.4	121744	59.07	PASS	30-150	948983.2	1507960.4	62.93	PASS	30-150
N053874-006C	SAMP	1	60155.7	121744	49.41	PASS	30-150	805522.8	1507960.4	53.42	PASS	30-150
N053874-007C	SAMP	1	54196.1	121744	44.52	PASS	30-150	755950.1	1507960.4	50.13	PASS	30-150
N053874-009C	SAMP	1	64999.4	121744	53.39	PASS	30-150	886255.2	1507960.4	58.77	PASS	30-150

INTERNAL STANDARD: 221205B

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [1]					103 Rh (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N053874-010C	SAMP	1	63002.9	121744	51.75	PASS	30-150	834272.5	1507960.4	55.32	PASS	30-150
N053874-011C	SAMP	1	61943.3	121744	50.88	PASS	30-150	819903.4	1507960.4	54.37	PASS	30-150
N053874-012B	SAMP	1	54668.9	121744	44.9	PASS	30-150	760710.5	1507960.4	50.45	PASS	30-150
N053874-013C	SAMP	1	52240.9	121744	42.91	PASS	30-150	721269.3	1507960.4	47.83	PASS	30-150
CCV7	CCV	1	74790.1	121744	61.43	PASS	30-150	1037761.4	1507960.4	68.82	PASS	30-150
CCB7	CCB	1	73413.8	121744	60.3	PASS	30-150	1004187.9	1507960.4	66.59	PASS	30-150
ICSA4	ICSA	1	71156.1	121744	58.45	PASS	30-150	980840.8	1507960.4	65.04	PASS	30-150
ICSAB4	ICSAB	1	65983.4	121744	54.2	PASS	30-150	875989.1	1507960.4	58.09	PASS	30-150
N053874-014C	SAMP	1	56998.8	121744	46.82	PASS	30-150	752727.7	1507960.4	49.92	PASS	30-150
N053874-015C	SAMP	1	55159.2	121744	45.31	PASS	30-150	723052.7	1507960.4	47.95	PASS	30-150
N053874-016C	SAMP	1	60644.1	121744	49.81	PASS	30-150	803591.2	1507960.4	53.29	PASS	30-150
N053874-017C	SAMP	1	62474.2	121744	51.32	PASS	30-150	823332.4	1507960.4	54.6	PASS	30-150
N053874-018C	SAMP	1	48493.8	121744	39.83	PASS	30-150	646687.5	1507960.4	42.88	PASS	30-150
N053874-018C	SAMP	5	59199.9	121744	48.63	PASS	30-150	772099	1507960.4	51.2	PASS	30-150
N053874-018C-PS	PS	1	44904.7	121744	36.88	PASS	30-150	614957	1507960.4	40.78	PASS	30-150
N053874-018CMS	MS	1	46152.6	121744	37.91	PASS	30-150	632393.4	1507960.4	41.94	PASS	30-150
N053874-018CMSD	MSD	1	43251.4	121744	35.53	PASS	30-150	600195	1507960.4	39.8	PASS	30-150
CCV8	CCV	1	68413.4	121744	56.19	PASS	30-150	947337.9	1507960.4	62.82	PASS	30-150
CCB8	CCB	1	66309.2	121744	54.47	PASS	30-150	924535.2	1507960.4	61.31	PASS	30-150
N053874-019C	SAMP	1	50489.8	121744	41.47	PASS	30-150	686114.8	1507960.4	45.5	PASS	30-150
N053874-020C	SAMP	1	53926.3	121744	44.29	PASS	30-150	725796.1	1507960.4	48.13	PASS	30-150
N053874-022B	SAMP	1	45838.5	121744	37.65	PASS	30-150	627207	1507960.4	41.59	PASS	30-150
CCV9	CCV	1	57470.4	121744	47.21	PASS	30-150	806406.1	1507960.4	53.48	PASS	30-150
CCB9	CCB	1	54877.1	121744	45.08	PASS	30-150	767874.8	1507960.4	50.92	PASS	30-150
CCV10	CCV	1	46879.1	121744	38.51	PASS	30-150	673945.4	1507960.4	44.69	PASS	30-150
CCB10	CCB	1	47262.5	121744	38.82	PASS	30-150	678270.6	1507960.4	44.98	PASS	30-150
CCV11	CCV	1	50260.1	121744	41.28	PASS	30-150	744758.8	1507960.4	49.39	PASS	30-150
CCB11	CCB	1	47550	121744	39.06	PASS	30-150	701032.5	1507960.4	46.49	PASS	30-150
ICSA5	ICSA	1	46866.8	121744	38.5	PASS	30-150	684404	1507960.4	45.39	PASS	30-150
ICSAB5	ICSAB	1	40043.3	121744	32.89	PASS	30-150	563060.4	1507960.4	37.34	PASS	30-150

INTERNAL STANDARD: 221206A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	70854.2	70854.2	100	PASS	30-150	54339.9	54339.9	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	71402.2	70854.2	100.77	PASS	30-150	54774.7	54339.9	100.8	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	72191.2	70854.2	101.89	PASS	30-150	55506.1	54339.9	102.15	PASS	30-150
Std3-5/50 ppb	ICAL	1	70315.2	70854.2	99.24	PASS	30-150	54741.2	54339.9	100.74	PASS	30-150
Std4-10/100 ppb	ICAL	1	70997.1	70854.2	100.2	PASS	30-150	54837.2	54339.9	100.92	PASS	30-150
Std5-20/200 ppb	ICAL	1	69550.9	70854.2	98.16	PASS	30-150	54264.1	54339.9	99.86	PASS	30-150
Std6-40/400 ppb	ICAL	1	69987.5	70854.2	98.78	PASS	30-150	54959.8	54339.9	101.14	PASS	30-150
Std7-100/1000 ppb	ICAL	1	68566.9	70854.2	96.77	PASS	30-150	53841.7	54339.9	99.08	PASS	30-150
Std8-200/2000 ppb	ICAL	1	67846.3	70854.2	95.75	PASS	30-150	52814	54339.9	97.19	PASS	30-150
ICV	ICV	1	65397.6	70854.2	92.3	PASS	30-150	52624.5	54339.9	96.84	PASS	30-150
ICB	ICB	1	64844.4	70854.2	91.52	PASS	30-150	52380.3	54339.9	96.39	PASS	30-150
LLICV1	LLICV	1	65675.5	70854.2	92.69	PASS	30-150	51737	54339.9	95.21	PASS	30-150
MLCCV	CCV	1	66499.7	70854.2	93.85	PASS	30-150	52421.6	54339.9	96.47	PASS	30-150
ICSA1	ICSA	1	63623.2	70854.2	89.79	PASS	30-150	51143	54339.9	94.12	PASS	30-150
ICSAB1	ICSAB	1	64863.4	70854.2	91.54	PASS	30-150	49259.5	54339.9	90.65	PASS	30-150
CCV1	CCV	1	68300.5	70854.2	96.4	PASS	30-150	53938.6	54339.9	99.26	PASS	30-150
CCB1	CCB	1	69086.8	70854.2	97.51	PASS	30-150	53333.2	54339.9	98.15	PASS	30-150
CCV2	CCV	1	66181.8	70854.2	93.41	PASS	30-150	50831	54339.9	93.54	PASS	30-150
CCB2	CCB	1	64992.8	70854.2	91.73	PASS	30-150	51058.3	54339.9	93.96	PASS	30-150
CCV3	CCV	1	52862.2	70854.2	74.61	PASS	30-150	40582.4	54339.9	74.68	PASS	30-150
CCB3	CCB	1	52360.8	70854.2	73.9	PASS	30-150	39894.1	54339.9	73.42	PASS	30-150
ICSA2	ICSA	1	56634.7	70854.2	79.93	PASS	30-150	43330.6	54339.9	79.74	PASS	30-150
ICSAB2	ICSAB	1	56012.7	70854.2	79.05	PASS	30-150	41052.5	54339.9	75.55	PASS	30-150
N053874-001C	SAMP	1	35741.6	70854.2	50.44	PASS	30-150	28462.6	54339.9	52.38	PASS	30-150
N053874-003C	SAMP	25	45840.6	70854.2	64.7	PASS	30-150	36315.9	54339.9	66.83	PASS	30-150
N053874-004C	SAMP	25	50896.3	70854.2	71.83	PASS	30-150	39301.5	54339.9	72.33	PASS	30-150
N053874-006C	SAMP	5	44317.7	70854.2	62.55	PASS	30-150	34491.9	54339.9	63.47	PASS	30-150
N053874-007C	SAMP	1	32171	70854.2	45.4	PASS	30-150	26313.4	54339.9	48.42	PASS	30-150
N053874-007C	SAMP	5	39116.8	70854.2	55.21	PASS	30-150	31623.8	54339.9	58.2	PASS	30-150
N053874-012B	SAMP	1	32959.2	70854.2	46.52	PASS	30-150	27744.6	54339.9	51.06	PASS	30-150
N053874-012B	SAMP	5	40428.9	70854.2	57.06	PASS	30-150	33154.7	54339.9	61.01	PASS	30-150
N053874-013C	SAMP	125	46321	70854.2	65.38	PASS	30-150	37145.5	54339.9	68.36	PASS	30-150
CCV4	CCV	1	53326.1	70854.2	75.26	PASS	30-150	42795.9	54339.9	78.76	PASS	30-150
CCB4	CCB	1	54776.5	70854.2	77.31	PASS	30-150	43272.7	54339.9	79.63	PASS	30-150
N053874-014C	SAMP	5	50138.5	70854.2	70.76	PASS	30-150	38783.7	54339.9	71.37	PASS	30-150
N053874-015C	SAMP	5	51949.5	70854.2	73.32	PASS	30-150	40304	54339.9	74.17	PASS	30-150
N053874-016C	SAMP	5	51789.1	70854.2	73.09	PASS	30-150	40980.1	54339.9	75.41	PASS	30-150
N053874-017C	SAMP	1	54629.1	70854.2	77.1	PASS	30-150	42441.7	54339.9	78.1	PASS	30-150
N053874-018C	SAMP	5	51304.2	70854.2	72.41	PASS	30-150	39570	54339.9	72.82	PASS	30-150
N053874-018C	SAMP	25	54416.2	70854.2	76.8	PASS	30-150	42229.9	54339.9	77.71	PASS	30-150
N053874-018C-PS	PS	5	47485.1	70854.2	67.02	PASS	30-150	36678.8	54339.9	67.5	PASS	30-150

INTERNAL STANDARD: 221206A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
N053874-018CMS	MS	5	46553.8	70854.2	65.7	PASS	30-150	36352.5	54339.9	66.9	PASS	30-150
N053874-018CMSD	MSD	5	47789.3	70854.2	67.45	PASS	30-150	37664.3	54339.9	69.31	PASS	30-150
CCV5	CCV	1	58271.5	70854.2	82.24	PASS	30-150	44767.8	54339.9	82.38	PASS	30-150
CCB5	CCB	1	56310.2	70854.2	79.47	PASS	30-150	44057	54339.9	81.08	PASS	30-150
N053874-022B	SAMP	5	50452.6	70854.2	71.21	PASS	30-150	38472.9	54339.9	70.8	PASS	30-150
CCV6	CCV	1	53909.2	70854.2	76.08	PASS	30-150	42309.1	54339.9	77.86	PASS	30-150
CCB6	CCB	1	53846.6	70854.2	76	PASS	30-150	41574.9	54339.9	76.51	PASS	30-150
ICSA3	ICSA	1	53546.7	70854.2	75.57	PASS	30-150	41796.6	54339.9	76.92	PASS	30-150
ICSAB3	ICSAB	1	53951.3	70854.2	76.14	PASS	30-150	40805.2	54339.9	75.09	PASS	30-150
CCV7	CCV	1	56546.7	70854.2	79.81	PASS	30-150	42574.1	54339.9	78.35	PASS	30-150
CCB7	CCB	1	49096.5	70854.2	69.29	PASS	30-150	37019.6	54339.9	68.13	PASS	30-150
ICSA4	ICSA	1	53064.1	70854.2	74.89	PASS	30-150	39753.8	54339.9	73.16	PASS	30-150
ICSAB4	ICSAB	1	53756.3	70854.2	75.87	PASS	30-150	39754.9	54339.9	73.16	PASS	30-150
CCV8	CCV	1	15376	70854.2	21.7	NR!	30-150	12797.3	54339.9	23.55	NR!	30-150
CCB8	CCB	1	13177.5	70854.2	18.6	NR!	30-150	11067.1	54339.9	20.37	NR!	30-150
CCV9	CCV	1	4201.7	70854.2	5.93	NR!	30-150	4676.2	54339.9	8.61	NR!	30-150
CCB9	CCB	1	3996.1	70854.2	5.64	NR!	30-150	4575.1	54339.9	8.42	NR!	30-150
CCV10	CCV	1	2090.1	70854.2	2.95	NR!	30-150	2624.7	54339.9	4.83	NR!	30-150
CCB10	CCB	1	2183.5	70854.2	3.08	NR!	30-150	2403.5	54339.9	4.42	NR!	30-150
ICSA5	ICSA	1	2176.8	70854.2	3.07	NR!	30-150	2442.4	54339.9	4.49	NR!	30-150
ICSAB5	ICSAB	1	2065.7	70854.2	2.92	NR!	30-150	2286.8	54339.9	4.21	NR!	30-150
CCV11	CCV	1	808.9	70854.2	1.14	NR!	30-150	894.5	54339.9	1.65	NR!	30-150
CCB11	CCB	1	781.1	70854.2	1.1	NR!	30-150	866.7	54339.9	1.59	NR!	30-150
CCV12	CCV	1	417.8	70854.2	0.59	NR!	30-150	407.8	54339.9	0.75	NR!	30-150
CCB12	CCB	1	391.1	70854.2	0.55	NR!	30-150	395.6	54339.9	0.73	NR!	30-150
CCV13	CCV	1	300	70854.2	0.42	NR!	30-150	302.2	54339.9	0.56	NR!	30-150
CCB13	CCB	1	274.4	70854.2	0.39	NR!	30-150	320	54339.9	0.59	NR!	30-150
ICSA6	ICSA	1	301.1	70854.2	0.42	NR!	30-150	304.5	54339.9	0.56	NR!	30-150
ICSAB6	ICSAB	1	260	70854.2	0.37	NR!	30-150	271.1	54339.9	0.5	NR!	30-150

INTERNAL STANDARD: 221207A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	69893.4	69893.4	100	PASS	30-150	57188.5	57188.5	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	71524.8	69893.4	102.33	PASS	30-150	58373.6	57188.5	102.07	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	69817.6	69893.4	99.89	PASS	30-150	58736.2	57188.5	102.71	PASS	30-150
Std3-5/50 ppb	ICAL	1	67925.4	69893.4	97.18	PASS	30-150	57247.6	57188.5	100.1	PASS	30-150
Std4-10/100 ppb	ICAL	1	68292.7	69893.4	97.71	PASS	30-150	57974.5	57188.5	101.37	PASS	30-150
Std5-20/200 ppb	ICAL	1	65536.1	69893.4	93.77	PASS	30-150	55594.1	57188.5	97.21	PASS	30-150
Std6-40/400 ppb	ICAL	1	69224.6	69893.4	99.04	PASS	30-150	58201.1	57188.5	101.77	PASS	30-150
Std7-100/1000 ppb	ICAL	1	68173.2	69893.4	97.54	PASS	30-150	57204	57188.5	100.03	PASS	30-150
Std8-200/2000 ppb	ICAL	1	66873.5	69893.4	95.68	PASS	30-150	56131.5	57188.5	98.15	PASS	30-150
ICV	ICV	1	63574	69893.4	90.96	PASS	30-150	54749.1	57188.5	95.73	PASS	30-150
ICB	ICB	1	63521.6	69893.4	90.88	PASS	30-150	54633.3	57188.5	95.53	PASS	30-150
LLICV1	LLICV	1	62259.2	69893.4	89.08	PASS	30-150	54982.1	57188.5	96.14	PASS	30-150
MLCCV	CCV	1	63457.9	69893.4	90.79	PASS	30-150	53588.6	57188.5	93.71	PASS	30-150
ICSA1	ICSA	1	61555.5	69893.4	88.07	PASS	30-150	53297.7	57188.5	93.2	PASS	30-150
ICSAB1	ICSAB	1	62873.6	69893.4	89.96	PASS	30-150	50571.3	57188.5	88.43	PASS	30-150
N053874-001C	SAMP	1	49274.7	69893.4	70.5	PASS	30-150	40720.5	57188.5	71.2	PASS	30-150
N053874-006C	SAMP	25	80524.4	69893.4	115.21	PASS	30-150	61303.3	57188.5	107.2	PASS	30-150
N053874-007C	SAMP	1	49254.7	69893.4	70.47	PASS	30-150	40484.4	57188.5	70.79	PASS	30-150
N053874-012B	SAMP	25	78727.3	69893.4	112.64	PASS	30-150	61723.6	57188.5	107.93	PASS	30-150
CCV1	CCV	1	92078.1	69893.4	131.74	PASS	30-150	72704	57188.5	127.13	PASS	30-150
CCB1	CCB	1	88322.4	69893.4	126.37	PASS	30-150	69828.3	57188.5	122.1	PASS	30-150
N053874-001C	SAMP	1	47263.4	69893.4	67.62	PASS	30-150	42012.7	57188.5	73.46	PASS	30-150
N053874-007C	SAMP	1	44424.5	69893.4	63.56	PASS	30-150	39967.6	57188.5	69.89	PASS	30-150
CCV2	CCV	1	66333.5	69893.4	94.91	PASS	30-150	56054.5	57188.5	98.02	PASS	30-150
CCB2	CCB	1	65987.8	69893.4	94.41	PASS	30-150	55035.6	57188.5	96.24	PASS	30-150
ICSA2	ICSA	1	65271.7	69893.4	93.39	PASS	30-150	55160.6	57188.5	96.45	PASS	30-150
ICSAB2	ICSAB	1	61082.5	69893.4	87.39	PASS	30-150	49789.9	57188.5	87.06	PASS	30-150
CCV3	CCV	1	23664.7	69893.4	33.86	PASS	30-150	23204.3	57188.5	40.58	PASS	30-150
CCB3	CCB	1	15512.9	69893.4	22.2	NR!	30-150	16948.9	57188.5	29.64	NR!	30-150
CCV3	CCV	1	82912.5	69893.4	118.63	PASS	30-150	60926.3	57188.5	106.54	PASS	30-150
CCB3	CCB	1	80607.9	69893.4	115.33	PASS	30-150	57848.5	57188.5	101.15	PASS	30-150
CCV4	CCV	1	72089.2	69893.4	103.14	PASS	30-150	56551.7	57188.5	98.89	PASS	30-150
CCB4	CCB	1	66100	69893.4	94.57	PASS	30-150	52838.3	57188.5	92.39	PASS	30-150
ICSA3	ICSA	1	66338.9	69893.4	94.91	PASS	30-150	52992.1	57188.5	92.66	PASS	30-150
ICSAB3	ICSAB	1	70068.5	69893.4	100.25	PASS	30-150	54130.3	57188.5	94.65	PASS	30-150

INTERNAL STANDARD: 221214A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]					72 Ge (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria	CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	83242	83242	100	PASS	30-150	58571.1	58571.1	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	84843.3	83242	101.92	PASS	30-150	60096.5	58571.1	102.6	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	85555.8	83242	102.78	PASS	30-150	60133.4	58571.1	102.67	PASS	30-150
Std3-5/50 ppb	ICAL	1	83373.5	83242	100.16	PASS	30-150	60133.5	58571.1	102.67	PASS	30-150
Std4-10/100 ppb	ICAL	1	84598.6	83242	101.63	PASS	30-150	60230.5	58571.1	102.83	PASS	30-150
Std5-20/200 ppb	ICAL	1	82583	83242	99.21	PASS	30-150	59745.2	58571.1	102	PASS	30-150
Std6-40/400 ppb	ICAL	1	82829.9	83242	99.5	PASS	30-150	59439.8	58571.1	101.48	PASS	30-150
Std7-100/1000 ppb	ICAL	1	81918.7	83242	98.41	PASS	30-150	58752.9	58571.1	100.31	PASS	30-150
Std8-200/2000 ppb	ICAL	1	81160.7	83242	97.5	PASS	30-150	57413.8	58571.1	98.02	PASS	30-150
ICV	ICV	1	77079	83242	92.6	PASS	30-150	56375.6	58571.1	96.25	PASS	30-150
ICB	ICB	1	74839.1	83242	89.91	PASS	30-150	54748.9	58571.1	93.47	PASS	30-150
LLICV1	LLICV	1	76846.1	83242	92.32	PASS	30-150	55532.7	58571.1	94.81	PASS	30-150
MLCCV	CCV	1	78711	83242	94.56	PASS	30-150	56908.5	58571.1	97.16	PASS	30-150
ICSA1	ICSA	1	74971.9	83242	90.07	PASS	30-150	54286.3	58571.1	92.68	PASS	30-150
ICSAB1	ICSAB	1	86126.6	83242	103.47	PASS	30-150	59101.8	58571.1	100.91	PASS	30-150
LLICV1	LLICV	1	84501.6	83242	101.51	PASS	30-150	61808.5	58571.1	105.53	PASS	30-150
CCV1	CCV	1	46913.7	83242	56.36	PASS	30-150	44004.6	58571.1	75.13	PASS	30-150
CCB1	CCB	1	44532.7	83242	53.5	PASS	30-150	42032.8	58571.1	71.76	PASS	30-150
N053874-005C	SAMP	1	53410.9	83242	64.16	PASS	30-150	47954.5	58571.1	81.87	PASS	30-150
N053874-019C	SAMP	1	48786.7	83242	58.61	PASS	30-150	40918.9	58571.1	69.86	PASS	30-150
N053874-020C	SAMP	1	51230.6	83242	61.54	PASS	30-150	42213.2	58571.1	72.07	PASS	30-150
CCV2	CCV	1	71166.4	83242	85.49	PASS	30-150	59444.2	58571.1	101.49	PASS	30-150
CCB2	CCB	1	63841.7	83242	76.69	PASS	30-150	54655.3	58571.1	93.31	PASS	30-150
ICSA2	ICSA	1	62951.8	83242	75.63	PASS	30-150	53309.9	58571.1	91.02	PASS	30-150
ICSAB2	ICSAB	1	61461.6	83242	73.83	PASS	30-150	49777.8	58571.1	84.99	PASS	30-150
CCV3	CCV	1	70201.4	83242	84.33	PASS	30-150	55388.9	58571.1	94.57	PASS	30-150
CCB3	CCB	1	67248.1	83242	80.79	PASS	30-150	54143.6	58571.1	92.44	PASS	30-150
CCV4	CCV	1	52569.2	83242	63.15	PASS	30-150	45440.8	58571.1	77.58	PASS	30-150
CCB4	CCB	1	49084.3	83242	58.97	PASS	30-150	43782.9	58571.1	74.75	PASS	30-150
CCV5	CCV	1	57717.3	83242	69.34	PASS	30-150	45841.8	58571.1	78.27	PASS	30-150
CCB5	CCB	1	54358.2	83242	65.3	PASS	30-150	45063	58571.1	76.94	PASS	30-150
ICSA3	ICSA	1	54429.6	83242	65.39	PASS	30-150	44781.1	58571.1	76.46	PASS	30-150
ICSAB3	ICSAB	1	60129.2	83242	72.23	PASS	30-150	48205.2	58571.1	82.3	PASS	30-150
CCV6	CCV	1	47738	83242	57.35	PASS	30-150	38246.9	58571.1	65.3	PASS	30-150
CCB6	CCB	1	41836.8	83242	50.26	PASS	30-150	33817.2	58571.1	57.74	PASS	30-150
CCV7	CCV	1	18206.7	83242	21.87	NR!	30-150	17353.7	58571.1	29.63	NR!	30-150
CCB7	CCB	1	17788.5	83242	21.37	NR!	30-150	16640.8	58571.1	28.41	NR!	30-150
ICSA4	ICSA	1	15846.5	83242	19.04	NR!	30-150	15147.1	58571.1	25.86	NR!	30-150
ICSAB4	ICSAB	1	13596.7	83242	16.33	NR!	30-150	12700.5	58571.1	21.68	NR!	30-150

INTERNAL STANDARD: 221214A

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	105704.7	105704.7	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	109251.1	105704.7	103.36	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	108413	105704.7	102.56	PASS	30-150
Std3-5/50 ppb	ICAL	1	109126.7	105704.7	103.24	PASS	30-150
Std4-10/100 ppb	ICAL	1	108745.5	105704.7	102.88	PASS	30-150
Std5-20/200 ppb	ICAL	1	107891	105704.7	102.07	PASS	30-150
Std6-40/400 ppb	ICAL	1	104790.8	105704.7	99.14	PASS	30-150
Std7-100/1000 ppb	ICAL	1	103365.3	105704.7	97.79	PASS	30-150
Std8-200/2000 ppb	ICAL	1	100886.7	105704.7	95.44	PASS	30-150
ICV	ICV	1	99806.7	105704.7	94.42	PASS	30-150
ICB	ICB	1	96220.9	105704.7	91.03	PASS	30-150
LLICV1	LLICV	1	97160.8	105704.7	91.92	PASS	30-150
MLCCV	CCV	1	101167.4	105704.7	95.71	PASS	30-150
ICSA1	ICSA	1	95568.2	105704.7	90.41	PASS	30-150
ICSAB1	ICSAB	1	105224.7	105704.7	99.55	PASS	30-150
LLICV1	LLICV	1	112020.6	105704.7	105.98	PASS	30-150
CCV1	CCV	1	71929.6	105704.7	68.05	PASS	30-150
CCB1	CCB	1	69974.4	105704.7	66.2	PASS	30-150
N053874-005C	SAMP	1	77844.1	105704.7	73.64	PASS	30-150
N053874-019C	SAMP	1	68021.7	105704.7	64.35	PASS	30-150
N053874-020C	SAMP	1	72739.8	105704.7	68.81	PASS	30-150
CCV2	CCV	1	102070.6	105704.7	96.56	PASS	30-150
CCB2	CCB	1	94316.6	105704.7	89.23	PASS	30-150
ICSA2	ICSA	1	91294.4	105704.7	86.37	PASS	30-150
ICSAB2	ICSAB	1	85343.4	105704.7	80.74	PASS	30-150
CCV3	CCV	1	94782.5	105704.7	89.67	PASS	30-150
CCB3	CCB	1	92198	105704.7	87.22	PASS	30-150
CCV4	CCV	1	77820.8	105704.7	73.62	PASS	30-150
CCB4	CCB	1	73974.1	105704.7	69.98	PASS	30-150
CCV5	CCV	1	79210.6	105704.7	74.94	PASS	30-150
CCB5	CCB	1	78460.7	105704.7	74.23	PASS	30-150
ICSA3	ICSA	1	77383.1	105704.7	73.21	PASS	30-150
ICSAB3	ICSAB	1	83124.4	105704.7	78.64	PASS	30-150
CCV6	CCV	1	68527.3	105704.7	64.83	PASS	30-150
CCB6	CCB	1	62142	105704.7	58.79	PASS	30-150
CCV7	CCV	1	34540.9	105704.7	32.68	PASS	30-150
CCB7	CCB	1	33635.7	105704.7	31.82	PASS	30-150
ICSA4	ICSA	1	30667.7	105704.7	29.01	NR!	30-150
ICSAB4	ICSAB	1	27279.5	105704.7	25.81	NR!	30-150

INTERNAL STANDARD: 221221B

Instrument ID: ICPMS-03

Sample Name	Type	DF	72 Ge (ISTD) [1]				
			CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	121488.5	121488.5	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	116013.4	121488.5	95.49	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	111632.9	121488.5	91.89	PASS	30-150
Std3-5/50 ppb	ICAL	1	114074.6	121488.5	93.9	PASS	30-150
Std4-10/100 ppb	ICAL	1	111841.3	121488.5	92.06	PASS	30-150
Std5-20/200 ppb	ICAL	1	113130.3	121488.5	93.12	PASS	30-150
Std6-40/400 ppb	ICAL	1	113103.3	121488.5	93.1	PASS	30-150
Std7-100/1000 ppb	ICAL	1	111655.8	121488.5	91.91	PASS	30-150
Std8-200/2000 ppb	ICAL	1	110074.2	121488.5	90.6	PASS	30-150
ICV	ICV	1	106707.4	121488.5	87.83	PASS	30-150
ICB	ICB	1	109942.1	121488.5	90.5	PASS	30-150
LLICV1	LLICV	1	106817.1	121488.5	87.92	PASS	30-150
MLCCV	CCV	1	107862.9	121488.5	88.78	PASS	30-150
ICSA1	ICSA	1	107255.6	121488.5	88.28	PASS	30-150
ICSAB1	ICSAB	1	108913.1	121488.5	89.65	PASS	30-150
LLICV1	LLICV	1	135745.1	121488.5	111.73	PASS	30-150
LLICV1	LLICV	1	117661.9	121488.5	96.85	PASS	30-150
N053874-020C	SAMP	1	109223.9	121488.5	89.9	PASS	30-150
CCV1	CCV	1	90805.9	121488.5	74.74	PASS	30-150
CCB1	CCB	1	93466.2	121488.5	76.93	PASS	30-150
CCV2	CCV	1	105449.7	121488.5	86.8	PASS	30-150
CCB2	CCB	1	104220.8	121488.5	85.79	PASS	30-150
CCV3	CCV	1	104436.7	121488.5	85.96	PASS	30-150
CCB3	CCB	1	102319.7	121488.5	84.22	PASS	30-150
ICSA2	ICSA	1	101673.7	121488.5	83.69	PASS	30-150
ICSAB2	ICSAB	1	100316.5	121488.5	82.57	PASS	30-150

INTERNAL STANDARD: 221229B

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	35685.8	35685.8	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	36036.6	35685.8	100.98	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	35321.7	35685.8	98.98	PASS	30-150
Std3-5/50 ppb	ICAL	1	35731.5	35685.8	100.13	PASS	30-150
Std4-10/100 ppb	ICAL	1	35156.9	35685.8	98.52	PASS	30-150
Std5-20/200 ppb	ICAL	1	36081.1	35685.8	101.11	PASS	30-150
Std6-40/400 ppb	ICAL	1	35544.4	35685.8	99.6	PASS	30-150
Std7-100/1000 ppb	ICAL	1	35866.2	35685.8	100.51	PASS	30-150
Std8-200/2000 ppb	ICAL	1	35365.1	35685.8	99.1	PASS	30-150
ICV	ICV	1	33351	35685.8	93.46	PASS	30-150
ICB	ICB	1	33985.6	35685.8	95.24	PASS	30-150
LLICV1	LLCCV	1	34042.3	35685.8	95.39	PASS	30-150
MLCCV	CCV	1	35404.2	35685.8	99.21	PASS	30-150
ICSA1	ICSA	1	34871.9	35685.8	97.72	PASS	30-150
ICSAB1	ICSAB	1	37136.8	35685.8	104.07	PASS	30-150
MB-97435	MBLK	1	40226	35685.8	112.72	PASS	30-150
LCS-97435	LCS	1	37356.1	35685.8	104.68	PASS	30-150
N054022-001C	SAMP	1	33407.8	35685.8	93.62	PASS	30-150
N054022-001C	SAMP	5	37208	35685.8	104.27	PASS	30-150
N054022-001C-PS	PS	1	31461.8	35685.8	88.16	PASS	30-150
N054022-001C-MS	MS	1	32381.4	35685.8	90.74	PASS	30-150
N054022-001C-MSD	MSD	1	31832.4	35685.8	89.2	PASS	30-150
N053874-005C	SAMP	5	35888.5	35685.8	100.57	PASS	30-150
N053874-014C	SAMP	5	32653	35685.8	91.5	PASS	30-150
CCV1	CCV	1	37126.7	35685.8	104.04	PASS	30-150
CCB1	CCB	1	36018.7	35685.8	100.93	PASS	30-150
N054166-001H	SAMP	5	33002.6	35685.8	92.48	PASS	30-150
N054166-003H	SAMP	5	35538.9	35685.8	99.59	PASS	30-150
N054166-001H	SAMP	5	32187.7	35685.8	90.2	PASS	30-150
CCV2	CCV	1	36632.3	35685.8	102.65	PASS	30-150
CCB2	CCB	1	35313.9	35685.8	98.96	PASS	30-150
ICSA2	ICSA	1	35624.6	35685.8	99.83	PASS	30-150
ICSAB2	ICSAB	1	35926.4	35685.8	100.67	PASS	30-150
CCV3	CCV	1	35375.2	35685.8	99.13	PASS	30-150
CCB3	CCB	1	33820.8	35685.8	94.77	PASS	30-150
CCV4	CCV	1	36778.2	35685.8	103.06	PASS	30-150
CCB4	CCB	1	35862.9	35685.8	100.5	PASS	30-150
CCV5	CCV	1	40619.3	35685.8	113.82	PASS	30-150
CCB5	CCB	1	39710.4	35685.8	111.28	PASS	30-150
ICSA3	ICSA	1	38721.5	35685.8	108.51	PASS	30-150
ICSAB3	ICSAB	1	41068.2	35685.8	115.08	PASS	30-150

INTERNAL STANDARD: 221229B

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
CCV6	CCV	1	41424.6	35685.8	116.08	PASS	30-150
CCB6	CCB	1	39834	35685.8	111.62	PASS	30-150
CCV7	CCV	1	41944.7	35685.8	117.54	PASS	30-150
CCB7	CCB	1	40437.6	35685.8	113.32	PASS	30-150
CCV8	CCV	1	41790	35685.8	117.11	PASS	30-150
CCB8	CCB	1	40207.1	35685.8	112.67	PASS	30-150
ICSA4	ICSA	1	40290.7	35685.8	112.9	PASS	30-150
ICSAB4	ICSAB	1	41817.8	35685.8	117.18	PASS	30-150

INTERNAL STANDARD: 221231A

Instrument ID: ICPMS-03

Sample Name	Type	DF	45 Sc (ISTD) [2]				
			CPS	REF	%REC	Comment	Criteria
Cal Blk	IBLK	1	84130.8	84130.8	100	PASS	30-150
Std1-0.1/1 ppb	ICAL	1	86986.3	84130.8	103.39	PASS	30-150
Std2-0.5/5 ppb	ICAL	1	84513.7	84130.8	100.46	PASS	30-150
Std3-5/50 ppb	ICAL	1	87043	84130.8	103.46	PASS	30-150
Std4-10/100 ppb	ICAL	1	88456.1	84130.8	105.14	PASS	30-150
Std5-20/200 ppb	ICAL	1	90615.5	84130.8	107.71	PASS	30-150
Std6-40/400 ppb	ICAL	1	91636.4	84130.8	108.92	PASS	30-150
Std7-100/1000 ppb	ICAL	1	88376.7	84130.8	105.05	PASS	30-150
Std8-200/2000 ppb	ICAL	1	88949.8	84130.8	105.73	PASS	30-150
ICV	ICV	1	81737.8	84130.8	97.16	PASS	30-150
ICB	ICB	1	77040.1	84130.8	91.57	PASS	30-150
LLICV1	LLCCV	1	84486.8	84130.8	100.42	PASS	30-150
MLCCV	CCV	1	86674.6	84130.8	103.02	PASS	30-150
ICSA1	ICSA	1	73026.7	84130.8	86.8	PASS	30-150
ICSAB1	ICSAB	1	85631.8	84130.8	101.78	PASS	30-150
LLICV1	LLCCV	1	90332.9	84130.8	107.37	PASS	30-150
MB-97001	MBLK	1	82740.4	84130.8	98.35	PASS	30-150
MB-97001	MBLK	1	84425.6	84130.8	100.35	PASS	30-150
CCV1	CCV	1	89367.8	84130.8	106.22	PASS	30-150
CCB1	CCB	1	78574.9	84130.8	93.4	PASS	30-150
ICSA2	ICSA	1	75314.4	84130.8	89.52	PASS	30-150
ICSAB2	ICSAB	1	84327.4	84130.8	100.23	PASS	30-150

SERIAL DILUTION/
POST DIGESTION SPIKE

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.: N053874
Test Method: EPA 6020
Analysis Date: 12 / 05 & 06 / 2022

Matrix: Groundwater
Batch No.: 97001

Instrument ID: ICPMS-03
Instrument Description: Agilent 7800

Comments:

Analyzed By: Diane Jetajobe

Dilution test for Mn failed. However, PS passed criteria.
Dilution test for Mo failed.

Sample ID	Analyte	Symbol	Units	Calc Val	Oqual	SAMPRefVal	%DIFF	%DIFFlimit
N053874-018C DT 5x	Arsenic	As	µg/L	0	NA	0		10
N053874-018C DT 5x	Manganese	Mn	µg/L	36.25819	FAIL	29.11946	24.52%	10
N053874-018C DT 5x	Molybdenum	Mo	µg/L	38.34517	FAIL	31.94294	20.04%	10
N053874-018C DT 5x	Selenium	Se	µg/L	2.281648	NA	2.1791	4.71%	10
N053874-018C DT 25x	Chromium	Cr	µg/L	273.2949	PASS	267.573	2.14%	10

Reviewed by:

JRB 1/23/2023

Note: NA - Not Applicable

ASSET Laboratories

ICP-MS-Metals in Water

Dilution Test Summary

Work Order No.:	N053874
Test Method:	EPA 6020
Analysis Date:	12/29/2022
Matrix:	Groundwater
Batch No.:	97435
Instrument ID:	ICPMS-03
Instrument Description:	Agilent 7800

Comments:

Analyzed By: Diane Jetajobe

Dilution test is not applicable to Cr. The calculated concentration is <25RL.

Sample ID	Analyte	Symbol	Units	Calc Val	Oqual	SAMPRefVal	%DIFF	%DIFFlimit
N054022-001C DT 5x	Chromium	Cr	µg/L	1.484259	NA	1.081698	37.22%	10

Reviewed by:

JRB 1/23/2023

Note: NA - Not Applicable

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N053874-018C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **167938**
Client ID: **ZZZZZZ** Batch ID: **97001** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/6/2022** SeqNo: **4956854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.901	0.10	10.00	0	89.0	80	120				
Manganese	123.006	0.50	100.0	29.12	93.9	80	120				
Molybdenum	45.084	0.50	10.00	31.94	131	80	120				S
Selenium	10.643	0.50	10.00	2.179	84.6	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N053874-018C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167980**
Client ID:	**ZZZZZZ**	Batch ID: **97001**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4958791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	358.016	5.0	10.00	267.6	904	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053874
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N054022-001C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168559**
Client ID:	**ZZZZZZ**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/29/2022**	SeqNo: **4995948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.528	1.0	10.00	1.082	94.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

MDL STUDY

Method Detection Limit

Analytical Method: EPA 6020 / 200.8
Digestion Method: EPA 3010A
Date of Analysis: 9/13, 9/14, 9/15/20
Digestion Date: 9/13, 9/14, 9/15/20
Instrument Name: ICPMS2
Analysts: MEI

Matrix: Water
Units: ug/L

Analyte	MDLs	MDLb	MDL	LOD	PQL
ANTIMONY	0.0376	0.2164	0.2164	0.30	0.50
ARSENIC	0.0496	0.0181	0.0496	0.05	0.10
BARIUM	0.0831	0.0302	0.0831	0.30	1.00
BERYLLIUM	0.0305	0.0083	0.0305	0.10	0.50
CADMIUM	0.0450	0.0019	0.0450	0.10	0.50
CHROMIUM	0.0353	0.0008	0.0353	0.10	1.00
COBALT	0.0169	0.0000	0.0169	0.05	0.50
COPPER	0.0458	0.0082	0.0458	0.10	1.00
IRON	0.2260	0.0939	0.2260	0.75	10.00
LEAD	0.0178	0.0087	0.0178	0.07	1.00
MANGANESE	0.0263	0.0026	0.0263	0.10	0.50
MOLYBDENUM	0.0372	0.1197	0.1197	0.25	0.50
NICKEL	0.0343	0.0041	0.0343	0.10	1.00
SELENIUM	0.0366	0.0438	0.0438	0.10	0.50
SILVER	0.0280	0.0006	0.0280	0.10	0.50
THALLIUM	0.1154	0.0282	0.1154	0.25	0.50
URANIUM	0.0364	0.0005	0.0364	0.10	0.50
VANADIUM	0.0672	0.0000	0.0672	0.25	1.00
ZINC	0.2626	0.0216	0.2626	1.00	10.00
ALUMINUM	0.3533	0.0372	0.3533	1.00	10.00

LOD & PQL Verification 2020

Analytical Method: EPA 6020 / 200.8
Digestion Method: EPA 3010A
Date of Analysis: 9/17/2020
Digestion Date: 9/18/2020
Instrument Name: ICPMS2
Analysts: MEI

Matrix: Water
Units: ug/L

Analyte	MDLs	LOD	ACTUAL LOD	PQL	ACTUAL PQL	% RECOVERY
ANTIMONY	0.2164	0.30	0.157	0.50	0.586	117
ARSENIC	0.0496	0.05	0.028	0.10	0.111	111
BARIUM	0.0831	0.30	0.282	1.00	1.046	105
BERYLLIUM	0.0305	0.10	0.135	0.50	0.518	104
CADMIUM	0.0450	0.10	0.116	0.50	0.518	104
CHROMIUM	0.0353	0.10	0.276	1.00	1.008	101
COBALT	0.0169	0.05	0.129	0.50	0.515	103
COPPER	0.0458	0.10	0.271	1.00	1.020	102
IRON	0.2260	0.75	3.046	10.00	10.321	103
LEAD	0.0178	0.07	0.279	1.00	1.051	105
MANGANESE	0.0263	0.10	0.153	0.50	0.529	106
MOLYBDENUM	0.1197	0.25	0.123	0.50	0.518	104
NICKEL	0.0343	0.10	0.291	1.00	1.214	121
SELENIUM	0.0438	0.10	0.092	0.50	0.465	93
SILVER	0.0280	0.10	0.136	0.50	0.570	114
THALLIUM	0.1154	0.25	0.115	0.50	0.490	98
URANIUM	0.0364	0.10	0.137	0.50	0.551	110
VANADIUM	0.0672	0.25	0.264	1.00	1.018	102
ZINC	0.2626	1.00	3.066	10.00	10.362	104
ALUMINUM	0.3533	1.00	8.218	10.00	11.093	111

Method Detection Limit

Analytical Method: EPA 6020 / 200.8
Digestion Method: EPA 3010A
Date of Analysis: 9/13/20, 9/14/20, 9/15/20
Digestion Date: 9/13/20, 9/14/20, 9/15/20
Instrument Name: ICPMS2
Analysts: MEI

Matrix: Water
Amount of Sample: 25 mL
Units: ug/L

Analyte	AMT SPIKED, ppb	1	2	3	4	5	6	7	SD	MDL	LOD	ACTUAL LOD	PQL	ACTUAL PQL	% REC
ANTIMONY	0.50	0.560	0.559	0.537	0.553	0.577	0.562	0.560	0.0120	0.0376	0.100	0.157	0.50	0.586	117
ARSENIC	0.10	0.105	0.096	0.083	0.121	0.108	0.128	0.120	0.0158	0.0496	0.080	0.028	0.10	0.111	111
BARIUM	1.00	0.962	0.954	0.983	0.960	1.006	0.934	1.001	0.0265	0.0831	0.250	0.282	1.00	1.046	105
BERYLLIUM	0.50	0.487	0.472	0.468	0.477	0.480	0.488	0.496	0.0097	0.0305	0.100	0.135	0.50	0.518	104
CADMIUM	0.50	0.471	0.488	0.511	0.508	0.484	0.503	0.492	0.0143	0.0450	0.100	0.116	0.50	0.518	104
CHROMIUM	1.00	0.938	0.956	0.929	0.930	0.949	0.928	0.946	0.0112	0.0353	0.250	0.276	1.00	1.008	101
COBALT	0.50	0.476	0.482	0.486	0.480	0.469	0.479	0.477	0.0054	0.0169	0.100	0.129	0.50	0.515	103
COPPER	1.00	0.987	0.949	0.988	0.981	0.969	0.973	0.990	0.0146	0.0458	0.500	0.271	1.00	1.020	102
IRON	10.00	9.395	9.548	9.522	9.390	9.453	9.362	9.397	0.0720	0.2260	2.500	3.046	10.00	10.321	103
LEAD	1.00	0.967	0.972	0.968	0.966	0.964	0.976	0.979	0.0057	0.0178	0.250	0.279	1.00	1.051	105
MANGANESE	0.50	0.556	0.567	0.558	0.542	0.564	0.558	0.549	0.0084	0.0263	0.100	0.153	0.50	0.529	106
MOLYBDENUM	0.50	0.493	0.475	0.470	0.489	0.488	0.503	0.475	0.0118	0.0372	0.250	0.123	0.50	0.518	104
NICKEL	1.00	0.981	1.000	0.993	0.969	0.988	0.983	0.972	0.0109	0.0343	0.250	0.291	1.00	1.214	121
SELENIUM	0.50	0.479	0.475	0.492	0.466	0.478	0.471	0.455	0.0116	0.0366	0.400	0.092	0.50	0.465	93
SILVER	0.50	0.620	0.620	0.613	0.594	0.608	0.608	0.610	0.0089	0.0280	0.250	0.136	0.50	0.570	114
THALLIUM	0.50	0.478	0.405	0.406	0.477	0.407	0.478	0.419	0.0368	0.1154	0.250	0.115	0.50	0.490	98
URANIUM	0.50	0.594	0.591	0.607	0.579	0.574	0.602	0.593	0.0116	0.0364	0.100	0.137	0.50	0.551	110
VANADIUM	1.00	0.938	0.978	0.948	0.945	0.946	0.913	0.919	0.0214	0.0672	0.500	0.264	1.00	1.018	102
ZINC	10.00	9.701	9.527	9.642	9.695	9.497	9.696	9.644	0.0836	0.2626	2.500	3.066	10.00	10.362	104
ALUMINUM	10.00	9.415	9.220	9.282	9.234	9.507	9.303	9.203	0.1125	0.3533	0.100	8.218	10.00	11.093	111

MDL BLANK

Analyte		1	2	3	4	5	6	7	Mean	SD	MDL
ANTIMONY		0.133669	0.051403	0.03612	0.12283	0.04951	0.12493	0.05574	0.0820	0.0428	0.2164
ARSENIC		<0.000	<0.000	0.01035	0.00034	0.00312	<0.000	0.00102	0.0037	0.0046	0.0181
BARIUM		<0.000	<0.000	0.00085	0.01018	0.00756	0.01192	0.01865	0.0098	0.0065	0.0302
BERYLLIUM		0.002366	0.000513	<0.000	0.00421	0.0046	0.00405	0.00102	0.0028	0.0018	0.0083
CADMIUM		0.000699	0.000365	0.00076	<0.000	<0.000	0.00107	6.7E-06	0.0006	0.0004	0.0019
CHROMIUM		0	0	0.00059	0	0	0	0	0.0001	0.0002	0.0008
COBALT		0	0	0	0	0	0	0	0.0000	0.0000	0.0000
COPPER		0.002351	0.004587	0.00295	<0.000	0.00025	<0.000	<0.000	0.0025	0.0018	0.0082
IRON		0.051023	0.040696	0.03201	0.04658	0.02249	0.07272	0.03432	0.0428	0.0162	0.0939
LEAD		0.004641	0.001836	0.0013	0.00571	0.00403	0.00444	0.002	0.0034	0.0017	0.0087
MANGANESE		<0.000	0.001528	0.00193	<0.000	<0.000	<0.000	0.00197	0.0018	0.0002	0.0026
MOLYBDENUM		0.065007	0.029611	0.01408	0.0689	0.02847	0.07342	0.03014	0.0442	0.0240	0.1197
NICKEL		<0.000	0.00196	0.00283	0.00108	0.00111	<0.000	0.00104	0.0016	0.0008	0.0041
SELENIUM		0.027254	0.013201	0.00812	0.02313	0.02686	0.01549	<0.000	0.0190	0.0079	0.0438
SILVER		0.000595	<0.000	<0.000	<0.000	<0.000	<0.000	<0.000	0.0006	0.0000	0.0006
THALLIUM		0.020258	0.010021	0.00738	0.01683	0.01051	0.01646	0.00889	0.0129	0.0049	0.0282
URANIUM		0.000287	3.89E-05	0.00011	0.00012	0.00012	0.00031	<0.000	0.0002	0.0001	0.0005
VANADIUM		0	0	0	0	0	0	0	0.0000	0.0000	0.0000
ZINC		0.009084	<0.000	<0.000	<0.000	<0.000	0.011	0.00244	0.0075	0.0045	0.0216
ALUMINUM		0.034605	<0.000	<0.000	<0.000	<0.000	0.03586	0.03492	0.0351	0.0006	0.0372

BC LABORATORIES, INC.

Work Order Number: 2229272

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53874A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Case Narrative

Sample Receipt

Work Order: 2229272
COC Number: N53874A
Default Cooler was received at 3.1 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
EPA-353.2	SC-1

Sample Qualifier Summary

There were no qualifiers for the samples.

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156257	EPA-353.2	2229272-01	N053874-001D / MW-40D-Q422

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Discussion

The data package was revised to include the calibration summary in the Raw Data - Analytical Runs section.

Chain of Custody and Cooler Receipt Form for 2229272 Page 1 of 2

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY

2229272

QC Level: Level IV

Field Sampler: Riggie Tep

05-Dec-22

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #: 22-29272

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NO3F	
N053874-001D / MW-40D-Q422 -1	Groundwater	12/1/2022 8:30:00 AM	8OZP	1	
N053874-002D / MW-40S-Q422 -2	Groundwater	12/1/2022 9:05:00 AM	8OZP	1	
N053874-009D / MW-89-183-Q422 -3	Groundwater	12/1/2022 8:32:00 AM	8OZP	1	
N053874-010D / MW-937-Q422 -4	Groundwater	12/1/2022 8:42:00 AM	8OZP	1	
N053874-011D / MW-89-273-Q422 -5	Groundwater	12/1/2022 9:26:00 AM	8OZP	1	
N053874-020D / MW-378-Q422 -6	Groundwater	12/1/2022 8:28:00 AM	8OZP	1	

Preserved with H2SO4

CHK BY DISTRIBUTION SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53874A. Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlabc atories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

	Date/Time		Date/Time
Relinquished by: YRodriguez	12/5/2022 1630	Received by:	12-6-22 1023
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2229272 Page 2 of 2

PACE ANALYTICAL

COOLER RECEIPT FORM

Submission #: 22-29272 Page 1 Of 1

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐
Pace Lab Field Service ☐ Other ☐ (Specify)

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☒ NO ☐
(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.96 Container: DE Thermometer ID: 337

Temperature: (A) 3.2 °C / (C) 3.1 °C

Date/Time 12-6-22

Analyst Init SMH 1023

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz C_r^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
~~8oz NITRATE / NITRITE~~ 60mL NP	A	A	A	A	A	A				
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: TC Date/Time: 12/10/22 0940

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\RANREG rev 23]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2229272**
Class: **WET**
Method: **EPA-353.2**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053874-001D / MW-40D-Q422	2229272-01
N053874-002D / MW-40S-Q422	2229272-02
N053874-009D / MW-89-183-Q422	2229272-03
N053874-010D / MW-937-Q422	2229272-04
N053874-011D / MW-89-273-Q422	2229272-05
N053874-020D / MW-37S-Q422	2229272-06

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-10-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Nitrate/Nitrite as N	0.034	0.1	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053874-001D / MW-40D-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229272-01
File ID: 20221216007-NO3-008
Sampled: 12/01/22 08:30
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 16:15
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156257
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	0.29	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053874-002D / MW-40S-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229272-02
File ID: 20221216007-NO3-012
Sampled: 12/01/22 09:05
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 16:20
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156257
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	3.5	1		EPA-353.2

ASSET Laboratories- Las Vegas
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Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053874-009D / MW-89-183-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229272-03
File ID: 20221216007-NO3-013
Sampled: 12/01/22 08:32
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 16:21
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156257
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	2.8	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053874-010D / MW-937-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229272-04
File ID: 20221216007-NO3-014
Sampled: 12/01/22 08:42
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 16:22
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156257
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	2.8	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053874-011D / MW-89-273-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229272-05
File ID: 20221216007-NO3-015
Sampled: 12/01/22 09:26
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 16:23
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156257
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	2.8	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
EPA-353.2

N053874-020D / MW-37S-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229272-06
File ID: 20221216007-NO3-018
Sampled: 12/01/22 08:29
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 16:27
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156257
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	1.2	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156257
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053874-001D / MW-40D-Q422	2229272-01	20221216007-NO3-008	12/16/22 12:00	pH of sample was 8
N053874-002D / MW-40S-Q422	2229272-02	20221216007-NO3-012	12/16/22 12:00	pH of sample was 8
N053874-009D / MW-89-183-Q422	2229272-03	20221216007-NO3-013	12/16/22 12:00	pH of sample was 8
N053874-010D / MW-937-Q422	2229272-04	20221216007-NO3-014	12/16/22 12:00	pH of sample was 8
N053874-011D / MW-89-273-Q422	2229272-05	20221216007-NO3-015	12/16/22 12:00	pH of sample was 8
N053874-020D / MW-37S-Q422	2229272-06	20221216007-NO3-018	12/16/22 12:00	pH of sample was 8
Blank	B156257-BLK1	20221216007-NO3-007	12/16/22 12:00	
LCS	B156257-BS1	20221216007-NO3-006	12/16/22 12:00	
N053874-001D / MW-40D-Q422	B156257-DUP1	20221216007-NO3-009	12/16/22 12:00	pH of sample was 8
N053874-001D / MW-40D-Q422	B156257-MS1	20221216007-NO3-010	12/16/22 12:00	pH of sample was 8
N053874-001D / MW-40D-Q422	B156257-MSD1	20221216007-NO3-011	12/16/22 12:00	pH of sample was 8

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
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Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
EPA-353.2

Laboratory:	Pace Analytical - Bakersfield		SDG:	2229272	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156257-BLK1	File ID:	20221216007-NO3-007
Prepared:	12/16/22 12:00	Preparation:	No Prep	Initial/Final:	10 ml / 10 ml
Analyzed:	12/16/22 16:14	Instrument:	SC-1		
Batch:	B156257	Sequence:	2223332	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
---	Nitrate/Nitrite as N	0.034	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

3874-001D / MW-40D-Q

DUPLICATES

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156257
Preparation: No Prep
Source Sample Name: N053874-001D / MW-40D-Q422

SDG: 2229272
Project: Level IV + labSpec7
Laboratory ID: B156257-DUP1
Lab Source ID: 2229272-01
Initial/Final: 10 ml / 10 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Nitrate/Nitrite as N	10	0.28790		0.29010		0.761		EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA-353.2

N053874-001D / MW-40D-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156257
Laboratory ID: B156257-MS1
Preparation: No Prep
Initial/Final: 9.5 ml / 10 ml
Source Sample Number: 2229272-01

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	0.28790	2.4666	103	90 - 110

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	2.4444	102	0.905	10	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

LCS RECOVERY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156257
Laboratory ID: B156257-BS1
Preparation: No Prep
Initial/Final: 10 ml / 10 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.0000	2.1641	108	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA-353.2

Laboratory:	Pace Analytical - Bakersfield	SDG:	2229272
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223332	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223332-ICV1	20221216002-NO3-018	12/16/22 11:19
Initial Cal Blank	2223332-ICB1	20221216002-NO3-019	12/16/22 11:20
Calibration Check	2223332-CCVD	20221216007-NO3-004	12/16/22 16:10
Calibration Blank	2223332-CCBD	20221216007-NO3-005	12/16/22 16:11
LCS	B156257-BS1	20221216007-NO3-006	12/16/22 16:12
Blank	B156257-BLK1	20221216007-NO3-007	12/16/22 16:14
N053874-001D / MW-40D-Q422	2229272-01	20221216007-NO3-008	12/16/22 16:15
N053874-001D / MW-40D-Q422	B156257-DUP1	20221216007-NO3-009	12/16/22 16:16
N053874-001D / MW-40D-Q422	B156257-MS1	20221216007-NO3-010	12/16/22 16:17
N053874-001D / MW-40D-Q422	B156257-MSD1	20221216007-NO3-011	12/16/22 16:18
N053874-002D / MW-40S-Q422	2229272-02	20221216007-NO3-012	12/16/22 16:20
N053874-009D / MW-89-183-Q422	2229272-03	20221216007-NO3-013	12/16/22 16:21
N053874-010D / MW-937-Q422	2229272-04	20221216007-NO3-014	12/16/22 16:22
N053874-011D / MW-89-273-Q422	2229272-05	20221216007-NO3-015	12/16/22 16:23
Calibration Check	2223332-CCVE	20221216007-NO3-016	12/16/22 16:24
Calibration Blank	2223332-CCBE	20221216007-NO3-017	12/16/22 16:26
N053874-020D / MW-37S-Q422	2229272-06	20221216007-NO3-018	12/16/22 16:27
Calibration Check	2223332-CCVF	20221216007-NO3-025	12/16/22 16:35
Calibration Blank	2223332-CCBF	20221216007-NO3-026	12/16/22 16:36

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

BLANKS
EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Sequence: 2223332

SDG: 2229272
Project: Level IV + labSpec7
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223332-ICB1	Nitrate/Nitrite as N	-0.013600	0.10	mg/L		EPA-353.2
2223332-CCBD	Nitrate/Nitrite as N	0.0020000	0.10	mg/L		EPA-353.2
2223332-CCBE	Nitrate/Nitrite as N	0.00090000	0.10	mg/L		EPA-353.2
2223332-CCBF	Nitrate/Nitrite as N	0.00050000	0.10	mg/L		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2229272
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223332

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223332-ICV1	Nitrate/Nitrite as N	2.0000	1.9997	100	mg/L	EPA-353.2
2223332-CCVD	Nitrate/Nitrite as N	2.0000	2.0695	103	mg/L	EPA-353.2
2223332-CCVE	Nitrate/Nitrite as N	2.0000	2.1231	106	mg/L	EPA-353.2
2223332-CCVF	Nitrate/Nitrite as N	2.0000	2.0961	105	mg/L	EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229272
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053874-001D / MW-40D-Q422	12/01/22 08:30	12/06/22 10:23	12/16/22 12:00	15.00	28.00	12/16/22 16:15	15.00	28.00	
N053874-002D / MW-40S-Q422	12/01/22 09:05	12/06/22 10:23	12/16/22 12:00	15.00	28.00	12/16/22 16:20	15.00	28.00	
N053874-009D / MW-89-183-Q422	12/01/22 08:32	12/06/22 10:23	12/16/22 12:00	15.00	28.00	12/16/22 16:21	15.00	28.00	
N053874-010D / MW-937-Q422	12/01/22 08:42	12/06/22 10:23	12/16/22 12:00	15.00	28.00	12/16/22 16:22	15.00	28.00	
N053874-011D / MW-89-273-Q422	12/01/22 09:26	12/06/22 10:23	12/16/22 12:00	15.00	28.00	12/16/22 16:23	15.00	28.00	
N053874-020D / MW-37S-Q422	12/01/22 08:29	12/06/22 10:23	12/16/22 12:00	15.00	28.00	12/16/22 16:27	15.00	28.00	

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0353**	**0.00**	**10:58:38 AM**
DIL-1	**RBL**	**0.0000**	**0.0338**	**0.00**	**10:59:50 AM**
DIL-1	**RBL**	**0.0000**	**0.0357**	**0.00**	**11:01:02 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0017**	**0.00**	**11:02:14 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0026**	**0.00**	**11:03:26 AM**
SR5-1	**Std-2**	**0.1000**	**0.0256**	**0.00**	**11:04:38 AM**
SR5-1	**Std-2**	**0.1000**	**0.0269**	**0.00**	**11:05:50 AM**
SR5-2	**Std-3**	**0.5000**	**0.1401**	**0.00**	**11:07:02 AM**
SR5-2	**Std-3**	**0.5000**	**0.1351**	**0.00**	**11:08:14 AM**
SR5-3	**Std-4**	**1.0000**	**0.2675**	**0.00**	**11:09:26 AM**
SR5-3	**Std-4**	**1.0000**	**0.2781**	**0.00**	**11:10:38 AM**
SR5-4	**Std-5**	**2.0000**	**0.5524**	**0.00**	**11:11:50 AM**
SR5-4	**Std-5**	**2.0000**	**0.5438**	**0.00**	**11:13:02 AM**
SR5-5	**Std-6**	**4.0000**	**1.0585**	**0.00**	**11:14:14 AM**
SR5-5	**Std-6**	**4.0000**	**1.1020**	**0.00**	**11:15:26 AM**
ST-3	**^CCV (2 mg/L)**	**2.0159**	**0.5466**	**100.80**	**11:16:38 AM**
ST-2	**~CCB (0 mg/L)**	**-0.0095**	**-0.0016**	**0.00**	**11:17:51 AM**
1	**ICV1**	**1.9997**	**0.5422**	**0.00**	**11:19:03 AM**
2	**ICB1**	**-0.0136**	**-0.0027**	**0.00**	**11:20:15 AM**
3	**NO3**	**2.0403**	**0.5532**	**0.00**	**11:21:27 AM**
4	**NO2**	**2.0990**	**0.5691**	**0.00**	**11:22:39 AM**
ST-3	**^CCV (2 mg/L)**	**1.9753**	**0.5356**	**98.76**	**11:23:51 AM**
ST-2	**~CCB (0 mg/L)**	**-0.0117**	**-0.0022**	**0.00**	**11:25:03 AM**

Report Date :01/09/2023 **Run Date :12/16/2022** **Operator : WESTCO** **Plan # :20221216002**

Plan Description : NO3

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0318**	**0.00**	**4:06:56 PM**
DIL-1	**RBL**	**0.0000**	**0.0316**	**0.00**	**4:08:08 PM**
DIL-1	**RBL**	**0.0000**	**0.0321**	**0.00**	**4:09:20 PM**
ST-3	**^CCV (2 mg/L)**	**2.0695**	**0.5611**	**103.47**	**4:10:32 PM**
ST-2	**~CCB (0 mg/L)**	**0.0020**	**0.0015**	**0.00**	**4:11:44 PM**
1	**B4-BS1**	**2.1641**	**0.5867**	**0.00**	**4:12:56 PM**
2	**B4-BLK1**	**-0.0028**	**0.0002**	**0.00**	**4:14:08 PM**
3	**2229272-01**	**0.2879**	**0.0789**	**0.00**	**4:15:20 PM**
4	**B4-DUP1**	**0.2901**	**0.0795**	**0.00**	**4:16:32 PM**
5	**B4-MS1**	**2.3433**	**0.6352**	**0.00**	**4:17:44 PM**
6	**B4-MSD1**	**2.3222**	**0.6295**	**0.00**	**4:18:56 PM**
7	**2229272-02**	**3.4709**	**0.9404**	**0.00**	**4:20:08 PM**
8	**2229272-03**	**2.8095**	**0.7614**	**0.00**	**4:21:20 PM**
9	**2229272-04**	**2.7881**	**0.7556**	**0.00**	**4:22:32 PM**
10	**2229272-05**	**2.7593**	**0.7478**	**0.00**	**4:23:44 PM**
ST-3	**^CCV (2 mg/L)**	**2.1231**	**0.5756**	**106.15**	**4:24:56 PM**
ST-2	**~CCB (0 mg/L)**	**0.0009**	**0.0012**	**0.00**	**4:26:08 PM**
11	**2229272-06**	**1.2241**	**0.3323**	**0.00**	**4:27:20 PM**
12	**2229186-01**	**1.9365**	**0.5251**	**0.00**	**4:28:32 PM**
13	**2229186-02**	**0.0467**	**0.0136**	**0.00**	**4:29:44 PM**
14	**2229273-01**	**0.5536**	**0.1508**	**0.00**	**4:30:56 PM**
15	**2229273-02**	**2.6772**	**0.7256**	**0.00**	**4:32:08 PM**
16	**LOD**	**0.2691**	**0.0738**	**0.00**	**4:33:20 PM**
17	**LOQ**	**0.4132**	**0.1128**	**0.00**	**4:34:33 PM**
ST-3	**^CCV (2 mg/L)**	**2.0961**	**0.5683**	**104.80**	**4:35:44 PM**
ST-2	**~CCB (0 mg/L)**	**0.0005**	**0.0011**	**0.00**	**4:36:56 PM**

Report Date :01/09/2023 **Run Date :12/16/2022** **Operator : WESTCO** **Plan # :20221216007**

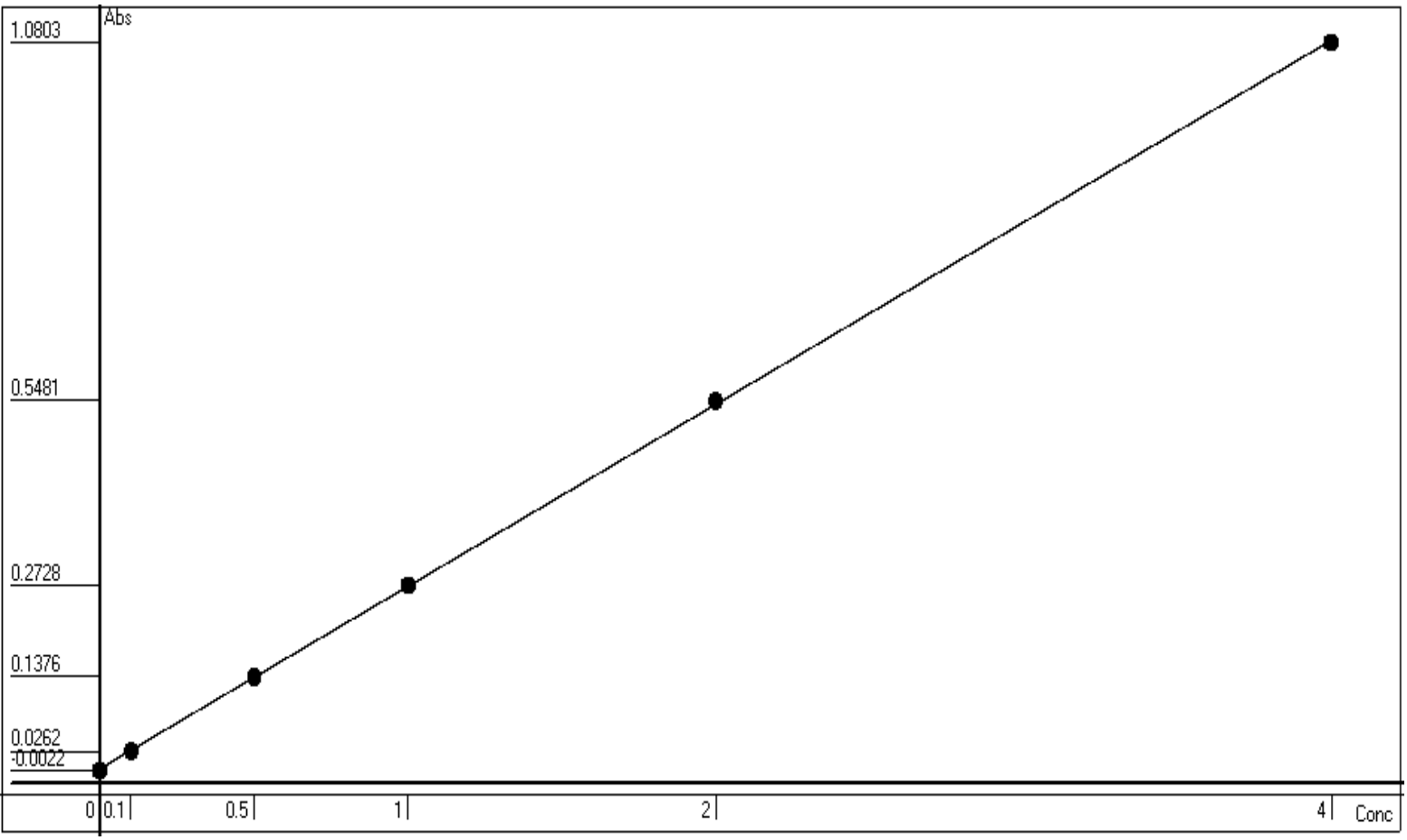
Plan Description : NO3

Raw Data - Calibration Summary

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221216002 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0022	0	-0.0117	-1.17
2	0.0262	0.1	0.0932	-6.80
3	0.1376	0.5	0.5048	0.96
4	0.2728	1	1.0043	0.43
5	0.5481	2	2.0214	1.07
6	1.0803	4	3.9877	-0.31

Conc= +3.6946*Abso -0.0036 R^2=0.9999

RBL
0.0355
0

Report Date 1/9/2023 Run Date 12/16/2022

Replicate Report - ZNO3 -

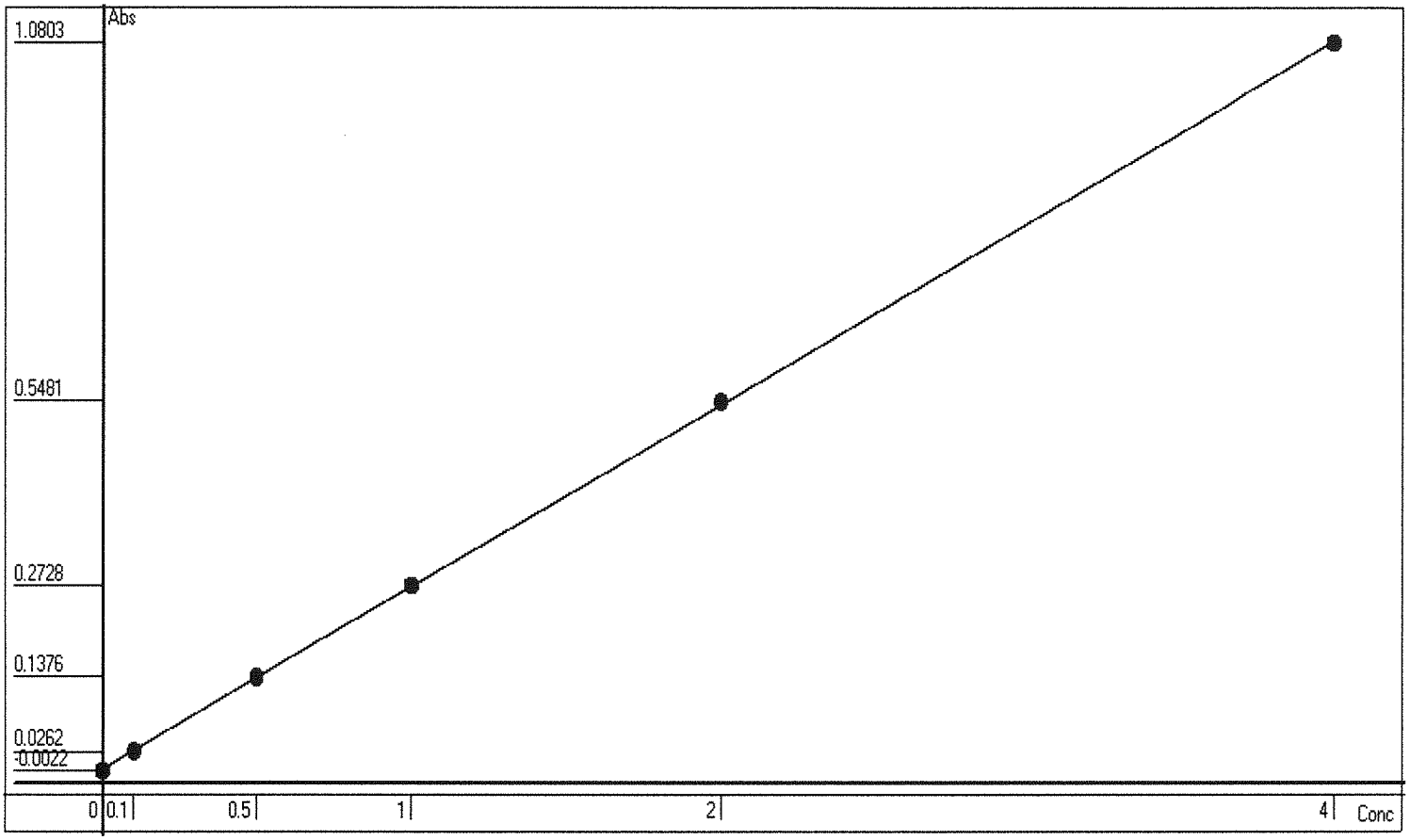
Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0017	-0.0026	/	/
2	0.0256	0.0269	/	/
3	0.1401	0.1351	/	/
4	0.2675	0.2781	/	/
5	0.5524	0.5438	/	/
6	1.0585	1.102	/	/

Print Date:1/9/2023 [WESTCO]

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221216002 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0022	0	-0.0117	-1.17
2	0.0262	0.1	0.0932	-6.80
3	0.1376	0.5	0.5048	0.96
4	0.2728	1	1.0043	0.43
5	0.5481	2	2.0214	1.07
6	1.0803	4	3.9877	-0.31

Conc= +3.6946*Abso -0.0036 R^2=0.9999

RBL
0.0355
0

Report Date 12/30/2022 Run Date 12/16/2022

Replicate Report - ZNO3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0017	-0.0026	/	/
2	0.0256	0.0269	/	/
3	0.1401	0.1351	/	/
4	0.2675	0.2781	/	/
5	0.5524	0.5438	/	/
6	1.0585	1.102	/	/

Print Date:12/30/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156257

BC Laboratories

Printed: 1/10/2023 1:57:04PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2229186-01 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229186-02 B	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229272-01 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229272-02 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229272-03 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229272-04 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229272-05 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229272-06 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229273-01 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229273-02 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
B156257-BLK1	QC	12/16/2022 12:00PM	KB1	10	10					
B156257-BS1	QC	12/16/2022 12:00PM	KB1	10	10	2J04023		500		
B156257-DUP1	QC	12/16/2022 12:00PM	KB1	10	10		2229272-01			
B156257-MS1	QC	12/16/2022 12:00PM	KB1	9.5	10	2J04023	2229272-01	500		
B156257-MSD1	QC	12/16/2022 12:00PM	KB1	9.5	10	2J04023	2229272-01	500		

Spike Mixes	Description	Solvent	Prepared	Expires
2J04023	NO3-N SPIKE 40	DILUTE H2SO4	10/4/2022 2 by zzzManpreet Br	4/4/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223332

Instrument: SC-1
Calibration ID:
Sequence Date: 12/16/2022
Printed: 1/10/2023 1:57:04PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223332-ICV1	QC		1		2J04029		
2223332-ICB1	QC		2				
2223332-CCV1	QC		3		2J04024		
2223332-CCB1	QC		4				
B156254-BS1	QC		5				
B156254-BLK1	QC		6				
2228696-01	i353.2w NO3/NO2 as N	C	7				
B156254-DUP1	QC		8				
B156254-MS1	QC		9				
B156254-MSD1	QC		10				
2228696-02	i353.2w NO3/NO2 as N	C	11				
2228696-03	i353.2w NO3/NO2 as N	C	12				
2228696-04	i353.2w NO3/NO2 as N	C	13				
2228696-05	i353.2w NO3/NO2 as N	C	14				
2223332-CCV2	QC		15		2J04024		
2223332-CCB2	QC		16				
2228696-06	i353.2w NO3/NO2 as N	C	17				
2228696-07	i353.2w NO3/NO2 as N	C	18				
2228696-08	i353.2w NO3/NO2 as N	C	19				
2229056-02	i353.2w NO3/NO2 as N	E	20				
2223332-CCV3	QC		21		2J04024		
2223332-CCB3	QC		22				
2223332-CCV4	QC		23		2J04024		
2223332-CCB4	QC		24				
2229056-01	i353.2w NO3/NO2 as N	E	25				
2223332-CCV5	QC		26		2J04024		
2223332-CCB5	QC		27				
2223332-CCV6	QC		28		2J04024		
2223332-CCB6	QC		29				
B156255-BS1	QC		30				
B156255-BLK1	QC		31				
2229092-01	i353.2w NO3/NO2 as N	D	32				
B156255-DUP1	QC		33				
B156255-MS1	QC		34				
B156255-MSD1	QC		35				
2229092-05	i353.2w NO3/NO2 as N	D	36				
2223332-CCV7	QC		37		2J04024		
2223332-CCB7	QC		38				
2229092-06	i353.2w NO3/NO2 as N	C	39				

ANALYSIS SEQUENCE

2223332

Instrument: SC-1
Calibration ID:
Sequence Date: 12/16/2022
Printed: 1/10/2023 1:57:04PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2229092-07	i353.2w NO3/NO2 as N	C	40				
2229092-08	i353.2w NO3/NO2 as N	C	41				
2229092-09	i353.2w NO3/NO2 as N	C	42				
2223332-CCV8	QC		43		2J04024		
2223332-CCB8	QC		44				
2229092-02	i353.2w NO3/NO2 as N	D	45				
2229092-03	i353.2w NO3/NO2 as N	D	46				
2229092-04	i353.2w NO3/NO2 as N	D	47				
2229092-10	i353.2w NO3/NO2 as N	C	48				
2223332-CCV9	QC		49		2J04024		
2223332-CCB9	QC		50				
2223332-CCVA	QC		51		2J04024		
2223332-CCBA	QC		52				
B156256-BS1	QC		53				
B156256-BLK1	QC		54				
2228812-01	i353.2w NO3/NO2 as N	D	55				
B156256-DUP1	QC		56				
B156256-MS1	QC		57				
B156256-MSD1	QC		58				
2228812-02	i353.2w NO3/NO2 as N	D	59				
2228812-03	i353.2w NO3/NO2 as N	D	60				
2229129-01	i353.2w NO3/NO2 as N	C	61				
2229129-02	i353.2w NO3/NO2 as N	C	62				
2223332-CCVB	QC		63		2J04024		
2223332-CCBB	QC		64				
2229129-03	i353.2w NO3/NO2 as N	C	65				
2229129-04	i353.2w NO3/NO2 as N	C	66				
2229129-05	i353.2w NO3/NO2 as N	C	67				
2229129-06	i353.2w NO3/NO2 as N	C	68				
2229289-01	i353.2w NO3/NO2 as N	A	69				
2223332-CCVC	QC		70		2J04024		
2223332-CCBC	QC		71				
2223332-CCVD	QC		72		2J04024		
2223332-CCBD	QC		73				
B156257-BS1	QC		74				
B156257-BLK1	QC		75				
2229272-01	i353.2w NO3/NO2 as N	A	76				
B156257-DUP1	QC		77				
B156257-MS1	QC		78				

ANALYSIS SEQUENCE

2223332

Instrument: SC-1
Calibration ID:
Sequence Date: 12/16/2022
Printed: 1/10/2023 1:57:04PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
B156257-MSD1	QC		79				
2229272-02	i353.2w NO3/NO2 as N	A	80				
2229272-03	i353.2w NO3/NO2 as N	A	81				
2229272-04	i353.2w NO3/NO2 as N	A	82				
2229272-05	i353.2w NO3/NO2 as N	A	83				
2223332-CCVE	QC		84		2J04024		
2223332-CCBE	QC		85				
2229272-06	i353.2w NO3/NO2 as N	A	86				
2229186-01	i353.2w NO3/NO2 as N	C	87				
2229186-02	i353.2w NO3/NO2 as N	B	88				
2229273-01	i353.2w NO3/NO2 as N	A	89				
2229273-02	i353.2w NO3/NO2 as N	A	90				
2223332-CCVF	QC		91		2J04024		
2223332-CCBF	QC		92				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 1:57:04PM
Project: Level IV + labSpec7
Project Number: N53874A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053885

RE: PG&E Topock - IM3, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 02, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Potassium in QC samples N053885-001C-MS2/MSD2 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053885-004C-MS1/MSD1, N053885-001C-MS2/MSD2 since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Method Blank (MB) has detect greater than 1/2 the reporting limit for Calcium. However, samples results were greater than 5x the Method Blank detection therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053886-005CMS and N053886-005CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Barium in QC samples N053886-005CMS and N053886-005CMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - IM3, 30121866.4Q22GW
Lab Order: N053885
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053885-001A	CW-02D-Q422	Groundwater	12/2/2022 10:36:00 AM	12/2/2022	12/27/2022
N053885-001B	CW-02D-Q422	Groundwater	12/2/2022 10:36:00 AM	12/2/2022	12/27/2022
N053885-001C	CW-02D-Q422	Groundwater	12/2/2022 10:36:00 AM	12/2/2022	12/27/2022
N053885-001D	CW-02D-Q422	Groundwater	12/2/2022 10:36:00 AM	12/2/2022	12/27/2022
N053885-002A	CW-02M-Q422	Groundwater	12/2/2022 9:52:00 AM	12/2/2022	12/27/2022
N053885-002B	CW-02M-Q422	Groundwater	12/2/2022 9:52:00 AM	12/2/2022	12/27/2022
N053885-002C	CW-02M-Q422	Groundwater	12/2/2022 9:52:00 AM	12/2/2022	12/27/2022
N053885-002D	CW-02M-Q422	Groundwater	12/2/2022 9:52:00 AM	12/2/2022	12/27/2022
N053885-003A	CW-03D-Q422	Groundwater	12/2/2022 8:18:00 AM	12/2/2022	12/27/2022
N053885-003B	CW-03D-Q422	Groundwater	12/2/2022 8:18:00 AM	12/2/2022	12/27/2022
N053885-003C	CW-03D-Q422	Groundwater	12/2/2022 8:18:00 AM	12/2/2022	12/27/2022
N053885-003D	CW-03D-Q422	Groundwater	12/2/2022 8:18:00 AM	12/2/2022	12/27/2022
N053885-004A	CW-03M-Q422	Groundwater	12/2/2022 9:04:00 AM	12/2/2022	12/27/2022
N053885-004B	CW-03M-Q422	Groundwater	12/2/2022 9:04:00 AM	12/2/2022	12/27/2022
N053885-004C	CW-03M-Q422	Groundwater	12/2/2022 9:04:00 AM	12/2/2022	12/27/2022
N053885-004D	CW-03M-Q422	Groundwater	12/2/2022 9:04:00 AM	12/2/2022	12/27/2022
N053885-005A	EB-740-Q422	Groundwater	12/2/2022 11:20:00 AM	12/2/2022	12/27/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:36:00 AM
Lab ID:	N053885-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221206B**	QC Batch: **97074**			PrepDate:	**12/6/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4400	50	50		mg/L	1	12/6/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:52:00 AM
Lab ID:	N053885-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221206B**	QC Batch: **97074**			PrepDate:	**12/6/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4400	50	50		mg/L	1	12/6/2022 02:40 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:18:00 AM
Lab ID:	N053885-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221206B**	QC Batch: **97074**			PrepDate:	**12/6/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4500	50	50		mg/L	1	12/6/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:04:00 AM
Lab ID:	N053885-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_221206B**	QC Batch: **97074**			PrepDate:	**12/6/2022**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4400	50	50		mg/L	1	12/6/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID	**LCS-97074**	SampType: **LCS**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/6/2022**	RunNo: **167958**
Client ID:	**LCSW**	Batch ID: **97074**	TestNo: **SM2540C**		Analysis Date: **12/6/2022**	SeqNo: **4958063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	964.000	10	1000	0	96.4	80	120				

Sample ID	**MB-97074**	SampType: **MBLK**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/6/2022**	RunNo: **167958**
Client ID:	**PBW**	Batch ID: **97074**	TestNo: **SM2540C**		Analysis Date: **12/6/2022**	SeqNo: **4958064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID	**N053885-001DDUP**	SampType: **DUP**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **12/6/2022**	RunNo: **167958**
Client ID:	**ZZZZZZ**	Batch ID: **97074**	TestNo: **SM2540C**		Analysis Date: **12/6/2022**	SeqNo: **4958068**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4465.000	50						4440	0.561	10	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:36:00 AM
Lab ID:	N053885-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.40	0.024	0.20		µg/L	1	12/21/2022 06:55 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 05:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:52:00 AM
Lab ID:	N053885-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.1	0.024	0.20		µg/L	1	12/21/2022 07:14 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	12/6/2022 05:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:18:00 AM
Lab ID:	N053885-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.60	0.024	0.20		µg/L	1	12/21/2022 07:52 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 05:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:04:00 AM
Lab ID:	N053885-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2.4	0.024	0.20		µg/L	1	12/21/2022 08:11 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	2.5	0.035	1.0		µg/L	1	12/6/2022 06:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-740-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 11:20:00 AM
Lab ID:	N053885-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/21/2022 08:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	**MB-R168413**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:		RunNo: **168413**
Client ID:	**PBW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date:	**12/21/2022**	SeqNo: **4983588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	**LCS-R168413**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:		RunNo: **168413**
Client ID:	**LCSW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date:	**12/21/2022**	SeqNo: **4983589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.874	0.20	5.000	0	97.5	90	110				

Sample ID	**N053874-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:		RunNo: **168413**
Client ID:	**ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date:	**12/21/2022**	SeqNo: **4983592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	376.425	10	250.0	131.7	97.9	90	110				

Sample ID	**N053874-013ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:		RunNo: **168413**
Client ID:	**ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date:	**12/21/2022**	SeqNo: **4983594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4051.500	200						3957	2.36	20	

Sample ID	**N053874-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:		RunNo: **168413**
Client ID:	**ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date:	**12/21/2022**	SeqNo: **4983595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9073.300	200	5000	3957	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053874-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983599

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	836.315	10	250.0	593.3	97.2	90	110				

Sample ID	N053874-015AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983601

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	855.080	10	250.0	605.0	100	90	110				

Sample ID	N053874-017AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983603

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.1257	102	90	110				

Sample ID	N053874-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.587	0.20	1.000	0.6271	96.0	90	110				

Sample ID	N053874-018AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983610

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	504.135	10	250.0	266.0	95.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053874-018AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	515.980	10	250.0	266.0	100	90	110	504.1	2.32	20	

Sample ID **N053874-021AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID **N053874-019AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.774	1.0	5.000	3.850	98.5	90	110				

Sample ID **N053874-022AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983619**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.847	1.0	5.000	0	96.9	90	110				

Sample ID **N053885-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168413**
Client ID: **ZZZZZZ** Batch ID: **R168413** TestNo: **EPA 218.6** Analysis Date: **12/21/2022** SeqNo: **4983621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.440	0.20	1.000	0.3961	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053885-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.139	0.20	1.000	1.085	105	90	110				

Sample ID	N053885-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.634	0.20	1.000	0.6034	103	90	110				

Sample ID	N053885-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.373	0.20	1.000	2.369	100	90	110				

Sample ID	N053885-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID	N053874-016AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	72.150	1.0	25.00	46.82	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053886-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983637

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.985	1.0	5.000	0	99.7	90	110				

Sample ID	N053886-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983639

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.693	1.0	5.000	0	93.9	90	110				

Sample ID	N053874-020AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983644

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.762	1.0	25.00	11.40	101	90	110				

Sample ID	N053886-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.196	1.0	5.000	1.099	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97050	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	PBW	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956695	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	0.054	1.0										

Sample ID	LCS-97050	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	LCSW	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956696	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	10.088	1.0	10.00	0	101	85	115					

Sample ID	N053886-005CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956710	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	80.045	1.0	10.00	66.93	131	75	125				S	

Sample ID	N053886-005CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956713	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	71.313	1.0	10.00	66.93	43.9	75	125	80.05	11.5	20	S	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N053886-005C-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	167935
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956709

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	74.453	1.0	10.00	66.93	75.3	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:36:00 AM
Lab ID:	N053885-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	70	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:52:00 AM
Lab ID:	N053885-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	67	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:18:00 AM
Lab ID:	N053885-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	65	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:04:00 AM
Lab ID:	N053885-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_221205A**	QC Batch: **R167881**			PrepDate:			Analyst: **LR**
Alkalinity, Total (As CaCO3)	54	1.2	5.0		mg/L	1	12/5/2022 11:40 AM

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R167881**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **LCSW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	95.918	5.0	100.0	0	95.9	85	115				

Sample ID **MB-R167881**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **PBW**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N053873-009DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	71.429	5.0						72.45	1.42	30	

Sample ID **N053873-009DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125				

Sample ID **N053873-009DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **167881**
Client ID: **ZZZZZZ**	Batch ID: **R167881**	TestNo: **SM 2320 B**		Analysis Date: **12/5/2022**	SeqNo: **4952709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	163.265	5.0	100.0	72.45	90.8	75	125	163.3	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:36:00 AM
Lab ID:	N053885-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Chloride	2100	33	250		mg/L	500	12/5/2022 01:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Fluoride	1.8	0.064	0.50		mg/L	5	12/5/2022 11:47 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	12/5/2022 08:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:52:00 AM
Lab ID:	N053885-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Chloride	2100	33	250		mg/L	500	12/5/2022 06:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Fluoride	2.8	0.064	0.50		mg/L	5	12/5/2022 12:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Sulfate	600	3.0	25		mg/L	50	12/5/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:18:00 AM
Lab ID:	N053885-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Chloride	2100	33	250		mg/L	500	12/5/2022 03:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Fluoride	2.3	0.064	0.50		mg/L	5	12/5/2022 12:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Sulfate	610	3.0	25		mg/L	50	12/5/2022 05:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:04:00 AM
Lab ID:	N053885-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Chloride	2100	33	250		mg/L	500	12/5/2022 03:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Fluoride	3.9	0.064	0.50		mg/L	5	12/5/2022 12:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221205A**	QC Batch: **R167886**			PrepDate:			Analyst: **RAB**
Sulfate	620	3.0	25		mg/L	50	12/5/2022 05:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	MB-R167886_CL	SampType:	MBLK	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	PBW	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956121		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	0.149	0.50											

Sample ID	LCS-R167886_CL	SampType:	LCS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	LCSW	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956122		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	2.071	0.50	2.000	0	104	90	110						

Sample ID	N053885-001DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956130		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	3081.600	250	1000	2091	99.1	80	120						

Sample ID	N053885-001DMSD	SampType:	MSD	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956131		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	3096.650	250	1000	2091	101	80	120	3082	0.487	20			

Sample ID	N053885-002DDUP	SampType:	DUP	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956133		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	2070.150	250						2076	0.301	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID	MB-R167886_F	SampType:	MBLK	TestCode:	300_W_FPGE	Units:	mg/L	Prep Date:		RunNo:	167886
Client ID:	PBW	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956100

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID	LCS-R167886_F	SampType:	LCS	TestCode:	300_W_FPGE	Units:	mg/L	Prep Date:		RunNo:	167886
Client ID:	LCSW	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956101

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.250	0.10	1.250	0	100	90	110				

Sample ID	N053885-001DMS	SampType:	MS	TestCode:	300_W_FPGE	Units:	mg/L	Prep Date:		RunNo:	167886
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956106

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	7.976	0.50	6.250	1.804	98.7	80	120				

Sample ID	N053885-001DMSD	SampType:	MSD	TestCode:	300_W_FPGE	Units:	mg/L	Prep Date:		RunNo:	167886
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956107

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	7.931	0.50	6.250	1.804	98.0	80	120	7.976	0.566	20	

Sample ID	N053885-002DDUP	SampType:	DUP	TestCode:	300_W_FPGE	Units:	mg/L	Prep Date:		RunNo:	167886
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956108

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.749	0.50						2.786	1.35	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R167886_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	PBW	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956142		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	0.211	0.50											

Sample ID	LCS-R167886_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	LCSW	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956143		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	3.968	0.50	4.000	0	99.2	90	110						

Sample ID	N053885-002DDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956149		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	595.035	25						597.7	0.442	20			

Sample ID	N053885-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956155		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	686.900	25	200.0	485.5	101	80	120						

Sample ID	N053885-001DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167886		
Client ID:	ZZZZZZ	Batch ID:	R167886	TestNo:	EPA 300.0			Analysis Date:	12/5/2022	SeqNo:	4956156		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	686.885	25	200.0	485.5	101	80	120	686.9	0.00218	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** CW-02D-Q422

Lab Order: N053885

Project: PG&E Topock - IM3, 30121866.4Q22GW **Collection Date:** 12/2/2022 10:36:00 AM

Lab ID: N053885-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221224B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Boron	1.3	0.035	0.10		mg/L	1	12/24/2022 01:47 PM
Calcium	85	0.18	0.50		mg/L	1	12/22/2022 11:42 AM
Magnesium	5.5	0.017	0.10		mg/L	1	12/22/2022 11:42 AM
Potassium	12	0.69	2.5		mg/L	5	12/20/2022 01:42 PM
Sodium	1700	42	62		mg/L	125	12/20/2022 03:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:52:00 AM
Lab ID:	N053885-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221224B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Boron	1.2	0.035	0.10		mg/L	1	12/24/2022 01:52 PM
Calcium	120	0.18	0.50		mg/L	1	12/22/2022 11:47 AM
Magnesium	11	0.017	0.10		mg/L	1	12/22/2022 11:47 AM
Potassium	11	0.69	2.5		mg/L	5	12/20/2022 01:46 PM
Sodium	1500	42	62		mg/L	125	12/20/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:18:00 AM
Lab ID:	N053885-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221224B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Boron	1.2	0.035	0.10		mg/L	1	12/24/2022 01:57 PM
Calcium	73	0.18	0.50		mg/L	1	12/22/2022 11:53 AM
Magnesium	6.3	0.017	0.10		mg/L	1	12/22/2022 11:53 AM
Potassium	12	0.69	2.5		mg/L	5	12/20/2022 01:50 PM
Sodium	1600	42	62		mg/L	125	12/20/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:04:00 AM
Lab ID:	N053885-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221224B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Boron	1.4	0.035	0.10		mg/L	1	12/24/2022 02:02 PM
Calcium	140	0.18	0.50		mg/L	1	12/22/2022 11:58 AM
Magnesium	13	0.017	0.10		mg/L	1	12/22/2022 11:58 AM
Potassium	20	0.69	2.5		mg/L	5	12/20/2022 01:55 PM
Sodium	1500	42	62		mg/L	125	12/20/2022 04:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	MB-97066	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168376
Client ID:	PBW	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981741

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.50									
Sodium	ND	0.50									

Sample ID	LCS2-97066	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168376
Client ID:	PBW	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	19.246	0.50	20.00	0	96.2	85	115				
Sodium	19.994	0.50	20.00	0	100	85	115				

Sample ID	N053885-001C-MS2	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981783

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	42.466	2.5	20.00	12.27	151	75	125				S

Sample ID	N053885-001C-MS2	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981784

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1716.970	62	20.00	1733	-79.1	75	125				S

Sample ID	N053885-001C-MSD	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981785

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	46.832	2.5	20.00	12.27	173	75	125	42.47	9.78	0	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	N053885-001C-MSD	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981786

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1859.628	62	20.00	1733	634	75	125	1717	7.98	0	S

Sample ID	MB-97066	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168434
Client ID:	PBW	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986573

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	0.449	0.50									
Magnesium	ND	0.10									

Sample ID	LCS1-97066	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168434
Client ID:	LCSW	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986574

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.670	0.50	10.00	0	107	85	115				
Magnesium	9.838	0.10	10.00	0	98.4	85	115				

Sample ID	N053885-004C-MS1	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168434
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986581

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	157.599	0.50	10.00	138.6	190	75	125				S
Magnesium	24.168	0.10	10.00	12.66	115	75	125				

Sample ID	N053885-004C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168434
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986584

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	146.025	0.50	10.00	138.6	74.2	75	125	157.6	7.62	20	S
Magnesium	23.519	0.10	10.00	12.66	109	75	125	24.17	2.72	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	MB-97066	SampType:	MBLK	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168462
Client ID:	PBW	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4988367

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.10									

Sample ID	LCS1-97066	SampType:	LCS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168462
Client ID:	LCSW	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4988368

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.617	0.10	10.00	0	106	85	115				

Sample ID	N053885-004C-MS1	SampType:	MS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168462
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4988374

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	12.963	0.10	10.00	1.393	116	75	125				

Sample ID	N053885-004C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:	12/6/2022	RunNo:	168462
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4988377

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	12.924	0.10	10.00	1.393	115	75	125	12.96	0.300	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPM

Sample ID	N053885-001C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981781

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	82.279	2.5	100.0	12.27	70.0	80	120				S

Sample ID	N053885-001C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168376
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/20/2022	SeqNo:	4981782

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	3266.548	62	2500	1733	61.4	80	120				S

Sample ID	N053885-004C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168434
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	149.512	0.50	10.00	138.6	109	80	120				
Magnesium	23.859	0.10	10.00	12.66	112	80	120				

Sample ID	N053885-004C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	mg/L	Prep Date:		RunNo:	168462
Client ID:	ZZZZZZ	Batch ID:	97066	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/24/2022	SeqNo:	4989904

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	12.837	0.10	10.00	1.393	114	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:36:00 AM
Lab ID:	N053885-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	12/6/2022 05:31 AM
Barium	15	0.083	1.0		µg/L	1	12/6/2022 05:31 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 05:31 AM
Molybdenum	14	0.12	0.50		µg/L	1	12/6/2022 05:31 AM
Selenium	4.1	0.044	0.50		µg/L	1	12/6/2022 05:31 AM
Vanadium	4.7	0.067	1.0		µg/L	1	12/6/2022 05:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:52:00 AM
Lab ID:	N053885-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221207C**	QC Batch: **97050**			PrepDate:		**12/5/2022**	Analyst: **DJ**
Arsenic	0.46	0.050	0.10		µg/L	1	12/7/2022 02:35 PM
Barium	84	0.083	1.0		µg/L	1	12/6/2022 05:37 AM
Manganese	0.54	0.026	0.50		µg/L	1	12/6/2022 05:37 AM
Molybdenum	13	0.12	0.50		µg/L	1	12/6/2022 05:37 AM
Selenium	4.1	0.044	0.50		µg/L	1	12/6/2022 05:37 AM
Vanadium	4.5	0.067	1.0		µg/L	1	12/6/2022 05:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:18:00 AM
Lab ID:	N053885-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 05:43 AM
Barium	18	0.083	1.0		µg/L	1	12/6/2022 05:43 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 05:43 AM
Molybdenum	13	0.12	0.50		µg/L	1	12/6/2022 05:43 AM
Selenium	3.6	0.044	0.50		µg/L	1	12/6/2022 05:43 AM
Vanadium	2.7	0.067	1.0		µg/L	1	12/6/2022 05:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-Q422
Lab Order:	N053885		
Project:	PG&E Topock - IM3, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:04:00 AM
Lab ID:	N053885-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**				PrepDate:	**12/5/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 06:07 AM
Barium	37	0.083	1.0		µg/L	1	12/6/2022 06:07 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 06:07 AM
Molybdenum	33	0.12	0.50		µg/L	1	12/6/2022 06:07 AM
Selenium	2.7	0.044	0.50		µg/L	1	12/6/2022 06:07 AM
Vanadium	3.6	0.067	1.0		µg/L	1	12/6/2022 06:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-97050**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **PBW**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									
Vanadium	ND	1.0									

Sample ID **LCS-97050**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **LCSW**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.095	0.10	10.00	0	90.9	85	115				
Barium	10.312	1.0	10.00	0	103	85	115				
Manganese	96.937	0.50	100.0	0	96.9	85	115				
Molybdenum	9.201	0.50	10.00	0	92.0	85	115				
Selenium	9.163	0.50	10.00	0	91.6	85	115				
Vanadium	10.238	1.0	10.00	0	102	85	115				

Sample ID **N053886-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.956	0.10	10.00	0.8973	90.6	75	125				
Barium	71.908	1.0	10.00	59.21	127	75	125				S
Manganese	92.988	0.50	100.0	0	93.0	75	125				
Molybdenum	15.437	0.50	10.00	5.076	104	75	125				
Selenium	15.578	0.50	10.00	6.629	89.5	75	125				
Vanadium	19.679	1.0	10.00	8.866	108	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053886-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167938
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956880

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.746	0.10	10.00	0.8973	88.5	75	125	9.956	2.13	20	
Barium	64.705	1.0	10.00	59.21	55.0	75	125	71.91	10.5	20	S
Manganese	93.204	0.50	100.0	0	93.2	75	125	92.99	0.232	20	
Molybdenum	15.033	0.50	10.00	5.076	99.6	75	125	15.44	2.65	20	
Selenium	14.662	0.50	10.00	6.629	80.3	75	125	15.58	6.06	20	
Vanadium	18.607	1.0	10.00	8.866	97.4	75	125	19.68	5.60	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053885
Project: PG&E Topock - IM3, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	**N053886-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **167938**
Client ID:	**ZZZZZZ**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.705	0.10	10.00	0.8973	88.1	80	120				
Barium	68.457	1.0	10.00	59.21	92.5	80	120				
Manganese	92.044	0.50	100.0	0	92.0	80	120				
Molybdenum	15.216	0.50	10.00	5.076	101	80	120				
Selenium	15.456	0.50	10.00	6.629	88.3	80	120				
Vanadium	19.103	1.0	10.00	8.866	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: [redacted]	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloe[redacted]@pivox.com	P.O.#
Submitted By: Russe Tay		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/02/22	Sampled By: Russe Tay		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - IM3	Signature: Date: 12/02/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		✓
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 3.3°C		

Courier:

Tracking No.:

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2. SO4, NH4, OH 250 mL poly	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 125 mL poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Boron, Barium, Calcium, Potassium, Magnesium, Manganese, Sodium, Vanadium 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Dissolved Solids (SM2540C); 4°C 1 liter poly	Chloride, Fluoride, Sulfate (EPA300.0); 4°C 1 liter poly	Alkalinity, Total as CaCO3 (SM2320B); 4°C 1 liter poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053885-001	CW-02D-Q422	12/2/2022	10:36		X	X	X	X	X	X	X	X	E	5	P	BNS	
2	-002	CW-02M-Q422	12/2/2022	9:52		X	X	X	X	X	X	X	X	E	5	P	BNS	
3	-003	CW-03D-Q422	12/2/2022	8:18		X	X	X	X	X	X	X	X	E	5	P	BNS	
4	-004	CW-03M-Q422	12/2/2022	9:04		X	X	X	X	X	X	X	X	E	5	P	BNS	
5	-005	EB-740-Q422	12/2/2022	11:20		X	X	X	X	X	X	X	X	E	5	P	BNS	
6														E	1	P	BNS	
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by (Signature and Printed Name): Russie Tay Date/Time: 12/02/22 1130
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/2/22 1130
Relinquished by (Signature and Printed Name): Dante Ortiz 12/2/22 16:37
Received by (Signature and Printed Name): Dante Ortiz 12/2/22 16:37
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/2/2022	Workorder:	N053885
Rep sample Temp (Deg C):	3.3	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/5/2022

Reviewed By: for MBC 12/8/22

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053885

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/2/2022 4:37 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053885-001A	CW-02D-Q422	12/2/2022 10:36:00 AM	12/19/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053885-001B			12/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053885-001C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053885-001D			12/19/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/19/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/19/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053885-002A	CW-02M-Q422	12/2/2022 9:52:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053885-002B			12/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053885-002C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053885-002D			12/19/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053885

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/2/2022 4:37 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053885-002D	CW-02M-Q422	12/2/2022 9:52:00 AM	12/19/2022	Groundwater		Total Dissolved Solids Prep	☐	☐	☐	WW
			12/19/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053885-003A	CW-03D-Q422	12/2/2022 8:18:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053885-003B			12/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053885-003C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053885-003D			12/19/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/19/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/19/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053885-004A	CW-03M-Q422	12/2/2022 9:04:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053885-004B			12/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053885-004C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053885

Client ID: ARCUS02

Project: PG&E Topock - IM3, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/2/2022 4:37 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053885-004C	CW-03M-Q422	12/2/2022 9:04:00 AM	12/19/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053885-004D			12/19/2022		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			12/19/2022			Total Dissolved Solids Prep	☐	☐	☐	WW
			12/19/2022		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053885-005A	EB-740-Q422	12/2/2022 11:20:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053885-006A	FOLDER	12/19/2022	12/19/2022		Folder	Folder	☐	☐	☐	LAB
			12/19/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/19/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N053885-001B / CW-02D-Q422	Groundwater	12/2/2022 10:36:00 AM	16OZP	1		
N053885-002B / CW-02M-Q422	Groundwater	12/2/2022 9:52:00 AM	16OZP	1		
N053885-003B / CW-03D-Q422	Groundwater	12/2/2022 8:18:00 AM	16OZP	1		
N053885-004B / CW-03M-Q422	Groundwater	12/2/2022 9:04:00 AM	16OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53885A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Date of Report: 12/23/2022

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N53885A
BCL Project:	Level IV + labSpec7
BCL Work Order:	2229290
Invoice ID:	B465949

Enclosed are the results of analyses for samples received by the laboratory on 12/10/2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Operations Manager

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Chain of Custody and Cooler Receipt Form for 2229290 Page 1 of 2

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.alt-labs.com
TEL: 7023072659 FAX: 7023072691

CHAIN-OF-CUSTODY R

2229290

QC Level: Level IV

Field Sampler: Riggie Tep

05-Dec-22

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

22-Q2290

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NO3F			
N053885-001B / CW-02D-Q422	Groundwater	12/2/2022 10:36:00 AM	16OZP	1			
N053885-002B / CW-02M-Q422	Groundwater	12/2/2022 9:52:00 AM	16OZP	1			
N053885-003B / CW-03D-Q422	Groundwater	12/2/2022 8:18:00 AM	16OZP	1			
N053885-004B / CW-03M-Q422	Groundwater	12/2/2022 9:04:00 AM	16OZP	1			

Preserved with H2SO4

CHK BY

DISTRIBUTION

SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N53885A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.
Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

	Date/Time		Date/Time
Relinquished by:	YRodriguez 12/5/2022 1630	Received by:	12622 1623
Relinquished by:		Received by:	

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PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-729290

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337 Date/Time 12-6-22

Temperature: (A) 3.0 °C / (C) 2.9 °C Analyst Init SMH 1023

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
~~2oz NITRATE / NITRITE~~ 807 NP	A	A	A	A						
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: [illegible] Date/Time: 12/6/22 1345

A = Actual / C = Corrected

Rev 23 06/20/22

[S:\WP\Doc\WordPerfect\LAB_DOCS\FORMS\SAN\REG rev 23]

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2229290-01	**COC Number:**	---	**Receive Date:**	12/10/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/02/2022 10:36
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053885-001B/CW-02D-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229290-02	**COC Number:**	---	**Receive Date:**	12/10/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/02/2022 09:52
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053885-002B/CW-02M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229290-03	**COC Number:**	---	**Receive Date:**	12/10/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/02/2022 08:18
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053885-003B/CW-03D-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater
2229290-04	**COC Number:**	---	**Receive Date:**	12/10/2022 10:23
	Project Number:	Level IV + labSpec7	**Sampling Date:**	12/02/2022 09:04
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N053885-004B/CW-03M-Q422	**Lab Matrix:**	Water
	Sampled By:	ARRC	**Sample Type:**	Groundwater

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229290-01 | **Client Sample Name:** Level IV + labSpec7, N053885-001B/CW-02D-Q422, 12/2/2022 10:36:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.8**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 12:28	KB1	SC-1	1	B156576	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229290-02 | **Client Sample Name:** Level IV + labSpec7, N053885-002B/CW-02M-Q422, 12/2/2022 9:52:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.7**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 12:31	KB1	SC-1	1	B156576	No Prep

DCN = Data Continuation Number

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229290-03 | **Client Sample Name:** Level IV + labSpec7, N053885-003B/CW-03D-Q422, 12/2/2022 8:18:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.9**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 12:33	KB1	SC-1	1	B156576	No Prep

DCN = Data Continuation Number

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Pace Analytical
ENVIRONMENTAL SCIENCES

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2229290-04 | **Client Sample Name:** Level IV + labSpec7, N053885-004B/CW-03M-Q422, 12/2/2022 9:04:00AM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	DCN
Nitrate/Nitrite as N	**2.8**	**mg/L**	**0.10**	**EPA-353.2**	ND		1

DCN	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	12/20/22 12:00	12/20/22 12:34	KB1	SC-1	1	B156576	No Prep

DCN = Data Continuation Number

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3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals	Run #
QC Batch ID: B156576						
Nitrate/Nitrite as N	B156576-BLK1	ND	mg/L	0.10		1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156576-BLK1	PB	EPA-353.2	12/20/22	12/20/22 12:18	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals	Run #
QC Batch ID: B156576											
Nitrate/Nitrite as N	B156576-BS1	LCS	1.9746	2.0000	mg/L	98.7		90 - 110			1

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156576-BS1	LCS	EPA-353.2	12/20/22	12/20/22 12:17	KB1	SC-1	1

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ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals	R#
QC Batch ID: B156576	Used client sample: N											
Nitrate/Nitrite as N	DUP	2228971-01	1.1245	1.1016		mg/L	2.1		10			1
	MS	2228971-01	1.1245	3.1486	2.1053	mg/L		96.1		90 - 110		2
	MSD	2228971-01	1.1245	3.2763	2.1053	mg/L	4.0	102	10	90 - 110		3

Run #	QC Sample ID	QC Type	Method	Prep Date	Run Date Time	Analyst	Instrument	Dilution
1	B156576-DUP1	DUP	EPA-353.2	12/20/22	12/20/22 12:21	KB1	SC-1	1
2	B156576-MS1	MS	EPA-353.2	12/20/22	12/20/22 12:22	KB1	SC-1	1.053
3	B156576-MSD1	MSD	EPA-353.2	12/20/22	12/20/22 12:23	KB1	SC-1	1.053

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
All results listed in this report are for the exclusive use of the submitting party. Pace Analytical assumes no responsibility for report alteration, separation, detachment or third party interpretation.

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 12/23/2022 7:46
Project: Level IV + labSpec7
Project Number: N53885A
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.
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December 27, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053886

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 02, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053886

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N053886-005CMS and N053886-005CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053886
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053886-001A	MW-24BR-Q422	Groundwater	12/2/2022 11:10:00 AM	12/2/2022	12/27/2022
N053886-001B	MW-24BR-Q422	Groundwater	12/2/2022 11:10:00 AM	12/2/2022	12/27/2022
N053886-002A	PGE-08-Q422	Groundwater	12/2/2022 11:01:00 AM	12/2/2022	12/27/2022
N053886-002B	PGE-08-Q422	Groundwater	12/2/2022 11:01:00 AM	12/2/2022	12/27/2022
N053886-003A	MW-48-Q422	Groundwater	12/2/2022 7:48:00 AM	12/2/2022	12/27/2022
N053886-003B	MW-48-Q422	Groundwater	12/2/2022 7:48:00 AM	12/2/2022	12/27/2022
N053886-003C	MW-48-Q422	Groundwater	12/2/2022 7:48:00 AM	12/2/2022	12/27/2022
N053886-004A	MW-14-Q422	Groundwater	12/2/2022 8:20:00 AM	12/2/2022	12/27/2022
N053886-004B	MW-14-Q422	Groundwater	12/2/2022 8:20:00 AM	12/2/2022	12/27/2022
N053886-004C	MW-14-Q422	Groundwater	12/2/2022 8:20:00 AM	12/2/2022	12/27/2022
N053886-004D	MW-14-Q422	Groundwater	12/2/2022 8:20:00 AM	12/2/2022	12/27/2022
N053886-005A	MW-25-Q422	Groundwater	12/2/2022 9:35:00 AM	12/2/2022	12/27/2022
N053886-005B	MW-25-Q422	Groundwater	12/2/2022 9:35:00 AM	12/2/2022	12/27/2022
N053886-005C	MW-25-Q422	Groundwater	12/2/2022 9:35:00 AM	12/2/2022	12/27/2022
N053886-006A	MW-19-Q422	Groundwater	12/2/2022 10:29:00 AM	12/2/2022	12/27/2022
N053886-006B	MW-19-Q422	Groundwater	12/2/2022 10:29:00 AM	12/2/2022	12/27/2022
N053886-007A	EB-742-Q422	Groundwater	12/2/2022 10:45:00 AM	12/2/2022	12/27/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24BR-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 11:10:00 AM
Lab ID:	N053886-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/21/2022 10:24 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 06:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PGE-08-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 11:01:00 AM
Lab ID:	N053886-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A**	QC Batch: **R168413**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/21/2022 10:43 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	12/6/2022 06:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 7:48:00 AM
Lab ID:	N053886-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221A** QC Batch: **R168413**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.1	0.12	1.0		µg/L	5	12/21/2022 11:04 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97050**				PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	12/6/2022 06:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:20:00 AM
Lab ID:	N053886-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B** QC Batch: **R168414**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	11	0.12	1.0		µg/L	5	12/22/2022 05:05 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97050**				PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	12/6/2022 06:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:35:00 AM
Lab ID:	N053886-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A** QC Batch: **R168440**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	60	0.24	2.0		µg/L	10	12/22/2022 12:50 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221205C** QC Batch: **97050**				PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	67	0.035	1.0		µg/L	1	12/6/2022 06:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-19-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:29:00 AM
Lab ID:	N053886-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B**	QC Batch: **R168414**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	29	0.24	2.0		µg/L	10	12/22/2022 05:43 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205C**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Chromium	30	0.035	1.0		µg/L	1	12/6/2022 07:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-742-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:45:00 AM
Lab ID:	N053886-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B**	QC Batch: **R168414**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/22/2022 06:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	**MB-R168413**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID:	**PBW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	**LCS-R168413**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID:	**LCSW**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.874	0.20	5.000	0	97.5	90	110				

Sample ID	**N053874-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID:	**ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	376.425	10	250.0	131.7	97.9	90	110				

Sample ID	**N053874-013ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID:	**ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4051.500	200						3957	2.36	20	

Sample ID	**N053874-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID:	**ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9073.300	200	5000	3957	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053874-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	836.315	10	250.0	593.3	97.2	90	110				

Sample ID **N053874-015AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983601**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	855.080	10	250.0	605.0	100	90	110				

Sample ID **N053874-017AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.150	0.20	1.000	0.1257	102	90	110				

Sample ID **N053874-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.587	0.20	1.000	0.6271	96.0	90	110				

Sample ID **N053874-018AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168413**
Client ID: **ZZZZZZ**	Batch ID: **R168413**	TestNo: **EPA 218.6**		Analysis Date: **12/21/2022**	SeqNo: **4983610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	504.135	10	250.0	266.0	95.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053874-018AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983614

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	515.980	10	250.0	266.0	100	90	110	504.1	2.32	20	

Sample ID	N053874-021AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID	N053874-019AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983617

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.774	1.0	5.000	3.850	98.5	90	110				

Sample ID	N053874-022AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.847	1.0	5.000	0	96.9	90	110				

Sample ID	N053885-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983621

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.440	0.20	1.000	0.3961	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053885-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.139	0.20	1.000	1.085	105	90	110				

Sample ID	N053885-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983627

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.634	0.20	1.000	0.6034	103	90	110				

Sample ID	N053885-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983629

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.373	0.20	1.000	2.369	100	90	110				

Sample ID	N053885-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983631

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID	N053874-016AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	72.150	1.0	25.00	46.82	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053886-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983637

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.985	1.0	5.000	0	99.7	90	110				

Sample ID	N053886-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983639

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.693	1.0	5.000	0	93.9	90	110				

Sample ID	N053874-020AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983644

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.762	1.0	25.00	11.40	101	90	110				

Sample ID	N053886-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168413
Client ID:	ZZZZZZ	Batch ID:	R168413	TestNo:	EPA 218.6			Analysis Date:	12/21/2022	SeqNo:	4983645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.196	1.0	5.000	1.099	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	LCS-R168414	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414		
Client ID:	LCSW	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983654		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.042	0.20	5.000	0	101	90	110						

Sample ID	MB-R168414	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414		
Client ID:	PBW	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983655		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	N053994-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414		
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983657		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5260.250	100	2500	2711	102	90	110						

Sample ID	N053994-006AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414		
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983658		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5332.850	100	2500	2711	105	90	110	5260	1.37	20			

Sample ID	N053994-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414		
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983660		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	114.763	2.0	50.00	63.02	103	90	110						

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053991-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	401.280	80	400.0	0	100	90	110				

Sample ID **N053994-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.721	1.0	5.000	8.320	108	90	110				

Sample ID **N053923-006ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.649	0.20						3.623	0.721	20	

Sample ID **N054022-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.852	0.20	1.000	0.8175	103	90	110				

Sample ID **N054022-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.652	0.20	5.000	1.191	109	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053886-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	37.313	1.0	25.00	11.30	104	90	110				

Sample ID **N053886-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	79.964	2.0	50.00	28.73	102	90	110				

Sample ID **N053886-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID **N053894-009BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168440	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	PBW	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987156		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R168440	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	LCSW	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987157		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.977	0.20	5.000	0	99.5	90	110						

Sample ID	N053886-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987159		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	108.528	2.0	50.00	59.52	98.0	90	110						

Sample ID	N053886-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987160		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	108.293	2.0	50.00	59.52	97.5	90	110	108.5	0.217	20			

Sample ID	N053923-003ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987162		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	93.089	2.0						93.62	0.574	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054022-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987167

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.184	0.20	1.000	1.221	96.3	90	110				

Sample ID	N054022-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987170

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.4	90	110				

Sample ID	N053994-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987171

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.759	1.0	5.000	0	95.2	90	110				

Sample ID	N053994-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987176

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16.419	1.0	5.000	11.89	90.7	90	110				

Sample ID	N054022-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987178

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.176	0.20	5.000	6.484	93.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053925-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Sample ID **N053925-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.915	1.0	5.000	0	98.3	90	110				

Sample ID **N053925-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID **N053925-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.661	1.0	5.000	0	93.2	90	110				

Sample ID **N053925-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987190**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.034	1.0	5.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053925-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987194

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Sample ID	N053925-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987196

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID	N053925-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987198

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.955	0.20	1.000	0	95.5	90	110				

Sample ID	N053925-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987202

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Sample ID	N053925-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987203

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97050	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	PBW	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956695	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	0.054	1.0										

Sample ID	LCS-97050	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	LCSW	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956696	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	10.088	1.0	10.00	0	101	85	115					

Sample ID	N053886-005CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956710	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	80.045	1.0	10.00	66.93	131	75	125				S	

Sample ID	N053886-005CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167935	
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956713	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	71.313	1.0	10.00	66.93	43.9	75	125	80.05	11.5	20	S	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N053886-005C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **167935**
Client ID:	**ZZZZZZ**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	74.453	1.0	10.00	66.93	75.3	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 7:48:00 AM
Lab ID:	N053886-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A**	QC Batch: **R167861**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/3/2022 12:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:20:00 AM
Lab ID:	N053886-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221203A**	QC Batch: **R167861**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.7	0.095	0.50		mg/L	10	12/3/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:35:00 AM
Lab ID:	N053886-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221204A**	QC Batch: **R167863**			PrepDate:			Analyst: **RAB**
Nitrate as N	11	0.19	1.0		mg/L	20	12/4/2022 09:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167861_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167861
Client ID:	PBW	Batch ID:	R167861	TestNo:	EPA 300.0			Analysis Date:	12/3/2022	SeqNo:	4952018

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167861_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167861
Client ID:	LCSW	Batch ID:	R167861	TestNo:	EPA 300.0			Analysis Date:	12/3/2022	SeqNo:	4952019

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.276	0.050	1.250	0	102	90	110				

Sample ID	N053883-001AMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167861
Client ID:	ZZZZZZ	Batch ID:	R167861	TestNo:	EPA 300.0			Analysis Date:	12/3/2022	SeqNo:	4952025

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.412	0.50	12.50	6.389	96.2	80	120				

Sample ID	N053883-001AMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167861
Client ID:	ZZZZZZ	Batch ID:	R167861	TestNo:	EPA 300.0			Analysis Date:	12/3/2022	SeqNo:	4952026

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.654	0.50	12.50	6.389	98.1	80	120	18.41	1.31	20	

Sample ID	N053886-004BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167861
Client ID:	ZZZZZZ	Batch ID:	R167861	TestNo:	EPA 300.0			Analysis Date:	12/3/2022	SeqNo:	4952027

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.742	0.50						2.665	2.85	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167863_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167863
Client ID:	PBW	Batch ID:	R167863	TestNo:	EPA 300.0			Analysis Date:	12/4/2022	SeqNo:	4952516

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167863_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167863
Client ID:	LCSW	Batch ID:	R167863	TestNo:	EPA 300.0			Analysis Date:	12/4/2022	SeqNo:	4952517

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.262	0.050	1.250	0	101	90	110				

Sample ID	N053886-005BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167863
Client ID:	ZZZZZZ	Batch ID:	R167863	TestNo:	EPA 300.0			Analysis Date:	12/4/2022	SeqNo:	4952519

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.252	1.0						11.48	1.97	20	

Sample ID	N053886-005BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167863
Client ID:	ZZZZZZ	Batch ID:	R167863	TestNo:	EPA 300.0			Analysis Date:	12/4/2022	SeqNo:	4952520

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	34.876	1.0	25.00	11.48	93.6	80	120				

Sample ID	N053886-005BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167863
Client ID:	ZZZZZZ	Batch ID:	R167863	TestNo:	EPA 300.0			Analysis Date:	12/4/2022	SeqNo:	4952521

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	34.832	1.0	25.00	11.48	93.4	80	120	34.88	0.126	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24BR-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 11:10:00 AM
Lab ID:	N053886-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 06:13 AM
Manganese	64	0.026	0.50		µg/L	1	12/6/2022 06:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PGE-08-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 11:01:00 AM
Lab ID:	N053886-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 06:19 AM
Manganese	780	0.66	12		µg/L	25	12/7/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 7:48:00 AM
Lab ID:	N053886-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:	**12/5/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 06:25 AM
Manganese	24	0.026	0.50		µg/L	1	12/6/2022 06:25 AM
Molybdenum	8.6	0.12	0.50		µg/L	1	12/6/2022 06:25 AM
Selenium	ND	0.044	0.50		µg/L	1	12/6/2022 06:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 8:20:00 AM
Lab ID:	N053886-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**				PrepDate:	**12/5/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/6/2022 06:31 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 06:31 AM
Molybdenum	8.4	0.12	0.50		µg/L	1	12/6/2022 06:31 AM
Selenium	1.9	0.044	0.50		µg/L	1	12/6/2022 06:31 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 9:35:00 AM
Lab ID:	N053886-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:		**12/5/2022**	Analyst: **DJ**
Arsenic	0.90	0.050	0.10		µg/L	1	12/6/2022 06:37 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 06:37 AM
Molybdenum	5.1	0.12	0.50		µg/L	1	12/6/2022 06:37 AM
Selenium	6.6	0.044	0.50		µg/L	1	12/6/2022 06:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-19-Q422
Lab Order:	N053886		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/2/2022 10:29:00 AM
Lab ID:	N053886-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221205D**	QC Batch: **97050**			PrepDate:		**12/5/2022**	Analyst: **DJ**
Arsenic	0.43	0.050	0.10		µg/L	1	12/6/2022 07:24 AM
Manganese	ND	0.026	0.50		µg/L	1	12/6/2022 07:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-97050**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **PBW**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-97050**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **LCSW**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.095	0.10	10.00	0	90.9	85	115				
Manganese	96.937	0.50	100.0	0	96.9	85	115				
Molybdenum	9.201	0.50	10.00	0	92.0	85	115				
Selenium	9.163	0.50	10.00	0	91.6	85	115				

Sample ID **N053886-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.956	0.10	10.00	0.8973	90.6	75	125				
Manganese	92.988	0.50	100.0	0	93.0	75	125				
Molybdenum	15.437	0.50	10.00	5.076	104	75	125				
Selenium	15.578	0.50	10.00	6.629	89.5	75	125				

Sample ID **N053886-005CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/5/2022**	RunNo: **167938**
Client ID: **ZZZZZZ**	Batch ID: **97050**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/6/2022**	SeqNo: **4956880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.746	0.10	10.00	0.8973	88.5	75	125	9.956	2.13	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053886
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N053886-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/5/2022	RunNo:	167938
Client ID:	ZZZZZZ	Batch ID:	97050	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/6/2022	SeqNo:	4956880

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.204	0.50	100.0	0	93.2	75	125	92.99	0.232	20	
Molybdenum	15.033	0.50	10.00	5.076	99.6	75	125	15.44	2.65	20	
Selenium	14.662	0.50	10.00	6.629	80.3	75	125	15.58	6.06	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; david.lamers@arcadis.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Rissie Tap		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/02/22	Sampled By: Rissie Tap		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: Date: 12/02/22		
Project Number: 30121866.4Q22GW			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number	3	
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 4.4°C		

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 125mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053886-001	MW-24BR-Q422	12/2/2022	11:10		Ground	X		X	X			E	1	P	BNS	
2	-002	PGE-08-Q422	12/2/2022	11:01		Potable	X		X	X			E	1	P	BNS	
3	-003	MW-48-Q422	12/2/2022	7:48		NPDES	X	X	X	X	X		E	3	P	BNS	
4	-004	MW-14-Q422	12/2/2022	8:20		Surface	X	X	X	X	X	X	E	4	P	BNS	
5	-005	MW-25-Q422	12/2/2022	9:35		Sediment	X	X	X	X	X		E	3	P	BNS	MSMSD
	-006	MW-19-Q422	12/2/2022	10:29		Soil	X		X	X			E	1	P	BNS	
7	-007	EB-742-Q422	12/2/2022	10:45		Other Solid	X						E	1	P	BNS	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Rissie Tap	12/02/22 1135	Dante Ortiz	12/2/22 11:38
Dante Ortiz Parker	12/2/22 16:37	Dante Ortiz	12/2/22 16:37

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/2/2022	Workorder:	N053886
Rep sample Temp (Deg C):	4.4	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/5/2022

Reviewed By: for MBC 12/8/22

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053886

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/2/2022 4:37 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053886-001A	MW-24BR-Q422	12/2/2022 11:10:00 AM	12/19/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053886-001B			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053886-002A	PGE-08-Q422	12/2/2022 11:01:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053886-002B			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053886-003A	MW-48-Q422	12/2/2022 7:48:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053886-003B			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053886-003C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053886-004A	MW-14-Q422	12/2/2022 8:20:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053886-004B			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053886-004C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053886-004D			12/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053886-005A	MW-25-Q422	12/2/2022 9:35:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N053886-005B			12/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N053886-005C			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Dec-22

WorkOrder: N053886

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/2/2022 4:37 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053886-005C	MW-25-Q422	12/2/2022 9:35:00 AM	12/19/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N053886-006A	MW-19-Q422	12/2/2022 10:29:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053886-006B			12/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053886-007A	EB-742-Q422	12/2/2022 10:45:00 AM	12/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053886-008A	FOLDER	12/19/2022	12/19/2022		Folder	Folder	☐	☐	☐	LAB
			12/19/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/19/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

05-Dec-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N053886-004D / MW-14-Q422	Groundwater	12/2/2022 8:20:00 AM	8OZP	1		

Preserved with H2SO4

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53886A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2229289

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53886A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Case Narrative

Sample Receipt

Work Order: 2229289
COC Number:
Default Cooler was received at 2.9 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
EPA-353.2	SC-1

Sample Qualifier Summary

There were no qualifiers for the samples.

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156256	EPA-353.2	2228812-01	<Not Client Sample>

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RI

2229289

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

22-29289

05-Dec-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NO3F		
N053886-004D / MW-14-Q422	Groundwater	12/2/2022 8:20:00 AM	8OZP	1		

Preserved with H2SO4

CHK BY DISTRIBUTION
SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53886A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558348580

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/5/2022 1630	Received by:		12-6-22 1623
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2229289 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-29289

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☑ Hand Delivery ☐	Ice Chest ☑ None ☐ Box ☐	YES ☑ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	W / S

Refrigerant: Ice ☑ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ | Containers ☐ Intact? Yes ☐ No ☐ | None ☑ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☑ YES ☐ NO

Emissivity: 0.98 Container: PE Thermometer ID: 337

Temperature: (A) 3.0 °C / (C) 2.9 °C

Date/Time 12-6-22

Analyst Init SMH 1023

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
~~NITRATE / NITRITE~~ 802 NF	A									
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: FC Date/Time: 12/10/22 1345

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WP Doc\Word Perfect\LAB_DOCS\FORMS\SAMREC rev 20]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2229289**
Class: **WET**
Method: **EPA-353.2**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053886-004D/MW-14-Q422	2229289-01

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron
Date: 01-10-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Nitrate/Nitrite as N	0.034	0.1	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET
EPA-353.2

N053886-004D/MW-14-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229289-01
File ID: 20221216006-NO3-022
Sampled: 12/02/22 08:20
Prepared: 12/16/22 12:00
Analyzed: 12/16/22 15:38
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156256
Sequence: 2223332
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	2.8	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156256
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053886-004D/MW-14-Q422	2229289-01	20221216006-NO3-022	12/16/22 12:00	pH of sample was 8
Blank	B156256-BLK1	20221216006-NO3-007	12/16/22 12:00	
LCS	B156256-BS1	20221216006-NO3-006	12/16/22 12:00	
Duplicate	B156256-DUP1	20221216006-NO3-009	12/16/22 12:00	pH of sample was 8
Matrix Spike	B156256-MS1	20221216006-NO3-010	12/16/22 12:00	pH of sample was 8
Matrix Spike Dup	B156256-MSD1	20221216006-NO3-011	12/16/22 12:00	pH of sample was 8

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
EPA-353.2

Laboratory:	Pace Analytical - Bakersfield		SDG:	2229289	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156256-BLK1	File ID:	20221216006-NO3-007
Prepared:	12/16/22 12:00	Preparation:	No Prep	Initial/Final:	10 ml / 10 ml
Analyzed:	12/16/22 15:20	Instrument:	SC-1		
Batch:	B156256	Sequence:	2223332	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
---	Nitrate/Nitrite as N	0.034	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

Duplicate

DUPLICATES

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156256
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2229289
Project: Level IV + labSpec7
Laboratory ID: B156256-DUP1
Lab Source ID: 2228812-01
Initial/Final: 10 ml / 10 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Nitrate/Nitrite as N	10	0.72630		0.70860		2.47		EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA-353.2

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156256
Laboratory ID: B156256-MS1
Preparation: No Prep
Initial/Final: 9.5 ml / 10 ml
Source Sample Number: 2228812-01

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	0.72630	3.0051	108	90 - 110

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	2.9172	104	2.97	10	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

LCS RECOVERY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156256
Laboratory ID: B156256-BS1
Preparation: No Prep
Initial/Final: 10 ml / 10 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.0000	2.1243	106	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA-353.2

Laboratory:	Pace Analytical - Bakersfield	SDG:	2229289
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223332	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223332-ICV1	20221216002-NO3-018	12/16/22 11:19
Initial Cal Blank	2223332-ICB1	20221216002-NO3-019	12/16/22 11:20
Calibration Check	2223332-CCVA	20221216006-NO3-004	12/16/22 15:16
Calibration Blank	2223332-CCBA	20221216006-NO3-005	12/16/22 15:17
LCS	B156256-BS1	20221216006-NO3-006	12/16/22 15:18
Blank	B156256-BLK1	20221216006-NO3-007	12/16/22 15:20
Duplicate	B156256-DUP1	20221216006-NO3-009	12/16/22 15:22
Matrix Spike	B156256-MS1	20221216006-NO3-010	12/16/22 15:23
Matrix Spike Dup	B156256-MSD1	20221216006-NO3-011	12/16/22 15:24
Calibration Check	2223332-CCVB	20221216006-NO3-016	12/16/22 15:30
Calibration Blank	2223332-CCBB	20221216006-NO3-017	12/16/22 15:32
N053886-004D/MW-14-Q422	2229289-01	20221216006-NO3-022	12/16/22 15:38
Calibration Check	2223332-CCVC	20221216006-NO3-023	12/16/22 15:39
Calibration Blank	2223332-CCBC	20221216006-NO3-024	12/16/22 15:40

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

BLANKS
EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Project: Level IV + labSpec7
Sequence: 2223332
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223332-ICB1	Nitrate/Nitrite as N	-0.013600	0.10	mg/L		EPA-353.2
2223332-CCBA	Nitrate/Nitrite as N	0.00070000	0.10	mg/L		EPA-353.2
2223332-CCBB	Nitrate/Nitrite as N	-0.0034000	0.10	mg/L		EPA-353.2
2223332-CCBC	Nitrate/Nitrite as N	-0.042900	0.10	mg/L		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2229289
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223332

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223332-ICV1	Nitrate/Nitrite as N	2.0000	1.9997	100	mg/L	EPA-353.2
2223332-CCVA	Nitrate/Nitrite as N	2.0000	2.1860	109	mg/L	EPA-353.2
2223332-CCVB	Nitrate/Nitrite as N	2.0000	2.1432	107	mg/L	EPA-353.2
2223332-CCVC	Nitrate/Nitrite as N	2.0000	2.0434	102	mg/L	EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229289
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053886-004D/MW-14-Q422	12/02/22 08:20	12/06/22 10:23	12/16/22 12:00	14.00	28.00	12/16/22 15:38	14.00	28.00	

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0353**	**0.00**	**10:58:38 AM**
DIL-1	**RBL**	**0.0000**	**0.0338**	**0.00**	**10:59:50 AM**
DIL-1	**RBL**	**0.0000**	**0.0357**	**0.00**	**11:01:02 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0017**	**0.00**	**11:02:14 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0026**	**0.00**	**11:03:26 AM**
SR5-1	**Std-2**	**0.1000**	**0.0256**	**0.00**	**11:04:38 AM**
SR5-1	**Std-2**	**0.1000**	**0.0269**	**0.00**	**11:05:50 AM**
SR5-2	**Std-3**	**0.5000**	**0.1401**	**0.00**	**11:07:02 AM**
SR5-2	**Std-3**	**0.5000**	**0.1351**	**0.00**	**11:08:14 AM**
SR5-3	**Std-4**	**1.0000**	**0.2675**	**0.00**	**11:09:26 AM**
SR5-3	**Std-4**	**1.0000**	**0.2781**	**0.00**	**11:10:38 AM**
SR5-4	**Std-5**	**2.0000**	**0.5524**	**0.00**	**11:11:50 AM**
SR5-4	**Std-5**	**2.0000**	**0.5438**	**0.00**	**11:13:02 AM**
SR5-5	**Std-6**	**4.0000**	**1.0585**	**0.00**	**11:14:14 AM**
SR5-5	**Std-6**	**4.0000**	**1.1020**	**0.00**	**11:15:26 AM**
ST-3	**^CCV (2 mg/L)**	**2.0159**	**0.5466**	**100.80**	**11:16:38 AM**
ST-2	**~CCB (0 mg/L)**	**-0.0095**	**-0.0016**	**0.00**	**11:17:51 AM**
1	**ICV1**	**1.9997**	**0.5422**	**0.00**	**11:19:03 AM**
2	**ICB1**	**-0.0136**	**-0.0027**	**0.00**	**11:20:15 AM**
3	**NO3**	**2.0403**	**0.5532**	**0.00**	**11:21:27 AM**
4	**NO2**	**2.0990**	**0.5691**	**0.00**	**11:22:39 AM**
ST-3	**^CCV (2 mg/L)**	**1.9753**	**0.5356**	**98.76**	**11:23:51 AM**
ST-2	**~CCB (0 mg/L)**	**-0.0117**	**-0.0022**	**0.00**	**11:25:03 AM**

Report Date :01/09/2023 **Run Date :12/16/2022** **Operator : WESTCO** **Plan # :20221216002**

Plan Description : NO3

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0445**	**0.00**	**3:12:56 PM**
DIL-1	**RBL**	**0.0000**	**0.0436**	**0.00**	**3:14:08 PM**
DIL-1	**RBL**	**0.0000**	**0.0429**	**0.00**	**3:15:20 PM**
ST-3	**^CCV (2 mg/L)**	**2.1860**	**0.5927**	**109.30**	**3:16:32 PM**
ST-2	**~CCB (0 mg/L)**	**0.0007**	**0.0012**	**0.00**	**3:17:44 PM**
1	**B3-BS1**	**2.1243**	**0.5760**	**0.00**	**3:18:56 PM**
2	**B3-BLK1**	**-0.0041**	**-0.0001**	**0.00**	**3:20:08 PM**
3	**2228812-01**	**0.7263**	**0.1976**	**0.00**	**3:21:20 PM**
4	**B3-DUP1**	**0.7086**	**0.1928**	**0.00**	**3:22:32 PM**
5	**B3-MS1**	**2.8548**	**0.7737**	**0.00**	**3:23:44 PM**
6	**B3-MSD1**	**2.7713**	**0.7511**	**0.00**	**3:24:56 PM**
7	**2228812-02**	**0.8914**	**0.2423**	**0.00**	**3:26:08 PM**
8	**2228812-03**	**0.0269**	**0.0083**	**0.00**	**3:27:20 PM**
9	**2229129-01**	**1.8399**	**0.4990**	**0.00**	**3:28:32 PM**
10	**2229129-02**	**0.7987**	**0.2172**	**0.00**	**3:29:44 PM**
ST-3	**^CCV (2 mg/L)**	**2.1432**	**0.5811**	**107.16**	**3:30:56 PM**
ST-2	**~CCB (0 mg/L)**	**-0.0034**	**0.0001**	**0.00**	**3:32:08 PM**
11	**2229129-03**	**0.7740**	**0.2105**	**0.00**	**3:33:20 PM**
12	**2229129-04**	**0.8985**	**0.2442**	**0.00**	**3:34:32 PM**
13	**2229129-05**	**1.6906**	**0.4586**	**0.00**	**3:35:44 PM**
14	**2229129-06**	**2.0878**	**0.5661**	**0.00**	**3:36:56 PM**
15	**2229289-01**	**2.8500**	**0.7724**	**0.00**	**3:38:08 PM**
ST-3	**^CCV (2 mg/L)**	**2.0434**	**0.5541**	**102.17**	**3:39:20 PM**
ST-2	**~CCB (0 mg/L)**	**-0.0429**	**-0.0106**	**0.00**	**3:40:32 PM**

Report Date :12/30/2022 **Run Date :12/16/2022** **Operator : WESTCO** **Plan # :20221216006**

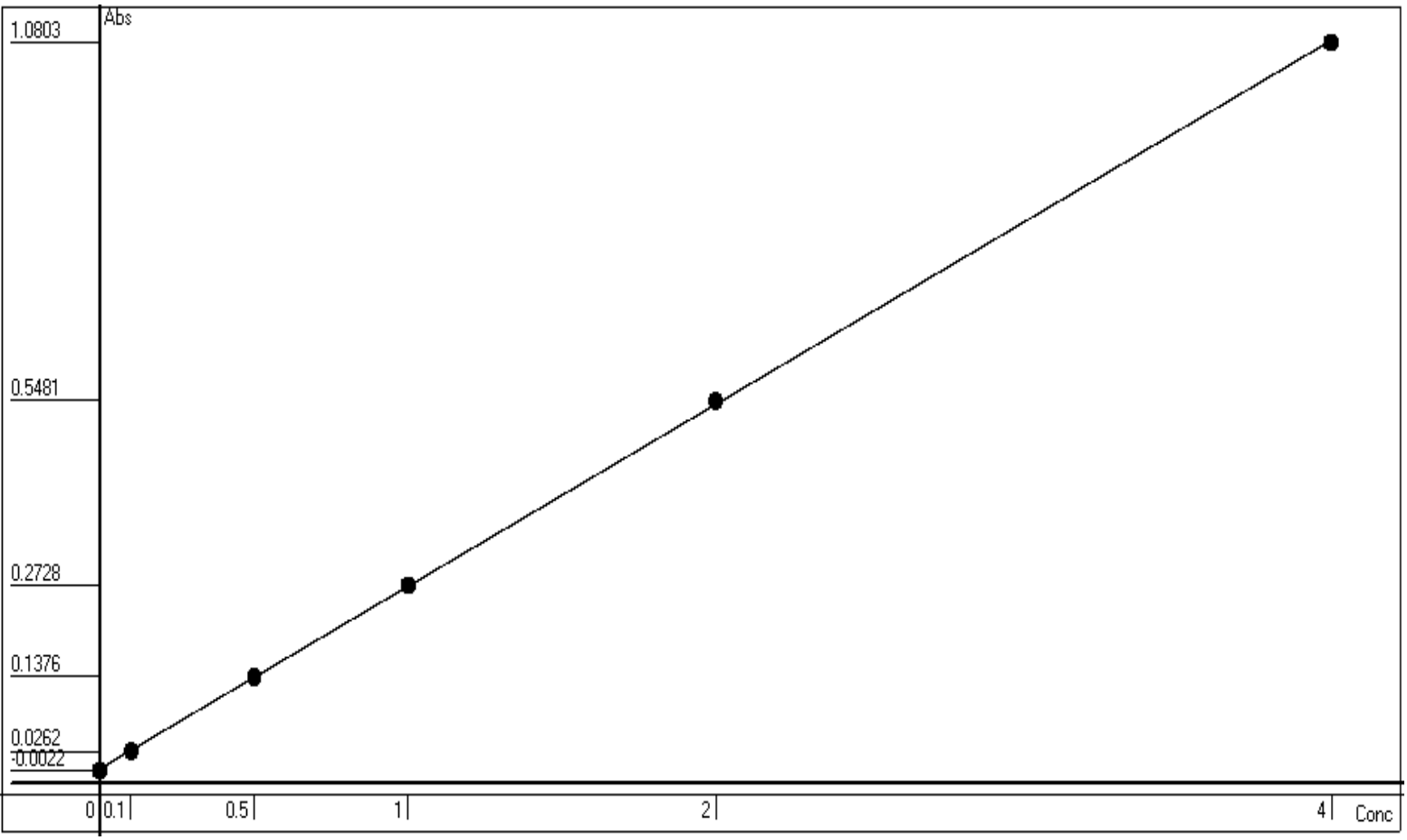
Plan Description : NO3

Raw Data - Calibration Summary

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221216002 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0022	0	-0.0117	-1.17
2	0.0262	0.1	0.0932	-6.80
3	0.1376	0.5	0.5048	0.96
4	0.2728	1	1.0043	0.43
5	0.5481	2	2.0214	1.07
6	1.0803	4	3.9877	-0.31

Conc= +3.6946*Abso -0.0036 R^2=0.9999

RBL
0.0355
0

Report Date 1/9/2023 Run Date 12/16/2022

Replicate Report - ZNO3 -

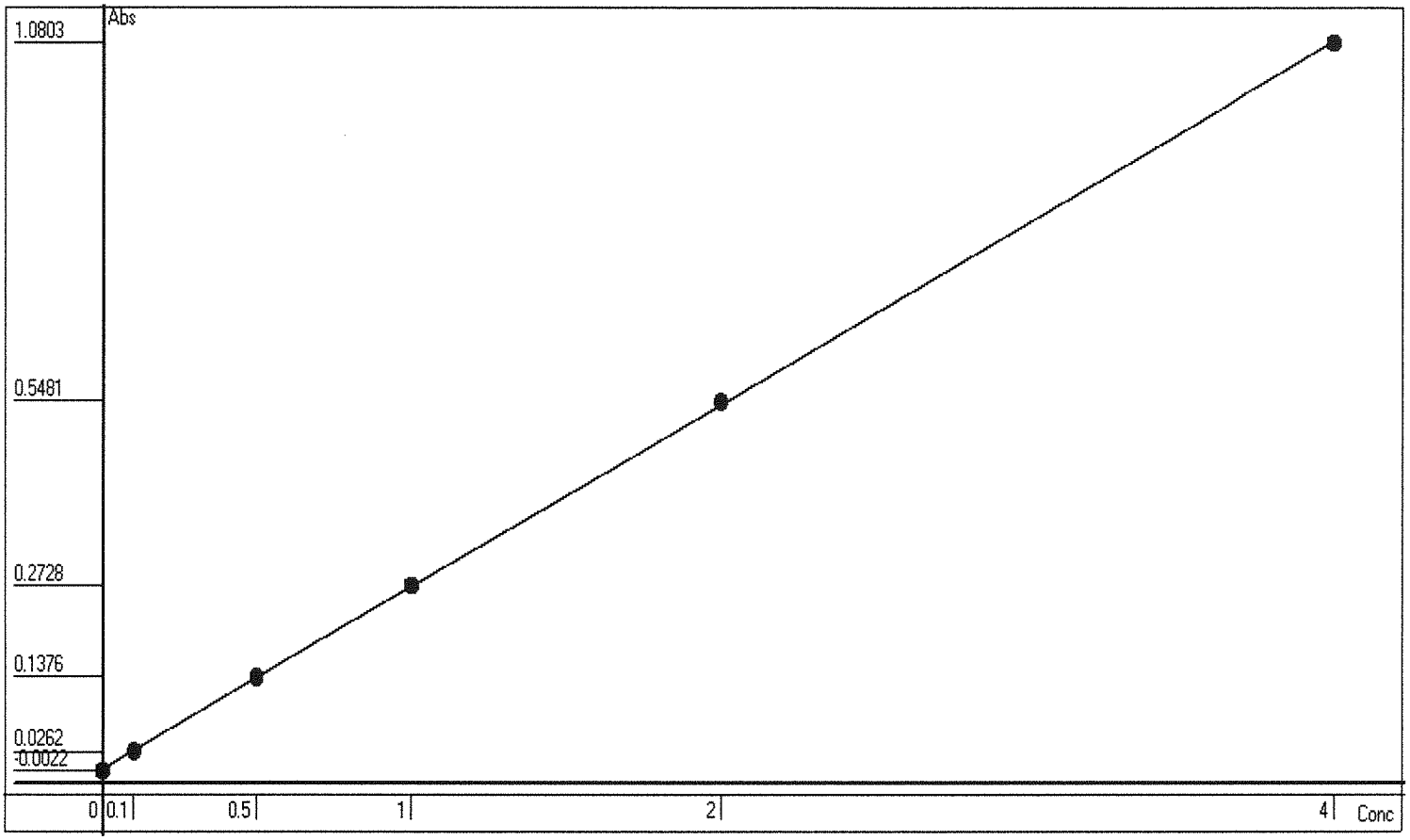
Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0017	-0.0026	/	/
2	0.0256	0.0269	/	/
3	0.1401	0.1351	/	/
4	0.2675	0.2781	/	/
5	0.5524	0.5438	/	/
6	1.0585	1.102	/	/

Print Date:1/9/2023 [WESTCO]

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221216002 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0022	0	-0.0117	-1.17
2	0.0262	0.1	0.0932	-6.80
3	0.1376	0.5	0.5048	0.96
4	0.2728	1	1.0043	0.43
5	0.5481	2	2.0214	1.07
6	1.0803	4	3.9877	-0.31

Conc= +3.6946*Abso -0.0036 R^2=0.9999

RBL
0.0355
0

Report Date 12/30/2022 Run Date 12/16/2022

Replicate Report - ZNO3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0017	-0.0026	/	/
2	0.0256	0.0269	/	/
3	0.1401	0.1351	/	/
4	0.2675	0.2781	/	/
5	0.5524	0.5438	/	/
6	1.0585	1.102	/	/

Print Date:12/30/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156256

BC Laboratories

Printed: 1/10/2023 3:31:30PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2228812-01 D	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2228812-02 D	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2228812-03 D	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229129-01 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229129-02 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229129-03 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229129-04 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229129-05 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229129-06 C	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
2229289-01 A	i353.2w NO3/NO2 as N	12/16/2022 12:00PM	KB1	10	10					
B156256-BLK1	QC	12/16/2022 12:00PM	KB1	10	10					
B156256-BS1	QC	12/16/2022 12:00PM	KB1	10	10	2J04023		500		
B156256-DUP1	QC	12/16/2022 12:00PM	KB1	10	10		2228812-01			
B156256-MS1	QC	12/16/2022 12:00PM	KB1	9.5	10	2J04023	2228812-01	500		
B156256-MSD1	QC	12/16/2022 12:00PM	KB1	9.5	10	2J04023	2228812-01	500		

Spike Mixes	Description	Solvent	Prepared	Expires
2J04023	NO3-N SPIKE 40	DILUTE H2SO4	10/4/2022 2 by zzzManpreet Br	4/4/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223332

Instrument: SC-1
Calibration ID:
Sequence Date: 12/16/2022
Printed: 1/10/2023 3:31:30PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223332-ICV1	QC		1		2J04029		
2223332-ICB1	QC		2				
2223332-CCV1	QC		3		2J04024		
2223332-CCB1	QC		4				
B156254-BS1	QC		5				
B156254-BLK1	QC		6				
2228696-01	i353.2w NO3/NO2 as N	C	7				
B156254-DUP1	QC		8				
B156254-MS1	QC		9				
B156254-MSD1	QC		10				
2228696-02	i353.2w NO3/NO2 as N	C	11				
2228696-03	i353.2w NO3/NO2 as N	C	12				
2228696-04	i353.2w NO3/NO2 as N	C	13				
2228696-05	i353.2w NO3/NO2 as N	C	14				
2223332-CCV2	QC		15		2J04024		
2223332-CCB2	QC		16				
2228696-06	i353.2w NO3/NO2 as N	C	17				
2228696-07	i353.2w NO3/NO2 as N	C	18				
2228696-08	i353.2w NO3/NO2 as N	C	19				
2229056-02	i353.2w NO3/NO2 as N	E	20				
2223332-CCV3	QC		21		2J04024		
2223332-CCB3	QC		22				
2223332-CCV4	QC		23		2J04024		
2223332-CCB4	QC		24				
2229056-01	i353.2w NO3/NO2 as N	E	25				
2223332-CCV5	QC		26		2J04024		
2223332-CCB5	QC		27				
2223332-CCV6	QC		28		2J04024		
2223332-CCB6	QC		29				
B156255-BS1	QC		30				
B156255-BLK1	QC		31				
2229092-01	i353.2w NO3/NO2 as N	D	32				
B156255-DUP1	QC		33				
B156255-MS1	QC		34				
B156255-MSD1	QC		35				
2229092-05	i353.2w NO3/NO2 as N	D	36				
2223332-CCV7	QC		37		2J04024		
2223332-CCB7	QC		38				
2229092-06	i353.2w NO3/NO2 as N	C	39				

ANALYSIS SEQUENCE

2223332

Instrument: SC-1
Calibration ID:
Sequence Date: 12/16/2022
Printed: 1/10/2023 3:31:30PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2229092-07	i353.2w NO3/NO2 as N	C	40				
2229092-08	i353.2w NO3/NO2 as N	C	41				
2229092-09	i353.2w NO3/NO2 as N	C	42				
2223332-CCV8	QC		43		2J04024		
2223332-CCB8	QC		44				
2229092-02	i353.2w NO3/NO2 as N	D	45				
2229092-03	i353.2w NO3/NO2 as N	D	46				
2229092-04	i353.2w NO3/NO2 as N	D	47				
2229092-10	i353.2w NO3/NO2 as N	C	48				
2223332-CCV9	QC		49		2J04024		
2223332-CCB9	QC		50				
2223332-CCVA	QC		51		2J04024		
2223332-CCBA	QC		52				
B156256-BS1	QC		53				
B156256-BLK1	QC		54				
2228812-01	i353.2w NO3/NO2 as N	D	55				
B156256-DUP1	QC		56				
B156256-MS1	QC		57				
B156256-MSD1	QC		58				
2228812-02	i353.2w NO3/NO2 as N	D	59				
2228812-03	i353.2w NO3/NO2 as N	D	60				
2229129-01	i353.2w NO3/NO2 as N	C	61				
2229129-02	i353.2w NO3/NO2 as N	C	62				
2223332-CCVB	QC		63		2J04024		
2223332-CCBB	QC		64				
2229129-03	i353.2w NO3/NO2 as N	C	65				
2229129-04	i353.2w NO3/NO2 as N	C	66				
2229129-05	i353.2w NO3/NO2 as N	C	67				
2229129-06	i353.2w NO3/NO2 as N	C	68				
2229289-01	i353.2w NO3/NO2 as N	A	69				
2223332-CCVC	QC		70		2J04024		
2223332-CCBC	QC		71				
2223332-CCVD	QC		72		2J04024		
2223332-CCBD	QC		73				
B156257-BS1	QC		74				
B156257-BLK1	QC		75				
2229272-01	i353.2w NO3/NO2 as N	A	76				
B156257-DUP1	QC		77				
B156257-MS1	QC		78				

ANALYSIS SEQUENCE

2223332

Instrument: SC-1
Calibration ID:
Sequence Date: 12/16/2022
Printed: 1/10/2023 3:31:30PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
B156257-MSD1	QC		79				
2229272-02	i353.2w NO3/NO2 as N	A	80				
2229272-03	i353.2w NO3/NO2 as N	A	81				
2229272-04	i353.2w NO3/NO2 as N	A	82				
2229272-05	i353.2w NO3/NO2 as N	A	83				
2223332-CCVE	QC		84		2J04024		
2223332-CCBE	QC		85				
2229272-06	i353.2w NO3/NO2 as N	A	86				
2229186-01	i353.2w NO3/NO2 as N	C	87				
2229186-02	i353.2w NO3/NO2 as N	B	88				
2229273-01	i353.2w NO3/NO2 as N	A	89				
2229273-02	i353.2w NO3/NO2 as N	A	90				
2223332-CCVF	QC		91		2J04024		
2223332-CCBF	QC		92				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:31:30PM
Project: Level IV + labSpec7
Project Number: N53886A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 22, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053924

RE: PG&E Topock - OMM Baseline, 30106892

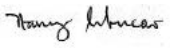
Attention: Brian Prowd

Enclosed are the results for sample(s) received on December 05, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

ASSET Laboratories

Date: *22-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N053924
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053924-001A	CAB_MIXER_606-120522	Water	12/5/2022 11:30:00 AM	12/5/2022	12/22/2022
N053924-001B	CAB_MIXER_606-120522	Water	12/5/2022 11:30:00 AM	12/5/2022	12/22/2022
N053924-001C	CAB_MIXER_606-120522	Water	12/5/2022 11:30:00 AM	12/5/2022	12/22/2022
N053924-002A	CAB_MIXER_607-120522	Water	12/5/2022 11:45:00 AM	12/5/2022	12/22/2022
N053924-002B	CAB_MIXER_607-120522	Water	12/5/2022 11:45:00 AM	12/5/2022	12/22/2022
N053924-002C	CAB_MIXER_607-120522	Water	12/5/2022 11:45:00 AM	12/5/2022	12/22/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-120522
Lab Order:	N053924		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	12/5/2022 11:30:00 AM
Lab ID:	N053924-001	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221206A**	QC Batch: **R167941**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	490	27	200		mg/L	200	12/6/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-120522
Lab Order:	N053924		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	12/5/2022 11:45:00 AM
Lab ID:	N053924-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221206A**	QC Batch: **R167941**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	620	27	200		mg/L	200	12/6/2022 05:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053924
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167941**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167941**
Client ID: **PBW**	Batch ID: **R167941**	TestNo: **SM 5310C**		Analysis Date: **12/6/2022**	SeqNo: **4957026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167941**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167941**
Client ID: **LCSW**	Batch ID: **R167941**	TestNo: **SM 5310C**		Analysis Date: **12/6/2022**	SeqNo: **4957027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.967	1.0	5.000	0	99.3	85	115				

Sample ID **N053923-002CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167941**
Client ID: **ZZZZZZ**	Batch ID: **R167941**	TestNo: **SM 5310C**		Analysis Date: **12/6/2022**	SeqNo: **4957029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.281	1.0	5.000	0	85.6	75	125				

Sample ID **N053923-002CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167941**
Client ID: **ZZZZZZ**	Batch ID: **R167941**	TestNo: **SM 5310C**		Analysis Date: **12/6/2022**	SeqNo: **4957039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.412	1.0	5.000	0	88.2	75	125	4.281	3.02	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-120522
Lab Order:	N053924		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	12/5/2022 11:30:00 AM
Lab ID:	N053924-001	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOA APPENDIX 9							
			EPA 8260B				
RunID: **NV00922-MS5_221219A**	QC Batch: **P22VW230**			PrepDate:			Analyst: **CA**
Ethanol	710000	10000	50000		µg/L	500	12/19/2022 03:30 PM
Surr: 1,2-Dichloroethane-d4	95.6	0	72-142		%REC	500	12/19/2022 03:30 PM
Surr: 4-Bromofluorobenzene	96.2	0	74-124		%REC	500	12/19/2022 03:30 PM
Surr: Dibromofluoromethane	99.0	0	76-137		%REC	500	12/19/2022 03:30 PM
Surr: Toluene-d8	103	0	79-126		%REC	500	12/19/2022 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-120522
Lab Order:	N053924		
Project:	PG&E Topock - OMM Baseline, 30106892	**Collection Date:**	12/5/2022 11:45:00 AM
Lab ID:	N053924-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOA APPENDIX 9							
			EPA 8260B				
RunID: **NV00922-MS5_221219A**	QC Batch: **P22VW230**			PrepDate:			Analyst: **CA**
Ethanol	870000	10000	50000		µg/L	500	12/19/2022 03:57 PM
Surr: 1,2-Dichloroethane-d4	104	0	72-142		%REC	500	12/19/2022 03:57 PM
Surr: 4-Bromofluorobenzene	97.5	0	74-124		%REC	500	12/19/2022 03:57 PM
Surr: Dibromofluoromethane	99.1	0	76-137		%REC	500	12/19/2022 03:57 PM
Surr: Toluene-d8	103	0	79-126		%REC	500	12/19/2022 03:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053924
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WPAPP9

Sample ID **P221219LCS**	SampType: **LCS**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **168342**
Client ID: **LCSW**	Batch ID: **P22VW230**	TestNo: **EPA 8260B**		Analysis Date: **12/19/2022**	SeqNo: **4978963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	373.410	100	400.0	0	93.4	70	130				
Surr: 1,2-Dichloroethane-d4	23.120		25.00		92.5	72	142				
Surr: 4-Bromofluorobenzene	28.670		25.00		115	74	124				
Surr: Dibromofluoromethane	22.100		25.00		88.4	76	137				
Surr: Toluene-d8	26.000		25.00		104	79	126				

Sample ID **N054007-010AMS**	SampType: **MS**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **168342**
Client ID: **ZZZZZZ**	Batch ID: **P22VW230**	TestNo: **EPA 8260B**		Analysis Date: **12/19/2022**	SeqNo: **4978964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	299.190	100	400.0	0	74.8	70	130				
Surr: 1,2-Dichloroethane-d4	23.840		25.00		95.4	72	142				
Surr: 4-Bromofluorobenzene	27.960		25.00		112	74	124				
Surr: Dibromofluoromethane	22.290		25.00		89.2	76	137				
Surr: Toluene-d8	25.750		25.00		103	79	126				

Sample ID **N054007-010AMSD**	SampType: **MSD**	TestCode: **8260WPAPP9**	Units: **µg/L**	Prep Date:	RunNo: **168342**
Client ID: **ZZZZZZ**	Batch ID: **P22VW230**	TestNo: **EPA 8260B**		Analysis Date: **12/19/2022**	SeqNo: **4978965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	321.560	100	400.0	0	80.4	70	130	299.2	7.21	30	
Surr: 1,2-Dichloroethane-d4	24.490		25.00		98.0	72	142		0		
Surr: 4-Bromofluorobenzene	27.690		25.00		111	74	124		0		
Surr: Dibromofluoromethane	22.230		25.00		88.9	76	137		0		
Surr: Toluene-d8	26.090		25.00		104	79	126		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053924
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260WPAPP9

Sample ID **P221219MB2** SampType: **MBLK** TestCode: **8260WPAPP9** Units: **µg/L** Prep Date: RunNo: **168342**
Client ID: **PBW** Batch ID: **P22VW230** TestNo: **EPA 8260B** Analysis Date: **12/19/2022** SeqNo: **4978967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	23.390		25.00		93.6	72	142				
Surr: 4-Bromofluorobenzene	23.770		25.00		95.1	74	124				
Surr: Dibromofluoromethane	24.280		25.00		97.1	76	137				
Surr: Toluene-d8	24.900		25.00		99.6	79	126				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Brian Prowd	Bill to: Marly Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y / N
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9817-051	Labspec	CalTrans	2. Headspace
Submitted By: Kevin Ashley		Phone: 949-727-1400. ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: O and M Operator	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 12/5/22	Sampled By: Kevin Ashley		Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may			Specify State:	6. Method of Cooling: Ice
Project Name: PG&E Topock - OMM Baseline	Signature: Date: 12/5/22				Sample Temp: 2.6°C
Project Number: 30108892					Courier: Tracking No.:

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface; Water X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	3x40 mL VOA: Ethanol (EPA 8260); HCl	3x40 mL VOA: Total Organic Carbon (SM5310B); H2SO4 Vials wrapped in foil	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053924-001	CAB_MIXER_606-120522	12/5/22	1130A		X	X	X	E	9	PV	BNS	
2	-002	CAB_MIXER_607-120522	12/5/22	1145A		X	X	X	E	9	PV	BNS	
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Kevin Ashley	12/5/22	Kiggie Tep	12/5/22 1514
Kiggie Tep	12/5/22 15:55	Dante Cruz Dante Cruz	12/5/22 15:55
Dante Cruz Dante Cruz	12/5/22 19:29	Dante Cruz Dante Cruz	12/5/22 19:29

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analyses, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/5/2022	Workorder:	N053924
Rep sample Temp (Deg C):	2.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

for

Checklist Completed By: EF EFanegoF 12/6/2022 Reviewed By: MBC 12/8/2022

Subject: Re: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053924)
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Date: 12/7/2022, 6:42 PM
To: "Madsen, Laura" <Laura.Madsen@arcadis.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Hi Laura,

If you need it for your records send it, but this email is enough for us.

Thanks,

On 12/7/2022 6:06 PM, Madsen, Laura wrote:

> Correct. Should I send a revised COC with the TOC 5310B removed? I realize I sent the other one revised but missed sending a revised one for this work order.
>
> Thanks
> Laura
>
> Get Outlook for iOS
>
> ---
>
> **From:** Yoandra Rodriguez <yoandra@assetlaboratories.com>
> **Sent:** Wednesday, December 7, 2022 7:18:39 PM
> **To:** Madsen, Laura <Laura.Madsen@arcadis.com>
> **Cc:** maryann.balilu@assetlaboratoriesph.com <maryann.balilu@assetlaboratoriesph.com>; maryann.balilu@assetlaboratoriesph.com <maryann.balilu@assetlaboratoriesph.com>
> **Subject:** PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053924)
>
> HI Laura,
>
> Just to confirm that the samples for TOC SM5310B under WO # N053924 were put on and logged in WO # N053965 per your instructions.
>
> --
> **Thanks,**
>
> **Yoandra Rodriguez**
> **Project Manager**
>
> Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
> California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436
>
> ASSET LABORATORIES - Serving Clients with Passion and Professionalism
>
> This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

ASSET Laboratories

WORK ORDER Summary

09-Dec-22

WorkOrder: N053924

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 12/5/2022 7:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053924-001A	CAB_MIXER_606-120522	12/5/2022 11:30:00 AM	12/20/2022	Water	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053924-001B			12/20/2022		EPA 8260B	VOA appendix 9	☐	☐	☐	VW
N053924-001C			12/20/2022		SM5310B	TOTAL ORGANIC CARBON	☑	☐	☑	SUB
N053924-002A	CAB_MIXER_607-120522	12/5/2022 11:45:00 AM	12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053924-002B			12/20/2022		EPA 8260B	VOA appendix 9	☐	☐	☐	VW
N053924-002C			12/20/2022		SM5310B	TOTAL ORGANIC CARBON	☑	☐	☑	SUB
N053924-003A	FOLDER	12/20/2022	12/20/2022		Folder	Folder	☐	☐	☐	LAB
			12/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/20/2022		Folder	Folder	☐	☐	☐	LAB

December 28, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053925

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 05, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053925

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N053925-001B-MS and N053925-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053925-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053925-001 and MS/MSDwere reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053925
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053925-001A	MW-82-046-1222	Groundwater	12/5/2022 11:00:00 AM	12/5/2022	12/28/2022
N053925-001B	MW-82-046-1222	Groundwater	12/5/2022 11:00:00 AM	12/5/2022	12/28/2022
N053925-001C	MW-82-046-1222	Groundwater	12/5/2022 11:00:00 AM	12/5/2022	12/28/2022
N053925-001D	MW-82-046-1222	Groundwater	12/5/2022 11:00:00 AM	12/5/2022	12/28/2022
N053925-002A	MW-928-Q422	Groundwater	12/5/2022 11:10:00 AM	12/5/2022	12/28/2022
N053925-002B	MW-928-Q422	Groundwater	12/5/2022 11:10:00 AM	12/5/2022	12/28/2022
N053925-002C	MW-928-Q422	Groundwater	12/5/2022 11:10:00 AM	12/5/2022	12/28/2022
N053925-002D	MW-928-Q422	Groundwater	12/5/2022 11:10:00 AM	12/5/2022	12/28/2022
N053925-003A	MW-82-112-1222	Groundwater	12/5/2022 11:31:00 AM	12/5/2022	12/28/2022
N053925-003B	MW-82-112-1222	Groundwater	12/5/2022 11:31:00 AM	12/5/2022	12/28/2022
N053925-003C	MW-82-112-1222	Groundwater	12/5/2022 11:31:00 AM	12/5/2022	12/28/2022
N053925-003D	MW-82-112-1222	Groundwater	12/5/2022 11:31:00 AM	12/5/2022	12/28/2022
N053925-004A	MW-82-168-1222	Groundwater	12/5/2022 12:04:00 PM	12/5/2022	12/28/2022
N053925-004B	MW-82-168-1222	Groundwater	12/5/2022 12:04:00 PM	12/5/2022	12/28/2022
N053925-004C	MW-82-168-1222	Groundwater	12/5/2022 12:04:00 PM	12/5/2022	12/28/2022
N053925-004D	MW-82-168-1222	Groundwater	12/5/2022 12:04:00 PM	12/5/2022	12/28/2022
N053925-005A	MW-82-198-1222	Groundwater	12/5/2022 12:42:00 PM	12/5/2022	12/28/2022
N053925-005B	MW-82-198-1222	Groundwater	12/5/2022 12:42:00 PM	12/5/2022	12/28/2022
N053925-005C	MW-82-198-1222	Groundwater	12/5/2022 12:42:00 PM	12/5/2022	12/28/2022
N053925-005D	MW-82-198-1222	Groundwater	12/5/2022 12:42:00 PM	12/5/2022	12/28/2022
N053925-006A	MW-77-046-1222	Groundwater	12/5/2022 1:14:00 PM	12/5/2022	12/28/2022
N053925-006B	MW-77-046-1222	Groundwater	12/5/2022 1:14:00 PM	12/5/2022	12/28/2022
N053925-006C	MW-77-046-1222	Groundwater	12/5/2022 1:14:00 PM	12/5/2022	12/28/2022
N053925-006D	MW-77-046-1222	Groundwater	12/5/2022 1:14:00 PM	12/5/2022	12/28/2022
N053925-007A	MW-77-102-1222	Groundwater	12/5/2022 11:01:00 AM	12/5/2022	12/28/2022
N053925-007B	MW-77-102-1222	Groundwater	12/5/2022 11:01:00 AM	12/5/2022	12/28/2022
N053925-007C	MW-77-102-1222	Groundwater	12/5/2022 11:01:00 AM	12/5/2022	12/28/2022
N053925-007D	MW-77-102-1222	Groundwater	12/5/2022 11:01:00 AM	12/5/2022	12/28/2022
N053925-008A	MW-77-158-1222	Groundwater	12/5/2022 11:39:00 AM	12/5/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053925
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053925-008B	MW-77-158-1222	Groundwater	12/5/2022 11:39:00 AM	12/5/2022	12/28/2022
N053925-008C	MW-77-158-1222	Groundwater	12/5/2022 11:39:00 AM	12/5/2022	12/28/2022
N053925-008D	MW-77-158-1222	Groundwater	12/5/2022 11:39:00 AM	12/5/2022	12/28/2022
N053925-009A	MW-77-187-1222	Groundwater	12/5/2022 12:31:00 PM	12/5/2022	12/28/2022
N053925-009B	MW-77-187-1222	Groundwater	12/5/2022 12:31:00 PM	12/5/2022	12/28/2022
N053925-009C	MW-77-187-1222	Groundwater	12/5/2022 12:31:00 PM	12/5/2022	12/28/2022
N053925-009D	MW-77-187-1222	Groundwater	12/5/2022 12:31:00 PM	12/5/2022	12/28/2022
N053925-010A	EB-744-Q422	Groundwater	12/5/2022 1:30:00 PM	12/5/2022	12/28/2022
N053925-011A	EB-743-Q422	Groundwater	12/5/2022 1:00:00 PM	12/5/2022	12/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:00:00 AM
Lab ID:	N053925-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 05:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-928-Q422
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:10:00 AM
Lab ID:	N053925-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 05:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:31:00 AM
Lab ID:	N053925-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 04:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:04:00 PM
Lab ID:	N053925-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/22/2022 09:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:42:00 PM
Lab ID:	N053925-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 06:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 1:14:00 PM
Lab ID:	N053925-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/22/2022 10:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:01:00 AM
Lab ID:	N053925-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:39:00 AM
Lab ID:	N053925-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:31:00 PM
Lab ID:	N053925-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	10	0.12	1.0		µg/L	5	12/23/2022 12:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-744-Q422
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 1:30:00 PM
Lab ID:	N053925-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/22/2022 08:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-743-Q422
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 1:00:00 PM
Lab ID:	N053925-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/22/2022 08:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168440**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **168440**			
Client ID: **PBW**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**			SeqNo: **4987156**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168440**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **168440**			
Client ID: **LCSW**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**			SeqNo: **4987157**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.977	0.20	5.000	0	99.5	90	110				

Sample ID: **N053886-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **168440**			
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**			SeqNo: **4987159**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.528	2.0	50.00	59.52	98.0	90	110				

Sample ID: **N053886-005AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **168440**			
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**			SeqNo: **4987160**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.293	2.0	50.00	59.52	97.5	90	110	108.5	0.217	20	

Sample ID: **N053923-003ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:			RunNo: **168440**			
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**			SeqNo: **4987162**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	93.089	2.0						93.62	0.574	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054022-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.184	0.20	1.000	1.221	96.3	90	110				

Sample ID: **N054022-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.4	90	110				

Sample ID: **N053994-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.759	1.0	5.000	0	95.2	90	110				

Sample ID: **N054022-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.176	0.20	5.000	6.484	93.8	90	110				

Sample ID: **N053925-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053925-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.915	1.0	5.000	0	98.3	90	110				

Sample ID: **N053925-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID: **N053925-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.661	1.0	5.000	0	93.2	90	110				

Sample ID: **N053925-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987190**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.034	1.0	5.000	0	101	90	110				

Sample ID: **N053925-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053925-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N053925-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.955	0.20	1.000	0	95.5	90	110				

Sample ID: **N053925-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987202**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Sample ID: **N053925-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987203**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R168441**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **LCSW**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.890	0.20	5.000	0	97.8	90	110				

Sample ID: **MB-R168441**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **PBW**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N054021-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5318.700	100	2500	2893	97.0	90	110				

Sample ID: **N054021-008AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5386.400	100	2500	2893	99.8	90	110	5319	1.26	20	

Sample ID: **N053993-003ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	169.890	10						168.8	0.673	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053993-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	418.020	10	250.0	168.8	99.7	90	110				

Sample ID: **N053993-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	151.836	4.0	100.0	53.69	98.1	90	110				

Sample ID: **N053993-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	237.048	4.0	100.0	140.2	96.8	90	110				

Sample ID: **N053993-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.366	0.20	1.000	0.3560	101	90	110				

Sample ID: **N053993-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053993-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID: **N053993-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	1.0	5.000	0	97.0	90	110				

Sample ID: **N053993-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.736	1.0	5.000	0	94.7	90	110				

Sample ID: **N053993-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID: **N053993-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054021-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.710	10	250.0	294.3	103	90	110				

Sample ID: **N054021-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.290	1.0	25.00	13.55	99.0	90	110				

Sample ID: **N054021-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	759.460	20	500.0	276.4	96.6	90	110				

Sample ID: **N054021-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	787.570	20	500.0	292.8	98.9	90	110				

Sample ID: **N054021-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.049	0.20	1.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054021-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987271**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	127.174	2.0	50.00	77.71	98.9	90	110				

Sample ID: **N053994-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID: **N053994-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N053925-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	35.592	1.0	25.00	10.35	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-82-046-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:00:00 AM
Lab ID: N053925-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	1600	12	100		mg/L	200	12/6/2022 10:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 02:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-928-Q422
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:10:00 AM
Lab ID: N053925-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	1600	12	100		mg/L	200	12/7/2022 12:32 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 02:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-82-112-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:31:00 AM
Lab ID: N053925-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	12/7/2022 12:46 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	12/6/2022 02:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-82-168-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 12:04:00 PM
Lab ID: N053925-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	500	6.1	50		mg/L	100	12/7/2022 01:00 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 01:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-82-198-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 12:42:00 PM
Lab ID: N053925-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	690	6.1	50		mg/L	100	12/7/2022 01:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 02:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-77-046-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 1:14:00 PM
Lab ID: N053925-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	990	6.1	50		mg/L	100	12/7/2022 01:29 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 03:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-77-102-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:01:00 AM
Lab ID: N053925-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	680	6.1	50		mg/L	100	12/6/2022 11:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.89	0.095	0.50		mg/L	10	12/6/2022 03:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-77-158-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:39:00 AM
Lab ID: N053925-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	470	6.1	50		mg/L	100	12/7/2022 01:43 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-77-187-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 12:31:00 PM
Lab ID: N053925-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206B** QC Batch: **R167949**				PrepDate:			Analyst: **RAB**
Sulfate	580	6.1	50		mg/L	100	12/7/2022 01:58 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221206A** QC Batch: **R167923**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/6/2022 03:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167949_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **PBW**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R167949_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **LCSW**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.976	0.50	4.000	0	99.4	90	110				

Sample ID: **N053925-001DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **ZZZZZZ**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2427.680	100	800.0	1628	99.9	80	120				

Sample ID: **N053925-001DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **ZZZZZZ**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2419.880	100	800.0	1628	99.0	80	120	2428	0.322	20	

Sample ID: **N053925-007DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **ZZZZZZ**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2022**	SeqNo: **4957802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	679.370	50						678.1	0.192	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167923_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167923**
Client ID: **PBW**	Batch ID: **R167923**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4956948**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167923_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167923**
Client ID: **LCSW**	Batch ID: **R167923**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4956949**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.255	0.050	1.250	0	100	90	110				

Sample ID: **N053923-002BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167923**
Client ID: **ZZZZZZ**	Batch ID: **R167923**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4956951**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.119	0.25	6.250	2.144	95.6	80	120				

Sample ID: **N053923-002BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167923**
Client ID: **ZZZZZZ**	Batch ID: **R167923**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4956952**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.121	0.25	6.250	2.144	95.6	80	120	8.119	0.0308	20	

Sample ID: **N053925-004DDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167923**
Client ID: **ZZZZZZ**	Batch ID: **R167923**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4956957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053925-004DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167923**
Client ID: **ZZZZZZ** Batch ID: **R167923** TestNo: **EPA 300.0** Analysis Date: **12/6/2022** SeqNo: **4956960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.577	0.50	12.50	0	92.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:00:00 AM
Lab ID:	N053925-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	12/7/2022 01:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-928-Q422
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:10:00 AM
Lab ID:	N053925-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.6	0.14	1.0		mg/L	1	12/7/2022 12:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:31:00 AM
Lab ID:	N053925-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 12:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:04:00 PM
Lab ID:	N053925-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:42:00 PM
Lab ID:	N053925-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 03:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 1:14:00 PM
Lab ID:	N053925-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:01:00 AM
Lab ID:	N053925-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 03:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:39:00 AM
Lab ID:	N053925-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 04:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:31:00 PM
Lab ID:	N053925-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 07:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167970**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **PBW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167970**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **LCSW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.955	1.0	5.000	0	99.1	85	115				

Sample ID: **N053925-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.060	20	100.0	9.514	87.5	75	125				

Sample ID: **N053925-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.514	20	100.0	9.514	88.0	75	125	97.06	0.467	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:00:00 AM
Lab ID:	N053925-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	5400	13	20		µg/L	1	12/22/2022 12:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-928-Q422
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:10:00 AM
Lab ID:	N053925-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	5700	13	20		µg/L	1	12/22/2022 12:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:31:00 AM
Lab ID:	N053925-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 01:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:04:00 PM
Lab ID:	N053925-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	48	13	20		µg/L	1	12/22/2022 01:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:42:00 PM
Lab ID:	N053925-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**			PrepDate:	**12/6/2022**		Analyst: **DJ**
Iron	53	13	20		µg/L	1	12/22/2022 01:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 1:14:00 PM
Lab ID:	N053925-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	34	13	20		µg/L	1	12/22/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:01:00 AM
Lab ID:	N053925-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 01:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:39:00 AM
Lab ID:	N053925-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	33	13	20		µg/L	1	12/22/2022 01:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 12:31:00 PM
Lab ID:	N053925-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97066**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 01:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-97066**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168435**
Client ID: **PBW**	Batch ID: **97066**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS1-97066**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168435**
Client ID: **LCSW**	Batch ID: **97066**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.259	20	100.0	0	100	85	115				

Sample ID: **N053885-004C-MS1**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **97066**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.914	20	100.0	0	94.9	75	125				

Sample ID: **N053885-004C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **97066**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.946	20	100.0	0	103	75	125	94.91	8.12	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:00:00 AM
Lab ID:	N053925-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	17	0.25	0.50		µg/L	5	12/23/2022 02:16 PM
Barium	55	0.083	1.0		µg/L	1	12/9/2022 04:32 PM
Manganese	240	0.13	2.5		µg/L	5	12/12/2022 08:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-928-Q422

Lab Order: N053925

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:10:00 AM

Lab ID: N053925-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	19	0.050	0.10		µg/L	1	12/23/2022 03:32 PM
Barium	60	0.083	1.0		µg/L	1	12/9/2022 05:20 PM
Manganese	260	0.13	2.5		µg/L	5	12/12/2022 09:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:31:00 AM
Lab ID:	N053925-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/23/2022 03:38 PM
Barium	63	0.083	1.0		µg/L	1	12/9/2022 05:26 PM
Manganese	180	0.026	0.50		µg/L	1	12/12/2022 09:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-82-168-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 12:04:00 PM
Lab ID: N053925-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	1.0	0.050	0.10		µg/L	1	12/23/2022 03:44 PM
Barium	30	0.083	1.0		µg/L	1	12/9/2022 05:32 PM
Manganese	37	0.026	0.50		µg/L	1	12/12/2022 09:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-82-198-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 12:42:00 PM
Lab ID: N053925-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	12/23/2022 03:50 PM
Barium	34	0.083	1.0		µg/L	1	12/9/2022 05:37 PM
Manganese	63	0.026	0.50		µg/L	1	12/12/2022 09:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 1:14:00 PM
Lab ID:	N053925-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	5.6	0.050	0.10		µg/L	1	12/23/2022 03:56 PM
Barium	97	0.083	1.0		µg/L	1	12/9/2022 05:43 PM
Manganese	670	0.13	2.5		µg/L	5	12/12/2022 09:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-1222
Lab Order:	N053925		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/5/2022 11:01:00 AM
Lab ID:	N053925-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**				PrepDate:	**12/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/23/2022 04:01 PM
Barium	75	0.083	1.0		µg/L	1	12/12/2022 09:57 PM
Manganese	120	0.026	0.50		µg/L	1	12/12/2022 09:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-77-158-1222
Lab Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 11:39:00 AM
Lab ID: N053925-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	12/23/2022 04:07 PM
Barium	30	0.083	1.0		µg/L	1	12/12/2022 10:01 PM
Manganese	28	0.026	0.50		µg/L	1	12/12/2022 10:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-77-187-1222

Lab Order: N053925

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/5/2022 12:31:00 PM

Lab ID: N053925-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97070**			PrepDate:		**12/6/2022**	Analyst: **DJ**
Arsenic	5.0	0.050	0.10		µg/L	1	12/23/2022 04:13 PM
Barium	22	0.083	1.0		µg/L	1	12/12/2022 10:06 PM
Manganese	15	0.026	0.50		µg/L	1	12/12/2022 10:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97070**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168066**
Client ID: **PBW**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/9/2022**	SeqNo: **4963114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **LCS-97070**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168066**
Client ID: **LCSW**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/9/2022**	SeqNo: **4963115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.466	1.0	10.00	0	94.7	85	115				

Sample ID: **N053925-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168066**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/9/2022**	SeqNo: **4963127**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	72.264	1.0	10.00	54.71	176	75	125				S

Sample ID: **N053925-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168066**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/9/2022**	SeqNo: **4963128**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	66.594	1.0	10.00	54.71	119	75	125	72.26	8.17	20	

Sample ID: **MB-97070**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168139**
Client ID: **PBW**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/12/2022**	SeqNo: **4967143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-97070**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168139**
Client ID: **LCSW**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/12/2022**	SeqNo: **4967144**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	99.651	0.50	100.0	0	99.7	85	115				

Sample ID: **N053925-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168139**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/12/2022**	SeqNo: **4967160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	332.452	2.5	100.0	238.9	93.6	75	125				

Sample ID: **N053925-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168139**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/12/2022**	SeqNo: **4967164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	331.598	2.5	100.0	238.9	92.7	75	125	332.5	0.257	20	

Sample ID: **MB-97070**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168460**
Client ID: **PBW**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4988171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID: **LCS-97070**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168460**
Client ID: **LCSW**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4988172**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.001	0.10	10.00	0	100	85	115				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053925-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168460**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4988184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	17.576	0.50	10.00	16.68	8.96	75	125				S

Sample ID: **N053925-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/6/2022**	RunNo: **168460**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4988185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.596	0.50	10.00	16.68	-0.846	75	125	17.58	5.74	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053925
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053925-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168066**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/9/2022**	SeqNo: **4963126**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	69.833	1.0	10.00	54.71	151	80	120				S

Sample ID: **N053925-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168139**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/12/2022**	SeqNo: **4967158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	326.721	2.5	100.0	238.9	87.8	80	120				

Sample ID: **N053925-001B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168460**
Client ID: **ZZZZZZ**	Batch ID: **97070**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/23/2022**	SeqNo: **4988183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	20.938	0.50	10.00	16.68	42.6	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (Specify: RWQCB); Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III ✓; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	
Submitted By: Raggie Tep		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/5/22	Sampled By: Raggie Tep		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Project Name: PG&E Topock - PCM
Project Number: 30121866.4Q22GW
Signature: Date: 12/5/22

Matrix: Ground X Sediment; Potable; Soil; NPDES; Other Solid; Surface

Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: ICE; Sample Temp: 2.6°C

Courier:
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrite, Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	500mL poly: Total metals (SW6010) No filter; HNO3 Total Iron	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	1 L poly: Nitrate, sulfate (EPA 300.0)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053925-001	MW-82-046-1222	12/5/2022	11:00		X		X			X			X	E	6	P	BNS	
2	-002	MW-928-Q422	12/5/2022	11:10		X		X			X			X	E	6	P	BNS	
3	-003	MW-82-112-1222	12/5/2022	11:31		X		X			X			X	E	6	P	BNS	
4	-004	MW-82-168-1222	12/5/2022	12:04		X		X			X			X	E	6	P	BNS	
5	-005	MW-82-198-1222	12/5/2022	12:42		X		X			X			X	E	6	P	BNS	
6	-006	MW-77-046-1222	12/5/2022	13:14		X		X			X			X	E	6	P	BNS	
7	-007	MW-77-102-1222	12/5/2022	11:01		X		X			X			X	E	6	P	BNS	
8	-008	MW-77-158-1222	12/5/2022	11:39		X		X			X			X	E	6	P	BNS	
9	-009	MW-77-187-1222	12/5/2022	12:31		X		X			X			X	E	6	P	BNS	
10	-010	EB-744-Q422	12/5/2022	13:30		X									E	1	P	BNS	
11	-011	EB-743-Q422	12/5/2022	13:00		X									E	1	P	BNS	
12																			
13																			
14																			

Relinquished by (Signature and Printed Name): Raggie Tep Date/Time: 12/5/22 15:55
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/5/22 15:55
Relinquished by (Signature and Printed Name): Dante Ortiz Date/Time: 12/5/22 19:29
Received by (Signature and Printed Name): Dante Ortiz Date/Time: 12/5/22 19:29
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/5/2022	Workorder:	N053925
Rep sample Temp (Deg C):	2.6	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See correspondence

for

Checklist Completed By: EF EFanegoF 12/6/2022

Reviewed By: MBC 12/8/2022

Subject: RE: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Lab No. 053925)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 12/6/2022, 12:29 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi Yoandra,
The correct ID is EB-744-Q422.

Thanks!

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Tuesday, December 6, 2022 2:36 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Lab No. 053925)

Hi Laura,

Please, confirm ID for sample 10 on the attached COC:

- COC: EB-744-Q422

- Label: EB-744-1222

Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

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ASSET Laboratories

WORK ORDER Summary

09-Dec-22

WorkOrder: N053925

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/5/2022 7:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053925-001A	MW-82-046-1222	12/5/2022 11:00:00 AM	12/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-001B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-001C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-001D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-002A	MW-928-Q422	12/5/2022 11:10:00 AM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-002B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-002C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-002D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-003A	MW-82-112-1222	12/5/2022 11:31:00 AM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-003B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-003C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

09-Dec-22

WorkOrder: N053925

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/5/2022 7:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053925-003D	MW-82-112-1222	12/5/2022 11:31:00 AM	12/20/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-004A	MW-82-168-1222	12/5/2022 12:04:00 PM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-004B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-004C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-004D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-005A	MW-82-198-1222	12/5/2022 12:42:00 PM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-005B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-005C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-005D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-006A	MW-77-046-1222	12/5/2022 1:14:00 PM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-006B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

09-Dec-22

WorkOrder: N053925

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/5/2022 7:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053925-006B	MW-77-046-1222	12/5/2022 1:14:00 PM	12/20/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-006C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-006D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-007A	MW-77-102-1222	12/5/2022 11:01:00 AM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-007B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-007C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-007D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-008A	MW-77-158-1222	12/5/2022 11:39:00 AM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-008B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-008C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-008D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-009A	MW-77-187-1222	12/5/2022 12:31:00 PM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-009B			12/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

09-Dec-22

WorkOrder: N053925

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/5/2022 7:29 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053925-009B	MW-77-187-1222	12/5/2022 12:31:00 PM	12/20/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053925-009C			12/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053925-009D			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053925-010A	EB-744-Q422	12/5/2022 1:30:00 PM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-011A	EB-743-Q422	12/5/2022 1:00:00 PM	12/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053925-012A	FOLDER	12/20/2022	12/20/2022		Folder	Folder	☐	☐	☐	LAB
			12/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/20/2022		Folder	Folder	☐	☐	☐	LAB

December 27, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053954

RE: PG&E Topock- OMM, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on December 06, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

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CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock- OMM, 30106892
Lab Order: N053954

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N053954-001B-MS and N053954-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *27-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock- OMM, 30106892
Lab Order: N053954
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053954-001A	RPWC_INF-120622	Water	12/6/2022 7:30:00 AM	12/6/2022	12/27/2022
N053954-001B	RPWC_INF-120622	Water	12/6/2022 7:30:00 AM	12/6/2022	12/27/2022
N053954-001C	RPWC_INF-120622	Water	12/6/2022 7:30:00 AM	12/6/2022	12/27/2022
N053954-002A	RPWC_EFF-120622	Water	12/6/2022 7:45:00 AM	12/6/2022	12/27/2022
N053954-002B	RPWC_EFF-120622	Water	12/6/2022 7:45:00 AM	12/6/2022	12/27/2022
N053954-002C	RPWC_EFF-120622	Water	12/6/2022 7:45:00 AM	12/6/2022	12/27/2022
N053954-003A	RPWC_MID-120622	Water	12/6/2022 8:00:00 AM	12/6/2022	12/27/2022
N053954-003B	RPWC_MID-120622	Water	12/6/2022 8:00:00 AM	12/6/2022	12/27/2022
N053954-003C	RPWC_MID-120622	Water	12/6/2022 8:00:00 AM	12/6/2022	12/27/2022

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: RPWC_INF-120622
Lab Order: N053954
Project: PG&E Topock- OMM, 30106892
Collection Date: 12/6/2022 7:30:00 AM
Lab ID: N053954-001
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	2.4	20		µg/L	100	12/25/2022 02:48 PM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221216C**	QC Batch: **97209**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	640	0.18	5.0		µg/L	5	12/16/2022 04:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_EFF-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 7:45:00 AM
Lab ID:	N053954-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	450	2.4	20		µg/L	100	12/25/2022 03:17 PM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_221216C**	QC Batch: **97209**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	410	0.18	5.0		µg/L	5	12/16/2022 04:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_MID-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 8:00:00 AM
Lab ID:	N053954-003	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	250	2.4	20		µg/L	100	12/25/2022 03:36 PM
TOTAL METALS BY ICPMS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216C**	QC Batch: **97209**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	330	0.18	5.0		µg/L	5	12/16/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168473**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **PBW**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990247**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168473**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **LCSW**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990248**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.914	0.20	5.000	0	98.3	90	110				

Sample ID: **N053954-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	876.690	20	500.0	406.9	94.0	90	110				

Sample ID: **N053954-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	889.870	20	500.0	406.9	96.6	90	110	876.7	1.49	20	

Sample ID: **N053954-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	939.920	20	500.0	448.3	98.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053954-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	726.430	20	500.0	252.0	94.9	90	110				

Sample ID: **N053951-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	0.20						4.937	1.39	20	

Sample ID: **N053958-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990272**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	623.360	10	250.0	384.0	95.8	90	110				

Sample ID: **N053958-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990274**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	59.817	1.0	25.00	34.74	100	90	110				

Sample ID: **N053958-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1136.080	20	500.0	649.8	97.3	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053958-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.106	0.20	1.000	0.09580	101	90	110				

Sample ID: **N053958-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.111	0.20	1.000	0.09100	102	90	110				

Sample ID: **N053958-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990284**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.778	0.20	1.000	0.7557	102	90	110				

Sample ID: **N053958-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168473**
Client ID: **ZZZZZZ** Batch ID: **R168473** TestNo: **EPA 218.6** Analysis Date: **12/25/2022** SeqNo: **4990286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.165	0.20	1.000	0.1412	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-97209** SampType: **MBLK** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168269**
Client ID: **PBW** Batch ID: **97209** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4975724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.042	1.0									

Sample ID: **LCS-97209** SampType: **LCS** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168269**
Client ID: **LCSW** Batch ID: **97209** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4975725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.215	1.0	10.00	0	102	85	115				

Sample ID: **N053856-004A-MS** SampType: **MS** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168269**
Client ID: **ZZZZZZ** Batch ID: **97209** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4975729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.973	1.0	10.00	0.04549	99.3	75	125				

Sample ID: **N053856-004A-MSD** SampType: **MSD** TestCode: **6020_W_CRP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168269**
Client ID: **ZZZZZZ** Batch ID: **97209** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4975730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.872	1.0	10.00	0.04549	98.3	75	125	9.973	1.02	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_INF-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 7:30:00 AM
Lab ID:	N053954-001	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221215A**	QC Batch: **97089**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	58	13	20		µg/L	1	12/15/2022 11:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_EFF-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 7:45:00 AM
Lab ID:	N053954-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221215A**	QC Batch: **97089**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/15/2022 12:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Client Sample ID: RPWC_MID-120622
Lab Order: N053954
Project: PG&E Topock- OMM, 30106892
Collection Date: 12/6/2022 8:00:00 AM
Lab ID: N053954-003
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221215A**	QC Batch: **97089**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/15/2022 12:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-97089**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **PBW**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-97089**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **LCSW**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.022	20	100.0	0	98.0	85	115				

Sample ID: **N053954-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **ZZZZZZ**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	115.385	20	100.0	57.91	57.5	75	125				S

Sample ID: **N053954-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **ZZZZZZ**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	96.121	20	100.0	57.91	38.2	75	125	115.4	18.2	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053954-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168213**
Client ID: **ZZZZZZ** Batch ID: **97089** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/15/2022** SeqNo: **4971791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.311	20	100.0	57.91	40.4	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_INF-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 7:30:00 AM
Lab ID:	N053954-001	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221213C**	QC Batch: **97086**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Manganese	51	0.026	0.50		µg/L	1	12/13/2022 05:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_EFF-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 7:45:00 AM
Lab ID:	N053954-002	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221213C**	QC Batch: **97086**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Manganese	53	0.026	0.50		µg/L	1	12/13/2022 05:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RPWC_MID-120622
Lab Order:	N053954		
Project:	PG&E Topock- OMM, 30106892	**Collection Date:**	12/6/2022 8:00:00 AM
Lab ID:	N053954-003	**Matrix:**	WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221213C** QC Batch: **97086**				PrepDate:		**12/7/2022**	Analyst: **DJ**
Manganese	46	0.026	0.50		µg/L	1	12/13/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053954
Project: PG&E Topock- OMM, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97086**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **PBW**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-97086**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **LCSW**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.511	0.50	100.0	0	98.5	85	115				

Sample ID: **N053956-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **ZZZZZZ**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	111.277	0.50	100.0	11.91	99.4	75	125				

Sample ID: **N053956-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **ZZZZZZ**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	111.826	0.50	100.0	11.91	99.9	75	125	111.3	0.492	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 12/21/202 12:00 AM
FOLDER R: 12/6/2022
N053954-004A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

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11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client:	Arcadis	Report to:	Brian Prowd
Address:	1410 Rocky Ridge Dr # 330	Company:	Arcadis
Address:	Roseville, CA 95661	Email:	brian.prowd@arcadis.com; daniel.moore@arcadis.com
Phone:	916-786-3302	Address:	101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678
Fax:		Phone:	916-786-3302
Submitted By:	Kevin A.	Fax:	
Title:	Senior Scientist	Sampled By:	Kevin A / MARK G.
Signature:	Date: 12/6/22	Signature:	Date: 12-6-22
Project Name:	PG&E Topock - OMM		
Project Number:	30108892		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may

Bill to:	Marty Bloes		
Address:			
Address:			
Email to:	mbloes@pivox.com	P.O.#	SWA-ASSET-C9617-051
Phone:	949-727-1400. ext 200	Fax:	

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify:	RWQCB	LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	3	
6. Method of Cooling:	Ice	
Sample Temp:	3.2c	
Courier:	ASSET	
Tracking No.:		

Matrix: Ground | Sediment | Potable | Soil | NPDES | Other Solid | Surface | Water (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (EZ1&6) (NH4)2 SO4, NH4, OH; Filtered	500 mL poly: Dissolved metals: Iron, manganese (SW6020) HNO3; Filtered	500 mL poly: Total chromium (SW6020) HNO3; NOT Filtered	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053954-001	RPWC_INF-120622	12/6/22	7:30A		X	X	X	E	3	PV	BNS	
2	-002	RPWC_EFF-120622	12/7/22	7:45A		X	X	X	E	3	PV	BNS	
3	-003	RPWC_MID-120622	12/8/22	8 AM		X	X	X	E	3	PV	BNS	
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Kevin Ashley	12/6/22	Rigoberto Tapia	12/6/22 14:20
Rigoberto Tapia	12/6/22 1525	MS Cantrell / Jennifer Flint	12/6/22 @ 1525
MS Cantrell / Jennifer Flint	12/6/22 @ 1740	Yoanda Rodriguez	12/6/22 1740

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Trip Blanks and Equipment Blanks are billable sample.
5. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontracted analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/6/2022	Workorder:	N053954
Rep sample Temp (Deg C):	3.2	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See Correspondence.

12/22/2022

Checklist Completed By: YR YRodriguez

Reviewed By: for: MBC 12/22/2022

Subject: RE: PGE Topock- OMM, 30106892 (ASSET Labs No. N053954)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 12/22/2022, 9:50 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi ,
These were all collected on 12/6.

Thanks,

Laura Madsen PG
Project Geologist
Arcadis U.S., Inc.
M +1 303 653 5749

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Wednesday, December 21, 2022 5:51 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PGE Topock- OMM, 30106892 (ASSET Labs No. N053954)

Hi Laura,

Please confirm if samples 2 and 3 on the attached COC were collected on 12/6/22 as per labels.

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

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ASSET Laboratories

WORK ORDER Summary

25-Dec-22

WorkOrder: N053954

Client ID: ARCUS02

Project: PG&E Topock- OMM, 30106892 **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053954-001A	RPWC_INF-120622	12/6/2022 7:30:00 AM	12/21/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
			12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N053954-001B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053954-001C			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053954-002A	RPWC_EFF-120622	12/6/2022 7:45:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
			12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N053954-002B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053954-002C			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053954-003A	RPWC_MID-120622	12/6/2022 8:00:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
			12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☑	☐	☐	WW
N053954-003B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

25-Dec-22

WorkOrder: N053954

Client ID: ARCUS02

Project: PG&E Topock- OMM, 30106892 **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053954-003C	RPWC_MID-120622	12/6/2022 8:00:00 AM	12/21/2022	Water	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N053954-004A	FOLDER	12/21/2022	12/21/2022		Folder	Folder	☐	☐	☐	LAB
			12/21/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/21/2022		Folder	Folder	☐	☐	☐	LAB

December 15, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053956

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 06, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053956

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to sample matrix.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053925-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053925-001 and MS/MSDwere reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N053954-001B-MS and N053954-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053956
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053956-001A	MW-39-100-1222	Groundwater	12/6/2022 12:49:00 PM	12/6/2022	12/15/2022
N053956-001B	MW-39-100-1222	Groundwater	12/6/2022 12:49:00 PM	12/6/2022	12/15/2022
N053956-001C	MW-39-100-1222	Groundwater	12/6/2022 12:49:00 PM	12/6/2022	12/15/2022
N053956-001D	MW-39-100-1222	Groundwater	12/6/2022 12:49:00 PM	12/6/2022	12/15/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-39-100-1222

Lab Order: N053956

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 12:49:00 PM

Lab ID: N053956-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **CA01638-IC01_221213B** QC Batch: **R168165** PrepDate: Analyst: **AD**							
Hexavalent Chromium	270	1.8	4.0		µg/L	20	12/13/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **LCS1-R168165** SampType: **LCS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **LCSW** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.779	0.20	5.000	0	95.6	90	110				

Sample ID: **MB1-R168165** SampType: **MBLK** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **PBW** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968596**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053956-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	367.774	4.0	100.0	270.8	97.0	90	110				

Sample ID: **N054019-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968600**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.072	0.20	1.000	0	107	90	110				

Sample ID: **N053852-003A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.928	1.0						5.070	2.84	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968603**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.074	1.0	25.00	5.070	100	90	110				

Sample ID: **N053852-003A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	30.052	1.0	25.00	5.070	99.9	90	110	30.07	0.0732	20	

Sample ID: **N053852-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968608**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1215.760	20	500.0	711.4	101	90	110				

Sample ID: **N053852-008A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	688.680	10	250.0	438.8	99.9	90	110				

Sample ID: **N053852-009A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968612**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	555.120	10	250.0	302.4	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053852-010A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.590	1.0	25.00	25.61	99.9	90	110				

Sample ID: **N053852-014A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3307.860	40	1000	2288	102	90	110				

Sample ID: **N053852-015A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3310.660	40	1000	2309	100	90	110				

Sample ID: **N053853-001A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6752.000	100	2500	4317	97.4	90	110				

Sample ID: **N053853-002A-DUP** SampType: **DUP** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	616.860	20						618.1	0.193	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-002A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1116.660	20	500.0	618.1	99.7	90	110				

Sample ID: **N053853-002A-MSD** SampType: **MSD** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/13/2022** SeqNo: **4968626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1116.930	20	500.0	618.1	99.8	90	110	1117	0.0242	20	

Sample ID: **N053853-003A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2807.640	40	1000	1804	100	90	110				

Sample ID: **N053853-004A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.193	1.0	5.000	0	104	90	110				

Sample ID: **N053853-005A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968636**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	522.755	10	250.0	277.2	98.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_218.6_WPGE

Sample ID: **N053853-006A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	687.285	10	250.0	439.4	99.2	90	110				

Sample ID: **N053853-007A-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	386.545	10	250.0	140.0	98.6	90	110				

Sample ID: **N053853-008-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.093	0.20	1.000	0.09520	99.7	90	110				

Sample ID: **N053853-009-MS** SampType: **MS** TestCode: **CA_218.6_W** Units: **µg/L** Prep Date: RunNo: **168165**
Client ID: **ZZZZZZ** Batch ID: **R168165** TestNo: **EPA 218.6** Analysis Date: **12/14/2022** SeqNo: **4968646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.987	0.20	1.000	0	98.7	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-39-100-1222
Lab Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 12:49:00 PM
Lab ID: N053956-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221206B** QC Batch: **R167949** PrepDate: Analyst: **RAB**							
Sulfate	940	6.1	50		mg/L	100	12/7/2022 02:26 AM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221206B** QC Batch: **R167949** PrepDate: Analyst: **RAB**							
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 02:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R167949_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **PBW**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957794**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R167949_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **LCSW**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957795**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.976	0.50	4.000	0	99.4	90	110				

Sample ID: **N053925-001DMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **ZZZZZZ**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957797**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2427.680	100	800.0	1628	99.9	80	120				

Sample ID: **N053925-001DMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **ZZZZZZ**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/6/2022**	SeqNo: **4957798**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	2419.880	100	800.0	1628	99.0	80	120	2428	0.322	20	

Sample ID: **N053925-007DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **167949**
Client ID: **ZZZZZZ**	Batch ID: **R167949**	TestNo: **EPA 300.0**		Analysis Date: **12/7/2022**	SeqNo: **4957802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	679.370	50						678.1	0.192	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167949_NO3** SampType: **MBLK** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167949**
Client ID: **PBW** Batch ID: **R167949** TestNo: **EPA 300.0** Analysis Date: **12/6/2022** SeqNo: **4957744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.013	0.050									

Sample ID: **LCS-R167949_NO3** SampType: **LCS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167949**
Client ID: **LCSW** Batch ID: **R167949** TestNo: **EPA 300.0** Analysis Date: **12/6/2022** SeqNo: **4957745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.244	0.050	1.250	0	99.5	90	110				

Sample ID: **N053956-001DDUP** SampType: **DUP** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167949**
Client ID: **ZZZZZZ** Batch ID: **R167949** TestNo: **EPA 300.0** Analysis Date: **12/7/2022** SeqNo: **4957751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.271	0.50						0.2920	0	20	

Sample ID: **N053956-001DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167949**
Client ID: **ZZZZZZ** Batch ID: **R167949** TestNo: **EPA 300.0** Analysis Date: **12/7/2022** SeqNo: **4957752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.785	0.50	12.50	0.2920	91.9	80	120				

Sample ID: **N053956-001DMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167949**
Client ID: **ZZZZZZ** Batch ID: **R167949** TestNo: **EPA 300.0** Analysis Date: **12/7/2022** SeqNo: **4957753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.796	0.50	12.50	0.2920	92.0	80	120	11.78	0.0933	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-39-100-1222
Lab Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 12:49:00 PM
Lab ID: N053956-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 12:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R167970**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **PBW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R167970**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **LCSW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.955	1.0	5.000	0	99.1	85	115				

Sample ID: **N053925-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.060	20	100.0	9.514	87.5	75	125				

Sample ID: **N053925-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.514	20	100.0	9.514	88.0	75	125	97.06	0.467	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-39-100-1222
Lab Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 12:49:00 PM
Lab ID: N053956-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221215A**	QC Batch: **97089**			PrepDate:	**12/7/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/15/2022 12:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-97089**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **PBW**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971787**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-97089**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **LCSW**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.022	20	100.0	0	98.0	85	115				

Sample ID: **N053954-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **ZZZZZZ**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971792**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	115.385	20	100.0	57.91	57.5	75	125				S

Sample ID: **N053954-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168213**
Client ID: **ZZZZZZ**	Batch ID: **97089**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4971793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	96.121	20	100.0	57.91	38.2	75	125	115.4	18.2	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053954-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168213**
Client ID: **ZZZZZZ** Batch ID: **97089** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/15/2022** SeqNo: **4971791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.311	20	100.0	57.91	40.4	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-39-100-1222

Lab Order: N053956

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 12:49:00 PM

Lab ID: N053956-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221211A**	QC Batch: **97086**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/11/2022 05:29 PM
Barium	31	0.083	1.0		µg/L	1	12/11/2022 05:29 PM
Manganese	12	0.026	0.50		µg/L	1	12/13/2022 06:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97086** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/7/2022** RunNo: **168103**
Client ID: **PBW** Batch ID: **97086** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/11/2022** SeqNo: **4965378**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									

Sample ID: **LCS-97086** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/7/2022** RunNo: **168103**
Client ID: **LCSW** Batch ID: **97086** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/11/2022** SeqNo: **4965379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.666	0.10	10.00	0	96.7	85	115				
Barium	9.456	1.0	10.00	0	94.6	85	115				

Sample ID: **N053956-001B-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/7/2022** RunNo: **168103**
Client ID: **ZZZZZZ** Batch ID: **97086** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/11/2022** SeqNo: **4965408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.335	0.10	10.00	0	93.4	75	125				
Barium	41.232	1.0	10.00	30.54	107	75	125				

Sample ID: **N053956-001B-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/7/2022** RunNo: **168103**
Client ID: **ZZZZZZ** Batch ID: **97086** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/11/2022** SeqNo: **4965409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.235	0.10	10.00	0	92.4	75	125	9.335	1.08	20	
Barium	40.933	1.0	10.00	30.54	104	75	125	41.23	0.728	20	

Sample ID: **MB-97086** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/7/2022** RunNo: **168180**
Client ID: **PBW** Batch ID: **97086** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/13/2022** SeqNo: **4969848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053956
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97086**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **PBW**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID: **LCS-97086**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **LCSW**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.511	0.50	100.0	0	98.5	85	115				

Sample ID: **N053956-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **ZZZZZZ**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969876**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	111.277	0.50	100.0	11.91	99.4	75	125				

Sample ID: **N053956-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168180**
Client ID: **ZZZZZZ**	Batch ID: **97086**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/13/2022**	SeqNo: **4969877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	111.826	0.50	100.0	11.91	99.9	75	125	111.3	0.492	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

ARCUS02
FOLDER
N053956-002A

C: 12/9/2022 12:00 AM
R: 12/6/2022
1 of 1

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD F
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec
Submitted By: Reggie Tap	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Others ✓
Title: Field Tech			Specify: RWQCB
Signature: Date: 12/6/22	Sampled By: Reggie Tap		Global ID:
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - PCM	Signature: Date: 12/6/22		
Project Number: 30121866.4Q22GW			

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/6/2022	Workorder:	N053956
Rep sample Temp (Deg C):	3.2	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

12/7/2022

Checklist Completed By: YR YRodriguez

Reviewed By: for: MBC 12/07/2022

ASSET Laboratories

WORK ORDER Summary

07-Dec-22

WorkOrder: N053956

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053956-001A	MW-39-100-1222	12/6/2022 12:49:00 PM	12/9/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053956-001B			12/9/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/9/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/9/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/9/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053956-001C			12/9/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053956-001D			12/9/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/9/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053956-002A	FOLDER	12/9/2022	12/9/2022		Folder	Folder	☐	☐	☐	LAB
			12/9/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/9/2022		Folder	Folder	☐	☐	☐	LAB

December 28, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053958

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 06, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053925-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053925-001 and MS/MSDwere reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053958
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053958-001A	IRZ-13D-210-1222	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053958-001B	IRZ-13D-210-1222	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053958-001C	IRZ-13D-210-1222	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053958-001D	IRZ-13D-210-1222	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053958-001E	IRZ-13D-210-1222	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053958-002A	IRZ-13S-095-1222	Groundwater	12/6/2022 9:15:00 AM	12/6/2022	12/28/2022
N053958-002B	IRZ-13S-095-1222	Groundwater	12/6/2022 9:15:00 AM	12/6/2022	12/28/2022
N053958-002C	IRZ-13S-095-1222	Groundwater	12/6/2022 9:15:00 AM	12/6/2022	12/28/2022
N053958-002D	IRZ-13S-095-1222	Groundwater	12/6/2022 9:15:00 AM	12/6/2022	12/28/2022
N053958-002E	IRZ-13S-095-1222	Groundwater	12/6/2022 9:15:00 AM	12/6/2022	12/28/2022
N053958-003A	IRZ-23-143-1222	Groundwater	12/6/2022 9:00:00 AM	12/6/2022	12/28/2022
N053958-003B	IRZ-23-143-1222	Groundwater	12/6/2022 9:00:00 AM	12/6/2022	12/28/2022
N053958-003C	IRZ-23-143-1222	Groundwater	12/6/2022 9:00:00 AM	12/6/2022	12/28/2022
N053958-003D	IRZ-23-143-1222	Groundwater	12/6/2022 9:00:00 AM	12/6/2022	12/28/2022
N053958-003E	IRZ-23-143-1222	Groundwater	12/6/2022 9:00:00 AM	12/6/2022	12/28/2022
N053958-004A	MW-39-060-1222	Groundwater	12/6/2022 11:12:00 AM	12/6/2022	12/28/2022
N053958-004B	MW-39-060-1222	Groundwater	12/6/2022 11:12:00 AM	12/6/2022	12/28/2022
N053958-004C	MW-39-060-1222	Groundwater	12/6/2022 11:12:00 AM	12/6/2022	12/28/2022
N053958-004D	MW-39-060-1222	Groundwater	12/6/2022 11:12:00 AM	12/6/2022	12/28/2022
N053958-005A	MW-39-070-1222	Groundwater	12/6/2022 8:42:00 AM	12/6/2022	12/28/2022
N053958-005B	MW-39-070-1222	Groundwater	12/6/2022 8:42:00 AM	12/6/2022	12/28/2022
N053958-005C	MW-39-070-1222	Groundwater	12/6/2022 8:42:00 AM	12/6/2022	12/28/2022
N053958-005D	MW-39-070-1222	Groundwater	12/6/2022 8:42:00 AM	12/6/2022	12/28/2022
N053958-006A	MW-39-080-1222	Groundwater	12/6/2022 10:35:00 AM	12/6/2022	12/28/2022
N053958-006B	MW-39-080-1222	Groundwater	12/6/2022 10:35:00 AM	12/6/2022	12/28/2022
N053958-006C	MW-39-080-1222	Groundwater	12/6/2022 10:35:00 AM	12/6/2022	12/28/2022
N053958-006D	MW-39-080-1222	Groundwater	12/6/2022 10:35:00 AM	12/6/2022	12/28/2022
N053958-007A	MW-30-050-1222	Groundwater	12/6/2022 1:37:00 PM	12/6/2022	12/28/2022
N053958-007B	MW-30-050-1222	Groundwater	12/6/2022 1:37:00 PM	12/6/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053958
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053958-007C	MW-30-050-1222	Groundwater	12/6/2022 1:37:00 PM	12/6/2022	12/28/2022
N053958-007D	MW-30-050-1222	Groundwater	12/6/2022 1:37:00 PM	12/6/2022	12/28/2022
N053958-008A	EB-746-Q422	Groundwater	12/6/2022 2:00:00 PM	12/6/2022	12/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053958-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	380	1.2	10		µg/L	50	12/25/2022 06:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:15:00 AM
Lab ID:	N053958-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	35	0.12	1.0		µg/L	5	12/25/2022 06:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:00:00 AM
Lab ID:	N053958-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	650	2.4	20		µg/L	100	12/25/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:12:00 AM
Lab ID:	N053958-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/25/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:42:00 AM
Lab ID:	N053958-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/25/2022 08:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:35:00 AM
Lab ID:	N053958-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.4	0.024	0.20		µg/L	1	12/26/2022 05:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:37:00 PM
Lab ID:	N053958-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.76	0.024	0.20		µg/L	1	12/25/2022 08:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-746-Q422
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 2:00:00 PM
Lab ID:	N053958-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221225A**	QC Batch: **R168473**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/25/2022 08:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168473	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473		
Client ID:	PBW	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990247		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R168473	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473		
Client ID:	LCSW	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990248		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.914	0.20	5.000	0	98.3	90	110						

Sample ID	N053954-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473		
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990250		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	876.690	20	500.0	406.9	94.0	90	110						

Sample ID	N053954-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473		
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990251		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	889.870	20	500.0	406.9	96.6	90	110	876.7	1.49	20			

Sample ID	N053954-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473		
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990253		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	939.920	20	500.0	448.3	98.3	90	110						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053954-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990255

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	726.430	20	500.0	252.0	94.9	90	110				

Sample ID	N053951-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990259

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	0.20						4.937	1.39	20	

Sample ID	N053958-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990272

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	623.360	10	250.0	384.0	95.8	90	110				

Sample ID	N053958-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990274

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	59.817	1.0	25.00	34.74	100	90	110				

Sample ID	N053958-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168473
Client ID:	ZZZZZZ	Batch ID:	R168473	TestNo:	EPA 218.6			Analysis Date:	12/25/2022	SeqNo:	4990276

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1136.080	20	500.0	649.8	97.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053958-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990278**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.106	0.20	1.000	0.09580	101	90	110				

Sample ID **N053958-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.111	0.20	1.000	0.09100	102	90	110				

Sample ID **N053958-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990284**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.778	0.20	1.000	0.7557	102	90	110				

Sample ID **N053958-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168473**
Client ID: **ZZZZZZ**	Batch ID: **R168473**	TestNo: **EPA 218.6**		Analysis Date: **12/25/2022**	SeqNo: **4990286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.165	0.20	1.000	0.1412	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168488	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	PBW	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991406		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R168488	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	LCSW	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991407		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.921	0.20	5.000	0	98.4	90	110						

Sample ID	N053959-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991409		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1105.090	20	500.0	606.3	99.8	90	110						

Sample ID	N053959-003AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991410		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1079.440	20	500.0	606.3	94.6	90	110	1105	2.35	20			

Sample ID	N053959-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991412		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1107.760	20	500.0	606.9	100	90	110						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-004ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	609.430	20						606.9	0.416	20	

Sample ID	N053959-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991417

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.334	1.0	25.00	17.23	96.4	90	110				

Sample ID	N053959-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	317.680	4.0	100.0	224.8	92.9	90	110				

Sample ID	N053958-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.358	0.20	1.000	1.404	95.3	90	110				

Sample ID	N053959-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053959-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168488**
Client ID: **ZZZZZZ**	Batch ID: **R168488**	TestNo: **EPA 218.6**		Analysis Date: **12/26/2022**	SeqNo: **4991427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.631	1.0	5.000	3.649	99.6	90	110				

Sample ID **N053959-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168488**
Client ID: **ZZZZZZ**	Batch ID: **R168488**	TestNo: **EPA 218.6**		Analysis Date: **12/26/2022**	SeqNo: **4991429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.520	1.0	5.000	1.756	95.3	90	110				

Sample ID **N053959-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168488**
Client ID: **ZZZZZZ**	Batch ID: **R168488**	TestNo: **EPA 218.6**		Analysis Date: **12/26/2022**	SeqNo: **4991431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.688	1.0	5.000	1.672	100	90	110				

Sample ID **N053959-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168488**
Client ID: **ZZZZZZ**	Batch ID: **R168488**	TestNo: **EPA 218.6**		Analysis Date: **12/26/2022**	SeqNo: **4991433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.035	1.0	5.000	0	101	90	110				

Sample ID **N053959-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168488**
Client ID: **ZZZZZZ**	Batch ID: **R168488**	TestNo: **EPA 218.6**		Analysis Date: **12/26/2022**	SeqNo: **4991435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID	N053959-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID	N053959-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991443

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110				

Sample ID	N054021-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1830.860	40	1000	852.3	97.9	90	110				

Sample ID	N054021-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2675.620	40	1000	1717	95.8	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054106-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	972.300	20	500.0	488.2	96.8	90	110				

Sample ID	N054106-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	951.480	20	500.0	455.7	99.2	90	110				

Sample ID	N054106-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	805.960	20	500.0	328.7	95.4	90	110				

Sample ID	N053959-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991459

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.278	1.0	25.00	17.02	97.0	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-1222
Lab Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 10:00:00 AM
Lab ID: N053958-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A** QC Batch: **R167974**				PrepDate:			Analyst: **RAB**
Sulfate	900	6.1	50		mg/L	100	12/7/2022 05:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A** QC Batch: **R167974**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	12/7/2022 10:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-1222
Lab Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 9:15:00 AM
Lab ID: N053958-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A** QC Batch: **R167974**				PrepDate:			Analyst: **RAB**
Sulfate	460	3.0	25		mg/L	50	12/7/2022 07:10 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A** QC Batch: **R167974**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	12/7/2022 10:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:00:00 AM
Lab ID:	N053958-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	12/7/2022 07:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.8	0.095	0.50		mg/L	10	12/7/2022 10:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:12:00 AM
Lab ID:	N053958-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	220	1.2	10		mg/L	20	12/7/2022 07:38 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 11:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:42:00 AM
Lab ID:	N053958-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	290	3.0	25		mg/L	50	12/7/2022 07:53 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 11:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:35:00 AM
Lab ID:	N053958-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	470	3.0	25		mg/L	50	12/7/2022 08:07 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 11:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:37:00 PM
Lab ID:	N053958-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	200	1.2	10		mg/L	20	12/7/2022 08:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	12/7/2022 11:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R167974_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	PBW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959868

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R167974_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	LCSW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959869

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.989	0.50	4.000	0	99.7	90	110				

Sample ID	N053958-001BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959875

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1301.420	50	400.0	896.6	101	80	120				

Sample ID	N053958-001BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959876

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1298.260	50	400.0	896.6	100	80	120	1301	0.243	20	

Sample ID	N053959-001DDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959880

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	222.398	10						222.7	0.145	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N053959-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959881

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	304.470	10	80.00	222.7	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167974_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	PBW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167974_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	LCSW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.266	0.050	1.250	0	101	90	110				

Sample ID	N053959-001DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959854

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.074	0.50	12.50	3.251	94.6	80	120				

Sample ID	N053959-001DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959855

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.144	0.50	12.50	3.251	95.1	80	120	15.07	0.463	20	

Sample ID	N053958-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959856

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.587	0.50						1.576	0.696	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053958-002BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959857

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.470	0.50	12.50	1.576	95.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053958-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 05:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:15:00 AM
Lab ID:	N053958-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 05:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:00:00 AM
Lab ID:	N053958-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 05:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:12:00 AM
Lab ID:	N053958-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 06:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:42:00 AM
Lab ID:	N053958-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:35:00 AM
Lab ID:	N053958-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 06:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:37:00 PM
Lab ID:	N053958-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 06:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167970**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **PBW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167970**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **LCSW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.955	1.0	5.000	0	99.1	85	115				

Sample ID **N053925-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.060	20	100.0	9.514	87.5	75	125				

Sample ID **N053925-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.514	20	100.0	9.514	88.0	75	125	97.06	0.467	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13D-210-1222
Lab Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 10:00:00 AM
Lab ID: N053958-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221226A**	QC Batch: **97088**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/26/2022 01:06 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222C**	QC Batch: **97231**			PrepDate:		**12/14/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 04:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-13S-095-1222
Lab Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 9:15:00 AM
Lab ID: N053958-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 02:03 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222C**	QC Batch: **97231**			PrepDate:		**12/14/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** IRZ-23-143-1222
Lab Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 9:00:00 AM
Lab ID: N053958-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**			PrepDate:	**12/7/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:01 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222C**	QC Batch: **97231**			PrepDate:	**12/14/2022**		Analyst: **DJ**
Iron	220	13	20		µg/L	1	12/22/2022 05:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:12:00 AM
Lab ID:	N053958-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	230	13	20		µg/L	1	12/22/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:42:00 AM
Lab ID:	N053958-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:35:00 AM
Lab ID:	N053958-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:37:00 PM
Lab ID:	N053958-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	30	13	20		µg/L	1	12/22/2022 03:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-97088	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	PBW	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986730

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-97088	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	LCSW	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986731

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	91.260	20	100.0	0	91.3	85	115				

Sample ID	N053958-002C-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986741

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.506	20	100.0	0	101	75	125				

Sample ID	N053958-002C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.104	20	100.0	0	99.1	75	125	100.5	1.40	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-97231	SampType:	MBLK	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	12/14/2022	RunNo:	168437
Client ID:	PBW	Batch ID:	97231	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4987046

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-97231	SampType:	LCS	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	12/14/2022	RunNo:	168437
Client ID:	LCSW	Batch ID:	97231	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4987047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	87.423	20	100.0	0	87.4	85	115				

Sample ID	N053958-001E-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	12/14/2022	RunNo:	168437
Client ID:	ZZZZZZ	Batch ID:	97231	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4987051

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	87.874	20	100.0	0	87.9	75	125				

Sample ID	N053958-001E-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	12/14/2022	RunNo:	168437
Client ID:	ZZZZZZ	Batch ID:	97231	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4987052

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	84.740	20	100.0	0	84.7	75	125	87.87	3.63	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053958-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:	**12/7/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/15/2022 10:49 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:15:00 AM
Lab ID:	N053958-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:	**12/7/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 12:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:00:00 AM
Lab ID:	N053958-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 12:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:12:00 AM
Lab ID:	N053958-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	12/16/2022 12:17 AM
Barium	43	0.083	1.0		µg/L	1	12/16/2022 12:17 AM
Manganese	220	0.13	2.5		µg/L	5	12/16/2022 12:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:42:00 AM
Lab ID:	N053958-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/16/2022 12:29 AM
Barium	46	0.083	1.0		µg/L	1	12/16/2022 12:29 AM
Manganese	24	0.026	0.50		µg/L	1	12/16/2022 12:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-39-080-1222

Lab Order: N053958

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 10:35:00 AM

Lab ID: N053958-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	1.0	0.050	0.10		µg/L	1	12/16/2022 12:35 AM
Barium	24	0.083	1.0		µg/L	1	12/16/2022 12:35 AM
Manganese	7.9	0.026	0.50		µg/L	1	12/16/2022 12:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-1222
Lab Order:	N053958		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:37:00 PM
Lab ID:	N053958-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	3.6	0.050	0.10		µg/L	1	12/16/2022 01:10 AM
Barium	18	0.083	1.0		µg/L	1	12/16/2022 01:10 AM
Manganese	360	0.13	2.5		µg/L	5	12/16/2022 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053958
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97087	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168310
Client ID:	PBW	Batch ID:	97087	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/15/2022	SeqNo:	4978369

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID	LCS-97087	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168310
Client ID:	LCSW	Batch ID:	97087	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/15/2022	SeqNo:	4978370

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.570	0.10	10.00	0	95.7	85	115				
Barium	9.521	1.0	10.00	0	95.2	85	115				
Manganese	102.787	0.50	100.0	0	103	85	115				

Sample ID	N053958-001C-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168310
Client ID:	ZZZZZZ	Batch ID:	97087	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/15/2022	SeqNo:	4978376

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.636	0.10	10.00	0	86.4	75	125				
Barium	37.306	1.0	10.00	27.86	94.5	75	125				
Manganese	104.611	0.50	100.0	0	105	75	125				

Sample ID	N053958-001C-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168310
Client ID:	ZZZZZZ	Batch ID:	97087	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/15/2022	SeqNo:	4978380

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.847	0.10	10.00	0	88.5	75	125	8.636	2.41	20	
Barium	37.498	1.0	10.00	27.86	96.4	75	125	37.31	0.513	20	
Manganese	103.724	0.50	100.0	0	104	75	125	104.6	0.851	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

ARCUS02 C: 12/21/202 12:00 AM
FOLDER R: 12/6/2022
N053958-009A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Re
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@citigen.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec
Submitted By: Kevin Ashley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	Others ✓
Title: O+M operator			Specify: RWQCB
Signature: Date: 12/6/22	Sampled By: MARK G.		Global ID:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Tyrock - PCM	Signature: Date: 12-6-22		
Project Number: 30121866.3022GW			

RWQCB	✓
CalTrans	
LEVEL III	
LEVEL IV	
Regulatory	
Specify State:	

	Y	N
1. Chilled		
2. Headspace		
3. Container Intact		
4. Seal Present		
5. IR number 3		
6. Method of Cooling: Ice		

Sample Temp: 3.2°C 3.5°C 4.1°C

Courier: RSGT
Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2. SO4, NH4, OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Iron, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053958-001	IRZ-13D-210-1222	12/6/22	10AM		x	x	x			x	x		E	7	P	BNS	
2	-002	IRZ-13S-095-1222	12/6/22	9:15A		x	x	x			x	x		E	7	P	BNS	
3	-003	IRZ-23-143-1222	12/6/22	9AM		x	x	x			x	x		E	7	P	BNS	
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Kevin Ashley Date/Time: 12/6/22
Relinquished by (Signature and Printed Name): Rissie Tap Date/Time: 12/6/22 1420
Relinquished by (Signature and Printed Name): Rissie Tap Date/Time: 12/6/22 1525
Relinquished by (Signature and Printed Name): Date/Time: 12/6/22 1740
Received by (Signature and Printed Name): Date/Time: 12/6/22 1740

Turn Around Time (TAT)
- [ ] A = <24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 35 % 4 Workdays = 20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. ASSET Laboratories is not responsible for samples collected using incorrect methodology
7. Terms are net 30 days
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analyses, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Teflar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

Yellow=Customer's Copy

ARCUS02 C: 12/21/202 12:00 AM
FOLDER R: 12/6/2022
N053958-009A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDL
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec / CalTrans
Submitted By: Roger Top		Phone: 949-727-1400, ext 200 Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 12/6/22	Sampled By: Roger Top		Global ID: / Specify State: / Regulatory
Project Name: PG&E Topock - PCM	Signature: Date: 12/6/22		
Project Number: 30121866.4Q22GW			

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	5	
6. Method of Cooling: Ice		

Sample Temp: 3.2°C 3.5°C 4.1°C

Courier: ASSET

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly Nitrite, Nitrate, sulfate (EPA 300.0)	500mL poly Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA Total Organic Carbon (SM5310C); H2SO4	500mL poly Total metals (SW6010) No filter; HNO3 Total Iron	1 L poly Ammonia as Nitrogen (SM4500NH3); H2SO4	1 L poly Nitrate, sulfate (EPA 300.0)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053958-004	MW-39-060-1222	12/6/2022	11:12		X		X			X			X	E	6	P	BNS	
2	-005	MW-39-070-1222	12/6/2022	8:42		X		X			X			X	E	6	P	BNS	
3	-006	MW-39-080-1222	12/6/2022	10:35		X		X			X			X	E	6	P	BNS	
4	-007	MW-30-050-1222	12/6/2022	13:37		X		X			X			X	E	6	P	BNS	
5	-008	EB-746-Q422	12/6/2022	14:00		X									E	1	P	BNS	
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			

Relinquished by (Signature and Printed Name): Roger Top	Date/Time: 12/6/22 1525	Relinquished by (Signature and Printed Name): MS Courtney	Date/Time: 12/6/22 1525
Relinquished by (Signature and Printed Name): MS Courtney	Date/Time: 12/6/22 1740	Relinquished by (Signature and Printed Name): Yoanerd Rodriguez	Date/Time: 12/6/22 1740
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/6/2022	Workorder:	N053958
Rep sample Temp (Deg C):	3.2/3.5/4.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: YR EFanegoF 12/8/2022

for:

Reviewed By: MBC 12/21/2022

ASSET Laboratories

WORK ORDER Summary

21-Dec-22

WorkOrder: N053958

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053958-001A	IRZ-13D-210-1222	12/6/2022 10:00:00 AM	12/21/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-001B			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-001C			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-001D			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053958-001E			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053958-002A	IRZ-13S-095-1222	12/6/2022 9:15:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-002B			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-002C			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-002D			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053958-002E			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053958-003A	IRZ-23-143-1222	12/6/2022 9:00:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-003B			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

21-Dec-22

WorkOrder: N053958

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053958-003B	IRZ-23-143-1222	12/6/2022 9:00:00 AM	12/21/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-003C			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-003D			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053958-003E			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N053958-004A	MW-39-060-1222	12/6/2022 11:12:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-004B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-004C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053958-004D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-005A	MW-39-070-1222	12/6/2022 8:42:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-005B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-005C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

21-Dec-22

WorkOrder: N053958

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053958-005D	MW-39-070-1222	12/6/2022 8:42:00 AM	12/21/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-006A	MW-39-080-1222	12/6/2022 10:35:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-006B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-006C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053958-006D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-007A	MW-30-050-1222	12/6/2022 1:37:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-007B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053958-007C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053958-007D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053958-008A	EB-746-Q422	12/6/2022 2:00:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053958-009A	FOLDER	12/21/2022	12/21/2022		Folder	Folder	☐	☐	☐	LAB
			12/21/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/21/2022		Folder	Folder	☐	☐	☐	LAB

December 28, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053959

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 06, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053925-001CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053925-001 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N053959-003CMS at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053959-003 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *28-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053959
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053959-001A	MW-76-039-1222	Groundwater	12/6/2022 8:30:00 AM	12/6/2022	12/28/2022
N053959-001B	MW-76-039-1222	Groundwater	12/6/2022 8:30:00 AM	12/6/2022	12/28/2022
N053959-001C	MW-76-039-1222	Groundwater	12/6/2022 8:30:00 AM	12/6/2022	12/28/2022
N053959-001D	MW-76-039-1222	Groundwater	12/6/2022 8:30:00 AM	12/6/2022	12/28/2022
N053959-002A	MW-76-156-1222	Groundwater	12/6/2022 9:06:00 AM	12/6/2022	12/28/2022
N053959-002B	MW-76-156-1222	Groundwater	12/6/2022 9:06:00 AM	12/6/2022	12/28/2022
N053959-002C	MW-76-156-1222	Groundwater	12/6/2022 9:06:00 AM	12/6/2022	12/28/2022
N053959-002D	MW-76-156-1222	Groundwater	12/6/2022 9:06:00 AM	12/6/2022	12/28/2022
N053959-003A	MW-76-181-1222	Groundwater	12/6/2022 9:47:00 AM	12/6/2022	12/28/2022
N053959-003B	MW-76-181-1222	Groundwater	12/6/2022 9:47:00 AM	12/6/2022	12/28/2022
N053959-003C	MW-76-181-1222	Groundwater	12/6/2022 9:47:00 AM	12/6/2022	12/28/2022
N053959-003D	MW-76-181-1222	Groundwater	12/6/2022 9:47:00 AM	12/6/2022	12/28/2022
N053959-004A	MW-927-Q422	Groundwater	12/6/2022 9:57:00 AM	12/6/2022	12/28/2022
N053959-004B	MW-927-Q422	Groundwater	12/6/2022 9:57:00 AM	12/6/2022	12/28/2022
N053959-004C	MW-927-Q422	Groundwater	12/6/2022 9:57:00 AM	12/6/2022	12/28/2022
N053959-004D	MW-927-Q422	Groundwater	12/6/2022 9:57:00 AM	12/6/2022	12/28/2022
N053959-005A	MW-76-218-1222	Groundwater	12/6/2022 10:46:00 AM	12/6/2022	12/28/2022
N053959-005B	MW-76-218-1222	Groundwater	12/6/2022 10:46:00 AM	12/6/2022	12/28/2022
N053959-005C	MW-76-218-1222	Groundwater	12/6/2022 10:46:00 AM	12/6/2022	12/28/2022
N053959-005D	MW-76-218-1222	Groundwater	12/6/2022 10:46:00 AM	12/6/2022	12/28/2022
N053959-006A	MW-81-043-1222	Groundwater	12/6/2022 11:33:00 AM	12/6/2022	12/28/2022
N053959-006B	MW-81-043-1222	Groundwater	12/6/2022 11:33:00 AM	12/6/2022	12/28/2022
N053959-006C	MW-81-043-1222	Groundwater	12/6/2022 11:33:00 AM	12/6/2022	12/28/2022
N053959-006D	MW-81-043-1222	Groundwater	12/6/2022 11:33:00 AM	12/6/2022	12/28/2022
N053959-007A	MW-81-098-1222	Groundwater	12/6/2022 12:00:00 PM	12/6/2022	12/28/2022
N053959-007B	MW-81-098-1222	Groundwater	12/6/2022 12:00:00 PM	12/6/2022	12/28/2022
N053959-007C	MW-81-098-1222	Groundwater	12/6/2022 12:00:00 PM	12/6/2022	12/28/2022
N053959-007D	MW-81-098-1222	Groundwater	12/6/2022 12:00:00 PM	12/6/2022	12/28/2022
N053959-008A	MW-44-115-1222	Groundwater	12/6/2022 1:15:00 PM	12/6/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053959
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053959-008B	MW-44-115-1222	Groundwater	12/6/2022 1:15:00 PM	12/6/2022	12/28/2022
N053959-008C	MW-44-115-1222	Groundwater	12/6/2022 1:15:00 PM	12/6/2022	12/28/2022
N053959-008D	MW-44-115-1222	Groundwater	12/6/2022 1:15:00 PM	12/6/2022	12/28/2022
N053959-009A	MW-924-Q422	Groundwater	12/6/2022 1:25:00 PM	12/6/2022	12/28/2022
N053959-009B	MW-924-Q422	Groundwater	12/6/2022 1:25:00 PM	12/6/2022	12/28/2022
N053959-009C	MW-924-Q422	Groundwater	12/6/2022 1:25:00 PM	12/6/2022	12/28/2022
N053959-009D	MW-924-Q422	Groundwater	12/6/2022 1:25:00 PM	12/6/2022	12/28/2022
N053959-010A	MW-44-125-1222	Groundwater	12/6/2022 12:54:00 PM	12/6/2022	12/28/2022
N053959-010B	MW-44-125-1222	Groundwater	12/6/2022 12:54:00 PM	12/6/2022	12/28/2022
N053959-010C	MW-44-125-1222	Groundwater	12/6/2022 12:54:00 PM	12/6/2022	12/28/2022
N053959-010D	MW-44-125-1222	Groundwater	12/6/2022 12:54:00 PM	12/6/2022	12/28/2022
N053959-011A	EB-745-Q422	Groundwater	12/6/2022 1:40:00 PM	12/6/2022	12/28/2022
N053959-012A	MW-39-040-1222	Groundwater	12/6/2022 9:20:00 AM	12/6/2022	12/28/2022
N053959-012B	MW-39-040-1222	Groundwater	12/6/2022 9:20:00 AM	12/6/2022	12/28/2022
N053959-012C	MW-39-040-1222	Groundwater	12/6/2022 9:20:00 AM	12/6/2022	12/28/2022
N053959-012D	MW-39-040-1222	Groundwater	12/6/2022 9:20:00 AM	12/6/2022	12/28/2022
N053959-013A	MW-39-050-1222	Groundwater	12/6/2022 9:55:00 AM	12/6/2022	12/28/2022
N053959-013B	MW-39-050-1222	Groundwater	12/6/2022 9:55:00 AM	12/6/2022	12/28/2022
N053959-013C	MW-39-050-1222	Groundwater	12/6/2022 9:55:00 AM	12/6/2022	12/28/2022
N053959-013D	MW-39-050-1222	Groundwater	12/6/2022 9:55:00 AM	12/6/2022	12/28/2022
N053959-014A	MW-923-Q422	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053959-014B	MW-923-Q422	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053959-014C	MW-923-Q422	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022
N053959-014D	MW-923-Q422	Groundwater	12/6/2022 10:00:00 AM	12/6/2022	12/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:30:00 AM
Lab ID:	N053959-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	220	0.48	4.0		µg/L	20	12/26/2022 04:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:06:00 AM
Lab ID:	N053959-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	17	0.12	1.0		µg/L	5	12/26/2022 04:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:47:00 AM
Lab ID:	N053959-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	610	2.4	20		µg/L	100	12/26/2022 03:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:57:00 AM
Lab ID:	N053959-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	610	2.4	20		µg/L	100	12/26/2022 03:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:46:00 AM
Lab ID:	N053959-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/26/2022 05:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:33:00 AM
Lab ID:	N053959-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	17	0.12	1.0		µg/L	5	12/27/2022 01:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:00:00 PM
Lab ID:	N053959-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.6	0.12	1.0		µg/L	5	12/26/2022 06:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:15:00 PM
Lab ID:	N053959-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.8	0.12	1.0		µg/L	5	12/26/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:25:00 PM
Lab ID:	N053959-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.7	0.12	1.0		µg/L	5	12/26/2022 07:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:54:00 PM
Lab ID:	N053959-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/26/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-745-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:40:00 PM
Lab ID:	N053959-011	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/26/2022 07:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:20:00 AM
Lab ID:	N053959-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/26/2022 08:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:55:00 AM
Lab ID:	N053959-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/26/2022 08:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053959-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/26/2022 09:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168488	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	PBW	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991406		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R168488	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	LCSW	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991407		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.921	0.20	5.000	0	98.4	90	110						

Sample ID	N053959-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991409		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1105.090	20	500.0	606.3	99.8	90	110						

Sample ID	N053959-003AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991410		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1079.440	20	500.0	606.3	94.6	90	110	1105	2.35	20			

Sample ID	N053959-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991412		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1107.760	20	500.0	606.9	100	90	110						

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-004ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	609.430	20						606.9	0.416	20	

Sample ID	N053959-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991417

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.334	1.0	25.00	17.23	96.4	90	110				

Sample ID	N053959-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	317.680	4.0	100.0	224.8	92.9	90	110				

Sample ID	N053958-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.358	0.20	1.000	1.404	95.3	90	110				

Sample ID	N053959-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991427

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.631	1.0	5.000	3.649	99.6	90	110				

Sample ID	N053959-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.520	1.0	5.000	1.756	95.3	90	110				

Sample ID	N053959-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991431

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.688	1.0	5.000	1.672	100	90	110				

Sample ID	N053959-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991433

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.035	1.0	5.000	0	101	90	110				

Sample ID	N053959-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID	N053959-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID	N053959-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991443

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110				

Sample ID	N054021-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1830.860	40	1000	852.3	97.9	90	110				

Sample ID	N054021-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2675.620	40	1000	1717	95.8	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054106-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	972.300	20	500.0	488.2	96.8	90	110				

Sample ID	N054106-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	951.480	20	500.0	455.7	99.2	90	110				

Sample ID	N054106-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	805.960	20	500.0	328.7	95.4	90	110				

Sample ID	N053959-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991459

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.278	1.0	25.00	17.02	97.0	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:30:00 AM
Lab ID:	N053959-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	220	1.2	10		mg/L	20	12/7/2022 05:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.3	0.095	0.50		mg/L	10	12/7/2022 12:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-76-156-1222
Lab Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 9:06:00 AM
Lab ID: N053959-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A** QC Batch: **R167974**				PrepDate:			Analyst: **RAB**
Sulfate	720	6.1	50		mg/L	100	12/7/2022 08:36 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A** QC Batch: **R167974**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.2	0.095	0.50		mg/L	10	12/7/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:47:00 AM
Lab ID:	N053959-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	820	6.1	50		mg/L	100	12/7/2022 08:50 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	12/7/2022 01:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:57:00 AM
Lab ID:	N053959-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	810	6.1	50		mg/L	100	12/7/2022 09:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	12/7/2022 01:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:46:00 AM
Lab ID:	N053959-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	620	6.1	50		mg/L	100	12/7/2022 09:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 01:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:33:00 AM
Lab ID:	N053959-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	300	3.0	25		mg/L	50	12/7/2022 10:01 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	12/7/2022 01:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:00:00 PM
Lab ID:	N053959-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	720	6.1	50		mg/L	100	12/7/2022 10:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.81	0.095	0.50		mg/L	10	12/7/2022 02:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:15:00 PM
Lab ID:	N053959-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	12/7/2022 10:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 02:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:25:00 PM
Lab ID:	N053959-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	12/7/2022 10:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 02:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:54:00 PM
Lab ID:	N053959-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	12/7/2022 10:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/7/2022 02:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:20:00 AM
Lab ID:	N053959-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	120	0.61	5.0		mg/L	10	12/7/2022 11:13 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	12/7/2022 03:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:55:00 AM
Lab ID:	N053959-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	12/7/2022 11:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	12/7/2022 03:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053959-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	12/7/2022 11:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221207A**	QC Batch: **R167974**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	12/7/2022 04:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R167974_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974		
Client ID:	PBW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959868		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	ND	0.50											

Sample ID	LCS-R167974_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974		
Client ID:	LCSW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959869		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	3.989	0.50	4.000	0	99.7	90	110						

Sample ID	N053958-001BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974		
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959875		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1301.420	50	400.0	896.6	101	80	120						

Sample ID	N053958-001BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974		
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959876		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1298.260	50	400.0	896.6	100	80	120	1301	0.243	20			

Sample ID	N053959-001DDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974		
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959880		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	222.398	10						222.7	0.145	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N053959-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959881

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	304.470	10	80.00	222.7	102	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R167974_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	PBW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959828

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R167974_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	LCSW	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959829

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.266	0.050	1.250	0	101	90	110				

Sample ID	N053959-001DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959854

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.074	0.50	12.50	3.251	94.6	80	120				

Sample ID	N053959-001DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959855

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.144	0.50	12.50	3.251	95.1	80	120	15.07	0.463	20	

Sample ID	N053958-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959856

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.587	0.50						1.576	0.696	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N053958-002BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	167974
Client ID:	ZZZZZZ	Batch ID:	R167974	TestNo:	EPA 300.0			Analysis Date:	12/7/2022	SeqNo:	4959857

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.470	0.50	12.50	1.576	95.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:30:00 AM
Lab ID:	N053959-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 07:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:06:00 AM
Lab ID:	N053959-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221207A**	QC Batch: **R167970**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/7/2022 07:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:47:00 AM
Lab ID:	N053959-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	12/8/2022 01:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:57:00 AM
Lab ID:	N053959-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 11:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:46:00 AM
Lab ID:	N053959-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 12:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:33:00 AM
Lab ID:	N053959-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 02:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:00:00 PM
Lab ID:	N053959-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 02:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:15:00 PM
Lab ID:	N053959-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 03:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:25:00 PM
Lab ID:	N053959-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:54:00 PM
Lab ID:	N053959-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:20:00 AM
Lab ID:	N053959-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.8	0.14	1.0		mg/L	1	12/8/2022 03:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:55:00 AM
Lab ID:	N053959-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053959-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 07:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R167970**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **PBW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959064**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R167970**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **LCSW**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959065**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.955	1.0	5.000	0	99.1	85	115				

Sample ID **N053925-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959073**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.060	20	100.0	9.514	87.5	75	125				

Sample ID **N053925-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **167970**
Client ID: **ZZZZZZ**	Batch ID: **R167970**	TestNo: **SM 5310C**		Analysis Date: **12/7/2022**	SeqNo: **4959078**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	97.514	20	100.0	9.514	88.0	75	125	97.06	0.467	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID	MB-R168016	SampType:	MBLK	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	168016
Client ID:	PBW	Batch ID:	R168016	TestNo:	SM 5310C			Analysis Date:	12/8/2022	SeqNo:	4960571

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID	LCS-R168016	SampType:	LCS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	168016
Client ID:	LCSW	Batch ID:	R168016	TestNo:	SM 5310C			Analysis Date:	12/8/2022	SeqNo:	4960572

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.010	1.0	5.000	0	100	85	115				

Sample ID	N053959-003CMS	SampType:	MS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	168016
Client ID:	ZZZZZZ	Batch ID:	R168016	TestNo:	SM 5310C			Analysis Date:	12/8/2022	SeqNo:	4960580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	232.560	50	250.0	0	93.0	75	125				

Sample ID	N053959-003CMSD	SampType:	MSD	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	168016
Client ID:	ZZZZZZ	Batch ID:	R168016	TestNo:	SM 5310C			Analysis Date:	12/8/2022	SeqNo:	4960583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	229.835	50	250.0	0	91.9	75	125	232.6	1.18	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:30:00 AM
Lab ID:	N053959-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:26 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:06:00 AM
Lab ID:	N053959-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:47:00 AM
Lab ID:	N053959-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:57:00 AM
Lab ID:	N053959-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:51 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:46:00 AM
Lab ID:	N053959-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 03:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:33:00 AM
Lab ID:	N053959-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**			PrepDate:	**12/7/2022**		Analyst: **DJ**
Iron	29	13	20		µg/L	1	12/22/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:00:00 PM
Lab ID:	N053959-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:15:00 PM
Lab ID:	N053959-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 04:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:25:00 PM
Lab ID:	N053959-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 04:15 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:54:00 PM
Lab ID:	N053959-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	370	13	20		µg/L	1	12/22/2022 04:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:20:00 AM
Lab ID:	N053959-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	230	13	20		µg/L	1	12/22/2022 04:26 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:55:00 AM
Lab ID:	N053959-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 04:30 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q422
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:00:00 AM
Lab ID:	N053959-014	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97088**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 04:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-97088	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	PBW	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986730

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-97088	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	LCSW	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986731

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	91.260	20	100.0	0	91.3	85	115				

Sample ID	N053958-002C-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986741

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.506	20	100.0	0	101	75	125				

Sample ID	N053958-002C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/7/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97088	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.104	20	100.0	0	99.1	75	125	100.5	1.40	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 8:30:00 AM
Lab ID:	N053959-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	0.65	0.050	0.10		µg/L	1	12/23/2022 04:51 PM
Barium	51	0.083	1.0		µg/L	1	12/16/2022 01:21 AM
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 01:21 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:06:00 AM
Lab ID:	N053959-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 01:33 AM
Barium	37	0.083	1.0		µg/L	1	12/16/2022 01:33 AM
Manganese	11	0.026	0.50		µg/L	1	12/16/2022 01:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-76-181-1222

Lab Order: N053959

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 9:47:00 AM

Lab ID: N053959-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 01:39 AM
Barium	42	0.083	1.0		µg/L	1	12/16/2022 01:39 AM
Manganese	29	0.026	0.50		µg/L	1	12/16/2022 01:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-927-Q422

Lab Order: N053959

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 9:57:00 AM

Lab ID: N053959-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221215E**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 01:50 AM
Barium	42	0.083	1.0		µg/L	1	12/16/2022 01:50 AM
Manganese	30	0.026	0.50		µg/L	1	12/16/2022 01:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 10:46:00 AM
Lab ID:	N053959-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 05:17 PM
Barium	82	0.083	1.0		µg/L	1	12/23/2022 04:57 PM
Manganese	500	0.13	2.5		µg/L	5	12/16/2022 02:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 11:33:00 AM
Lab ID:	N053959-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	5.0	0.050	0.10		µg/L	1	12/16/2022 05:23 PM
Barium	81	0.083	1.0		µg/L	1	12/23/2022 05:03 PM
Manganese	50	0.026	0.50		µg/L	1	12/16/2022 02:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:00:00 PM
Lab ID:	N053959-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**				PrepDate:	**12/7/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 05:29 PM
Barium	56	0.083	1.0		µg/L	1	12/23/2022 05:09 PM
Manganese	130	0.026	0.50		µg/L	1	12/16/2022 02:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 1:15:00 PM
Lab ID:	N053959-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	12/16/2022 05:35 PM
Barium	20	0.083	1.0		µg/L	1	12/23/2022 05:14 PM
Manganese	13	0.026	0.50		µg/L	1	12/16/2022 02:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-924-Q422

Lab Order: N053959

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 1:25:00 PM

Lab ID: N053959-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	1.7	0.050	0.10		µg/L	1	12/16/2022 05:41 PM
Barium	20	0.083	1.0		µg/L	1	12/23/2022 05:20 PM
Manganese	13	0.026	0.50		µg/L	1	12/16/2022 02:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 12:54:00 PM
Lab ID:	N053959-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:	**12/7/2022**		Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	12/16/2022 05:47 PM
Barium	45	0.083	1.0		µg/L	1	12/23/2022 05:26 PM
Manganese	590	0.13	2.5		µg/L	5	12/16/2022 03:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:20:00 AM
Lab ID:	N053959-012	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	12	0.050	0.10		µg/L	1	12/16/2022 05:53 PM
Barium	61	0.083	1.0		µg/L	1	12/23/2022 05:32 PM
Manganese	88	0.026	0.50		µg/L	1	12/16/2022 03:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-1222
Lab Order:	N053959		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/6/2022 9:55:00 AM
Lab ID:	N053959-013	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	12/16/2022 05:59 PM
Barium	47	0.083	1.0		µg/L	1	12/23/2022 05:38 PM
Manganese	250	0.13	2.5		µg/L	5	12/16/2022 03:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-923-Q422

Lab Order: N053959

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/6/2022 10:00:00 AM

Lab ID: N053959-014 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216B**	QC Batch: **97087**			PrepDate:		**12/7/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	12/16/2022 06:04 PM
Barium	43	0.083	1.0		µg/L	1	12/23/2022 05:44 PM
Manganese	220	0.13	2.5		µg/L	5	12/16/2022 03:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053959
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-97087**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168310**
Client ID: **PBW**	Batch ID: **97087**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4978369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID **LCS-97087**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168310**
Client ID: **LCSW**	Batch ID: **97087**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4978370**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.570	0.10	10.00	0	95.7	85	115				
Barium	9.521	1.0	10.00	0	95.2	85	115				
Manganese	102.787	0.50	100.0	0	103	85	115				

Sample ID **N053958-001C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168310**
Client ID: **ZZZZZZ**	Batch ID: **97087**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4978376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.636	0.10	10.00	0	86.4	75	125				
Barium	37.306	1.0	10.00	27.86	94.5	75	125				
Manganese	104.611	0.50	100.0	0	105	75	125				

Sample ID **N053958-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/7/2022**	RunNo: **168310**
Client ID: **ZZZZZZ**	Batch ID: **97087**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/15/2022**	SeqNo: **4978380**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.847	0.10	10.00	0	88.5	75	125	8.636	2.41	20	
Barium	37.498	1.0	10.00	27.86	96.4	75	125	37.31	0.513	20	
Manganese	103.724	0.50	100.0	0	104	75	125	104.6	0.851	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 12/21/202 12:00 AM
FOLDER R: 12/6/2022
N053959-015A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.#
Submitted By: Reggie Tay Field Tech		Phone: 949-727-1400, ext 200	Fax:
Title:	Phone: 916-786-3302 Fax:		
Signature: Date: 12/6/22	Sampled By: Reggie Tay		
Project Name: PG&E Topock - PCM	Signature: Date: 12/6/22		
Project Number: 30121866.4Q22GW			

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

	Y	N
1. Chilled	✓	
2. Headspace		✓
3. Container Intact	✓	
4. Seal Present		✓
5. IR number .3		
6. Method of Cooling: Ice		

Sample Temp: 3.2°C 3.5°C 4.1°C

Courier: Asset

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix: Ground	Matrix: Sediment	Matrix: Potable	Matrix: Soil	Matrix: NPDES	Matrix: Other Solid	Matrix: Surface	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053959-001	MW-76-039-1222	12/6/2022	8:30			X						X		X			X			X	E	6	P	BNS	
2	-002	MW-76-156-1222	12/6/2022	9:06			X						X		X			X			X	E	6	P	BNS	
3	-003	MW-76-181-1222	12/6/2022	9:47			X						X		X			X			X	E	6	P	BNS	
4	-004	MW-927-Q422	12/6/2022	9:57			X						X		X			X			X	E	6	P	BNS	
5	-005	MW-76-218-1222	12/6/2022	10:48			X						X		X			X			X	E	6	P	BNS	
6	-006	MW-81-043-1222	12/6/2022	11:33			X						X		X			X			X	E	6	P	BNS	
7	-007	MW-81-098-1222	12/6/2022	12:00			X						X		X			X			X	E	6	P	BNS	
8	-008	MW-44-115-1222	12/6/2022	13:15			X						X		X			X			X	E	6	P	BNS	
9	-009	MW-924-Q422	12/6/2022	13:25			X						X		X			X			X	E	6	P	BNS	
10	-010	MW-44-125-1222	12/6/2022	12:54			X						X		X			X			X	E	6	P	BNS	
11	-011	EB-745-Q422	12/6/2022	13:40			X						X									E	1	P	BNS	
12	-012	MW-39-040-1222	12/6/2022	9:20			X						X		X			X			X	E	6	P	BNS	
13	-013	MW-39-050-1222	12/6/2022	9:55			X						X		X			X			X	E	6	P	BNS	
14	-014	MW-923-Q422	12/6/2022	10:00			X						X		X			X			X	E	6	P	BNS	

Relinquished by (Signature and Printed Name): Reggie Tay	Date/Time: 12/6/22 1525
Relinquished by (Signature and Printed Name): MCCARTIN	Date/Time: 12/6/22 @ 1525
Relinquished by (Signature and Printed Name): MCCARTIN	Date/Time: 12/6/22 @ 1740
Relinquished by (Signature and Printed Name): Yoandra Rodriguez	Date/Time: 12/6/22 1740
Relinquished by (Signature and Printed Name):	Date/Time:
Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
6. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	$N=HNO_3$	$S=H_2SO_4$	C=4°C	T=Tube	V=VOA	P=Pint
$Z=Zn(AC)_2$	O=NaOH	$T=Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/6/2022	Workorder:	N053959
Rep sample Temp (Deg C):	3.2/3.5/4.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See correspondence.

For:

Checklist Completed By: YR EFanegoF 12/8/2022

Reviewed By: for: MBC 12/21/2022

Subject: Re: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053959)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 12/7/2022, 6:04 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>

Hi
The correct ID ends in “Q422”

Thanks
Laura

Get Outlook for iOS

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Wednesday, December 7, 2022 7:28:51 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com <maryann.balilu@assetlaboratoriesph.com>
Subject: PG&E Topock - PCM, 30121866.4Q22GW (ASSET Labs No. N053959)

Hi Laura,

Please advise on the following discrepancy for the attached COC:

- Sample 14: ID is MW-923-Q422 and MW-923-1222 on labels

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

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ASSET Laboratories

WORK ORDER Summary

07-Dec-22

WorkOrder: N053959

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053959-001A	MW-76-039-1222	12/6/2022 8:30:00 AM	12/21/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-001B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-001C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-001D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-002A	MW-76-156-1222	12/6/2022 9:06:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-002B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-002C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-002D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-003A	MW-76-181-1222	12/6/2022 9:47:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-003B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-003C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

07-Dec-22

WorkOrder: N053959

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053959-003D	MW-76-181-1222	12/6/2022 9:47:00 AM	12/21/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-004A	MW-927-Q422	12/6/2022 9:57:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-004B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-004C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-004D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-005A	MW-76-218-1222	12/6/2022 10:46:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-005B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-005C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-005D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-006A	MW-81-043-1222	12/6/2022 11:33:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-006B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

07-Dec-22

WorkOrder: N053959

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053959-006B	MW-81-043-1222	12/6/2022 11:33:00 AM	12/21/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-006C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-006D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-007A	MW-81-098-1222	12/6/2022 12:00:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-007B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-007C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-007D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-008A	MW-44-115-1222	12/6/2022 1:15:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-008B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-008C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-008D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-009A	MW-924-Q422	12/6/2022 1:25:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-009B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

07-Dec-22

WorkOrder: N053959

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053959-009B	MW-924-Q422	12/6/2022 1:25:00 PM	12/21/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-009C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-009D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-010A	MW-44-125-1222	12/6/2022 12:54:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-010B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-010C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-010D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-011A	EB-745-Q422	12/6/2022 1:40:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-012A	MW-39-040-1222	12/6/2022 9:20:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-012B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-012C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-012D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

07-Dec-22

WorkOrder: N053959

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/6/2022 5:40 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053959-012D	MW-39-040-1222	12/6/2022 9:20:00 AM	12/21/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-013A	MW-39-050-1222	12/6/2022 9:55:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-013B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-013C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-013D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-014A	MW-923-Q422	12/6/2022 10:00:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053959-014B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053959-014C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053959-014D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053959-015A	FOLDER	12/21/2022	12/21/2022		Folder	Folder	☐	☐	☐	LAB
			12/21/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/21/2022		Folder	Folder	☐	☐	☐	LAB

December 26, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053991

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 07, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix. Sample has a dark pink color.

Analytical Comments for EPA 300.0:

Dilution was necessary due to matrix. Sample has a dark pink color.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary due to matrix. Digestates are colored.

Matrix Spike (MS) is outside recovery criteria for Chromium in QC sample N053993-001B-MS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Molybdenum in QC sample N053993-001B-MS possibly due to matrix interference. Post Spike passed acceptance criteria.. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *26-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N053991
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053991-001A	MW-67-185-1222	Groundwater	12/7/2022 1:19:00 PM	12/7/2022	12/26/2022
N053991-001B	MW-67-185-1222	Groundwater	12/7/2022 1:19:00 PM	12/7/2022	12/26/2022
N053991-001C	MW-67-185-1222	Groundwater	12/7/2022 1:19:00 PM	12/7/2022	12/26/2022
N053991-002A	MW-68-180-1222	Groundwater	12/7/2022 2:06:00 PM	12/7/2022	12/26/2022
N053991-002B	MW-68-180-1222	Groundwater	12/7/2022 2:06:00 PM	12/7/2022	12/26/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-67-185-1222
Lab Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 1:19:00 PM
Lab ID: N053991-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B** QC Batch: **R168414**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	9.6	80		µg/L	400	12/22/2022 01:28 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_221216D** QC Batch: **97206**				PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	12/16/2022 06:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-68-180-1222
Lab Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:06:00 PM
Lab ID: N053991-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220B**	QC Batch: **R168388**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	21000	120	1000		µg/L	5000	12/20/2022 04:59 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221219C**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	21000	4.4	120		µg/L	125	12/19/2022 09:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168388**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **PBW**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168388**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **LCSW**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.116	0.20	5.000	0	102	90	110				

Sample ID: **N053994-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1192.600	20	500.0	688.0	101	90	110				

Sample ID: **N053994-007AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1187.960	20	500.0	688.0	100	90	110	1193	0.390	20	

Sample ID: **N054047-006ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	68.694	2.0						68.31	0.561	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053991-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45522.500	1000	25000	20860	98.6	90	110				

Sample ID: **N053994-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N053994-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.982	0.20	1.000	0	98.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R168414**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **LCSW**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	0.20	5.000	0	101	90	110				

Sample ID: **MB-R168414**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **PBW**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053994-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5260.250	100	2500	2711	102	90	110				

Sample ID: **N053994-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5332.850	100	2500	2711	105	90	110	5260	1.37	20	

Sample ID: **N053994-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	114.763	2.0	50.00	63.02	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053991-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	401.280	80	400.0	0	100	90	110				

Sample ID: **N053994-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.721	1.0	5.000	8.320	108	90	110				

Sample ID: **N053923-006ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.649	0.20						3.623	0.721	20	

Sample ID: **N054022-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.852	0.20	1.000	0.8175	103	90	110				

Sample ID: **N054022-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.652	0.20	5.000	1.191	109	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053886-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	37.313	1.0	25.00	11.30	104	90	110				

Sample ID: **N053886-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	79.964	2.0	50.00	28.73	102	90	110				

Sample ID: **N053886-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID: **N053894-009BMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-97206**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **PBW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976015**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-97206**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **LCSW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.618	1.0	10.00	0	96.2	85	115				

Sample ID: **N053993-001B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	61.390	1.0	10.00	55.09	63.0	75	125				S

Sample ID: **N053993-001B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976027**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	63.005	1.0	10.00	55.09	79.1	75	125	61.39	2.60	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N053993-001B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	62.971	1.0	10.00	55.09	78.8	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-1222
Lab Order:	N053991		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 1:19:00 PM
Lab ID:	N053991-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208A**	QC Batch: **R167996**			PrepDate:			Analyst: **RAB**
Nitrate as N	25	3.8	20		mg/L	400	12/8/2022 01:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167996_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **PBW**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167996_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **LCSW**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.295	0.050	1.250	0	104	90	110				

Sample ID: **N053969-001ADUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **ZZZZZZ**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.810	0.25						4.842	0.673	20	

Sample ID: **N053993-001DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **ZZZZZZ**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.764	0.50	12.50	0.2780	91.9	80	120				

Sample ID: **N053993-001DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **ZZZZZZ**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.824	0.50	12.50	0.2780	92.4	80	120	11.76	0.509	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053993-009DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167996**
Client ID: **ZZZZZZ** Batch ID: **R167996** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4960471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.096	0.50	12.50	0.5350	92.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-67-185-1222

Lab Order: N053991

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 1:19:00 PM

Lab ID: N053991-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Manganese	1200	0.66	12		µg/L	25	12/16/2022 06:51 PM
Molybdenum	33	0.60	2.5		µg/L	5	12/16/2022 06:45 PM
Selenium	160	0.22	2.5		µg/L	5	12/16/2022 06:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-68-180-1222

Lab Order: N053991

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:06:00 PM

Lab ID: N053991-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Molybdenum	73	0.60	2.5		µg/L	5	12/16/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97206** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **PBW** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-97206** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **LCSW** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.383	0.50	100.0	0	95.4	85	115				
Molybdenum	10.197	0.50	10.00	0	102	85	115				
Selenium	8.916	0.50	10.00	0	89.2	85	115				

Sample ID: **N053993-001B-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	98.087	0.50	100.0	7.052	91.0	75	125				
Molybdenum	139.395	0.50	10.00	134.8	46.3	75	125				S
Selenium	10.385	0.50	10.00	0.1736	102	75	125				

Sample ID: **N053993-001B-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	100.689	0.50	100.0	7.052	93.6	75	125	98.09	2.62	20	
Molybdenum	145.135	0.50	10.00	134.8	104	75	125	139.4	4.03	20	
Selenium	9.780	0.50	10.00	0.1736	96.1	75	125	10.39	6.00	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053991
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N053993-001B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	99.646	0.50	100.0	7.052	92.6	80	120				
Molybdenum	143.663	0.50	10.00	134.8	88.9	80	120				
Selenium	9.383	0.50	10.00	0.1736	92.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 12/22/202 12:00 AM
FOLDER R: 12/7/2022
N053991-003A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Re
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Rissie Top		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 12/7/22	Sampled By: Rissie Top		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: Date: 12/7/22		
Project Number: 30121866.4Q22GW			

EDD Re			
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

	Y	N
1. Chilled	Y	
2. Headspace	Y	
3. Container Intact	Y	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 2.4 °C		

Courier:

Tracking No.:

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Manganese,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum	500mL poly: Dissolved metals (SW6020) FF; HNO3 Selenium	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053991-001	MW-67-185-1222	12/7/2022	13:19		X	X	X	X	X	X	E	3	P	BNS	
2	-002	MW-68-180-1222	12/7/2022	14:06		X			X	X		E	2	P	BNS	
3						X						E	1	P	BNS	
4																
5																
7																
8																
9																
10																
11																
12																
13																
14																

Relinquished by (Signature and Printed Name): Rissie Top	Date/Time: 12/7/22 1600	Relinquished by (Signature and Printed Name): Dante Ortiz Dante O.	Date/Time: 12/7/22 16:00
Relinquished by (Signature and Printed Name): Dante Ortiz Dante O.	Date/Time: 12/7/22 21:20	Relinquished by (Signature and Printed Name): Dante Ortiz Dante O.	Date/Time: 12/7/22 21:25
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/7/2022	Workorder:	N053991
Rep sample Temp (Deg C):	2.4	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/9/2022

Reviewed By: for: MBC 12/20/2022

ASSET Laboratories

WORK ORDER Summary

20-Dec-22

WorkOrder: N053991

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053991-001A	MW-67-185-1222	12/7/2022 1:19:00 PM	12/22/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053991-001B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053991-001C			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053991-002A	MW-68-180-1222	12/7/2022 2:06:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053991-002B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053991-003A	FOLDER	12/22/2022	12/22/2022		Folder	Folder	☐	☐	☐	LAB
			12/22/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/22/2022		Folder	Folder	☐	☐	☐	LAB

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 474640
Report Level: II
Report Date: 12/22/2022

Analytical Report *prepared for:*

Sonny Lorenzo
Asset Laboratories
11110 Artersia Blvd,
Suite B
Cerritos, CA 90703

Location: N053992A

Authorized for release by:



Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Sonny Lorenzo
Asset Laboratories
11110 Artersia Blvd,
Suite B
Cerritos, CA 90703

Lab Job #: 474640
Location: N053992A
Date Received: 12/09/22

Sample ID	Lab ID	Collected	Matrix
N053992-001A / MW-31-060-1222	474640-001	12/07/22 11:10	Water
N053992-002A / MW-31-135-1222	474640-002	12/07/22 10:20	Water
N053992-003A / MW-78-070-1222	474640-003	12/07/22 12:05	Water
N053992-004A / MW-78-142-1222	474640-004	12/07/22 12:49	Water
N053992-005A / MW-80-057-1222	474640-005	12/07/22 14:09	Water
N053992-006A / MW-80-082-1222	474640-006	12/07/22 14:53	Water
N053992-007A / TW-02D-1222	474640-007	12/07/22 10:36	Water
N053992-008A / TW-02S-1222	474640-008	12/07/22 10:01	Water
N053992-009A / TW-03D-1222	474640-009	12/07/22 11:11	Water
N053992-010A / MW-21-1222	474640-010	12/07/22 09:07	Water
N053992-011A / MW-71-035-1222	474640-011	12/07/22 08:19	Water
N053992-012A / MW-926-Q422	474640-012	12/07/22 08:29	Water

ENTHALPY ANALYTICAL

Case Narrative

Asset Laboratories 11110 Artersia Blvd, Suite B Cerritos, CA 90703 Sonny Lorenzo	Lab Job Number: 474640 Location: N053992A Date Received: 12/09/22

This data package contains sample and QC results for twelve water samples, requested for the above referenced project on 12/09/22. The samples were received cold and intact.

474640

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:
Enthalpy Analytical
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: Riggie Tep

08-Dec-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM5310B		
N053992-001A / MW-31-060-1222	Groundwater	12/7/2022 11:10:00 AM	VOA	1		
N053992-002A / MW-31-135-1222	Groundwater	12/7/2022 10:20:00 AM	VOA	1		
N053992-003A / MW-78-070-1222	Groundwater	12/7/2022 12:05:00 PM	VOA	1		
N053992-004A / MW-78-142-1222	Groundwater	12/7/2022 12:49:00 PM	VOA	1		
N053992-005A / MW-80-057-1222	Groundwater	12/7/2022 2:09:00 PM	VOA	1		
N053992-006A / MW-80-082-1222	Groundwater	12/7/2022 2:53:00 PM	VOA	1		
N053992-007A / TW-02D-1222	Groundwater	12/7/2022 10:36:00 AM	VOA	1		
N053992-008A / TW-02S-1222	Groundwater	12/7/2022 10:01:00 AM	VOA	1		
N053992-009A / TW-03D-1222	Groundwater	12/7/2022 11:11:00 AM	VOA	1		
N053992-010A / MW-21-1222	Groundwater	12/7/2022 9:07:00 AM	VOA	1		
N053992-011A / MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	VOA	1		
N053992-012A / MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	VOA	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53992A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for TOC by SM5310B. EDD requirement Labspec7 edata.

GLS #: 558378639

		Date/Time			Date/Time
Relinquished by:	EFanegoF	12/8/2022 1630	**Received by:**		12/9/22 10:29
Relinquished by:			**Received by:**		

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Asset Labs Project: N053992

Date Received: 12/9/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.6 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☑ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 4.0 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✓		
Are sample IDs present?	✓		
Are sampling dates & times present?	✓		
Is a relinquished signature present?	✓		
Are the tests required clearly indicated on the COC?	✓		
Are custody seals present?		✓	
If custody seals are present, were they intact?			✓
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✓
Did all samples arrive intact? If no, indicate in Section 4 below.	✓		
Did all bottle labels agree with COC? (ID, dates and times)	✓		
Were the samples collected in the correct containers for the required tests?	✓		
Are the containers labeled with the correct preservatives?	✓		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✓
Was a sufficient amount of sample submitted for the requested tests?	✓		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: Veena Sylvester Date: DEC 09 2022

GLS.

800-322-5555
www.gls-us.com

Ship From
ADVANCED TECHNOLOGY
LABORATORIES, INC.
MARLON CARTIN
3151 W. POST RD.
LAS VEGAS, NV 89118

Tracking #: 558378639

PDS

Ship To
ENHALPY ANALYTICAL
SAMPLE RECEIVING
931 W. BARKLEY AVE
ORANGE, CA 92868

ORANGE

S10003H

COD: $0.00
Weight: 0 lb(s)
Reference:

Delivery Instructions:

76896853

Signature Type: STANDARD

ORC CA927-EH0

Print Date: 12/8/2022 1:46 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.
Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.
Step 2: Fold this page in half.
Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the General Logistics Systems US, Inc. (GLS) service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gls-us.com.

5.6/4.0

ENTHALPY ANALYTICAL

Analysis Results for 474640

Sonny Lorenzo
Asset Laboratories
11110 Artersia Blvd,
Suite B
Cerritos, CA 90703

Lab Job #: 474640
Location: N053992A
Date Received: 12/09/22

Sample ID: N053992-001A / MW-31-060-1222 **Lab ID:** 474640-001 **Matrix:** Water **Collected:** 12/07/22 11:10

474640-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**2.0**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID: N053992-002A / MW-31-135-1222 **Lab ID:** 474640-002 **Matrix:** Water **Collected:** 12/07/22 10:20

474640-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.1**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID: N053992-003A / MW-78-070-1222 **Lab ID:** 474640-003 **Matrix:** Water **Collected:** 12/07/22 12:05

474640-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**2.2**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID: N053992-004A / MW-78-142-1222 **Lab ID:** 474640-004 **Matrix:** Water **Collected:** 12/07/22 12:49

474640-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.1**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID: N053992-005A / MW-80-057-1222 **Lab ID:** 474640-005 **Matrix:** Water **Collected:** 12/07/22 14:09

474640-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.6**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 474640

Sample ID:	Lab ID: 474640-006	Collected: 12/07/22 14:53
N053992-006A / MW-80-082-1222	Matrix: Water	

474640-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.1**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID:	Lab ID: 474640-007	Collected: 12/07/22 10:36
N053992-007A / TW-02D-1222	Matrix: Water	

474640-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	ND		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID:	Lab ID: 474640-008	Collected: 12/07/22 10:01
N053992-008A / TW-02S-1222	Matrix: Water	

474640-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	ND		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID:	Lab ID: 474640-009	Collected: 12/07/22 11:11
N053992-009A / TW-03D-1222	Matrix: Water	

474640-009 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.2**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID:	Lab ID: 474640-010	Collected: 12/07/22 09:07
N053992-010A / MW-21-1222	Matrix: Water	

474640-010 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**7.1**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Sample ID:	Lab ID: 474640-011	Collected: 12/07/22 08:19
N053992-011A / MW-71-035-1222	Matrix: Water	

474640-011 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**5.3**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Analysis Results for 474640

Sample ID:	Lab ID: 474640-012	Collected: 12/07/22 08:29
N053992-012A / MW-926-Q422	Matrix: Water	

474640-012 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**5.4**		mg/L	1.0	1	303436	12/15/22	12/15/22	PWM

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Lab Control Sample	**Lab ID:** QC1032604	**Batch:** 303436
Matrix: Water	**Method:** SM 5310B	

QC1032604 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Total Organic Carbon	9.301	10.00	mg/L	93%		80-120

Type: Blank	**Lab ID:** QC1032605	**Batch:** 303436
Matrix: Water	**Method:** SM 5310B	

QC1032605 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Total Organic Carbon	ND		mg/L	1.0	12/15/22	12/15/22

Type: Matrix Spike	**Lab ID:** QC1032606	**Batch:** 303436
Matrix (Source ID): Water (474640-001)	**Method:** SM 5310B	

QC1032606 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Total Organic Carbon	42.91	1.960	40.00	mg/L	102%		80-120	4

Type: Matrix Spike Duplicate	**Lab ID:** QC1032607	**Batch:** 303436
Matrix (Source ID): Water (474640-001)	**Method:** SM 5310B	

QC1032607 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Total Organic Carbon	42.38	1.960	40.00	mg/L	101%		80-120	1	20	4

ND Not Detected

December 28, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053993

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 07, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N053993-001B-MS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N053959-003CMS at lower dilution

possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N053959-003 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053993
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053993-001A	TW-02D-1222	Groundwater	12/7/2022 10:36:00 AM	12/7/2022	12/28/2022
N053993-001B	TW-02D-1222	Groundwater	12/7/2022 10:36:00 AM	12/7/2022	12/28/2022
N053993-001C	TW-02D-1222	Groundwater	12/7/2022 10:36:00 AM	12/7/2022	12/28/2022
N053993-001D	TW-02D-1222	Groundwater	12/7/2022 10:36:00 AM	12/7/2022	12/28/2022
N053993-002A	TW-02S-1222	Groundwater	12/7/2022 10:01:00 AM	12/7/2022	12/28/2022
N053993-002B	TW-02S-1222	Groundwater	12/7/2022 10:01:00 AM	12/7/2022	12/28/2022
N053993-002C	TW-02S-1222	Groundwater	12/7/2022 10:01:00 AM	12/7/2022	12/28/2022
N053993-002D	TW-02S-1222	Groundwater	12/7/2022 10:01:00 AM	12/7/2022	12/28/2022
N053993-003A	TW-03D-1222	Groundwater	12/7/2022 11:11:00 AM	12/7/2022	12/28/2022
N053993-003B	TW-03D-1222	Groundwater	12/7/2022 11:11:00 AM	12/7/2022	12/28/2022
N053993-003C	TW-03D-1222	Groundwater	12/7/2022 11:11:00 AM	12/7/2022	12/28/2022
N053993-003D	TW-03D-1222	Groundwater	12/7/2022 11:11:00 AM	12/7/2022	12/28/2022
N053993-004A	MW-21-1222	Groundwater	12/7/2022 9:07:00 AM	12/7/2022	12/28/2022
N053993-004B	MW-21-1222	Groundwater	12/7/2022 9:07:00 AM	12/7/2022	12/28/2022
N053993-004C	MW-21-1222	Groundwater	12/7/2022 9:07:00 AM	12/7/2022	12/28/2022
N053993-004D	MW-21-1222	Groundwater	12/7/2022 9:07:00 AM	12/7/2022	12/28/2022
N053993-005A	MW-21-EB-1222	Groundwater	12/7/2022 8:50:00 AM	12/7/2022	12/28/2022
N053993-006A	MW-34-080-1222	Groundwater	12/7/2022 11:56:00 AM	12/7/2022	12/28/2022
N053993-006B	MW-34-080-1222	Groundwater	12/7/2022 11:56:00 AM	12/7/2022	12/28/2022
N053993-006C	MW-34-080-1222	Groundwater	12/7/2022 11:56:00 AM	12/7/2022	12/28/2022
N053993-006D	MW-34-080-1222	Groundwater	12/7/2022 11:56:00 AM	12/7/2022	12/28/2022
N053993-007A	MW-45-095a-1222	Groundwater	12/7/2022 12:24:00 PM	12/7/2022	12/28/2022
N053993-007B	MW-45-095a-1222	Groundwater	12/7/2022 12:24:00 PM	12/7/2022	12/28/2022
N053993-007C	MW-45-095a-1222	Groundwater	12/7/2022 12:24:00 PM	12/7/2022	12/28/2022
N053993-007D	MW-45-095a-1222	Groundwater	12/7/2022 12:24:00 PM	12/7/2022	12/28/2022
N053993-008A	MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	12/7/2022	12/28/2022
N053993-008B	MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	12/7/2022	12/28/2022
N053993-008C	MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	12/7/2022	12/28/2022
N053993-008D	MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	12/7/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053993
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053993-008E	MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	12/7/2022	12/28/2022
N053993-009A	MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	12/7/2022	12/28/2022
N053993-009B	MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	12/7/2022	12/28/2022
N053993-009C	MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	12/7/2022	12/28/2022
N053993-009D	MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	12/7/2022	12/28/2022
N053993-009E	MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	12/7/2022	12/28/2022
N053993-010A	EB-747-Q422	Groundwater	12/7/2022 2:20:00 PM	12/7/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02D-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:36:00 AM
Lab ID: N053993-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	54	0.48	4.0		µg/L	20	12/23/2022 12:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02S-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:01:00 AM

Lab ID: N053993-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	140	0.48	4.0		µg/L	20	12/23/2022 01:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-03D-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:11:00 AM

Lab ID: N053993-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	170	1.2	10		µg/L	50	12/23/2022 12:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-21-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:07:00 AM
Lab ID: N053993-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	0.36	0.024	0.20		µg/L	1	12/23/2022 01:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-EB-1222
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 8:50:00 AM
Lab ID:	N053993-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/23/2022 02:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-1222
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 11:56:00 AM
Lab ID:	N053993-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/23/2022 04:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-45-095a-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:24:00 PM

Lab ID: N053993-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/23/2022 04:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1222
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 8:19:00 AM
Lab ID:	N053993-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/23/2022 03:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-926-Q422
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 8:29:00 AM
Lab ID:	N053993-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/23/2022 04:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-747-Q422
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 2:20:00 PM
Lab ID:	N053993-010	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/23/2022 02:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R168441** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **LCSW** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.890	0.20	5.000	0	97.8	90	110				

Sample ID: **MB-R168441** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **PBW** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N054021-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5318.700	100	2500	2893	97.0	90	110				

Sample ID: **N054021-008AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5386.400	100	2500	2893	99.8	90	110	5319	1.26	20	

Sample ID: **N053993-003ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	169.890	10						168.8	0.673	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053993-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	418.020	10	250.0	168.8	99.7	90	110				

Sample ID: **N053993-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	151.836	4.0	100.0	53.69	98.1	90	110				

Sample ID: **N053993-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	237.048	4.0	100.0	140.2	96.8	90	110				

Sample ID: **N053993-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.366	0.20	1.000	0.3560	101	90	110				

Sample ID: **N053993-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053993-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID: **N053993-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	1.0	5.000	0	97.0	90	110				

Sample ID: **N053993-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.736	1.0	5.000	0	94.7	90	110				

Sample ID: **N053993-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID: **N053993-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054021-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.710	10	250.0	294.3	103	90	110				

Sample ID: **N054021-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.290	1.0	25.00	13.55	99.0	90	110				

Sample ID: **N054021-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	759.460	20	500.0	276.4	96.6	90	110				

Sample ID: **N054021-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	787.570	20	500.0	292.8	98.9	90	110				

Sample ID: **N054021-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.049	0.20	1.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054021-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987271**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	127.174	2.0	50.00	77.71	98.9	90	110				

Sample ID: **N053994-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID: **N053994-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N053925-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	35.592	1.0	25.00	10.35	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02D-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:36:00 AM
Lab ID: N053993-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221210A** QC Batch: **R168062**				PrepDate:			Analyst: **RAB**
Sulfate	640	3.0	25		mg/L	50	12/10/2022 01:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208A** QC Batch: **R167996**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 02:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02S-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:01:00 AM
Lab ID: N053993-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221210A** QC Batch: **R168062** PrepDate: Analyst: **RAB**							
Sulfate	400	3.0	25		mg/L	50	12/10/2022 12:00 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208A** QC Batch: **R167996** PrepDate: Analyst: **RAB**							
Nitrate as N	1.1	0.095	0.50		mg/L	10	12/8/2022 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-03D-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:11:00 AM
Lab ID: N053993-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221210A** QC Batch: **R168062**				PrepDate:			Analyst: **RAB**
Sulfate	630	6.1	50		mg/L	100	12/10/2022 01:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208A** QC Batch: **R167996**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 03:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-21-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:07:00 AM
Lab ID: N053993-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221210A** QC Batch: **R168062**				PrepDate:			Analyst: **RAB**
Sulfate	1400	12	100		mg/L	200	12/10/2022 01:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208A** QC Batch: **R167996**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 04:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-34-080-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:56:00 AM
Lab ID: N053993-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221210A** QC Batch: **R168062**				PrepDate:			Analyst: **RAB**
Sulfate	680	6.1	50		mg/L	100	12/10/2022 02:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208A** QC Batch: **R167996**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-45-095a-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:24:00 PM

Lab ID: N053993-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221210A** QC Batch: **R168062**				PrepDate:			Analyst: **RAB**
Sulfate	360	3.0	25		mg/L	50	12/10/2022 02:37 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208A** QC Batch: **R167996**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 04:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-71-035-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:19:00 AM
Lab ID: N053993-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221210A**	QC Batch: **R168062**			PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	12/10/2022 02:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208A**	QC Batch: **R167996**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.60	0.095	0.50		mg/L	10	12/8/2022 05:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-926-Q422

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:29:00 AM

Lab ID: N053993-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221210A** QC Batch: **R168062**				PrepDate:			Analyst: **RAB**
Sulfate	1000	6.1	50		mg/L	100	12/10/2022 12:43 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208A** QC Batch: **R167996**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.54	0.095	0.50		mg/L	10	12/8/2022 02:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R168062_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168062**
Client ID: **PBW** Batch ID: **R168062** TestNo: **EPA 300.0** Analysis Date: **12/10/2022** SeqNo: **4963194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R168062_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168062**
Client ID: **LCSW** Batch ID: **R168062** TestNo: **EPA 300.0** Analysis Date: **12/10/2022** SeqNo: **4963195**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.960	0.50	4.000	0	99.0	90	110				

Sample ID: **N053993-002DMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168062**
Client ID: **ZZZZZZ** Batch ID: **R168062** TestNo: **EPA 300.0** Analysis Date: **12/10/2022** SeqNo: **4963197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	606.285	25	200.0	402.8	102	80	120				

Sample ID: **N053993-002DMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168062**
Client ID: **ZZZZZZ** Batch ID: **R168062** TestNo: **EPA 300.0** Analysis Date: **12/10/2022** SeqNo: **4963198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	603.250	25	200.0	402.8	100	80	120	606.3	0.502	20	

Sample ID: **N053993-009DDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **168062**
Client ID: **ZZZZZZ** Batch ID: **R168062** TestNo: **EPA 300.0** Analysis Date: **12/10/2022** SeqNo: **4963200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1007.540	50						1004	0.396	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R167996_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **PBW**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R167996_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **LCSW**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.295	0.050	1.250	0	104	90	110				

Sample ID: **N053969-001ADUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **ZZZZZZ**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	4.810	0.25						4.842	0.673	20	

Sample ID: **N053993-001DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **ZZZZZZ**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.764	0.50	12.50	0.2780	91.9	80	120				

Sample ID: **N053993-001DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **167996**
Client ID: **ZZZZZZ**	Batch ID: **R167996**	TestNo: **EPA 300.0**		Analysis Date: **12/8/2022**	SeqNo: **4960469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.824	0.50	12.50	0.2780	92.4	80	120	11.76	0.509	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N053993-009DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167996**
Client ID: **ZZZZZZ** Batch ID: **R167996** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4960471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.096	0.50	12.50	0.5350	92.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02D-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:36:00 AM
Lab ID: N053993-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 05:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02S-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:01:00 AM

Lab ID: N053993-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 05:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-03D-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:11:00 AM

Lab ID: N053993-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 05:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-21-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:07:00 AM
Lab ID: N053993-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 05:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-34-080-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:56:00 AM

Lab ID: N053993-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 06:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-1222
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 12:24:00 PM
Lab ID:	N053993-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 06:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-1222
Lab Order:	N053993		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 8:19:00 AM
Lab ID:	N053993-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 06:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-926-Q422
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:29:00 AM
Lab ID: N053993-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221208A**	QC Batch: **R168016**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/8/2022 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R168016**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168016**
Client ID: **PBW**	Batch ID: **R168016**	TestNo: **SM 5310C**		Analysis Date: **12/8/2022**	SeqNo: **4960571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R168016**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168016**
Client ID: **LCSW**	Batch ID: **R168016**	TestNo: **SM 5310C**		Analysis Date: **12/8/2022**	SeqNo: **4960572**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.010	1.0	5.000	0	100	85	115				

Sample ID: **N053959-003CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168016**
Client ID: **ZZZZZZ**	Batch ID: **R168016**	TestNo: **SM 5310C**		Analysis Date: **12/8/2022**	SeqNo: **4960580**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	232.560	50	250.0	0	93.0	75	125				

Sample ID: **N053959-003CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168016**
Client ID: **ZZZZZZ**	Batch ID: **R168016**	TestNo: **SM 5310C**		Analysis Date: **12/8/2022**	SeqNo: **4960583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	229.835	50	250.0	0	91.9	75	125	232.6	1.18	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02D-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:36:00 AM
Lab ID: N053993-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	38	13	20		µg/L	1	12/22/2022 06:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02S-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:01:00 AM

Lab ID: N053993-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	61	13	20		µg/L	1	12/22/2022 06:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-03D-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:11:00 AM

Lab ID: N053993-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-21-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:07:00 AM
Lab ID: N053993-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	330	13	20		µg/L	1	12/22/2022 07:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-34-080-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:56:00 AM
Lab ID: N053993-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	260	13	20		µg/L	1	12/22/2022 07:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-45-095a-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:24:00 PM

Lab ID: N053993-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	45	13	20		µg/L	1	12/22/2022 07:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-71-035-1222
Lab Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:19:00 AM
Lab ID: N053993-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	70	13	20		µg/L	1	12/22/2022 07:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-926-Q422

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:29:00 AM

Lab ID: N053993-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	77	13	20		µg/L	1	12/22/2022 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-97210**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **PBW**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-97210**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **LCSW**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	90.243	20	100.0	0	90.2	85	115				

Sample ID: **N053993-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.479	20	100.0	37.64	64.8	75	125				S

Sample ID: **N053993-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	115.131	20	100.0	37.64	77.5	75	125	102.5	11.6	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053993-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ZZZZZZ** Batch ID: **97210** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/22/2022** SeqNo: **4986782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.448	20	100.0	37.64	70.8	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02D-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:36:00 AM

Lab ID: N053993-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	6.1	0.050	0.10		µg/L	1	12/16/2022 07:09 PM
Barium	14	0.083	1.0		µg/L	1	12/19/2022 09:52 PM
Manganese	7.1	0.026	0.50		µg/L	1	12/16/2022 07:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-02S-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:01:00 AM

Lab ID: N053993-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221219C**	QC Batch: **97206**			PrepDate:		**12/13/2022**	Analyst: **DJ**
Arsenic	0.62	0.050	0.10		µg/L	1	12/19/2022 10:45 PM
Barium	210	0.42	5.0		µg/L	5	12/19/2022 10:51 PM
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 07:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** TW-03D-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:11:00 AM

Lab ID: N053993-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	4.3	0.050	0.10		µg/L	1	12/16/2022 08:01 PM
Barium	21	0.083	1.0		µg/L	1	12/19/2022 10:57 PM
Manganese	29	0.026	0.50		µg/L	1	12/16/2022 08:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-21-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:07:00 AM

Lab ID: N053993-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	10	0.050	0.10		µg/L	1	12/16/2022 08:07 PM
Barium	21	0.083	1.0		µg/L	1	12/19/2022 11:03 PM
Manganese	140	0.026	0.50		µg/L	1	12/16/2022 08:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-34-080-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:56:00 AM

Lab ID: N053993-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 08:13 PM
Barium	40	0.083	1.0		µg/L	1	12/19/2022 11:09 PM
Manganese	160	0.026	0.50		µg/L	1	12/16/2022 08:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-45-095a-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:24:00 PM

Lab ID: N053993-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221223D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	12/23/2022 09:11 PM
Barium	42	0.083	1.0		µg/L	1	12/19/2022 11:14 PM
Manganese	530	0.13	2.5		µg/L	5	12/19/2022 11:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-71-035-1222

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:19:00 AM

Lab ID: N053993-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 08:25 PM
Barium	42	0.083	1.0		µg/L	1	12/19/2022 11:38 PM
Manganese	230	0.13	2.5		µg/L	5	12/19/2022 11:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-926-Q422

Lab Order: N053993

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:29:00 AM

Lab ID: N053993-009 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 08:31 PM
Barium	43	0.083	1.0		µg/L	1	12/19/2022 11:50 PM
Manganese	260	0.13	2.5		µg/L	5	12/19/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97206** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **PBW** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-97206** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **LCSW** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.805	0.10	10.00	0	98.0	85	115				
Manganese	95.383	0.50	100.0	0	95.4	85	115				

Sample ID: **N053993-001B-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.425	0.10	10.00	6.067	104	75	125				
Manganese	98.087	0.50	100.0	7.052	91.0	75	125				

Sample ID: **N053993-001B-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168270**
Client ID: **ZZZZZZ** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/16/2022** SeqNo: **4976151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	17.218	0.10	10.00	6.067	112	75	125	16.43	4.71	20	
Manganese	100.689	0.50	100.0	7.052	93.6	75	125	98.09	2.62	20	

Sample ID: **MB-97206** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **12/13/2022** RunNo: **168366**
Client ID: **PBW** Batch ID: **97206** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **12/19/2022** SeqNo: **4981457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053993
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97206**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **PBW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **LCS-97206**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **LCSW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.757	1.0	10.00	0	97.6	85	115				

Sample ID: **N053993-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	24.047	1.0	10.00	14.31	97.4	75	125				

Sample ID: **N053993-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	24.843	1.0	10.00	14.31	105	75	125	24.05	3.26	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 12/22/202 12:00 AM
FOLDER R: 12/7/2022
N053993-011A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present; 5. IR number 3
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Global ID: Specify State:
Submitted By: Riggs Tap	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	6. Method of Cooling: ICE
Title: Field Tech	Sampled By: Riggs Tap		Sample Temp: 2.4°C / 1.7°C / 2.8°C
Signature: Date: 12/7/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Courier:
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 12/7/22		Tracking No.:
Project Name: PG&E Topock - PCM			
Project Number: 30121866.4Q22GW			

Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Nitrate/Nitrite as Nitrogen (SM 4500-NO3 F) (poly)			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053993-001	TW-02D-1222	12/7/2022	10:36		X		X			X			X				E	6	P	BNS	
2	-002	TW-02S-1222	12/7/2022	10:01		X		X			X			X				E	6	P	BNS	
3	-003	TW-03D-1222	12/7/2022	11:11		X		X			X			X				E	6	P	BNS	
4	-004	MW-21-1222	12/7/2022	9:07		X		X			X			X				E	6	P	BNS	
5	-005	MW-21-EB-1222	12/7/2022	8:50		X												E	1	P	BNS	
6	-006	MW-34-080-1222	12/7/2022	11:56		X		X			X			X				E	6	P	BNS	
7	-007	MW-45-095a-1222	12/7/2022	12:24		X		X			X			X				E	6	P	BNS	
8	-008	MW-71-035-1222	12/7/2022	8:19		X		X			X			X	X			E	3	P	BNS	3
9	-009	MW-926-Q422	12/7/2022	8:29		X		X			X			X	X			E	3	P	BNS	3
10	-010	EB-747-Q422	12/7/2022	14:20		X												E	1	P	BNS	
11																						
12																						
13																						
14																						

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggs Tap	12/7/22 1600	Dante Ortiz Dante O. Ortiz	12/7/22 16:00
Dante Ortiz Dante O. Ortiz	12/7/22 21:20	Dante Ortiz Dante O. Ortiz	12/7/22 21:20
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/7/2022	Workorder:	N053993
Rep sample Temp (Deg C):	2.4/1.7/2.5	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/8/2022

Reviewed By: for: MBC 12/22/2022

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053993

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053993-001A	TW-02D-1222	12/7/2022 10:36:00 AM	12/22/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-001B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-001C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-001D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-002A	TW-02S-1222	12/7/2022 10:01:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-002B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-002C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-002D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-003A	TW-03D-1222	12/7/2022 11:11:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-003B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-003C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053993

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053993-003D	TW-03D-1222	12/7/2022 11:11:00 AM	12/22/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-004A	MW-21-1222	12/7/2022 9:07:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-004B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-004C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-004D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-005A	MW-21-EB-1222	12/7/2022 8:50:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-006A	MW-34-080-1222	12/7/2022 11:56:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-006B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-006C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-006D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-007A	MW-45-095a-1222	12/7/2022 12:24:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-007B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053993

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053993-007B	MW-45-095a-1222	12/7/2022 12:24:00 PM	12/22/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-007C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-007D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-008A	MW-71-035-1222	12/7/2022 8:19:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-008B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-008C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-008D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053993-008E			12/22/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053993-009A	MW-926-Q422	12/7/2022 8:29:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-009B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053993-009C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053993-009D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053993

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053993-009E	MW-926-Q422	12/7/2022 8:29:00 AM	12/22/2022	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N053993-010A	EB-747-Q422	12/7/2022 2:20:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053993-011A	FOLDER	12/22/2022	12/22/2022		Folder	Folder	☐	☐	☐	LAB
			12/22/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/22/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

12-Dec-22

				Nitrate/Nitrite	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	~~**SM4500-NO3F**~~		
N053993-008E / MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	16OZP	1		
N053993-009E / MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53993A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec 7 edata.

Fedex #: 558399642

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/12/2022 1600	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2229589

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N53993A

All pages have been paginated and results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

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Case Narrative

Sample Receipt

Work Order: 2229589
COC Number:
Default Cooler was received at 0.7 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
EPA-353.2	SC-1

Sample Qualifier Summary

There were no qualifiers for the samples.

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156576	EPA-353.2	2228971-01	<Not Client Sample>

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

CHAIN-OF-CUSTODY RECORD

2229589

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

22-29589

QC Level: Level IV

Field Sampler: Riggie Tep

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

12-Dec-22

Sample ID	Matrix	Date Collected	Bottle Type	Nitrate/Nitrite ~~SM4500-NO3F~~	Requested Tests	
N053993-008E / MW-71-035-1222	Groundwater	12/7/2022 8:19:00 AM	16OZP	1		
N053993-009E / MW-926-Q422	Groundwater	12/7/2022 8:29:00 AM	16OZP	1		

CHK BY PMG DISTRIBUTION SUB OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N53993A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec 7 edata.

Fedex #: 558399642

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/12/2022 1600	Received by:		12-13-22 0954
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2229589 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-29589

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐ Pace Lab Field Service ☐ Other ☐ (Specify)_____	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)_____	YES ☒ NO ☐ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ — Containers ☐ Intact? Yes ☐ No ☐ — None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 337 Date/Time 12-13-22

Temperature: (A) 0.9 °C / (C) 0.7 °C Analyst Init SMH 0954

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS	A	A	~~A~~ PRE 12/13/22							
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: [illegible] Date/Time: 12-17-22 1700

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDoc\WordPerfect\LAB_DOCS\FORMS\[illegible]\RECrev 38]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2229589**
Class: **WET**
Method: **EPA-353.2**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV

SDG: 2229589
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N053993-008E / MW-71-035-1222	2229589-01
N053993-009E / MW-926-Q422	2229589-02

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-05-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Nitrate/Nitrite as N	0.034	0.1	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053993-008E / MW-71-035-1222

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229589-01
File ID: 20221220002-NO3-021
Sampled: 12/07/22 08:19
Prepared: 12/20/22 12:00
Analyzed: 12/20/22 12:35
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156576
Sequence: 2223546
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	0.53	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N053993-009E / MW-926-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229589-02
File ID: 20221220002-NO3-022
Sampled: 12/07/22 08:29
Prepared: 12/20/22 12:00
Analyzed: 12/20/22 12:36
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156576
Sequence: 2223546
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	0.53	1		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156576
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N053993-008E / MW-71-035-1222	2229589-01	20221220002-NO3-021	12/20/22 12:00	pH of sample was 8
N053993-009E / MW-926-Q422	2229589-02	20221220002-NO3-022	12/20/22 12:00	pH of sample was 8
Blank	B156576-BLK1	20221220002-NO3-007	12/20/22 12:00	
LCS	B156576-BS1	20221220002-NO3-006	12/20/22 12:00	
Duplicate	B156576-DUP1	20221220002-NO3-009	12/20/22 12:00	pH of sample was 8
Matrix Spike	B156576-MS1	20221220002-NO3-010	12/20/22 12:00	pH of sample was 8
Matrix Spike Dup	B156576-MSD1	20221220002-NO3-011	12/20/22 12:00	pH of sample was 8

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
EPA-353.2

Laboratory:	Pace Analytical - Bakersfield		SDG:	2229589	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156576-BLK1	File ID:	20221220002-NO3-007
Prepared:	12/20/22 12:00	Preparation:	No Prep	Initial/Final:	10 ml / 10 ml
Analyzed:	12/20/22 12:18	Instrument:	SC-1		
Batch:	B156576	Sequence:	2223546	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
---	Nitrate/Nitrite as N	0.034	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

Duplicate

DUPLICATES

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156576
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2229589
Project: Level IV + labSpec7
Laboratory ID: B156576-DUP1
Lab Source ID: 2228971-01
Initial/Final: 10 ml / 10 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Nitrate/Nitrite as N	10	1.1245		1.1016		2.06		EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA-353.2

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156576
Laboratory ID: B156576-MS1
Preparation: No Prep
Initial/Final: 9.5 ml / 10 ml
Source Sample Number: 2228971-01

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	1.1245	3.1486	96.1	90 - 110

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	3.2763	102	3.97	10	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

LCS RECOVERY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156576
Laboratory ID: B156576-BS1
Preparation: No Prep
Initial/Final: 10 ml / 10 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.0000	1.9746	98.7	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA-353.2

Laboratory:	Pace Analytical - Bakersfield	SDG:	2229589
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223546	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	2223546-CCV1	20221220002-NO3-004	12/20/22 12:15
Calibration Blank	2223546-CCB1	20221220002-NO3-005	12/20/22 12:16
LCS	B156576-BS1	20221220002-NO3-006	12/20/22 12:17
Blank	B156576-BLK1	20221220002-NO3-007	12/20/22 12:18
Duplicate	B156576-DUP1	20221220002-NO3-009	12/20/22 12:21
Matrix Spike	B156576-MS1	20221220002-NO3-010	12/20/22 12:22
Matrix Spike Dup	B156576-MSD1	20221220002-NO3-011	12/20/22 12:23
Calibration Check	2223546-CCV2	20221220002-NO3-016	12/20/22 12:29
Calibration Blank	2223546-CCB2	20221220002-NO3-017	12/20/22 12:30
N053993-008E / MW-71-035-1222	2229589-01	20221220002-NO3-021	12/20/22 12:35
N053993-009E / MW-926-Q422	2229589-02	20221220002-NO3-022	12/20/22 12:36
Calibration Check	2223546-CCV3	20221220002-NO3-023	12/20/22 12:37
Calibration Blank	2223546-CCB3	20221220002-NO3-024	12/20/22 12:39

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

BLANKS
EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Sequence: 2223546

SDG: 2229589
Project: Level IV + labSpec7
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223546-CCB1	Nitrate/Nitrite as N	0.0067000	0.10	mg/L		EPA-353.2
2223546-CCB2	Nitrate/Nitrite as N	0.0023000	0.10	mg/L		EPA-353.2
2223546-CCB3	Nitrate/Nitrite as N	0.0016000	0.10	mg/L		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2229589
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223546

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223546-CCV1	Nitrate/Nitrite as N	2.0000	2.0908	105	mg/L	EPA-353.2
2223546-CCV2	Nitrate/Nitrite as N	2.0000	2.0763	104	mg/L	EPA-353.2
2223546-CCV3	Nitrate/Nitrite as N	2.0000	2.0293	101	mg/L	EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229589
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N053993-008E / MW-71-035-1222	12/07/22 08:19	12/13/22 09:54	12/20/22 12:00	13.00	28.00	12/20/22 12:35	13.00	28.00	
N053993-009E / MW-926-Q422	12/07/22 08:29	12/13/22 09:54	12/20/22 12:00	13.00	28.00	12/20/22 12:36	13.00	28.00	

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0273**	**0.00**	**12:11:24 PM**
DIL-1	**RBL**	**0.0000**	**0.0268**	**0.00**	**12:12:36 PM**
DIL-1	**RBL**	**0.0000**	**0.0272**	**0.00**	**12:13:48 PM**
ST-3	**^CCV (2 mg/L)**	**2.0908**	**0.5730**	**104.54**	**12:15:00 PM**
ST-2	**~CCB (0 mg/L)**	**0.0067**	**0.0008**	**0.00**	**12:16:12 PM**
1	**B1-BS1**	**1.9746**	**0.5411**	**0.00**	**12:17:24 PM**
2	**B1-BLK1**	**-0.0002**	**-0.0011**	**0.00**	**12:18:36 PM**
3	**2228971-01**	**1.1245**	**0.3077**	**0.00**	**12:19:48 PM**
4	**B1-DUP1**	**1.1016**	**0.3014**	**0.00**	**12:21:00 PM**
5	**B1-MS1**	**2.9912**	**0.8202**	**0.00**	**12:22:12 PM**
6	**B1-MSD1**	**3.1125**	**0.8535**	**0.00**	**12:23:24 PM**
7	**2228971-02**	**0.7556**	**0.2064**	**0.00**	**12:24:36 PM**
8	**2229724-01**	**9.0924**	**2.4953**	**0.00**	**12:25:48 PM**
9	**2229724-02**	**9.2184**	**2.5299**	**0.00**	**12:27:00 PM**
10	**2229290-01**	**2.8353**	**0.7774**	**0.00**	**12:28:12 PM**
ST-3	**^CCV (2 mg/L)**	**2.0763**	**0.5690**	**103.81**	**12:29:24 PM**
ST-2	**~CCB (0 mg/L)**	**0.0023**	**-0.0005**	**0.00**	**12:30:36 PM**
11	**2229290-02**	**2.6787**	**0.7344**	**0.00**	**12:31:48 PM**
12	**2229290-03**	**2.8532**	**0.7823**	**0.00**	**12:33:00 PM**
13	**2229290-04**	**2.8018**	**0.7682**	**0.00**	**12:34:12 PM**
14	**2229589-01**	**0.5283**	**0.1440**	**0.00**	**12:35:24 PM**
15	**2229589-02**	**0.5297**	**0.1444**	**0.00**	**12:36:36 PM**
ST-3	**^CCV (2 mg/L)**	**2.0293**	**0.5561**	**101.46**	**12:37:48 PM**
ST-2	**~CCB (0 mg/L)**	**0.0016**	**-0.0006**	**0.00**	**12:39:00 PM**
8-[1/5]	**2229724-01**	**9.9406**	**0.5448**	**0.00**	**12:48:10 PM**
9-[1/5]	**2229724-02**	**9.5545**	**0.5236**	**0.00**	**12:50:16 PM**
ST-3	**^CCV (2 mg/L)**	**2.0540**	**0.5629**	**102.70**	**12:51:10 PM**
ST-2	**~CCB (0 mg/L)**	**0.0023**	**-0.0005**	**0.00**	**12:52:22 PM**

Report Date :12/30/2022 **Run Date :12/20/2022** **Operator : WESTCO** **Plan # :20221220002**

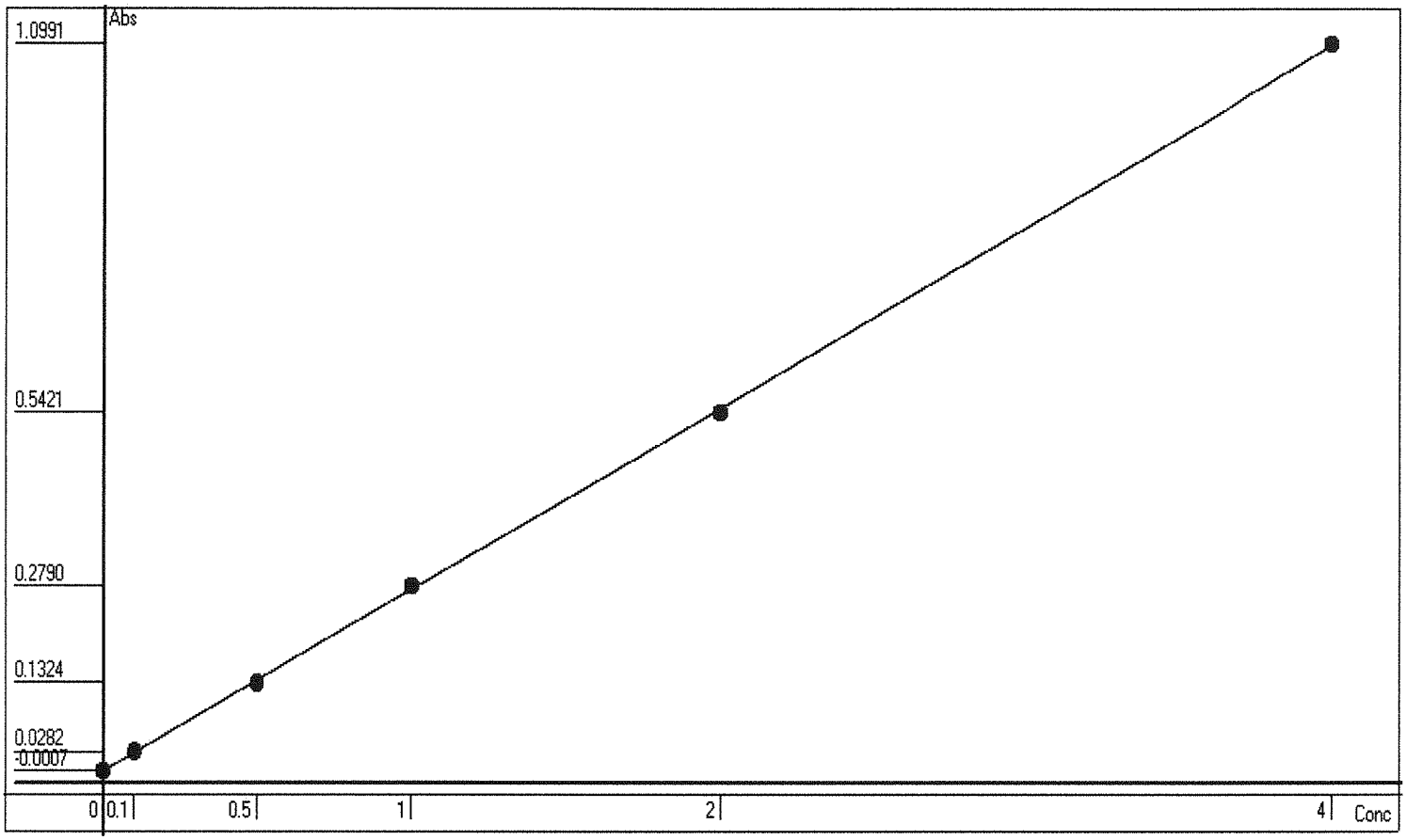
Plan Description : NO3

Raw Data - Calibration Summary

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221220001 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0007	0	0.0015	0.15
2	0.0282	0.1	0.1067	6.70
3	0.1324	0.5	0.4862	-2.76
4	0.2790	1	1.0202	2.02
5	0.5421	2	1.9785	-1.08
6	1.0991	4	4.0073	0.18

Conc= +3.6423*Abso +0.004 **R^2=0.9999**

RBL
0.0295
0

Report Date 12/30/2022 Run Date 12/20/2022

Replicate Report - ZNO3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0006	-0.0008	/	/
2	0.0272	0.0292	/	/
3	0.1333	0.1315	/	/
4	0.2785	0.2796	/	/
5	0.5424	0.5417	/	/
6	1.1152	1.0829	/	/

Print Date:12/30/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156576

BC Laboratories

Printed: 1/5/2023 10:41:15AM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2228971-01 M	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2228971-02 M	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229274-01 C	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229274-02 C	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229290-01 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229290-02 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229290-03 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229290-04 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229589-01 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229589-02 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
B156576-BLK1	QC	12/20/2022 12:00PM	KB1	10	10					
B156576-BS1	QC	12/20/2022 12:00PM	KB1	10	10	2J04023		500		
B156576-DUP1	QC	12/20/2022 12:00PM	KB1	10	10		2228971-01			
B156576-MS1	QC	12/20/2022 12:00PM	KB1	9.5	10	2J04023	2228971-01	500		
B156576-MSD1	QC	12/20/2022 12:00PM	KB1	9.5	10	2J04023	2228971-01	500		

Spike Mixes	Description	Solvent	Prepared	Expires
2J04023	NO3-N SPIKE 40	DILUTE H2SO4	10/4/2022 2 by zzzManpreet Br	4/4/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223546

Instrument: SC-1
Calibration ID:
Sequence Date: 12/20/2022
Printed: 1/5/2023 10:41:15AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223546-CCV1	QC		1		2J04024		
2223546-CCB1	QC		2				
B156576-BS1	QC		3				
B156576-BLK1	QC		4				
2228971-01	i353.2w NO3/NO2 as N	M	5				
B156576-DUP1	QC		6				
B156576-MS1	QC		7				
B156576-MSD1	QC		8				
2228971-02	i353.2w NO3/NO2 as N	M	9				
2229290-01	i353.2w NO3/NO2 as N	A	10				
2223546-CCV2	QC		11		2J04024		
2223546-CCB2	QC		12				
2229290-02	i353.2w NO3/NO2 as N	A	13				
2229290-03	i353.2w NO3/NO2 as N	A	14				
2229290-04	i353.2w NO3/NO2 as N	A	15				
2229589-01	i353.2w NO3/NO2 as N	A	16				
2229589-02	i353.2w NO3/NO2 as N	A	17				
2223546-CCV3	QC		18		2J04024		
2223546-CCB3	QC		19				
2229274-01	i353.2w NO3/NO2 as N	C	20				
2229274-02	i353.2w NO3/NO2 as N	C	21				
2223546-CCV4	QC		22		2J04024		
2223546-CCB4	QC		23				
2223546-CCV5	QC		24		2J04024		
2223546-CCB5	QC		25				
B156577-BS1	QC		26				
B156577-BLK1	QC		27				
2229291-02	i353.2w NO3/NO2 as N	A	28				
2229291-05	i353.2w NO3/NO2 as N	A	29				
2223546-CCV6	QC		30		2J04024		
2223546-CCB6	QC		31				
2229307-01	i353.2w NO3/NO2 as N	F	32				
2223546-CCV7	QC		33		2J04024		
2223546-CCB7	QC		34				
2229291-03	i353.2w NO3/NO2 as N	A	35				
2229291-04	i353.2w NO3/NO2 as N	A	36				
2229291-06	i353.2w NO3/NO2 as N	A	37				
2223546-CCV8	QC		38		2J04024		
2223546-CCB8	QC		39				

ANALYSIS SEQUENCE

2223546

Instrument: SC-1
Calibration ID:
Sequence Date: 12/20/2022
Printed: 1/5/2023 10:41:15AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2229291-07	i353.2w NO3/NO2 as N	A	40				
2229291-08	i353.2w NO3/NO2 as N	A	41				
2229291-09	i353.2w NO3/NO2 as N	A	42				
2223546-CCV9	QC		43		2J04024		
2223546-CCB9	QC		44				
2223546-CCVA	QC		45		2J04024		
2223546-CCBA	QC		46				
2229291-01	i353.2w NO3/NO2 as N	A	47				
B156577-DUP1	QC		48				
B156577-MS1	QC		49				
B156577-MSD1	QC		50				
2223546-CCVB	QC		51		2J04024		
2223546-CCBB	QC		52				
2223546-CCVC	QC		53		2J04024		
2223546-CCBC	QC		54				
2229307-03	i353.2w NO3/NO2 as N	F	55				
2229307-04	i353.2w NO3/NO2 as N	F	56				
2223546-CCVD	QC		57		2J04024		
2223546-CCBD	QC		58				
2229553-01	i353.2w NO3/NO2 as N	C	59				
2229553-03	i353.2w NO3/NO2 as N	C	60				
2229596-01	i353.2w NO3/NO2 as N	G	61				
2229596-02	i353.2w NO3/NO2 as N	G	62				
2223546-CCVE	QC		63		2J04024		
2223546-CCBE	QC		64				
2229307-05	i353.2w NO3/NO2 as N	F	65				
2223546-CCVF	QC		66		2J04024		
2223546-CCBF	QC		67				
2229307-06	i353.2w NO3/NO2 as N	F	68				
2229553-02	i353.2w NO3/NO2 as N	C	69				
2223546-CCVG	QC		70		2J04024		
2223546-CCBG	QC		71				
2223546-CCVH	QC		72		2J04024		
2223546-CCBH	QC		73				
B156578-BS1	QC		74				
B156578-BLK1	QC		75				
2229307-02	i353.2w NO3/NO2 as N	F	76				
B156578-DUP1	QC		77				
B156578-MS1	QC		78				

ANALYSIS SEQUENCE

2223546

Instrument: SC-1
Calibration ID:
Sequence Date: 12/20/2022
Printed: 1/5/2023 10:41:15AM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
B156578-MSD1	QC		79				
2223546-CCVI	QC		80		2J04024		
2223546-CCBI	QC		81				
2223546-CCVJ	QC		82		2J04024		
2223546-CCBJ	QC		83				
B156579-BS1	QC		84				
B156579-BSD1	QC		85				
B156579-BLK1	QC		86				
2229644-02	i353.2w NO3/NO2 as N	E	87				
B156579-DUP1	QC		88				
B156579-MS1	QC		89				
B156579-MSD1	QC		90				
2229644-01	i353.2w NO3/NO2 as N	C	91				
2229644-03	i353.2w NO3/NO2 as N	C	92				
2223546-CCVK	QC		93		2J04024		
2223546-CCBK	QC		94				
2229738-01	i353.2w NO3/NO2 as N	N	95				
2223546-CCVL	QC		96		2J04024		
2223546-CCBL	QC		97				
2229590-01	i353.2w NO3/NO2 as N	A	98				
2229590-02	i353.2w NO3/NO2 as N	A	99				
2229590-03	i353.2w NO3/NO2 as N	A	100				
2223546-CCVM	QC		101		2J04024		
2223546-CCBM	QC		102				
2230077-01	i353.2w NO3/NO2 as N	A	103				
2223546-CCVN	QC		104		2J04024		
2223546-CCBN	QC		105				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/5/2023 10:41:15AM
Project: Level IV + labSpec7
Project Number: N53993A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

December 28, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N053994

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 07, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N053993-001B-MS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC sample N054021-008CMS and N054021-008CMSD at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N054021-008 and MS/MSDwere reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053994
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053994-001A	MW-36-090-1222	Groundwater	12/7/2022 9:10:00 AM	12/7/2022	12/28/2022
N053994-001B	MW-36-090-1222	Groundwater	12/7/2022 9:10:00 AM	12/7/2022	12/28/2022
N053994-001C	MW-36-090-1222	Groundwater	12/7/2022 9:10:00 AM	12/7/2022	12/28/2022
N053994-001D	MW-36-090-1222	Groundwater	12/7/2022 9:10:00 AM	12/7/2022	12/28/2022
N053994-002A	MW-36-100-1222	Groundwater	12/7/2022 8:35:00 AM	12/7/2022	12/28/2022
N053994-002B	MW-36-100-1222	Groundwater	12/7/2022 8:35:00 AM	12/7/2022	12/28/2022
N053994-002C	MW-36-100-1222	Groundwater	12/7/2022 8:35:00 AM	12/7/2022	12/28/2022
N053994-002D	MW-36-100-1222	Groundwater	12/7/2022 8:35:00 AM	12/7/2022	12/28/2022
N053994-003A	MW-31-060-1222	Groundwater	12/7/2022 11:10:00 AM	12/7/2022	12/28/2022
N053994-003B	MW-31-060-1222	Groundwater	12/7/2022 11:10:00 AM	12/7/2022	12/28/2022
N053994-003C	MW-31-060-1222	Groundwater	12/7/2022 11:10:00 AM	12/7/2022	12/28/2022
N053994-003D	MW-31-060-1222	Groundwater	12/7/2022 11:10:00 AM	12/7/2022	12/28/2022
N053994-004A	MW-31-135-1222	Groundwater	12/7/2022 10:20:00 AM	12/7/2022	12/28/2022
N053994-004B	MW-31-135-1222	Groundwater	12/7/2022 10:20:00 AM	12/7/2022	12/28/2022
N053994-004C	MW-31-135-1222	Groundwater	12/7/2022 10:20:00 AM	12/7/2022	12/28/2022
N053994-004D	MW-31-135-1222	Groundwater	12/7/2022 10:20:00 AM	12/7/2022	12/28/2022
N053994-005A	MW-78-070-1222	Groundwater	12/7/2022 12:05:00 PM	12/7/2022	12/28/2022
N053994-005B	MW-78-070-1222	Groundwater	12/7/2022 12:05:00 PM	12/7/2022	12/28/2022
N053994-005C	MW-78-070-1222	Groundwater	12/7/2022 12:05:00 PM	12/7/2022	12/28/2022
N053994-005D	MW-78-070-1222	Groundwater	12/7/2022 12:05:00 PM	12/7/2022	12/28/2022
N053994-006A	MW-78-142-1222	Groundwater	12/7/2022 12:49:00 PM	12/7/2022	12/28/2022
N053994-006B	MW-78-142-1222	Groundwater	12/7/2022 12:49:00 PM	12/7/2022	12/28/2022
N053994-006C	MW-78-142-1222	Groundwater	12/7/2022 12:49:00 PM	12/7/2022	12/28/2022
N053994-006D	MW-78-142-1222	Groundwater	12/7/2022 12:49:00 PM	12/7/2022	12/28/2022
N053994-007A	MW-80-057-1222	Groundwater	12/7/2022 2:09:00 PM	12/7/2022	12/28/2022
N053994-007B	MW-80-057-1222	Groundwater	12/7/2022 2:09:00 PM	12/7/2022	12/28/2022
N053994-007C	MW-80-057-1222	Groundwater	12/7/2022 2:09:00 PM	12/7/2022	12/28/2022
N053994-007D	MW-80-057-1222	Groundwater	12/7/2022 2:09:00 PM	12/7/2022	12/28/2022
N053994-008A	MW-80-082-1222	Groundwater	12/7/2022 2:53:00 PM	12/7/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N053994
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N053994-008B	MW-80-082-1222	Groundwater	12/7/2022 2:53:00 PM	12/7/2022	12/28/2022
N053994-008C	MW-80-082-1222	Groundwater	12/7/2022 2:53:00 PM	12/7/2022	12/28/2022
N053994-008D	MW-80-082-1222	Groundwater	12/7/2022 2:53:00 PM	12/7/2022	12/28/2022
N053994-009A	EB-748-Q422	Groundwater	12/7/2022 3:15:00 PM	12/7/2022	12/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 9:10:00 AM
Lab ID:	N053994-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220B**	QC Batch: **R168388**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/20/2022 05:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 8:35:00 AM
Lab ID:	N053994-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221220B** QC Batch: **R168388** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/20/2022 06:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 11:10:00 AM
Lab ID:	N053994-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/23/2022 11:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 10:20:00 AM
Lab ID:	N053994-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.12	1.0		µg/L	5	12/22/2022 03:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 12:05:00 PM
Lab ID:	N053994-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221B** QC Batch: **R168414** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	63	0.24	2.0		µg/L	10	12/22/2022 12:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-142-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:49:00 PM
Lab ID: N053994-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221221B** QC Batch: **R168414** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2700	12	100		µg/L	500	12/22/2022 12:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 2:09:00 PM
Lab ID:	N053994-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221220B**	QC Batch: **R168388**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	690	2.4	20		µg/L	100	12/20/2022 03:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 2:53:00 PM
Lab ID:	N053994-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B**	QC Batch: **R168414**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.3	0.12	1.0		µg/L	5	12/22/2022 02:06 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-748-Q422
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 3:15:00 PM
Lab ID:	N053994-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_221222B** QC Batch: **R168441** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/23/2022 12:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168388**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **PBW**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168388**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **LCSW**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.116	0.20	5.000	0	102	90	110				

Sample ID: **N053994-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1192.600	20	500.0	688.0	101	90	110				

Sample ID: **N053994-007AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1187.960	20	500.0	688.0	100	90	110	1193	0.390	20	

Sample ID: **N054047-006ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	68.694	2.0						68.31	0.561	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053991-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45522.500	1000	25000	20860	98.6	90	110				

Sample ID: **N053994-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N053994-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168388**
Client ID: **ZZZZZZ**	Batch ID: **R168388**	TestNo: **EPA 218.6**		Analysis Date: **12/20/2022**	SeqNo: **4982682**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.982	0.20	1.000	0	98.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R168414** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **LCSW** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	0.20	5.000	0	101	90	110				

Sample ID: **MB-R168414** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **PBW** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N053994-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5260.250	100	2500	2711	102	90	110				

Sample ID: **N053994-006AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5332.850	100	2500	2711	105	90	110	5260	1.37	20	

Sample ID: **N053994-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	114.763	2.0	50.00	63.02	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053991-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	401.280	80	400.0	0	100	90	110				

Sample ID: **N053994-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.721	1.0	5.000	8.320	108	90	110				

Sample ID: **N053923-006ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.649	0.20						3.623	0.721	20	

Sample ID: **N054022-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.852	0.20	1.000	0.8175	103	90	110				

Sample ID: **N054022-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.652	0.20	5.000	1.191	109	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053886-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	37.313	1.0	25.00	11.30	104	90	110				

Sample ID: **N053886-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	79.964	2.0	50.00	28.73	102	90	110				

Sample ID: **N053886-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID: **N053894-009BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168414**
Client ID: **ZZZZZZ** Batch ID: **R168414** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4983713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R168440** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **PBW** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R168440** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **LCSW** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.977	0.20	5.000	0	99.5	90	110				

Sample ID: **N053886-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.528	2.0	50.00	59.52	98.0	90	110				

Sample ID: **N053886-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	108.293	2.0	50.00	59.52	97.5	90	110	108.5	0.217	20	

Sample ID: **N053923-003ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	93.089	2.0						93.62	0.574	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054022-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.184	0.20	1.000	1.221	96.3	90	110				

Sample ID: **N054022-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987170**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.4	90	110				

Sample ID: **N053994-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.759	1.0	5.000	0	95.2	90	110				

Sample ID: **N054022-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987178**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.176	0.20	5.000	6.484	93.8	90	110				

Sample ID: **N053925-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053925-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.915	1.0	5.000	0	98.3	90	110				

Sample ID: **N053925-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID: **N053925-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.661	1.0	5.000	0	93.2	90	110				

Sample ID: **N053925-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987190**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.034	1.0	5.000	0	101	90	110				

Sample ID: **N053925-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168440**
Client ID: **ZZZZZZ** Batch ID: **R168440** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053925-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N053925-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987198**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.955	0.20	1.000	0	95.5	90	110				

Sample ID: **N053925-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987202**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Sample ID: **N053925-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168440**
Client ID: **ZZZZZZ**	Batch ID: **R168440**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4987203**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R168441** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **LCSW** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987211**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.890	0.20	5.000	0	97.8	90	110				

Sample ID: **MB-R168441** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **PBW** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/22/2022** SeqNo: **4987212**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N054021-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5318.700	100	2500	2893	97.0	90	110				

Sample ID: **N054021-008AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5386.400	100	2500	2893	99.8	90	110	5319	1.26	20	

Sample ID: **N053993-003ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987219**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	169.890	10						168.8	0.673	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053993-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	418.020	10	250.0	168.8	99.7	90	110				

Sample ID: **N053993-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	151.836	4.0	100.0	53.69	98.1	90	110				

Sample ID: **N053993-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	237.048	4.0	100.0	140.2	96.8	90	110				

Sample ID: **N053993-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.366	0.20	1.000	0.3560	101	90	110				

Sample ID: **N053993-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N053993-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID: **N053993-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	1.0	5.000	0	97.0	90	110				

Sample ID: **N053993-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.736	1.0	5.000	0	94.7	90	110				

Sample ID: **N053993-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID: **N053993-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054021-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.710	10	250.0	294.3	103	90	110				

Sample ID: **N054021-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.290	1.0	25.00	13.55	99.0	90	110				

Sample ID: **N054021-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	759.460	20	500.0	276.4	96.6	90	110				

Sample ID: **N054021-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	787.570	20	500.0	292.8	98.9	90	110				

Sample ID: **N054021-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **168441**
Client ID: **ZZZZZZ** Batch ID: **R168441** TestNo: **EPA 218.6** Analysis Date: **12/23/2022** SeqNo: **4987270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.049	0.20	1.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N054021-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987271**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	127.174	2.0	50.00	77.71	98.9	90	110				

Sample ID: **N053994-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID: **N053994-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N053925-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	35.592	1.0	25.00	10.35	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-36-090-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:10:00 AM
Lab ID: N053994-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Sulfate	240	1.2	10		mg/L	20	12/8/2022 10:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-36-100-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:35:00 AM
Lab ID: N053994-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Sulfate	390	3.0	25		mg/L	50	12/8/2022 10:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 07:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-31-060-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:10:00 AM

Lab ID: N053994-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**			PrepDate:				Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	12/8/2022 10:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**			PrepDate:				Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-31-135-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:20:00 AM
Lab ID: N053994-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Sulfate	580	6.1	50		mg/L	100	12/8/2022 08:50 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.70	0.095	0.50		mg/L	10	12/8/2022 05:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-070-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:05:00 PM
Lab ID: N053994-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208B** QC Batch: **R167997** PrepDate: Analyst: **RAB**							
Sulfate	480	3.0	25		mg/L	50	12/8/2022 11:13 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208B** QC Batch: **R167997** PrepDate: Analyst: **RAB**							
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 08:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-142-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:49:00 PM
Lab ID: N053994-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Sulfate	710	6.1	50		mg/L	100	12/8/2022 11:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.5	0.095	0.50		mg/L	10	12/8/2022 08:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-80-057-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:09:00 PM

Lab ID: N053994-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208B** QC Batch: **R167997** PrepDate: Analyst: **RAB**							
Sulfate	500	3.0	25		mg/L	50	12/8/2022 11:42 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_221208B** QC Batch: **R167997** PrepDate: Analyst: **RAB**							
Nitrate as N	7.2	0.095	0.50		mg/L	10	12/8/2022 08:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-80-082-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:53:00 PM
Lab ID: N053994-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Sulfate	540	3.0	25		mg/L	50	12/8/2022 10:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221208B** QC Batch: **R167997**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/8/2022 06:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R167997_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **LCSW** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961196**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.971	0.50	4.000	0	99.3	90	110				

Sample ID: **MB-R167997_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **PBW** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961197**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **N053994-004DMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **ZZZZZZ** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961201**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	979.190	50	400.0	581.9	99.3	80	120				

Sample ID: **N053994-004DMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **ZZZZZZ** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961202**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	973.070	50	400.0	581.9	97.8	80	120	979.2	0.627	20	

Sample ID: **N053994-008DDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **ZZZZZZ** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961206**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	542.470	25						539.5	0.544	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R167997_NO3** SampType: **LCS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **LCSW** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.292	0.050	1.250	0	103	90	110				

Sample ID: **MB-R167997_NO3** SampType: **MBLK** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **PBW** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N053994-004DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **ZZZZZZ** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961176**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.182	0.50	12.50	0.6960	91.9	80	120				

Sample ID: **N053994-004DMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **ZZZZZZ** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.078	0.50	12.50	0.6960	91.1	80	120	12.18	0.857	20	

Sample ID: **N053994-008DDUP** SampType: **DUP** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **167997**
Client ID: **ZZZZZZ** Batch ID: **R167997** TestNo: **EPA 300.0** Analysis Date: **12/8/2022** SeqNo: **4961181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.147	0.50						0.1650	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 9:10:00 AM
Lab ID:	N053994-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 8:35:00 AM
Lab ID:	N053994-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 03:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 11:10:00 AM
Lab ID:	N053994-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 10:20:00 AM
Lab ID:	N053994-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 05:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 12:05:00 PM
Lab ID:	N053994-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 05:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 12:49:00 PM
Lab ID:	N053994-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 05:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 2:09:00 PM
Lab ID:	N053994-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 06:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-1222
Lab Order:	N053994		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/7/2022 2:53:00 PM
Lab ID:	N053994-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 01:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R168052**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **PBW**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R168052**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **LCSW**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.997	1.0	5.000	0	99.9	85	115				

Sample ID: **N054021-008CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **ZZZZZZ**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	87.674	20	100.0	0	87.7	75	125				

Sample ID: **N054021-008CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **ZZZZZZ**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	79.958	20	100.0	0	80.0	75	125	87.67	9.21	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-36-090-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:10:00 AM
Lab ID: N053994-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**				PrepDate: **12/13/2022**		Analyst: **DJ**
Iron	52	13	20		µg/L	1	12/22/2022 07:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-36-100-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:35:00 AM
Lab ID: N053994-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	710	13	20		µg/L	1	12/22/2022 07:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-31-060-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:10:00 AM
Lab ID: N053994-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	63	13	20		µg/L	1	12/22/2022 07:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-31-135-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:20:00 AM

Lab ID: N053994-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 07:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-070-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:05:00 PM

Lab ID: N053994-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 07:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-142-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:49:00 PM

Lab ID: N053994-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-80-057-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:09:00 PM

Lab ID: N053994-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-80-082-1222
Lab Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:53:00 PM
Lab ID: N053994-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97210**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 08:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-97210**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **PBW**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-97210**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **LCSW**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	90.243	20	100.0	0	90.2	85	115				

Sample ID: **N053993-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.479	20	100.0	37.64	64.8	75	125				S

Sample ID: **N053993-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168435**
Client ID: **ZZZZZZ**	Batch ID: **97210**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**	SeqNo: **4986784**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	115.131	20	100.0	37.64	77.5	75	125	102.5	11.6	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N053993-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **168435**
Client ID: **ZZZZZZ** Batch ID: **97210** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **12/22/2022** SeqNo: **4986782**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.448	20	100.0	37.64	70.8	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-36-090-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 9:10:00 AM

Lab ID: N053994-001 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	2.4	0.050	0.10		µg/L	1	12/16/2022 08:54 PM
Barium	47	0.083	1.0		µg/L	1	12/20/2022 12:01 AM
Manganese	130	0.026	0.50		µg/L	1	12/16/2022 08:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-36-100-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 8:35:00 AM

Lab ID: N053994-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	4.5	0.050	0.10		µg/L	1	12/16/2022 09:00 PM
Barium	65	0.083	1.0		µg/L	1	12/20/2022 12:07 AM
Manganese	590	0.13	2.5		µg/L	5	12/20/2022 12:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-31-060-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 11:10:00 AM

Lab ID: N053994-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 09:06 PM
Barium	220	0.42	5.0		µg/L	5	12/20/2022 12:25 AM
Manganese	2500	0.66	12		µg/L	25	12/20/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-31-135-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 10:20:00 AM

Lab ID: N053994-004 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221219C**	QC Batch: **97206**			PrepDate:		**12/13/2022**	Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	12/20/2022 12:48 AM
Barium	35	0.083	1.0		µg/L	1	12/20/2022 12:48 AM
Manganese	5.5	0.026	0.50		µg/L	1	12/16/2022 09:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-070-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:05:00 PM

Lab ID: N053994-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 09:17 PM
Barium	170	0.083	1.0		µg/L	1	12/20/2022 12:54 AM
Manganese	170	0.026	0.50		µg/L	1	12/16/2022 09:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-78-142-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 12:49:00 PM

Lab ID: N053994-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221219C**	QC Batch: **97206**			PrepDate:		**12/13/2022**	Analyst: **DJ**
Arsenic	2.7	0.050	0.10		µg/L	1	12/20/2022 01:00 AM
Barium	30	0.083	1.0		µg/L	1	12/20/2022 01:00 AM
Manganese	3.3	0.026	0.50		µg/L	1	12/16/2022 09:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-80-057-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:09:00 PM

Lab ID: N053994-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97206**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	0.65	0.050	0.10		µg/L	1	12/16/2022 09:29 PM
Barium	77	0.083	1.0		µg/L	1	12/20/2022 01:12 AM
Manganese	0.52	0.026	0.50		µg/L	1	12/16/2022 09:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-80-082-1222

Lab Order: N053994

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/7/2022 2:53:00 PM

Lab ID: N053994-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_221219C**	QC Batch: **97206**			PrepDate:		**12/13/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	12/20/2022 01:24 AM
Barium	56	0.083	1.0		µg/L	1	12/20/2022 01:24 AM
Manganese	280	0.13	2.5		µg/L	5	12/20/2022 01:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97206**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **PBW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-97206**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **LCSW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976140**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.805	0.10	10.00	0	98.0	85	115				
Manganese	95.383	0.50	100.0	0	95.4	85	115				

Sample ID: **N053993-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	16.425	0.10	10.00	6.067	104	75	125				
Manganese	98.087	0.50	100.0	7.052	91.0	75	125				

Sample ID: **N053993-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976151**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	17.218	0.10	10.00	6.067	112	75	125	16.43	4.71	20	
Manganese	100.689	0.50	100.0	7.052	93.6	75	125	98.09	2.62	20	

Sample ID: **MB-97206**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **PBW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N053994
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-97206**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **PBW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **LCS-97206**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **LCSW**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981458**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.757	1.0	10.00	0	97.6	85	115				

Sample ID: **N053993-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	24.047	1.0	10.00	14.31	97.4	75	125				

Sample ID: **N053993-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168366**
Client ID: **ZZZZZZ**	Batch ID: **97206**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/19/2022**	SeqNo: **4981472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	24.843	1.0	10.00	14.31	105	75	125	24.05	3.26	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 12/22/202 12:00 AM
FOLDER R: 12/7/2022
N053994-010A 1 of 1

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD F
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec / CalTrans
Submitted By: Ryan Tao		Phone: 949-727-1400, ext 200 Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 12/7/22	Sampled By: Ryan Tao		Global ID: / Regulatory / Specify State:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 12/7/22		
Project Number: 30121866.4Q22GW			

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		

Sample Temp: 2.0 e 11.7 @ 25C

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrite, Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N053994-001	MW-36-090-1222	12/7/2022	9:10		X		X			X			X	E	6	P	BNS	
2	-002	MW-36-100-1222	12/7/2022	8:35		X		X			X			X	E	6	P	BNS	
3	-003	MW-31-060-1222	12/7/2022	11:10		X		X			X			X	E	6	P	BNS	
4	-004	MW-31-135-1222	12/7/2022	10:20		X		X			X			X	E	6	P	BNS	
5	-005	MW-78-070-1222	12/7/2022	12:05		X		X			X			X	E	6	P	BNS	
6	-006	MW-78-142-1222	12/7/2022	12:49		X		X			X			X	E	6	P	BNS	
7	-007	MW-80-057-1222	12/7/2022	14:09		X		X			X			X	E	6	P	BNS	
8	-008	MW-80-082-1222	12/7/2022	14:53		X		X			X			X	E	6	P	BNS	
9	-009	EB-748-Q422	12/7/2022	15:15		X									E	1	P	BNS	
10																			
11																			
12																			
13																			
14																			

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Ryan Tao	12/7/22 1600	Dante Ota Pinke O.	12/7/22 16:00
Dante Ota Pinke O.	12/7/22 21:25	Dante Ota Pinke O.	12/7/22 21:25

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day If samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/7/2022	Workorder:	N053994
Rep sample Temp (Deg C):	2.4/1.7/2.5	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/8/2022

Reviewed By: for: MBC 12/22/2022

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053994

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053994-001A	MW-36-090-1222	12/7/2022 9:10:00 AM	12/22/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-001B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-001C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-001D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-002A	MW-36-100-1222	12/7/2022 8:35:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-002B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-002C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-002D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-003A	MW-31-060-1222	12/7/2022 11:10:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-003B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-003C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053994

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053994-003D	MW-31-060-1222	12/7/2022 11:10:00 AM	12/22/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-004A	MW-31-135-1222	12/7/2022 10:20:00 AM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-004B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-004C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-004D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-005A	MW-78-070-1222	12/7/2022 12:05:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-005B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-005C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-005D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-006A	MW-78-142-1222	12/7/2022 12:49:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-006B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053994

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053994-006B	MW-78-142-1222	12/7/2022 12:49:00 PM	12/22/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-006C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-006D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-007A	MW-80-057-1222	12/7/2022 2:09:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-007B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-007C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-007D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-008A	MW-80-082-1222	12/7/2022 2:53:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-008B			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/22/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N053994-008C			12/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N053994-008D			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N053994-009A	EB-748-Q422	12/7/2022 3:15:00 PM	12/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N053994-010A	FOLDER	12/22/2022	12/22/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

22-Dec-22

WorkOrder: N053994

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/7/2022 9:25 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N053994-010A	FOLDER	12/22/2022	12/22/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/22/2022		Folder	Folder	☐	☐	☐	LAB

Enthalpy Analytical
931 West Barkley Ave
Orange, CA 92868
(714) 771-6900

enthalpy.com

Lab Job Number: 474926
Report Level: II
Report Date: 12/28/2022

Analytical Report *prepared for:*

Sonny Lorenzo
Asset Laboratories
11110 Artersia Blvd,
Suite B
Cerritos, CA 90703

Location: N054020A

Authorized for release by:



Quynhgiao Le, Project Manager
714-7716900
quynhgiao.le@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 1338, NELAP# 4038, SCAQMD LAP# 18LA0518, LACSD ID# 10105

ENTHALPY ANALYTICAL

Sample Summary

Sonny Lorenzo
Asset Laboratories
11110 Artersia Blvd,
Suite B
Cerritos, CA 90703

Lab Job #: 474926
Location: N054020A
Date Received: 12/13/22

Sample ID	Lab ID	Collected	Matrix
N054020-001A / MW-79-058-1222	474926-001	12/08/22 11:00	Water
N054020-002A / MW-79-102-1222	474926-002	12/08/22 11:43	Water
N054020-003A / MW-26-1222	474926-003	12/08/22 10:15	Water
N054020-004A / MW-51-1222	474926-004	12/08/22 08:46	Water
N054020-005A / MW-925-Q422	474926-005	12/08/22 08:51	Water
N054020-006A / MW-20-070-1222	474926-006	12/08/22 13:00	Water
N054020-007A / MW-20-100-1222	474926-007	12/08/22 14:42	Water
N054020-008A / MW-20-130-1222	474926-008	12/08/22 13:50	Water

ENTHALPY ANALYTICAL

Case Narrative

Asset Laboratories 11110 Artersia Blvd, Suite B Cerritos, CA 90703 Sonny Lorenzo	Lab Job Number: 474926 Location: N054020A Date Received: 12/13/22

This data package contains sample and QC results for eight water samples, requested for the above referenced project on 12/13/22. The samples were received cold and intact.

474926

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX:.7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:
Enthalpy Analytical
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: Riggie Tep

12-Dec-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM5310B		
N054020-001A / MW-79-058-1222	Groundwater	12/8/2022 11:00:00 AM	VOA	1		
N054020-002A / MW-79-102-1222	Groundwater	12/8/2022 11:43:00 AM	VOA	1		
N054020-003A / MW-26-1222	Groundwater	12/8/2022 10:15:00 AM	VOA	1		
N054020-004A / MW-51-1222	Groundwater	12/8/2022 8:46:00 AM	VOA	1		
N054020-005A / MW-925-Q422	Groundwater	12/8/2022 8:51:00 AM	VOA	1		
N054020-006A / MW-20-070-1222	Groundwater	12/8/2022 1:00:00 PM	VOA	1		
N054020-007A / MW-20-100-1222	Groundwater	12/8/2022 2:42:00 PM	VOA	1		
N054020-008A / MW-20-130-1222	Groundwater	12/8/2022 1:50:00 PM	VOA	1		

5.0/1.3

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N54020A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for TOC by SM5310B. EDD requirement Labspec7 edata.

GLS #: 558400018

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/12/2022 1630	**Received by:**	[signature]	12/13/22 10:28
Relinquished by:			**Received by:**		

ENTHALPY ANALYTICAL

SAMPLE ACCEPTANCE CHECKLIST

Section 1

Client: Asset Labs Project: N54020A

Date Received: 12/13/22 Sampler's Name Present: ☑ Yes ☐ No

Section 2

Sample(s) received in a cooler? ☑ Yes, How many? 1 ☐ No (skip section 2) Sample Temp (°C) (No Cooler): _____

Sample Temp (°C), One from each cooler: #1: 5.0 #2: _____ #3: _____ #4: _____

(Acceptance range is < 6°C but not frozen (for Microbiology samples, acceptance range is < 10°C but not frozen). It is acceptable for samples collected the same day as sample receipt to have a higher temperature as long as there is evidence that cooling has begun.)

Shipping Information: _____

Section 3

Was the cooler packed with: ☐ Ice ☐ Ice Packs ☐ Bubble Wrap ☐ Styrofoam ☐ Paper ☐ None ☐ Other _____

Cooler Temp (°C): #1: 1.3 #2: _____ #3: _____ #4: _____

Section 4	YES	NO	N/A
Was a COC received?	✔		
Are sample IDs present?	✔		
Are sampling dates & times present?	✔		
Is a relinquished signature present?	✔		
Are the tests required clearly indicated on the COC?	✔		
Are custody seals present?		✔	
If custody seals are present, were they intact?			✔
Are all samples sealed in plastic bags? (Recommended for Microbiology samples)			✔
Did all samples arrive intact? If no, indicate in Section 4 below.	✔		
Did all bottle labels agree with COC? (ID, dates and times)	✔		
Were the samples collected in the correct containers for the required tests?	✔		
Are the containers labeled with the correct preservatives?	✔		
Is there headspace in the VOA vials greater than 5-6 mm in diameter?			✔
Was a sufficient amount of sample submitted for the requested tests?	✔		

Section 5 Explanations/Comments

Section 6

For discrepancies, how was the Project Manager notified? ☐ Verbal PM Initials: _____ Date/Time _____

☐ Email (email sent to/on): _____ / _____

Project Manager's response:

Completed By: _____ Date: DEC 13 2022

GLS.

800-322-5555
www.gls-us.com

Ship From
ADVANCED TECHNOLOGY
LABORATORIES, INC.
MARLON CARTIN
3151 W. POST RD.
LAS VEGAS, NV 89118

Ship To
ENHALPY ANALYTICAL
SAMPLE RECEIVING
931 W. BARKLEY AVE
ORANGE, CA 92868

COD: $0.00
Weight: 0 lb(s)
Reference:

Delivery Instructions:

Signature Type: STANDARD

Tracking #: 558400018

PDS

ORANGE

S10003H

77112074

ORC CA927-EH0

Print Date: 12/12/2022 2:10 PM

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.
Step 1: Use the "Print Label" button on this page to print the shipping label on a laser or inkjet printer.
Step 2: Fold this page in half.
Step 3: Securely attach this label to your package and do not cover the barcode.

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all of the General Logistics Systems US, Inc. (GLS) service terms & conditions including, but not limited to; limits of liability, declared value conditions, and claim procedures which are available on our website at www.gls-us.com.

ENTHALPY ANALYTICAL

Analysis Results for 474926

Sonny Lorenzo
Asset Laboratories
11110 Artersia Blvd,
Suite B
Cerritos, CA 90703

Lab Job #: 474926
Location: N054020A
Date Received: 12/13/22

Sample ID: N054020-001A / MW-79-058-1222 **Lab ID:** 474926-001 **Matrix:** Water **Collected:** 12/08/22 11:00

474926-001 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	ND		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Sample ID: N054020-002A / MW-79-102-1222 **Lab ID:** 474926-002 **Matrix:** Water **Collected:** 12/08/22 11:43

474926-002 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	ND		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Sample ID: N054020-003A / MW-26-1222 **Lab ID:** 474926-003 **Matrix:** Water **Collected:** 12/08/22 10:15

474926-003 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.6**		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Sample ID: N054020-004A / MW-51-1222 **Lab ID:** 474926-004 **Matrix:** Water **Collected:** 12/08/22 08:46

474926-004 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**8.9**		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Sample ID: N054020-005A / MW-925-Q422 **Lab ID:** 474926-005 **Matrix:** Water **Collected:** 12/08/22 08:51

474926-005 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**9.2**		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Results for any subcontracted analyses are not included in this section.

Analysis Results for 474926

Sample ID:	Lab ID:	Collected:
N054020-006A / MW-20-070-1222	474926-006	12/08/22 13:00
	Matrix: Water	

474926-006 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**1.5**		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Sample ID:	Lab ID:	Collected:
N054020-007A / MW-20-100-1222	474926-007	12/08/22 14:42
	Matrix: Water	

474926-007 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**2.2**		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

Sample ID:	Lab ID:	Collected:
N054020-008A / MW-20-130-1222	474926-008	12/08/22 13:50
	Matrix: Water	

474926-008 Analyte	Result	Qual	Units	RL	DF	Batch	Prepared	Analyzed	Chemist
Method: SM 5310B									
Total Organic Carbon	**2.5**		mg/L	1.0	1	303880	12/20/22	12/20/22	PWM

ND Not Detected

Results for any subcontracted analyses are not included in this section.

ENTHALPY ANALYTICAL

Batch QC

Type: Lab Control Sample	**Lab ID:** QC1034083	**Batch:** 303880
Matrix: Water	**Method:** SM 5310B	

QC1034083 Analyte	Result	Spiked	Units	Recovery	Qual	Limits
Total Organic Carbon	10.15	10.00	mg/L	102%		80-120

Type: Blank	**Lab ID:** QC1034084	**Batch:** 303880
Matrix: Water	**Method:** SM 5310B	

QC1034084 Analyte	Result	Qual	Units	RL	Prepared	Analyzed
Total Organic Carbon	ND		mg/L	1.0	12/20/22	12/20/22

Type: Matrix Spike	**Lab ID:** QC1034085	**Batch:** 303880
Matrix (Source ID): Water (474926-001)	**Method:** SM 5310B	

QC1034085 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	DF
Total Organic Carbon	39.51	ND	40.00	mg/L	96%		80-120	4

Type: Matrix Spike Duplicate	**Lab ID:** QC1034086	**Batch:** 303880
Matrix (Source ID): Water (474926-001)	**Method:** SM 5310B	

QC1034086 Analyte	Result	Source Sample Result	Spiked	Units	Recovery	Qual	Limits	RPD	RPD Lim	DF
Total Organic Carbon	41.52	ND	40.00	mg/L	101%		80-120	5	20	4

ND Not Detected

December 28, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054021

RE: PG&E Topock - PCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 08, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N054021

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

The report was amended as collection date of sample N054021-007 (MW-20-100-1222) was updated. Please see attached correspondence.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N054021-008BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N054021-008CMS and N054021-008CMSD at lower dilution possibly due to matrix interference. QC sample was diluted and recovery passed criteria. Thus sample reference N054021-008 and MS/MSDwere reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *28-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N054021
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054021-001A	MW-79-058-1222	Groundwater	12/8/2022 11:00:00 AM	12/8/2022	12/28/2022
N054021-001B	MW-79-058-1222	Groundwater	12/8/2022 11:00:00 AM	12/8/2022	12/28/2022
N054021-001C	MW-79-058-1222	Groundwater	12/8/2022 11:00:00 AM	12/8/2022	12/28/2022
N054021-001D	MW-79-058-1222	Groundwater	12/8/2022 11:00:00 AM	12/8/2022	12/28/2022
N054021-002A	MW-79-102-1222	Groundwater	12/8/2022 11:43:00 AM	12/8/2022	12/28/2022
N054021-002B	MW-79-102-1222	Groundwater	12/8/2022 11:43:00 AM	12/8/2022	12/28/2022
N054021-002C	MW-79-102-1222	Groundwater	12/8/2022 11:43:00 AM	12/8/2022	12/28/2022
N054021-002D	MW-79-102-1222	Groundwater	12/8/2022 11:43:00 AM	12/8/2022	12/28/2022
N054021-003A	MW-26-1222	Groundwater	12/8/2022 10:15:00 AM	12/8/2022	12/28/2022
N054021-003B	MW-26-1222	Groundwater	12/8/2022 10:15:00 AM	12/8/2022	12/28/2022
N054021-003C	MW-26-1222	Groundwater	12/8/2022 10:15:00 AM	12/8/2022	12/28/2022
N054021-003D	MW-26-1222	Groundwater	12/8/2022 10:15:00 AM	12/8/2022	12/28/2022
N054021-004A	MW-51-1222	Groundwater	12/8/2022 8:46:00 AM	12/8/2022	12/28/2022
N054021-004B	MW-51-1222	Groundwater	12/8/2022 8:46:00 AM	12/8/2022	12/28/2022
N054021-004C	MW-51-1222	Groundwater	12/8/2022 8:46:00 AM	12/8/2022	12/28/2022
N054021-004D	MW-51-1222	Groundwater	12/8/2022 8:46:00 AM	12/8/2022	12/28/2022
N054021-005A	MW-925-Q422	Groundwater	12/8/2022 8:51:00 AM	12/8/2022	12/28/2022
N054021-005B	MW-925-Q422	Groundwater	12/8/2022 8:51:00 AM	12/8/2022	12/28/2022
N054021-005C	MW-925-Q422	Groundwater	12/8/2022 8:51:00 AM	12/8/2022	12/28/2022
N054021-005D	MW-925-Q422	Groundwater	12/8/2022 8:51:00 AM	12/8/2022	12/28/2022
N054021-006A	MW-20-070-1222	Groundwater	12/8/2022 1:00:00 PM	12/8/2022	12/28/2022
N054021-006B	MW-20-070-1222	Groundwater	12/8/2022 1:00:00 PM	12/8/2022	12/28/2022
N054021-006C	MW-20-070-1222	Groundwater	12/8/2022 1:00:00 PM	12/8/2022	12/28/2022
N054021-006D	MW-20-070-1222	Groundwater	12/8/2022 1:00:00 PM	12/8/2022	12/28/2022
N054021-007A	MW-20-100-1222	Groundwater	12/8/2022 2:42:00 PM	12/8/2022	12/28/2022
N054021-007B	MW-20-100-1222	Groundwater	12/8/2022 2:42:00 PM	12/8/2022	12/28/2022
N054021-007C	MW-20-100-1222	Groundwater	12/8/2022 2:42:00 PM	12/8/2022	12/28/2022
N054021-007D	MW-20-100-1222	Groundwater	12/8/2022 2:42:00 PM	12/8/2022	12/28/2022
N054021-008A	MW-20-130-1222	Groundwater	12/8/2022 1:50:00 PM	12/8/2022	12/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.4Q22GW
Lab Order: N054021
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054021-008B	MW-20-130-1222	Groundwater	12/8/2022 1:50:00 PM	12/8/2022	12/28/2022
N054021-008C	MW-20-130-1222	Groundwater	12/8/2022 1:50:00 PM	12/8/2022	12/28/2022
N054021-008D	MW-20-130-1222	Groundwater	12/8/2022 1:50:00 PM	12/8/2022	12/28/2022
N054021-009A	EB-750-Q422	Groundwater	12/8/2022 3:00:00 PM	12/8/2022	12/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:00:00 AM
Lab ID:	N054021-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	290	1.2	10		µg/L	50	12/23/2022 05:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:43:00 AM
Lab ID:	N054021-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	78	0.24	2.0		µg/L	10	12/23/2022 10:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 10:15:00 AM
Lab ID:	N054021-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	14	0.12	1.0		µg/L	5	12/23/2022 06:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:46:00 AM
Lab ID:	N054021-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	280	2.4	20		µg/L	100	12/23/2022 06:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q422
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:51:00 AM
Lab ID:	N054021-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	290	2.4	20		µg/L	100	12/23/2022 07:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:00:00 PM
Lab ID:	N054021-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	850	4.8	40		µg/L	200	12/26/2022 11:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:42:00 PM
Lab ID:	N054021-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221226A**	QC Batch: **R168488**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	4.8	40		µg/L	200	12/26/2022 11:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:50:00 PM
Lab ID:	N054021-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2900	12	100		µg/L	500	12/22/2022 11:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-750-Q422
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 3:00:00 PM
Lab ID:	N054021-009	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222B**	QC Batch: **R168441**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/23/2022 10:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	LCS-R168441	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	LCSW	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987211

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.890	0.20	5.000	0	97.8	90	110				

Sample ID	MB-R168441	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	PBW	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987212

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N054021-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987216

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5318.700	100	2500	2893	97.0	90	110				

Sample ID	N054021-008AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987217

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5386.400	100	2500	2893	99.8	90	110	5319	1.26	20	

Sample ID	N053993-003ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987219

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	169.890	10						168.8	0.673	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053993-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	418.020	10	250.0	168.8	99.7	90	110				

Sample ID **N053993-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	151.836	4.0	100.0	53.69	98.1	90	110				

Sample ID **N053993-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	237.048	4.0	100.0	140.2	96.8	90	110				

Sample ID **N053993-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.366	0.20	1.000	0.3560	101	90	110				

Sample ID **N053993-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987230**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053993-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987232

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID	N053993-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987240

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.851	1.0	5.000	0	97.0	90	110				

Sample ID	N053993-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987242

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.736	1.0	5.000	0	94.7	90	110				

Sample ID	N053993-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987244

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.964	0.20	1.000	0	96.4	90	110				

Sample ID	N053993-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168441
Client ID:	ZZZZZZ	Batch ID:	R168441	TestNo:	EPA 218.6			Analysis Date:	12/23/2022	SeqNo:	4987246

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N054021-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.710	10	250.0	294.3	103	90	110				

Sample ID **N054021-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	38.290	1.0	25.00	13.55	99.0	90	110				

Sample ID **N054021-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	759.460	20	500.0	276.4	96.6	90	110				

Sample ID **N054021-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	787.570	20	500.0	292.8	98.9	90	110				

Sample ID **N054021-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987270**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.049	0.20	1.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N054021-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987271**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	127.174	2.0	50.00	77.71	98.9	90	110				

Sample ID **N053994-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.939	1.0	5.000	0	98.8	90	110				

Sample ID **N053994-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID **N053925-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168441**
Client ID: **ZZZZZZ**	Batch ID: **R168441**	TestNo: **EPA 218.6**		Analysis Date: **12/23/2022**	SeqNo: **4987395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	35.592	1.0	25.00	10.35	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168488	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	PBW	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991406		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R168488	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	LCSW	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991407		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		4.921	0.20	5.000	0	98.4	90	110					

Sample ID	N053959-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991409		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1105.090	20	500.0	606.3	99.8	90	110					

Sample ID	N053959-003AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991410		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1079.440	20	500.0	606.3	94.6	90	110	1105	2.35	20		

Sample ID	N053959-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488		
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991412		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1107.760	20	500.0	606.9	100	90	110					

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-004ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	609.430	20						606.9	0.416	20	

Sample ID	N053959-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991417

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.334	1.0	25.00	17.23	96.4	90	110				

Sample ID	N053959-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	317.680	4.0	100.0	224.8	92.9	90	110				

Sample ID	N053958-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.358	0.20	1.000	1.404	95.3	90	110				

Sample ID	N053959-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991427

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.631	1.0	5.000	3.649	99.6	90	110				

Sample ID	N053959-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.520	1.0	5.000	1.756	95.3	90	110				

Sample ID	N053959-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991431

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.688	1.0	5.000	1.672	100	90	110				

Sample ID	N053959-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991433

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.035	1.0	5.000	0	101	90	110				

Sample ID	N053959-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.007	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053959-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID	N053959-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID	N053959-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991443

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110				

Sample ID	N054021-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1830.860	40	1000	852.3	97.9	90	110				

Sample ID	N054021-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/26/2022	SeqNo:	4991449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2675.620	40	1000	1717	95.8	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054106-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991453

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	972.300	20	500.0	488.2	96.8	90	110				

Sample ID	N054106-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	951.480	20	500.0	455.7	99.2	90	110				

Sample ID	N054106-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	805.960	20	500.0	328.7	95.4	90	110				

Sample ID	N053959-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168488
Client ID:	ZZZZZZ	Batch ID:	R168488	TestNo:	EPA 218.6			Analysis Date:	12/27/2022	SeqNo:	4991459

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.278	1.0	25.00	17.02	97.0	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:00:00 AM
Lab ID:	N054021-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Sulfate	530	3.0	25		mg/L	50	12/9/2022 03:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	12/9/2022 01:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-79-102-1222
Lab Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 11:43:00 AM
Lab ID: N054021-002 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Sulfate	500	3.0	25		mg/L	50	12/9/2022 04:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/9/2022 01:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 10:15:00 AM
Lab ID:	N054021-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Sulfate	460	3.0	25		mg/L	50	12/9/2022 04:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	12/9/2022 01:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:46:00 AM
Lab ID:	N054021-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Sulfate	300	3.0	25		mg/L	50	12/9/2022 04:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	12/9/2022 11:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-925-Q422

Lab Order: N054021

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 8:51:00 AM

Lab ID: N054021-005 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Sulfate	300	3.0	25		mg/L	50	12/9/2022 05:06 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	12/9/2022 01:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-20-070-1222

Lab Order: N054021

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 1:00:00 PM

Lab ID: N054021-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A** QC Batch: **R168037**				PrepDate:			Analyst: **RAB**
Sulfate	600	3.0	25		mg/L	50	12/9/2022 05:20 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A** QC Batch: **R168037**				PrepDate:			Analyst: **RAB**
Nitrate as N	30	0.19	1.0		mg/L	20	12/9/2022 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:42:00 PM
Lab ID:	N054021-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Sulfate	510	3.0	25		mg/L	50	12/9/2022 05:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.4	0.095	0.50		mg/L	10	12/9/2022 02:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-20-130-1222

Lab Order: N054021

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 1:50:00 PM

Lab ID: N054021-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A** QC Batch: **R168037**				PrepDate:			Analyst: **RAB**
Sulfate	910	6.1	50		mg/L	100	12/9/2022 02:29 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A** QC Batch: **R168037**				PrepDate:			Analyst: **RAB**
Nitrate as N	10	0.19	1.0		mg/L	20	12/9/2022 10:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R168037_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168037		
Client ID:	PBW	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962208		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	ND	0.50											

Sample ID	LCS-R168037_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168037		
Client ID:	LCSW	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962209		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	3.942	0.50	4.000	0	98.5	90	110						

Sample ID	N054021-008DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168037		
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962213		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1307.840	50	400.0	913.8	98.5	80	120						

Sample ID	N054021-008DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168037		
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962216		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	1308.910	50	400.0	913.8	98.8	80	120	1308	0.0818	20			

Sample ID	N054021-001DDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168037		
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962218		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	519.465	25						525.0	1.07	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N054021-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962219

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	724.700	25	200.0	525.0	99.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R168037_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	PBW	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962180

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.019	0.050									

Sample ID	LCS-R168037_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	LCSW	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962181

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.245	0.050	1.250	0	99.6	90	110				

Sample ID	N054021-008DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962183

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	33.696	1.0	25.00	9.992	94.8	80	120				

Sample ID	N054021-008DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962184

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	33.528	1.0	25.00	9.992	94.1	80	120	33.70	0.500	20	

Sample ID	N054021-004DDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962192

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.425	0.50						1.439	0.978	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N054021-004DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962193

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.139	0.50	12.50	1.439	93.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:00:00 AM
Lab ID:	N054021-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 11:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:43:00 AM
Lab ID:	N054021-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 07:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 10:15:00 AM
Lab ID:	N054021-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:46:00 AM
Lab ID:	N054021-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.1	0.14	1.0		mg/L	1	12/9/2022 06:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q422
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:51:00 AM
Lab ID:	N054021-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.1	0.14	1.0		mg/L	1	12/9/2022 06:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:00:00 PM
Lab ID:	N054021-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 07:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:42:00 PM
Lab ID:	N054021-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	12/9/2022 03:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:50:00 PM
Lab ID:	N054021-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_221209A**	QC Batch: **R168052**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	2.7	20		mg/L	20	12/9/2022 12:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R168052**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **PBW**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R168052**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **LCSW**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.997	1.0	5.000	0	99.9	85	115				

Sample ID **N054021-008CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **ZZZZZZ**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	87.674	20	100.0	0	87.7	75	125				

Sample ID **N054021-008CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **168052**
Client ID: **ZZZZZZ**	Batch ID: **R168052**	TestNo: **SM 5310C**		Analysis Date: **12/9/2022**	SeqNo: **4962249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	79.958	20	100.0	0	80.0	75	125	87.67	9.21	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:00:00 AM
Lab ID:	N054021-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	23	13	20		µg/L	1	12/22/2022 08:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:43:00 AM
Lab ID:	N054021-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	150	13	20		µg/L	1	12/22/2022 08:35 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 10:15:00 AM
Lab ID:	N054021-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 08:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:46:00 AM
Lab ID:	N054021-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	20	13	20		µg/L	1	12/22/2022 08:46 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q422
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:51:00 AM
Lab ID:	N054021-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	100	13	20		µg/L	1	12/22/2022 09:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:00:00 PM
Lab ID:	N054021-006	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 09:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-20-100-1222
Lab Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 2:42:00 PM
Lab ID: N054021-007 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 09:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:50:00 PM
Lab ID:	N054021-008	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_221222B**	QC Batch: **97211**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	12/22/2022 09:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-97211	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	PBW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-97211	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	LCSW	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	89.042	20	100.0	0	89.0	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	143.515	20	100.0	0	144	75	125				S

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168435
Client ID:	ZZZZZZ	Batch ID:	97211	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	12/22/2022	SeqNo:	4986821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	124.948	20	100.0	0	125	75	125	143.5	13.8	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N054021-008B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:				RunNo: **168435**			
Client ID: **ZZZZZZ**	Batch ID: **97211**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **12/22/2022**				SeqNo: **4986819**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	132.467	20	100.0	0	132	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:00:00 AM
Lab ID:	N054021-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 10:22 PM
Barium	180	0.083	1.0		µg/L	1	12/23/2022 10:04 PM
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 10:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 11:43:00 AM
Lab ID:	N054021-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/16/2022 10:28 PM
Barium	42	0.083	1.0		µg/L	1	12/23/2022 10:10 PM
Manganese	8.5	0.026	0.50		µg/L	1	12/16/2022 10:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-26-1222

Lab Order: N054021

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 10:15:00 AM

Lab ID: N054021-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	12/16/2022 10:34 PM
Barium	74	0.083	1.0		µg/L	1	12/23/2022 10:16 PM
Manganese	44	0.026	0.50		µg/L	1	12/16/2022 10:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:46:00 AM
Lab ID:	N054021-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	12/16/2022 10:39 PM
Barium	130	0.083	1.0		µg/L	1	12/23/2022 10:22 PM
Manganese	48	0.026	0.50		µg/L	1	12/16/2022 10:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q422
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 8:51:00 AM
Lab ID:	N054021-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Arsenic	1.7	0.050	0.10		µg/L	1	12/16/2022 10:45 PM
Barium	140	0.083	1.0		µg/L	1	12/23/2022 10:27 PM
Manganese	42	0.026	0.50		µg/L	1	12/16/2022 10:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-20-070-1222

Lab Order: N054021

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 1:00:00 PM

Lab ID: N054021-006 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/16/2022 10:51 PM
Barium	42	0.083	1.0		µg/L	1	12/23/2022 10:33 PM
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 10:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-1222
Lab Order:	N054021		
Project:	PG&E Topock - PCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:42:00 PM
Lab ID:	N054021-007	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	0.64	0.050	0.10		µg/L	1	12/16/2022 10:57 PM
Barium	31	0.083	1.0		µg/L	1	12/23/2022 10:56 PM
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 10:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-20-130-1222

Lab Order: N054021

Project: PG&E Topock - PCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 1:50:00 PM

Lab ID: N054021-008 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	12/16/2022 11:20 PM
Barium	24	0.083	1.0		µg/L	1	12/23/2022 11:02 PM
Manganese	ND	0.026	0.50		µg/L	1	12/16/2022 11:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976173

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID	LCS-97207	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	LCSW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976174

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.775	0.10	10.00	0	97.7	85	115				
Manganese	93.606	0.50	100.0	0	93.6	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976187

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.053	0.10	10.00	1.062	110	75	125				
Manganese	92.453	0.50	100.0	0.2358	92.2	75	125				

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.823	0.10	10.00	1.062	97.6	75	125	12.05	10.8	20	
Manganese	91.050	0.50	100.0	0.2358	90.8	75	125	92.45	1.53	20	

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168460
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054021
Project: PG&E Topock - PCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168460
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	LCS-97207	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168460
Client ID:	LCSW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988249

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.592	1.0	10.00	0	95.9	85	115				

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168460
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988264

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	32.105	1.0	10.00	24.01	81.0	75	125				

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168460
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/23/2022	SeqNo:	4988266

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	34.155	1.0	10.00	24.01	101	75	125	32.10	6.19	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
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California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@crttgen.com	Address:	Specify State:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	
Submitted By: Kirsie Tap	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech			
Signature: Date: 12/8/22	Sampled By: Kirsie Tap		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Project Name: PG&E Topock - PCM	Signature:	Date: 12/8/22	
Project Number: 30121866.4Q22GW			

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling: ICE		

Sample Temp: 2.4°C / 3.3°C

Courier: ASSET

Tracking No.:

Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrite, Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	500mL poly: Total metals (SW6010) No filter; HNO3 Total Iron	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	1 L poly: Nitrate, sulfate (EPA 300.0)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N054021-001	MW-79-058-1222	12/8/2022	11:00		X		X			X			X	E	6	P	BNS	
2	-002	MW-79-102-1222	12/8/2022	11:43		X		X			X			X	E	6	P	BNS	
3	-003	MW-26-1222	12/8/2022	10:15		X		X			X			X	E	6	P	BNS	
4	-004	MW-51-1222	12/8/2022	8:46		X		X			X			X	E	6	P	BNS	
5	-005	MW-925-Q422	12/8/2022	8:51		X		X			X			X	E	6	P	BNS	
6	-006	MW-20-070-1222	12/8/2022	13:00		X		X			X			X	E	6	P	BNS	
7	-007	MW-20-100-1222	12/8/2022	14:42		X		X			X			X	E	6	P	BNS	
8	-008	MW-20-130-1222	12/8/2022	13:50		X		X			X			X	E	9	P	BNS	MS/MSD
9	-009	EB-750-Q422	12/8/2022	1500		X		X			X			X	E		P	BNS	
10						X									E	1	P	BNS	
11																			
12																			
13																			
14																			

Relinquished by (Signature and Printed Name): Kirsie Tap 12/8/22 Date/Time: 1540	Relinquished by (Signature and Printed Name): Dante Ortiz Dante O. 12/8/22 15:40
Relinquished by (Signature and Printed Name): Dante Ortiz Dante O 12/8/22 17:58	Relinquished by (Signature and Printed Name): Dante Ortiz Dante O. 12/8/22 18:58
Relinquished by (Signature and Printed Name): Date/Time:	Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/8/2022	Workorder:	N054021
Rep sample Temp (Deg C):	2.4/3.3	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For: 12/09/2022

Checklist Completed By: EF YRodriguez

for:

Reviewed By: MBC 12/22/2022

Subject: Re: Data uploaded to SHAREPOINT 12/28/2022 Topock
From: Nancy Sibucao <nancy@assetlaboratories.com>
Date: 12/28/2022, 12:32 PM
To: Tina Rice <Tina.Rice@locana.co>

Will do Tina!

Thanks,
Nancy

From: Tina Rice [mailto:Tina.Rice@locana.co]
Sent: Wednesday, December 28, 2022 at 12:20 PM
To: Nancy Sibucao
Subject: Data uploaded to SHAREPOINT 12/28/2022 Topock

Hi Nancy – this EDD didn't load because the sample date was wrong for MW-20-100-1222. The sample date is 12/8/2001 instead of 12/8/2022. I fixed the EDD and am reloading but please update lab report, etc.

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Wednesday, December 28, 2022 12:02 PM
To: Jennifer.Singer@arcadis.com; Dan.Bush@arcadis.com
Cc: Dan Moore <Daniel.Moore@locana.co>; Tina Rice <Tina.Rice@locana.co>; Madsen, Laura <Laura.Madsen@arcadis.com>; Marlon B. Cartin <marlon@assetlaboratories.com>; Sheu, Emily <Emily.Sheu@arcadis.com>
Subject: Data uploaded to SHAREPOINT 12/28/2022 Topock

N054021-Level 2PDF and EDD uploaded.

Thanks,

Nancy Sibucao

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 **I P:** 702.307.2659 Ext. 412 **I F:** 702.307.2691
California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 **I P:** 562.219.7435 **I F:** 562.219.7436

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ASSET Laboratories

WORK ORDER Summary

28-Dec-22

WorkOrder: N054021

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/8/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054021-001A	MW-79-058-1222	12/8/2022 11:00:00 AM	12/21/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-001B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-001C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054021-001D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-002A	MW-79-102-1222	12/8/2022 11:43:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-002B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-002C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054021-002D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-003A	MW-26-1222	12/8/2022 10:15:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-003B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-003C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

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EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP Cert 4046 (EPA TO15 & TO3)

WORK ORDER Summary

28-Dec-22

WorkOrder: N054021

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/8/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054021-003D	MW-26-1222	12/8/2022 10:15:00 AM	12/21/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-004A	MW-51-1222	12/8/2022 8:46:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-004B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-004C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054021-004D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-005A	MW-925-Q422	12/8/2022 8:51:00 AM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-005B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-005C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054021-005D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-006A	MW-20-070-1222	12/8/2022 1:00:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-006B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

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ASSET Laboratories

WORK ORDER Summary

28-Dec-22

WorkOrder: N054021

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/8/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054021-006B	MW-20-070-1222	12/8/2022 1:00:00 PM	12/21/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-006C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054021-006D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-007A	MW-20-100-1222	12/8/2022 2:42:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-007B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054021-007C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N054021-007D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054021-008A	MW-20-130-1222	12/8/2022 1:50:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N054021-008B			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			12/21/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			12/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N054021-008C			12/21/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N054021-008D			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			12/21/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N054021-009A	EB-750-Q422	12/8/2022 3:00:00 PM	12/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054021-010A	FOLDER	12/23/2022	12/21/2022		Folder	Level IV Report	☐	☐	☐	LAB

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WORK ORDER Summary

28-Dec-22

WorkOrder: N054021

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/8/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054021-010A	FOLDER	12/23/2022	12/21/2022		Folder	Folder	☐	☐	☐	LAB
			12/23/2022		Folder	Folder	☐	☐	☐	LAB

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December 30, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N054022

RE: PG&E Topock - RCM, 30121866.4Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on December 08, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N054021-008BMS and N054021-008BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Selenium in QC sample N054021-008BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *30-Dec-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.4Q22GW
Lab Order: N054022
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N054022-001A	MW-58BR-Q422	Groundwater	12/8/2022 2:46:00 PM	12/8/2022	12/30/2022
N054022-001B	MW-58BR-Q422	Groundwater	12/8/2022 2:46:00 PM	12/8/2022	12/30/2022
N054022-001C	MW-58BR-Q422	Groundwater	12/8/2022 2:46:00 PM	12/8/2022	12/30/2022
N054022-002A	MW-95-113-Q422	Groundwater	12/8/2022 12:39:00 PM	12/8/2022	12/30/2022
N054022-002B	MW-95-113-Q422	Groundwater	12/8/2022 12:39:00 PM	12/8/2022	12/30/2022
N054022-002C	MW-95-113-Q422	Groundwater	12/8/2022 12:39:00 PM	12/8/2022	12/30/2022
N054022-002D	MW-95-113-Q422	Groundwater	12/8/2022 12:39:00 PM	12/8/2022	12/30/2022
N054022-003A	MW-938-Q422	Groundwater	12/8/2022 12:49:00 PM	12/8/2022	12/30/2022
N054022-003B	MW-938-Q422	Groundwater	12/8/2022 12:49:00 PM	12/8/2022	12/30/2022
N054022-003C	MW-938-Q422	Groundwater	12/8/2022 12:49:00 PM	12/8/2022	12/30/2022
N054022-003D	MW-938-Q422	Groundwater	12/8/2022 12:49:00 PM	12/8/2022	12/30/2022
N054022-004A	MW-95-157-Q422	Groundwater	12/8/2022 1:25:00 PM	12/8/2022	12/30/2022
N054022-004B	MW-95-157-Q422	Groundwater	12/8/2022 1:25:00 PM	12/8/2022	12/30/2022
N054022-004C	MW-95-157-Q422	Groundwater	12/8/2022 1:25:00 PM	12/8/2022	12/30/2022
N054022-004D	MW-95-157-Q422	Groundwater	12/8/2022 1:25:00 PM	12/8/2022	12/30/2022
N054022-005A	EB-749-Q422	Groundwater	12/8/2022 3:00:00 PM	12/8/2022	12/30/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:46:00 PM
Lab ID:	N054022-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B**	QC Batch: **R168414**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.82	0.024	0.20		µg/L	1	12/22/2022 04:09 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221229D**	QC Batch: **97435**			PrepDate:	**12/29/2022**		Analyst: **DJ**
Chromium	1.1	0.035	1.0		µg/L	1	12/29/2022 03:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-113-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 12:39:00 PM
Lab ID:	N054022-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221221B**	QC Batch: **R168414**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.2	0.024	0.20		µg/L	1	12/22/2022 04:27 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	1.8	0.035	1.0		µg/L	1	12/16/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California **Client Sample ID:** MW-938-Q422

Lab Order: N054022

Project: PG&E Topock - RCM, 30121866.4Q22GW **Collection Date:** 12/8/2022 12:49:00 PM

Lab ID: N054022-003 **Matrix:** GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.2	0.024	0.20		µg/L	1	12/22/2022 02:46 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	1.3	0.035	1.0		µg/L	1	12/17/2022 12:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-157-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:25:00 PM
Lab ID:	N054022-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	6.5	0.024	0.20		µg/L	1	12/22/2022 03:05 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Chromium	6.7	0.035	1.0		µg/L	1	12/17/2022 12:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-749-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 3:00:00 PM
Lab ID:	N054022-005	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_221222A**	QC Batch: **R168440**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.024	0.20		µg/L	1	12/22/2022 03:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	LCS-R168414	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	LCSW	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983654

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.042	0.20	5.000	0	101	90	110				

Sample ID	MB-R168414	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	PBW	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983655

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	N053994-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983657

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5260.250	100	2500	2711	102	90	110				

Sample ID	N053994-006AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983658

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5332.850	100	2500	2711	105	90	110	5260	1.37	20	

Sample ID	N053994-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983660

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	114.763	2.0	50.00	63.02	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N053991-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	401.280	80	400.0	0	100	90	110				

Sample ID **N053994-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983666**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.721	1.0	5.000	8.320	108	90	110				

Sample ID **N053923-006ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.649	0.20						3.623	0.721	20	

Sample ID **N054022-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.852	0.20	1.000	0.8175	103	90	110				

Sample ID **N054022-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **168414**
Client ID: **ZZZZZZ**	Batch ID: **R168414**	TestNo: **EPA 218.6**		Analysis Date: **12/22/2022**	SeqNo: **4983680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.652	0.20	5.000	1.191	109	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053886-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983684

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	37.313	1.0	25.00	11.30	104	90	110				

Sample ID	N053886-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983686

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	79.964	2.0	50.00	28.73	102	90	110				

Sample ID	N053886-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID	N053894-009BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168414
Client ID:	ZZZZZZ	Batch ID:	R168414	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4983713

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R168440	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	PBW	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987156		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R168440	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	LCSW	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987157		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.977	0.20	5.000	0	99.5	90	110						

Sample ID	N053886-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987159		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	108.528	2.0	50.00	59.52	98.0	90	110						

Sample ID	N053886-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987160		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	108.293	2.0	50.00	59.52	97.5	90	110	108.5	0.217	20			

Sample ID	N053923-003ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440		
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987162		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	93.089	2.0						93.62	0.574	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N054022-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987167

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.184	0.20	1.000	1.221	96.3	90	110				

Sample ID	N054022-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987170

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.4	90	110				

Sample ID	N053994-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987171

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.759	1.0	5.000	0	95.2	90	110				

Sample ID	N054022-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987178

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.176	0.20	5.000	6.484	93.8	90	110				

Sample ID	N053925-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987180

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053925-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987182

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.915	1.0	5.000	0	98.3	90	110				

Sample ID	N053925-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987186

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID	N053925-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.661	1.0	5.000	0	93.2	90	110				

Sample ID	N053925-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987190

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.034	1.0	5.000	0	101	90	110				

Sample ID	N053925-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987194

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.018	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N053925-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987196

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID	N053925-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987198

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.955	0.20	1.000	0	95.5	90	110				

Sample ID	N053925-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987202

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Sample ID	N053925-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	168440
Client ID:	ZZZZZZ	Batch ID:	R168440	TestNo:	EPA 218.6			Analysis Date:	12/22/2022	SeqNo:	4987203

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.765	1.0	5.000	0	95.3	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97207	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270	
Client ID:	PBW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976049	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	ND	1.0										

Sample ID	LCS-97207	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270	
Client ID:	LCSW	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976050	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	9.521	1.0	10.00	0	95.2	85	115					

Sample ID	N054021-008BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168512	
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993281	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	3519.648	25	10.00	3110	4090	75	125				S	

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168512	
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/27/2022	SeqNo:	4993282	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	3179.439	25	10.00	3110	692	75	125	3520	10.2	20	S	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-97435	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/29/2022	RunNo:	168559
Client ID:	PBW	Batch ID:	97435	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/29/2022	SeqNo:	4995944

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.408	1.0									

Sample ID	LCS-97435	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/29/2022	RunNo:	168559
Client ID:	LCSW	Batch ID:	97435	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/29/2022	SeqNo:	4995945

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.967	1.0	10.00	0	99.7	85	115				

Sample ID	N054022-001C-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/29/2022	RunNo:	168559
Client ID:	ZZZZZZ	Batch ID:	97435	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/29/2022	SeqNo:	4995949

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.299	1.0	10.00	1.082	92.2	75	125				

Sample ID	N054022-001C-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	12/29/2022	RunNo:	168559
Client ID:	ZZZZZZ	Batch ID:	97435	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/29/2022	SeqNo:	4995950

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.314	1.0	10.00	1.082	92.3	75	125	10.30	0.140	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N054021-008B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **168512**
Client ID:	**ZZZZZZ**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/27/2022**	SeqNo: **4993280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3486.022	25	250.0	3110	150	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N054022-001C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**		Prep Date:			RunNo: **168559**		
Client ID:	**ZZZZZZ**	Batch ID: **97435**	TestNo: **EPA 6020**	**EPA 3010A**		Analysis Date: **12/29/2022**			SeqNo: **4995948**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.528	1.0	10.00	1.082	94.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:46:00 PM
Lab ID:	N054022-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	12/9/2022 10:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-113-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 12:39:00 PM
Lab ID:	N054022-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.9	0.095	0.50		mg/L	10	12/9/2022 11:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-938-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 12:49:00 PM
Lab ID:	N054022-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.9	0.095	0.50		mg/L	10	12/9/2022 11:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-157-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:25:00 PM
Lab ID:	N054022-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_221209A**	QC Batch: **R168037**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.6	0.095	0.50		mg/L	10	12/9/2022 11:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R168037_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	PBW	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962180

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.019	0.050									

Sample ID	LCS-R168037_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	LCSW	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962181

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.245	0.050	1.250	0	99.6	90	110				

Sample ID	N054021-008DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962183

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	33.696	1.0	25.00	9.992	94.8	80	120				

Sample ID	N054021-008DMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962184

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	33.528	1.0	25.00	9.992	94.1	80	120	33.70	0.500	20	

Sample ID	N054021-004DDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962192

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.425	0.50						1.439	0.978	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N054021-004DMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	168037
Client ID:	ZZZZZZ	Batch ID:	R168037	TestNo:	EPA 300.0			Analysis Date:	12/9/2022	SeqNo:	4962193

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.139	0.50	12.50	1.439	93.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 2:46:00 PM
Lab ID:	N054022-001	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	0.46	0.050	0.10		µg/L	1	12/16/2022 11:50 PM
Manganese	460	0.13	2.5		µg/L	5	12/24/2022 12:13 AM
Molybdenum	25	0.12	0.50		µg/L	1	12/16/2022 11:50 PM
Selenium	1.5	0.044	0.50		µg/L	1	12/16/2022 11:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-113-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 12:39:00 PM
Lab ID:	N054022-002	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**			PrepDate:	**12/13/2022**		Analyst: **DJ**
Arsenic	1.3	0.050	0.10		µg/L	1	12/16/2022 11:56 PM
Manganese	50	0.026	0.50		µg/L	1	12/16/2022 11:56 PM
Molybdenum	4.2	0.12	0.50		µg/L	1	12/16/2022 11:56 PM
Selenium	5.1	0.044	0.50		µg/L	1	12/16/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-938-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 12:49:00 PM
Lab ID:	N054022-003	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_221216D**	QC Batch: **97207**				PrepDate:	**12/13/2022**	Analyst: **DJ**
Arsenic	1.2	0.050	0.10		µg/L	1	12/17/2022 12:01 AM
Manganese	71	0.026	0.50		µg/L	1	12/17/2022 12:01 AM
Molybdenum	4.3	0.12	0.50		µg/L	1	12/17/2022 12:01 AM
Selenium	5.2	0.044	0.50		µg/L	1	12/17/2022 12:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-157-Q422
Lab Order:	N054022		
Project:	PG&E Topock - RCM, 30121866.4Q22GW	**Collection Date:**	12/8/2022 1:25:00 PM
Lab ID:	N054022-004	**Matrix:**	GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_221223D**	QC Batch: **97207**			PrepDate:	**12/13/2022**	Analyst: **DJ**	
Arsenic	0.21	0.050	0.10		µg/L	1	12/24/2022 12:18 AM
Manganese	0.91	0.026	0.50		µg/L	1	12/27/2022 01:50 PM
Molybdenum	10	0.12	0.50		µg/L	1	12/17/2022 12:07 AM
Selenium	5.9	0.044	0.50		µg/L	1	12/17/2022 12:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-97207**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **PBW**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-97207**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **LCSW**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.775	0.10	10.00	0	97.7	85	115				
Manganese	93.606	0.50	100.0	0	93.6	85	115				
Molybdenum	10.238	0.50	10.00	0	102	85	115				
Selenium	8.832	0.50	10.00	0	88.3	85	115				

Sample ID **N054021-008BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.053	0.10	10.00	1.062	110	75	125				
Manganese	92.453	0.50	100.0	0.2358	92.2	75	125				
Molybdenum	19.951	0.50	10.00	9.484	105	75	125				
Selenium	47.634	0.50	10.00	41.88	57.5	75	125				S

Sample ID **N054021-008BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **12/13/2022**	RunNo: **168270**
Client ID: **ZZZZZZ**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976188**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.823	0.10	10.00	1.062	97.6	75	125	12.05	10.8	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N054021-008BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	12/13/2022	RunNo:	168270
Client ID:	ZZZZZZ	Batch ID:	97207	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	12/16/2022	SeqNo:	4976188

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.050	0.50	100.0	0.2358	90.8	75	125	92.45	1.53	20	
Molybdenum	20.266	0.50	10.00	9.484	108	75	125	19.95	1.56	20	
Selenium	51.652	0.50	10.00	41.88	97.7	75	125	47.63	8.09	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N054022
Project: PG&E Topock - RCM, 30121866.4Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	**N054021-008B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **168270**
Client ID:	**ZZZZZZ**	Batch ID: **97207**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **12/16/2022**	SeqNo: **4976186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.466	0.10	10.00	1.062	104	80	120				
Manganese	89.912	0.50	100.0	0.2358	89.7	80	120				
Molybdenum	20.126	0.50	10.00	9.484	106	80	120				
Selenium	47.276	0.50	10.00	41.88	53.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02
FOLDER
N054022-006A

C: 12/23/202 12:00 AM
R: 12/8/2022
1 of 1

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

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| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	12/8/2022	Workorder:	N054022
Rep sample Temp (Deg C):	2.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: EF EFanegoF 12/12/2022

Reviewed By: for: MBC 12/22/2022

ASSET Laboratories

WORK ORDER Summary

23-Dec-22

WorkOrder: N054022

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/8/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054022-001A	MW-58BR-Q422	12/8/2022 2:46:00 PM	12/23/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054022-001B			12/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054022-001C			12/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054022-002A	MW-95-113-Q422	12/8/2022 12:39:00 PM	12/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054022-002B			12/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054022-002C			12/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054022-002D			12/23/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N054022-003A	MW-938-Q422	12/8/2022 12:49:00 PM	12/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054022-003B			12/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054022-003C			12/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054022-003D			12/23/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N054022-004A	MW-95-157-Q422	12/8/2022 1:25:00 PM	12/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054022-004B			12/23/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N054022-004C			12/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			12/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Dec-22

WorkOrder: N054022

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.4Q22GW **QC Level:** Level IV **Date Received:** 12/8/2022 6:58 PM

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N054022-004C	MW-95-157-Q422	12/8/2022 1:25:00 PM	12/23/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N054022-004D			12/23/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N054022-005A	EB-749-Q422	12/8/2022 3:00:00 PM	12/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N054022-006A	FOLDER	12/23/2022	12/23/2022		Folder	Folder	☐	☐	☐	LAB
			12/23/2022		Folder	Level IV Report	☐	☐	☐	LAB
			12/23/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

12-Dec-22

				Nitrate/Nitrite	Requested Tests	
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N054022-002D / MW-95-113-Q422	Groundwater	12/8/2022 12:39:00 PM	16OZP	1		
N054022-003D / MW-938-Q422	Groundwater	12/8/2022 12:49:00 PM	16OZP	1		
N054022-004D / MW-95-157-Q422	Groundwater	12/8/2022 1:25:00 PM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N54022A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558399642

		Date/Time			Date/Time
Relinquished by:	YRodriguez	12/12/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

BC LABORATORIES, INC.

Work Order Number: 2229590

Laboratory Documentation Requirements
For Data Validation of
Wet Chemistry Analysis

Prepared By

BC Laboratories

For ASSET Laboratories- Las Vegas

N54022A

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Case Narrative

Sample Receipt

Work Order: 2229590
COC Number:
Default Cooler was received at 0.7 °C
Samples were checked for preservation. Where applicable, sample preservation was adjusted in the laboratory.

Requested Analysis

Method	Instrument
EPA-353.2	SC-1

Sample Qualifier Summary

Detection and quantitation limits were raised due to matrix interference.

Lab Number	Method	Analyte
2229590-01	EPA-353.2	Nitrate/Nitrite as N
2229590-02	EPA-353.2	Nitrate/Nitrite as N
2229590-03	EPA-353.2	Nitrate/Nitrite as N

Holding Times

All holding time requirements were met.

Method Blanks

There were no detections in the Method Blank(s).

Calibration

Initial calibration criteria for respective analysis were met. Frequency criteria for initial and continuing calibrations were met. Accuracy criteria for initial and continuing calibrations were met.

Matrix Spikes

Source Samples Used For QC

Batch	Method	Source Lab Number	Client Sample Name
B156579	EPA-353.2	2229644-02	<Not Client Sample>

Precision and accuracy requirements were within QC limits.

LCS

The LCS recoveries were within QC limits.

Chain of Custody and Cooler Receipt Form for 2229590 Page 1 of 2

CHAIN-OF-CUSTODY RECORD

2229590

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.ael-labs.com
TEL: 7023072659 FAX: 7023072691

QC Level: Level IV

22-24590

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

12-Dec-22

Sample ID		Matrix	Date Collected	Bottle Type	Nitrate/Nitrite SM4500-NO3F	Requested Tests		
N054022-002D	/ MW-95-113-Q422	Groundwater	12/8/2022 12:39:00 PM	16OZP	1			
N054022-003D	/ MW-938-Q422	Groundwater	12/8/2022 12:49:00 PM	16OZP	1			
N054022-004D	/ MW-95-157-Q422	Groundwater	12/8/2022 1:25:00 PM	16OZP	1			

CHK BY
DISTRIBUTION
SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N54022A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GLS #: 558399642

	Date/Time		Date/Time
Relinquished by: yRodriguez	12/12/2022 1630	Received by:	12-13-22 0954
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2229590 Page 2 of 2

PACE ANALYTICAL — COOLER RECEIPT FORM — Page 1 Of 1

Submission #: 22-29590

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ GSO / GLS ☒ Hand Delivery ☐	Ice Chest ☒ None ☐ Box ☐	YES ☒ NO ☐
Pace Lab Field Service ☐ Other ☐ (Specify)_____	Other ☐ (Specify)_____	(W) / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 0.97 Container: PE Thermometer ID: 337 Date/Time 12-13-22

Temperature: (A) 0.9 °C / (C) 0.7 °C Analyst Init SMH 0954

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS	A,RV	A-28	A							
PT TOTAL SULFIDE										
2oz NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664B										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608.3/8081A										
QT EPA 515.1/8151A										
QT EPA 525.2										
QT EPA 525.2 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548.1										
QT EPA 549.2										
QT EPA 8015M										
QT EPA 8270C										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: TCD A S. Date/Time: 12-13-22 1720

A = Actual / C = Corrected

Rev 23 05/20/22

[S:\WPDocs\Word Perfect\LAB_DOCS\FORMS\SAMREC rev 23]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

BC Laboratories
4100 Atlas Court
Bakersfield, CA 93308
Phone: 661-327-4911

SDG: **2229590**
Class: **WET**
Method: **EPA-353.2**

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

ANALYSES DATA PACKAGE COVER PAGE

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Client Sample Id:	Lab Sample Id:
N054022-002D / MW-95-113-Q422	2229590-01
N054022-003D / MW-938-Q422	2229590-02
N054022-004D / MW-95-157-Q422	2229590-03

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: Sara Guron
Name: Sara Guron

Date: 01-10-2023
Title: QA/QC Manager

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

METHOD DETECTION AND REPORTING LIMITS

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Instrument: SC-1

Analyte	MDL	RL	Units
Nitrate/Nitrite as N	0.034	0.1	mg/L

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N054022-002D / MW-95-113-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229590-01
File ID: 20221220007-NO3-024
Sampled: 12/08/22 12:39
Prepared: 12/20/22 12:00
Analyzed: 12/20/22 18:44
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156579
Sequence: 2223546
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	6.0	5	D	EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N054022-003D / MW-938-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229590-02
File ID: 20221220007-NO3-025
Sampled: 12/08/22 12:49
Prepared: 12/20/22 12:00
Analyzed: 12/20/22 18:46
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156579
Sequence: 2223546
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	6.6	5	D	EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

INORGANIC ANALYSIS DATA SHEET

EPA-353.2

N054022-004D / MW-95-157-Q422

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Laboratory ID: 2229590-03
File ID: 20221220007-NO3-026
Sampled: 12/08/22 13:25
Prepared: 12/20/22 12:00
Analyzed: 12/20/22 18:48
Solids: 0.00
Preparation: No Prep
Initial/Final: 10 ml / 10 ml
Batch: B156579
Sequence: 2223546
Calibration: UNASSIGNED
Instrument: SC-1

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
---	Nitrate/Nitrite as N	5.8	5	D	EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

PREPARATION BATCH SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Batch: B156579
Batch Matrix: Water
Preparation: No Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
N054022-002D / MW-95-113-Q422	2229590-01	20221220007-NO3-024	12/20/22 12:00	pH of sample was 8
N054022-003D / MW-938-Q422	2229590-02	20221220007-NO3-025	12/20/22 12:00	pH of sample was 8
N054022-004D / MW-95-157-Q422	2229590-03	20221220007-NO3-026	12/20/22 12:00	pH of sample was 8
Blank	B156579-BLK1	20221220007-NO3-008	12/20/22 12:00	
LCS	B156579-BS1	20221220007-NO3-006	12/20/22 12:00	
Duplicate	B156579-DUP1	20221220007-NO3-010	12/20/22 12:00	pH of sample was 8
Matrix Spike	B156579-MS1	20221220007-NO3-011	12/20/22 12:00	pH of sample was 8
Matrix Spike Dup	B156579-MSD1	20221220007-NO3-012	12/20/22 12:00	pH of sample was 8

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

METHOD BLANK DATA SHEET
EPA-353.2

Laboratory:	Pace Analytical - Bakersfield		SDG:	2229590	
Client:	ASSET Laboratories- Las Vegas $ADNV		Project:	Level IV + labSpec7	
Matrix:	Water	Laboratory ID:	B156579-BLK1	File ID:	20221220007-NO3-008
Prepared:	12/20/22 12:00	Preparation:	No Prep	Initial/Final:	10 ml / 10 ml
Analyzed:	12/20/22 18:17	Instrument:	SC-1		
Batch:	B156579	Sequence:	2223546	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (mg/L)	Q
---	Nitrate/Nitrite as N	0.034	U

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

Duplicate

DUPLICATES

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Matrix: Water
Batch: B156579
Preparation: No Prep
Source Sample Name: Duplicate

SDG: 2229590
Project: Level IV + labSpec7
Laboratory ID: B156579-DUP1
Lab Source ID: 2229644-02
Initial/Final: 10 ml / 10 ml
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Nitrate/Nitrite as N	10	0.0056000		ND				EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA-353.2

Matrix Spike

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156579
Laboratory ID: B156579-MS1
Preparation: No Prep
Initial/Final: 9.5 ml / 10 ml
Source Sample Number: 2229644-02

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	ND	2.1119	100	90 - 110

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Nitrate/Nitrite as N	2.1053	2.2062	105	4.37	10	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

LCS RECOVERY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7
Matrix: Water
Batch: B156579
Laboratory ID: B156579-BS1
Preparation: No Prep
Initial/Final: 10 ml / 10 ml

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. #	QC LIMITS REC.
Nitrate/Nitrite as N	2.0000	2.0559	103	90 - 110

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA-353.2

Laboratory:	Pace Analytical - Bakersfield	SDG:	2229590
Client:	ASSET Laboratories- Las Vegas $ADNV	Project:	Level IV + labSpec7
Sequence:	2223546	Instrument:	SC-1
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	2223546-ICV1	20221220001-NO3-018	12/20/22 10:04
Initial Cal Blank	2223546-ICB1	20221220001-NO3-019	12/20/22 10:05
Calibration Check	2223546-CCVJ	20221220007-NO3-004	12/20/22 18:12
Calibration Blank	2223546-CCBJ	20221220007-NO3-005	12/20/22 18:13
LCS	B156579-BS1	20221220007-NO3-006	12/20/22 18:14
Blank	B156579-BLK1	20221220007-NO3-008	12/20/22 18:17
Duplicate	B156579-DUP1	20221220007-NO3-010	12/20/22 18:19
Matrix Spike	B156579-MS1	20221220007-NO3-011	12/20/22 18:20
Matrix Spike Dup	B156579-MSD1	20221220007-NO3-012	12/20/22 18:22
Calibration Check	2223546-CCVK	20221220007-NO3-016	12/20/22 18:26
Calibration Blank	2223546-CCBK	20221220007-NO3-017	12/20/22 18:28
Calibration Check	2223546-CCVL	20221220007-NO3-022	12/20/22 18:34
Calibration Blank	2223546-CCBL	20221220007-NO3-023	12/20/22 18:35
N054022-002D / MW-95-113-Q422	2229590-01	20221220007-NO3-024	12/20/22 18:44
N054022-003D / MW-938-Q422	2229590-02	20221220007-NO3-025	12/20/22 18:46
N054022-004D / MW-95-157-Q422	2229590-03	20221220007-NO3-026	12/20/22 18:48
Calibration Check	2223546-CCVM	20221220007-NO3-028	12/20/22 18:51
Calibration Blank	2223546-CCBM	20221220007-NO3-029	12/20/22 18:52

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

BLANKS
EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Project: Level IV + labSpec7
Sequence: 2223546
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
2223546-ICB1	Nitrate/Nitrite as N	0.0022000	0.10	mg/L		EPA-353.2
2223546-CCBJ	Nitrate/Nitrite as N	0.0038000	0.10	mg/L		EPA-353.2
2223546-CCBK	Nitrate/Nitrite as N	0.0016000	0.10	mg/L		EPA-353.2
2223546-CCBL	Nitrate/Nitrite as N	0.00050000	0.10	mg/L		EPA-353.2
2223546-CCBM	Nitrate/Nitrite as N	0.00090000	0.10	mg/L		EPA-353.2

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

INITIAL AND CONTINUING CALIBRATION CHECK

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
Client: ASSET Laboratories- Las Vegas $ADNV
Instrument ID: SC-1
Control Limt: +/- 10.00%

SDG: 2229590
Project: Level IV + labSpec7
Calibration: UNASSIGNED
Sequence: 2223546

Lab Sample ID	Analyte	True	Found	%R	Units	Method
2223546-ICV1	Nitrate/Nitrite as N	2.0000	2.0335	102	mg/L	EPA-353.2
2223546-CCVJ	Nitrate/Nitrite as N	2.0000	2.0988	105	mg/L	EPA-353.2
2223546-CCVK	Nitrate/Nitrite as N	2.0000	2.1083	105	mg/L	EPA-353.2
2223546-CCVL	Nitrate/Nitrite as N	2.0000	2.0508	103	mg/L	EPA-353.2
2223546-CCVM	Nitrate/Nitrite as N	2.0000	2.0941	105	mg/L	EPA-353.2

* Values outside of QC limits

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

HOLDING TIME SUMMARY

EPA-353.2

Laboratory: Pace Analytical - Bakersfield
SDG: 2229590
Client: ASSET Laboratories- Las Vegas $ADNV
Project: Level IV + labSpec7

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
N054022-002D / MW-95-113-Q422	12/08/22 12:39	12/13/22 09:54	12/20/22 12:00	12.00	28.00	12/20/22 18:44	12.00	28.00	
N054022-003D / MW-938-Q422	12/08/22 12:49	12/13/22 09:54	12/20/22 12:00	12.00	28.00	12/20/22 18:46	12.00	28.00	
N054022-004D / MW-95-157-Q422	12/08/22 13:25	12/13/22 09:54	12/20/22 12:00	12.00	28.00	12/20/22 18:48	12.00	28.00	

* Holding time not met

Note: If Prep or Analysis are performed within the hour (if holding time is based on hours) or within the day (if holding time is based on days), then the sample is not flagged as outside holding times. Calculated number of days are based on date received or date prepared depending on the test.

Raw Data From Instrument SC-1

Raw Data - Analytical Runs

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0303**	**0.00**	**9:44:20 AM**
DIL-1	**RBL**	**0.0000**	**0.0302**	**0.00**	**9:45:32 AM**
DIL-1	**RBL**	**0.0000**	**0.0295**	**0.00**	**9:46:44 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0006**	**0.00**	**9:47:56 AM**
DIL-1	**Std-1**	**0.0000**	**-0.0008**	**0.00**	**9:49:08 AM**
SR5-1	**Std-2**	**0.1000**	**0.0272**	**0.00**	**9:50:20 AM**
SR5-1	**Std-2**	**0.1000**	**0.0292**	**0.00**	**9:51:32 AM**
SR5-2	**Std-3**	**0.5000**	**0.1333**	**0.00**	**9:52:44 AM**
SR5-2	**Std-3**	**0.5000**	**0.1315**	**0.00**	**9:53:56 AM**
SR5-3	**Std-4**	**1.0000**	**0.2785**	**0.00**	**9:55:08 AM**
SR5-3	**Std-4**	**1.0000**	**0.2796**	**0.00**	**9:56:20 AM**
SR5-4	**Std-5**	**2.0000**	**0.5424**	**0.00**	**9:57:32 AM**
SR5-4	**Std-5**	**2.0000**	**0.5417**	**0.00**	**9:58:44 AM**
SR5-5	**Std-6**	**4.0000**	**1.1152**	**0.00**	**9:59:56 AM**
SR5-5	**Std-6**	**4.0000**	**1.0829**	**0.00**	**10:01:08 AM**
ST-3	**^CCV (2 mg/L)**	**1.9923**	**0.5459**	**99.62**	**10:02:20 AM**
ST-2	**~CCB (0 mg/L)**	**0.0040**	**0.0000**	**0.00**	**10:03:32 AM**
1	**ICV1**	**2.0335**	**0.5572**	**0.00**	**10:04:44 AM**
2	**IB1**	**0.0022**	**-0.0005**	**0.00**	**10:05:56 AM**
3	**NO3**	**1.9490**	**0.5340**	**0.00**	**10:07:09 AM**
4	**NO2**	**2.0786**	**0.5696**	**0.00**	**10:08:21 AM**
ST-3	**^CCV (2 mg/L)**	**2.0276**	**0.5556**	**101.38**	**10:09:33 AM**
ST-2	**~CCB (0 mg/L)**	**0.0051**	**0.0003**	**0.00**	**10:10:45 AM**

Report Date :01/09/2023 **Run Date :12/20/2022** **Operator : WESTCO** **Plan # :20221220001**

Plan Description : NO3

Pace Analyical

SC-1

Bakersfield

California

Method : ZNO3 -Unit [mg/L] - EPA 353.2 Nitrate

Smp#/[Dil Fact]	Sample ID	Conc	OD	%Recovery/RPD	Analysis Time
DIL-1	**RBL**	**0.0000**	**0.0283**	**0.00**	**6:08:48 PM**
DIL-1	**RBL**	**0.0000**	**0.0278**	**0.00**	**6:10:00 PM**
DIL-1	**RBL**	**0.0000**	**0.0282**	**0.00**	**6:11:12 PM**
ST-3	**^CCV (2 mg/L)**	**2.0988**	**0.5752**	**104.94**	**6:12:24 PM**
ST-2	**~CCB (0 mg/L)**	**0.0038**	**0.0000**	**0.00**	**6:13:36 PM**
1	**B4-BS1**	**2.0559**	**0.5634**	**0.00**	**6:14:48 PM**
2	**B4-BSD1**	**1.9925**	**0.5460**	**0.00**	**6:16:00 PM**
3	**B4-BLK1**	**0.0009**	**-0.0008**	**0.00**	**6:17:12 PM**
4	**2229644-02**	**0.0056**	**0.0005**	**0.00**	**6:18:24 PM**
5	**B4-DUP1**	**-0.0031**	**-0.0019**	**0.00**	**6:19:36 PM**
6	**B4-MS1**	**2.0063**	**0.5498**	**0.00**	**6:20:48 PM**
7	**B4-MSD1**	**2.0959**	**0.5744**	**0.00**	**6:22:00 PM**
8	**2229644-01**	**0.0071**	**0.0009**	**0.00**	**6:23:12 PM**
9	**2229644-03**	**0.0056**	**0.0005**	**0.00**	**6:24:24 PM**
10	**2229590-01**	**5.5324**	**1.5179**	**0.00**	**6:25:36 PM**
ST-3	**^CCV (2 mg/L)**	**2.1083**	**0.5778**	**105.42**	**6:26:48 PM**
ST-2	**~CCB (0 mg/L)**	**0.0016**	**-0.0006**	**0.00**	**6:28:00 PM**
11	**2229590-02**	**6.2113**	**1.7043**	**0.00**	**6:29:12 PM**
12	**2229590-03**	**5.5692**	**1.5280**	**0.00**	**6:30:24 PM**
13	**2229738-01**	**1.0954**	**0.2997**	**0.00**	**6:31:36 PM**
14	**2230077-01**	**16.8013**	**4.6118**	**0.00**	**6:32:48 PM**
ST-3	**^CCV (2 mg/L)**	**2.0508**	**0.5620**	**102.54**	**6:34:00 PM**
ST-2	**~CCB (0 mg/L)**	**0.0005**	**-0.0009**	**0.00**	**6:35:12 PM**
10-[1/5]	**2229590-01**	**5.9559**	**0.3260**	**0.00**	**6:44:22 PM**
11-[1/5]	**2229590-02**	**6.6279**	**0.3629**	**0.00**	**6:46:28 PM**
12-[1/5]	**2229590-03**	**5.8466**	**0.3200**	**0.00**	**6:48:35 PM**
14-[1/5]	**2230077-01**	**30.5632**	**1.6772**	**0.00**	**6:50:41 PM**
ST-3	**^CCV (2 mg/L)**	**2.0941**	**0.5739**	**104.71**	**6:51:35 PM**
ST-2	**~CCB (0 mg/L)**	**0.0009**	**-0.0008**	**0.00**	**6:52:47 PM**
14-[1/20]	**2230077-01**	**33.7525**	**0.4623**	**0.00**	**7:01:57 PM**
ST-3	**^CCV (2 mg/L)**	**1.9928**	**0.5461**	**99.64**	**7:02:51 PM**
ST-2	**~CCB (0 mg/L)**	**0.0009**	**-0.0008**	**0.00**	**7:04:03 PM**

Report Date :12/30/2022 **Run Date :12/20/2022** **Operator : WESTCO** **Plan # :20221220007**

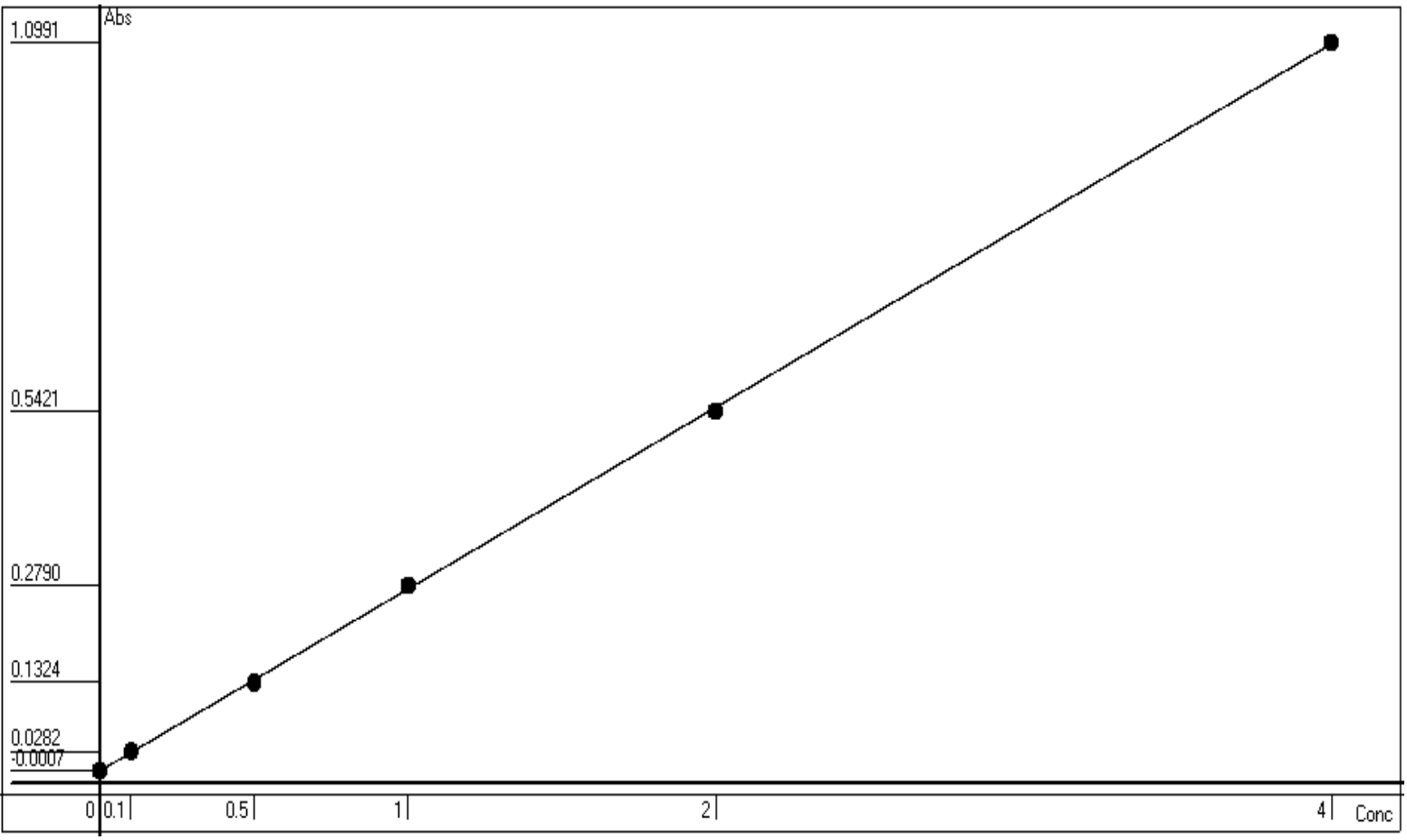
Plan Description : NO3

Raw Data - Calibration Summary

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221220001 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0007	0	0.0015	0.15
2	0.0282	0.1	0.1067	6.70
3	0.1324	0.5	0.4862	-2.76
4	0.2790	1	1.0202	2.02
5	0.5421	2	1.9785	-1.08
6	1.0991	4	4.0073	0.18

Conc= +3.6423*Abso +0.004 R^2=0.9999

RBL 0.0295 0

Report Date 1/9/2023 Run Date 12/20/2022

Replicate Report - ZNO3 -

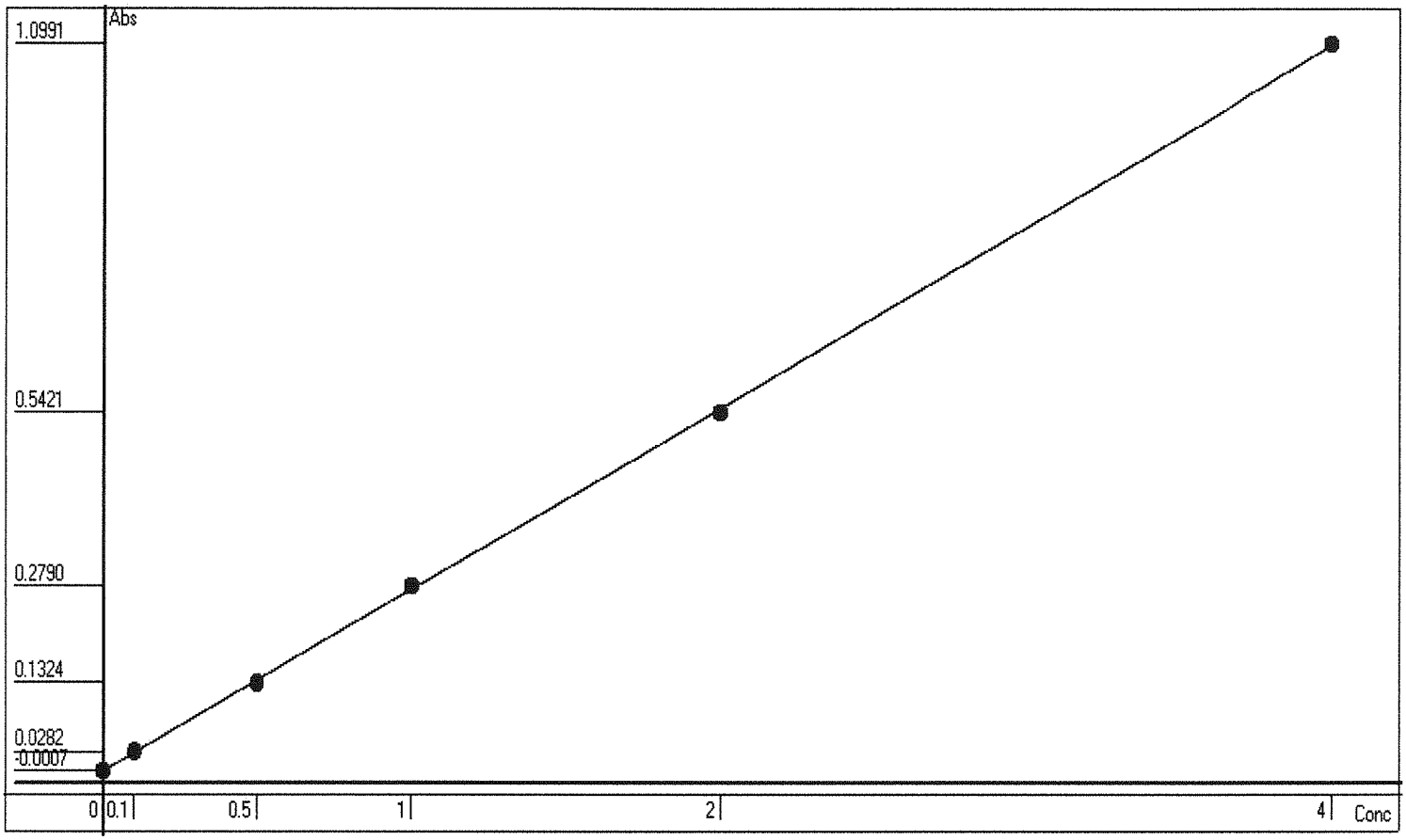
Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0006	-0.0008	/	/
2	0.0272	0.0292	/	/
3	0.1333	0.1315	/	/
4	0.2785	0.2796	/	/
5	0.5424	0.5417	/	/
6	1.1152	1.0829	/	/

Print Date:1/9/2023 [WESTCO]

Calibrant Report - ZNO3 -

Calib Lot #:071707 Exp Date:1/1/2025 User:BC Labs

Plan # : 20221220001 Description : [NO3] Unit [mg/L]



Point	OD	Conc	Recalc Conc	% Error
1	-0.0007	0	0.0015	0.15
2	0.0282	0.1	0.1067	6.70
3	0.1324	0.5	0.4862	-2.76
4	0.2790	1	1.0202	2.02
5	0.5421	2	1.9785	-1.08
6	1.0991	4	4.0073	0.18

Conc= +3.6423*Abso +0.004 **R^2=0.9999**

RBL
0.0295
0

Report Date 12/30/2022 Run Date 12/20/2022

Replicate Report - ZNO3 -

Point	Repl 1	Repl 2	Repl 3	Repl 4
1	-0.0006	-0.0008	/	/
2	0.0272	0.0292	/	/
3	0.1333	0.1315	/	/
4	0.2785	0.2796	/	/
5	0.5424	0.5417	/	/
6	1.1152	1.0829	/	/

Print Date:12/30/2022 [WESTCO]

Raw Data - Batch Information

PREPARATION BENCH SHEET

B156579

BC Laboratories

Printed: 1/10/2023 3:32:01PM

Matrix: Water | Prepared using: Wet Chem - No Prep | (No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (ml)	Final (ml)	Spike ID	Source ID	ul Spike	ul Surrogate	% Solids
2229590-01 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229590-02 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229590-03 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229644-01 C	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229644-02 E	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229644-03 C	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2229738-01 N	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
2230077-01 A	i353.2w NO3/NO2 as N	12/20/2022 12:00PM	KB1	10	10					
B156579-BLK1	QC	12/20/2022 12:00PM	KB1	10	10					
B156579-BS1	QC	12/20/2022 12:00PM	KB1	10	10	2J04023		500		
B156579-BSD1	QC	12/20/2022 12:00PM	KB1	10	10	2J04023		500		
B156579-DUP1	QC	12/20/2022 12:00PM	KB1	10	10		2229644-02			
B156579-MS1	QC	12/20/2022 12:00PM	KB1	9.5	10	2J04023	2229644-02	500		
B156579-MSD1	QC	12/20/2022 12:00PM	KB1	9.5	10	2J04023	2229644-02	500		

Spike Mixes	Description	Solvent	Prepared	Expires
2J04023	NO3-N SPIKE 40	DILUTE H2SO4	10/4/2022 2 by zzzManpreet Br	4/4/2023

Raw Data - Sequence Information

ANALYSIS SEQUENCE

2223546

Instrument: SC-1
Calibration ID:
Sequence Date: 12/20/2022
Printed: 1/10/2023 3:32:01PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223546-ICV1	QC		1		2J04029		
2223546-ICB1	QC		2				
2223546-CCV1	QC		3		2J04024		
2223546-CCB1	QC		4				
B156576-BS1	QC		5				
B156576-BLK1	QC		6				
2228971-01	i353.2w NO3/NO2 as N	M	7				
B156576-DUP1	QC		8				
B156576-MS1	QC		9				
B156576-MSD1	QC		10				
2228971-02	i353.2w NO3/NO2 as N	M	11				
2229290-01	i353.2w NO3/NO2 as N	A	12				
2223546-CCV2	QC		13		2J04024		
2223546-CCB2	QC		14				
2229290-02	i353.2w NO3/NO2 as N	A	15				
2229290-03	i353.2w NO3/NO2 as N	A	16				
2229290-04	i353.2w NO3/NO2 as N	A	17				
2229589-01	i353.2w NO3/NO2 as N	A	18				
2229589-02	i353.2w NO3/NO2 as N	A	19				
2223546-CCV3	QC		20		2J04024		
2223546-CCB3	QC		21				
2229274-01	i353.2w NO3/NO2 as N	C	22				
2229274-02	i353.2w NO3/NO2 as N	C	23				
2223546-CCV4	QC		24		2J04024		
2223546-CCB4	QC		25				
2223546-CCV5	QC		26		2J04024		
2223546-CCB5	QC		27				
B156577-BS1	QC		28				
B156577-BLK1	QC		29				
2229291-02	i353.2w NO3/NO2 as N	A	30				
2229291-05	i353.2w NO3/NO2 as N	A	31				
2223546-CCV6	QC		32		2J04024		
2223546-CCB6	QC		33				
2229307-01	i353.2w NO3/NO2 as N	F	34				
2223546-CCV7	QC		35		2J04024		
2223546-CCB7	QC		36				
2229291-03	i353.2w NO3/NO2 as N	A	37				
2229291-04	i353.2w NO3/NO2 as N	A	38				
2229291-06	i353.2w NO3/NO2 as N	A	39				

ANALYSIS SEQUENCE

2223546

Instrument: SC-1
Calibration ID:
Sequence Date: 12/20/2022
Printed: 1/10/2023 3:32:01PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
2223546-CCV8	QC		40		2J04024		
2223546-CCB8	QC		41				
2229291-07	i353.2w NO3/NO2 as N	A	42				
2229291-08	i353.2w NO3/NO2 as N	A	43				
2229291-09	i353.2w NO3/NO2 as N	A	44				
2223546-CCV9	QC		45		2J04024		
2223546-CCB9	QC		46				
2223546-CCVA	QC		47		2J04024		
2223546-CCBA	QC		48				
2229291-01	i353.2w NO3/NO2 as N	A	49				
B156577-DUP1	QC		50				
B156577-MS1	QC		51				
B156577-MSD1	QC		52				
2223546-CCVB	QC		53		2J04024		
2223546-CCBB	QC		54				
2223546-CCVC	QC		55		2J04024		
2223546-CCBC	QC		56				
2229307-03	i353.2w NO3/NO2 as N	F	57				
2229307-04	i353.2w NO3/NO2 as N	F	58				
2223546-CCVD	QC		59		2J04024		
2223546-CCBD	QC		60				
2229553-01	i353.2w NO3/NO2 as N	C	61				
2229553-03	i353.2w NO3/NO2 as N	C	62				
2229596-01	i353.2w NO3/NO2 as N	G	63				
2229596-02	i353.2w NO3/NO2 as N	G	64				
2223546-CCVE	QC		65		2J04024		
2223546-CCBE	QC		66				
2229307-05	i353.2w NO3/NO2 as N	F	67				
2223546-CCVF	QC		68		2J04024		
2223546-CCBF	QC		69				
2229307-06	i353.2w NO3/NO2 as N	F	70				
2229553-02	i353.2w NO3/NO2 as N	C	71				
2223546-CCVG	QC		72		2J04024		
2223546-CCBG	QC		73				
2223546-CCVH	QC		74		2J04024		
2223546-CCBH	QC		75				
B156578-BS1	QC		76				
B156578-BLK1	QC		77				
2229307-02	i353.2w NO3/NO2 as N	F	78				

ANALYSIS SEQUENCE

2223546

Instrument: SC-1
Calibration ID:
Sequence Date: 12/20/2022
Printed: 1/10/2023 3:32:01PM

Lab Number	Analysis	Container	Order	Position	STD ID	ISTD ID	Comments
B156578-DUP1	QC		79				
B156578-MS1	QC		80				
B156578-MSD1	QC		81				
2223546-CCVI	QC		82		2J04024		
2223546-CCBI	QC		83				
2223546-CCVJ	QC		84		2J04024		
2223546-CCBJ	QC		85				
B156579-BS1	QC		86				
B156579-BSD1	QC		87				
B156579-BLK1	QC		88				
2229644-02	i353.2w NO3/NO2 as N	E	89				
B156579-DUP1	QC		90				
B156579-MS1	QC		91				
B156579-MSD1	QC		92				
2229644-01	i353.2w NO3/NO2 as N	C	93				
2229644-03	i353.2w NO3/NO2 as N	C	94				
2223546-CCVK	QC		95		2J04024		
2223546-CCBK	QC		96				
2229738-01	i353.2w NO3/NO2 as N	N	97				
2223546-CCVL	QC		98		2J04024		
2223546-CCBL	QC		99				
2229590-01	i353.2w NO3/NO2 as N	A	100				
2229590-02	i353.2w NO3/NO2 as N	A	101				
2229590-03	i353.2w NO3/NO2 as N	A	102				
2223546-CCVM	QC		103		2J04024		
2223546-CCBM	QC		104				
2230077-01	i353.2w NO3/NO2 as N	A	105				
2223546-CCVN	QC		106		2J04024		
2223546-CCBN	QC		107				

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 1/10/2023 3:32:01PM
Project: Level IV + labSpec7
Project Number: N54022A
Project Manager: Marlon B. Cartin

Notes and Definitions

B	Blank contamination. The analyte is greater than 1/2 the PQL/LOQ/CRQL in the associated method blank.
D	The reported value is from a dilution.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration.
J	The reported value is an estimated value. Results are between the MDL and PQL/LOQ/CRQL.
U	The analyte was not detected and is reported as less than the LOD/MDL or as defined by the client.

Appendix D

COPC Perimeter Assessment Plan Methodology

Pacific Gas and Electric Company

Appendix D – COPC Perimeter Assessment Plan Methodology

Fourth Quarter 2022 Quarterly Progress Report
Topock Compressor Station
Needles, California

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Attachments

Attachment A. Concentration Time Series Charts
Attachment B. Box and Whisker Plots

Acronyms and Abbreviations

ARAR	Applicable or Relevant and Appropriate Requirement
BOD	Basis of Design
COPC	constituent of potential concern
Cr6	hexavalent chromium
FOD	frequency of detection
IQR	interquartile range
IRZ	in-situ reactive zone
µg/L	microgram per liter
mg/L	milligram per liter
O&M	operation and maintenance
PAP	Perimeter Assessment Plan
PG&E	Pacific Gas and Electric Company
RCRA	Resource Conservation Recovery Act
SCL	Shewhart Control Limit
Site	PG&E Topock Compressor Station, located in eastern San Bernardino County, 15 miles southeast of the City of Needles, California
SMP	Sampling and Monitoring Plan
Statistical Guidance	Statistical Guidance for Determining Background Groundwater Quality and Degradation
TCS	Topock Compressor Station
Unified Guidance	Statistical Analysis of Groundwater Monitoring data at RCRA Facilities, Unified Guidance
USEPA	United States Environmental Protection Agency
x	mean

1 Introduction

Pacific Gas and Electric Company (PG&E) is implementing a final groundwater remedy to address hexavalent chromium (Cr6) in groundwater near the PG&E Topock Compressor Station (TCS), located in eastern San Bernardino County, 15 miles southeast of the City of Needles, California (the Site). In November 2015, PG&E submitted a Basis of Design Report/Final (100%) Design Submittal and Construction/Remedial Action Work Plan for the Final Groundwater Remedy (Final BOD), which presents the final design basis, design criteria, drawings, specifications, and operation and maintenance (O&M) requirements for the groundwater remedy (CH2M Hill, Inc. [CH2M Hill] 2015). Site-wide monitoring is being performed in accordance with the Sampling and Monitoring Plan (BOD SMP) provided in the Final BOD O&M Manual (Appendix L, Volume 2; CH2M Hill 2015) to evaluate the performance of the groundwater remedy to attain the Remedial Action Objectives and comply with Applicable or Relevant and Appropriate Requirements (ARARs).

Part of the site-wide monitoring program includes constituent of potential concern (COPC) monitoring, which consists of surface water and groundwater sampling to monitor COPC concentrations (dissolved molybdenum, dissolved selenium, and nitrate) during remedy startup. The COPC monitoring program also includes a COPC Perimeter Assessment Plan (PAP) developed to provide threshold concentrations (i.e., trigger levels) and a decision tree for COPC monitoring. The COPC PAP is designed to monitor the edges of the chromium plume and the elevated COPC areas outside the chromium plume to provide assurance that elevated concentrations of COPCs are being contained within the area of active remediation. Thirty-one monitoring wells are included in the COPC PAP, as shown on Figure D-1. Because COPCs will be moved by the pumping and injection necessary to push the chromium plume through the in-situ reactive zone (IRZ), COPC concentrations in the interior wells are expected to change during the remedial action; therefore, it is not practical or useful to establish numerical COPC trigger levels for wells in the interior of the chromium plume.

This appendix describes the methodology used to calculate the COPC trigger levels. If COPC concentrations in the COPC PAP monitoring wells exceed the trigger levels, then a series of notifications and actions is required, as outlined in the PAP decision tree provided on Figure D-2.

2 Groundwater Analytical Dataset

The groundwater analytical dataset used in this appendix consists of dissolved molybdenum, dissolved selenium, and nitrate as nitrogen[1] analytical results for samples collected from the 31 COPC PAP monitoring wells. The most recent eight groundwater samples from each monitoring well were used to calculate the trigger levels. If eight groundwater sample results were not available for a well-constituent pair, then a trigger level was not calculated; a trigger level will be calculated once a sufficient number of samples is collected. Field duplicate samples were not included in the groundwater analytical dataset. Table D-1 presents the groundwater analytical dataset used in this appendix.

[1] Nitrate as nitrogen and nitrate/nitrite as nitrogen data have historically been collected from the COPC PAP monitoring wells. If eight nitrate analytical results were not available to calculate a nitrate trigger level, then nitrate/nitrite analytical results were used to calculate a nitrate/nitrite trigger level, which will be used as the interim trigger level until sufficient nitrate results are collected.

3 Overview of Statistical Approach

The statistical approach used in this appendix is based on the Statistical Guidance (United States Environmental Protection Agency [USEPA] 2009). The use of Shewhart Control Limits (SCLs) is one of the recommended core strategies for detection monitoring. The Statistical Guidance (USEPA 2009) recommends the following steps for establishing SCLs for groundwater:

- Perform an exploratory data analysis, which includes determination of normality, calculation of descriptive statistics, and creation of graphical representations (Sections 4.1, 4.2, and 4.3).
- Calculate SCLs (Section 5).

4 Exploratory Data Analysis

The first step in the calculation of SCLs is to complete exploratory data analysis, which includes the determination of normality, calculation of descriptive statistics, and creation of graphical representations. This section describes how the exploratory data analysis was completed and presents the associated statistics for each step of the analysis.

4.1 Determination of Normality

Many of the tests described in this appendix are predicated on the normality of the dataset; therefore, when necessary, datasets were tested to demonstrate normality. The Shapiro-Wilk Test for Normality was used for datasets with sample sizes up to 50 (USEPA 2009, Shapiro and Wilk 1965). The test was run at the 5 percent critical level. For datasets with a sample size greater than 50, the Shapiro-Francia Test for Normality was used (USEPA 2009, Shapiro and Francia 1972).

If a dataset did not pass a test of normality, data were transformed following the ladder of powers. The ladder of powers is a sequence of transformations: square root, square, cube root, cube, logarithmic transformation, x^4, x^5, and x^6 (Helsel and Hirsch 2002, Box and Cox 1964). All points in the untransformed dataset were changed by one of these operations, and the new dataset was tested to determine if the transformed data met the criterion of normality. If the test failed, the original data were transformed using the next transformation in the ladder. Transformations were attempted in the order of the ladder of powers until normality was achieved or until all of the options were exhausted. In the latter case, non-parametric tests were necessary.

4.2 Descriptive Statistics

Descriptive statistics quantitatively describe the main features of a dataset. The development of descriptive statistics followed the Data Quality Assessment: Statistical Methods for Practitioners (USEPA 2006). The following commonly calculated descriptive statistics were performed on the complete dataset (as described in Section 2):

- Number of detects, number of non-detects, and frequency of detection (FOD). These statistics describe the sample size, number of detects and non-detects, and frequency of uncensored (i.e., detect) data.
- Minimum, maximum, and standard deviation. These statistics are measures of dispersion and characterize the distribution of the data. The minimum and maximum show the range of the data, and the standard deviation shows the spread of the data. A low standard deviation indicates that the observations are close to the mean, and a high standard deviation indicates that the observations are spread out over a larger range. The standard deviation was computed using only detected data.
- Mean and median. These statistics are measures of central tendency and characterize the center of a dataset. The mean represents the arithmetic average, and the median represents the middle of the ordered dataset. These statistics were calculated using only detected data.

Data qualified as estimated (i.e., J flagged) were included as detected values. Descriptive statistics were calculated in ProUCL using the following treatment of non-detects for calculation of the mean and standard deviation values:

- If the dataset contains fewer than 100 percent detections, but more than 85 percent detections, the values were calculated using the reporting limit for non-detects.
- If the dataset has fewer than or equal to 85 percent detections, but more than 50 percent detections, the values were calculated using the Kaplan-Meier substitution method for non-detects.
- If the dataset contains fewer than or equal to 50 percent detections, then the mean and standard deviation were not calculated.

Additionally, if a transformation was required to normalize the dataset, then the mean and standard deviation were based on transformed data.

Table D-2 presents descriptive statistics for each monitoring well.

4.3 Graphical Representations

Graphical representations visually communicate the features of a dataset. Concentration time series charts and box and whisker plots and were created for each well-constituent pair in the groundwater analytical dataset.

Concentration time series charts show constituent concentrations through time. They are useful for identifying inconsistent observations. Concentration time series charts were created using Microsoft Excel. Attachment A provides concentration time series charts for each well-constituent pair in the groundwater analytical dataset.

Box and whisker plots present an overall picture of the distribution of a dataset by displaying several percentiles (10th, 25th, 50th, 75th, and 90th). They provide insight into the location, shape, and spread of the data. Data are commonly plotted together in side-by-side box and whisker plots to determine if concentrations are comparable across multiple datasets. Additionally, potential elevated or extreme values (i.e., outliers) are identified on box and whisker plots as either one and a half or three times the interquartile range (IQR; defined as the third quartile [75th percentile] minus the first quartile [25th percentile]; USEPA 2006, 2015) from either end of the box, respectively. Box and whisker plots were created using R studio. Attachment B presents side-by-side box and whisker plots for each well-constituent pair in the groundwater analytical dataset.

5 Statistical Calculation of Shewhart Control Limits

Following the determination of the data distribution and calculation of the mean and standard deviation values, an SCL was calculated for use as a trigger level for 2022 constituent concentrations. The most recent eight concentrations were used in the calculation.

For datasets with fewer than 15 percent non-detections, the reporting limit was used to represent non-detects. For datasets with greater than or equal to 15 percent non-detections, the Kaplan-Meier method for non-detects was used. If there are more than 50 percent non-detections, a non-parametric method was used. For highly censored datasets, the highest detected value was used as the non-parametric SCL. For totally censored datasets (datasets composed exclusively of non-detections), the Double Quantification (DQ) rule was applied. The DQ rule (USEPA 2009) states that:

> "*A confirmed exceedance is registered if any well-constituent pair in the '100% non-detect' group exhibits quantified measurements (i.e., at or greater than the reporting limit) in two consecutive sample and resample events.*"

Before calculating SCLs, the dataset was checked for normality (Section 4.1) to determine which SCL is appropriate to represent the dataset. If the data were not found to be normally distributed, then a transformation was applied using the ladder of powers. The resulting SCL was back-transformed using the inverse of the applied transformation.

The SCLs for datasets with normal distributions and data normalized by a transformation were calculated using the following equation:

$$SCL = \bar{x} + standardized\ control\ limit \times s$$

Where $\bar{x}$ is the mean, s is the standard deviation, and the standardized control limit is equal to 5 (USEPA 2009).

Well-constituent pairs that were not normally distributed and could not be normalized were represented by a non-parametric SCL equal to the maximum detected value.

The SCLs for each well-constituent pair are presented in Table D-2. The SCLs will be updated annually using the most recent eight sample results.

6 Final COPC Trigger Levels

In accordance with the BOD SMP, COPC trigger levels were selected using the following logic:

- If the baseline concentration (defined based on the median of the available data) is below the ARAR, and the SCL is higher than the ARAR, then the ARAR is used as the trigger level. This approach provides a conservative means of establishing a trigger level that will bring attention to rising COPC concentrations before the ARAR concentration is reached. The ARARs for selenium and nitrate are 50 micrograms per liter (µg/L) and 10 milligrams per liter (mg/L), respectively. There is no ARAR for molybdenum.
- If the criteria described above are not met, then the SCL is used as the trigger level.

For all well-constituent pairs presented in Table D-2, the baseline selenium and nitrate concentrations are below the ARARs, and the SCLs are below the ARARs except for the nitrate SCLs for monitoring wells MW-14 (11 mg/L) and MW-40D (19.7 mg/L). Therefore, the selenium and nitrate SCLs are used as the trigger levels for all monitoring wells except MW-14 and MW-40D, which will use the nitrate ARAR of 10 mg/L as the trigger level for nitrate. Because molybdenum does not have an ARAR, the molybdenum SCLs are used as the trigger levels.

7 References

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Tables

Table D-1
Groundwater Analytical Dataset
Appendix D COPC Perimeter Assessment Plan Methodology
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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-14	12/11/2018	Molybdenum, dissolved	13	Detect	µg/L
MW-14	5/15/2019	Molybdenum, dissolved	11	Detect	µg/L
MW-14	12/9/2019	Molybdenum, dissolved	13	Detect	µg/L
MW-14	6/24/2020	Molybdenum, dissolved	10	Detect	µg/L
MW-14	12/10/2020	Molybdenum, dissolved	10	Detect	µg/L
MW-14	5/28/2021	Molybdenum, dissolved	12	Detect	µg/L
MW-14	12/7/2021	Molybdenum, dissolved	13	Detect	µg/L
MW-14	12/2/2022	Molybdenum, dissolved	8.4	Detect	µg/L
MW-14	3/9/2006	Nitrate (as nitrogen)	5.18	Detect	mg/L
MW-14	5/2/2006	Nitrate (as nitrogen)	5.37	Detect	mg/L
MW-14	11/15/2007	Nitrate (as nitrogen)	6.3	Detect	mg/L
MW-14	10/3/2008	Nitrate (as nitrogen)	6.4	Detect	mg/L
MW-14	9/21/2009	Nitrate (as nitrogen)	5.8	Detect	mg/L
MW-14	12/7/2010	Nitrate (as nitrogen)	5.1	Detect	mg/L
MW-14	12/9/2011	Nitrate (as nitrogen)	4.7	Detect	mg/L
MW-14	12/2/2022	Nitrate (as nitrogen)	2.7	Detect	mg/L
MW-14	12/11/2018	Nitrate/Nitrite as Nitrogen	3.5	Detect	mg/L
MW-14	5/15/2019	Nitrate/Nitrite as Nitrogen	3.1	Detect	mg/L
MW-14	12/9/2019	Nitrate/Nitrite as Nitrogen	3.3	Detect	mg/L
MW-14	6/24/2020	Nitrate/Nitrite as Nitrogen	3.2	Detect	mg/L
MW-14	12/10/2020	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-14	5/28/2021	Nitrate/Nitrite as Nitrogen	3.7	Detect	mg/L
MW-14	12/7/2021	Nitrate/Nitrite as Nitrogen	3.7	Detect	mg/L
MW-14	12/2/2022	Nitrate/Nitrite as Nitrogen	2.8 J	Detect	mg/L
MW-14	12/11/2018	Selenium, dissolved	2.2	Detect	µg/L
MW-14	5/15/2019	Selenium, dissolved	2	Detect	µg/L
MW-14	12/9/2019	Selenium, dissolved	1.8	Detect	µg/L
MW-14	6/24/2020	Selenium, dissolved	1.8	Detect	µg/L
MW-14	12/10/2020	Selenium, dissolved	2	Detect	µg/L
MW-14	5/28/2021	Selenium, dissolved	2	Detect	µg/L
MW-14	12/7/2021	Selenium, dissolved	2.1	Detect	µg/L
MW-14	12/2/2022	Selenium, dissolved	1.9	Detect	µg/L
MW-22	12/3/2015	Molybdenum, dissolved	38	Detect	µg/L
MW-22	12/6/2016	Molybdenum, dissolved	39	Detect	µg/L
MW-22	12/6/2017	Molybdenum, dissolved	30	Detect	µg/L
MW-22	12/4/2018	Molybdenum, dissolved	31	Detect	µg/L
MW-22	12/11/2019	Molybdenum, dissolved	28	Detect	µg/L
MW-22	12/8/2020	Molybdenum, dissolved	32	Detect	µg/L
MW-22	11/30/2021	Molybdenum, dissolved	36	Detect	µg/L
MW-22	11/16/2022	Molybdenum, dissolved	36	Detect	µg/L
MW-22	10/3/2008	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-22	9/29/2009	Nitrate (as nitrogen)	5	Non-Detect	mg/L
MW-22	12/7/2010	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-22	12/16/2011	Nitrate (as nitrogen)	5	Non-Detect	mg/L
MW-22	3/4/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-22	5/5/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-22	8/19/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-22	11/16/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-22	12/3/2015	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-22	12/6/2016	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-22	12/6/2017	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-22	12/4/2018	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-22	12/11/2019	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-22	12/8/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-22	11/30/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-22	11/16/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-23-060	12/3/2015	Molybdenum, dissolved	24	Detect	µg/L
MW-23-060	12/14/2016	Molybdenum, dissolved	23	Detect	µg/L
MW-23-060	12/8/2017	Molybdenum, dissolved	23	Detect	µg/L
MW-23-060	12/11/2018	Molybdenum, dissolved	25	Detect	µg/L
MW-23-060	12/9/2019	Molybdenum, dissolved	22	Detect	µg/L

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MW-23-060	12/8/2020	Molybdenum, dissolved	21	Detect	µg/L
MW-23-060	12/9/2021	Molybdenum, dissolved	24	Detect	µg/L
MW-23-060	11/18/2022	Molybdenum, dissolved	23	Detect	µg/L
MW-23-060	12/3/2015	Selenium, dissolved	4.8	Detect	µg/L
MW-23-060	12/14/2016	Selenium, dissolved	5.3	Detect	µg/L
MW-23-060	12/8/2017	Selenium, dissolved	4.8	Detect	µg/L
MW-23-060	12/11/2018	Selenium, dissolved	5.9	Detect	µg/L
MW-23-060	12/9/2019	Selenium, dissolved	5.1	Detect	µg/L
MW-23-060	12/8/2020	Selenium, dissolved	4.8	Detect	µg/L
MW-23-060	12/9/2021	Selenium, dissolved	5.3	Detect	µg/L
MW-23-060	11/18/2022	Selenium, dissolved	4.7	Detect	µg/L
MW-23-080	12/3/2015	Molybdenum, dissolved	43	Detect	µg/L
MW-23-080	12/14/2016	Molybdenum, dissolved	43	Detect	µg/L
MW-23-080	12/8/2017	Molybdenum, dissolved	40	Detect	µg/L
MW-23-080	12/11/2018	Molybdenum, dissolved	46	Detect	µg/L
MW-23-080	12/9/2019	Molybdenum, dissolved	47	Detect	µg/L
MW-23-080	12/8/2020	Molybdenum, dissolved	45	Detect	µg/L
MW-23-080	12/9/2021	Molybdenum, dissolved	46	Detect	µg/L
MW-23-080	11/18/2022	Molybdenum, dissolved	48	Detect	µg/L
MW-23-080	12/3/2015	Selenium, dissolved	5.4	Detect	µg/L
MW-23-080	12/14/2016	Selenium, dissolved	5.6	Detect	µg/L
MW-23-080	12/8/2017	Selenium, dissolved	5.1	Detect	µg/L
MW-23-080	12/11/2018	Selenium, dissolved	5.3	Detect	µg/L
MW-23-080	12/9/2019	Selenium, dissolved	5.1	Detect	µg/L
MW-23-080	12/8/2020	Selenium, dissolved	5	Detect	µg/L
MW-23-080	12/9/2021	Selenium, dissolved	4.5	Detect	µg/L
MW-23-080	11/18/2022	Selenium, dissolved	5	Detect	µg/L
MW-27-060	12/3/2015	Molybdenum, dissolved	4.5	Detect	µg/L
MW-27-060	12/6/2016	Molybdenum, dissolved	4.4	Detect	µg/L
MW-27-060	12/4/2017	Molybdenum, dissolved	4.5	Detect	µg/L
MW-27-060	12/5/2018	Molybdenum, dissolved	4.3	Detect	µg/L
MW-27-060	12/10/2019	Molybdenum, dissolved	3.9	Detect	µg/L
MW-27-060	12/3/2020	Molybdenum, dissolved	4.6	Detect	µg/L
MW-27-060	12/1/2021	Molybdenum, dissolved	4.7	Detect	µg/L
MW-27-060	11/9/2022	Molybdenum, dissolved	4	Detect	µg/L
MW-27-060	12/7/2010	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-27-060	12/5/2011	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-27-060	2/7/2012	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-27-060	10/1/2012	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-27-060	3/10/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-27-060	5/5/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-060	8/23/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-060	11/9/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-060	12/6/2016	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-27-060	12/4/2017	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-27-060	12/5/2018	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-060	12/10/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-27-060	12/3/2020	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-060	12/1/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-060	5/5/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-060	8/23/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-060	12/3/2015	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	12/6/2016	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	12/4/2017	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	12/5/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	12/10/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	12/3/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	12/1/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-060	11/9/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	12/5/2018	Molybdenum, dissolved	19	Detect	µg/L
MW-27-085	4/22/2019	Molybdenum, dissolved	17	Detect	µg/L

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MW-27-085	12/10/2019	Molybdenum, dissolved	19	Detect	µg/L
MW-27-085	6/18/2020	Molybdenum, dissolved	16	Detect	µg/L
MW-27-085	12/3/2020	Molybdenum, dissolved	21	Detect	µg/L
MW-27-085	4/27/2021	Molybdenum, dissolved	16	Detect	µg/L
MW-27-085	12/1/2021	Molybdenum, dissolved	19	Detect	µg/L
MW-27-085	11/9/2022	Molybdenum, dissolved	25	Detect	µg/L
MW-27-085	12/7/2010	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-27-085	12/5/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-27-085	2/7/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-27-085	10/1/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-27-085	3/10/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-085	5/5/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-085	8/23/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-085	11/9/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-27-085	4/22/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-27-085	12/10/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-27-085	6/18/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-27-085	12/3/2020	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-085	4/27/2021	Nitrate/Nitrite as Nitrogen	0.061	Detect	mg/L
MW-27-085	12/1/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-085	5/5/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-085	8/23/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-27-085	12/5/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	4/22/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	12/10/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	6/18/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	12/3/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	4/27/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	12/1/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-27-085	11/9/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-32-035	12/3/2015	Molybdenum, dissolved	14	Detect	µg/L
MW-32-035	12/6/2016	Molybdenum, dissolved	12	Detect	µg/L
MW-32-035	12/4/2017	Molybdenum, dissolved	13	Detect	µg/L
MW-32-035	12/4/2018	Molybdenum, dissolved	14	Detect	µg/L
MW-32-035	12/9/2019	Molybdenum, dissolved	12	Detect	µg/L
MW-32-035	12/7/2020	Molybdenum, dissolved	13	Detect	µg/L
MW-32-035	11/30/2021	Molybdenum, dissolved	9.6	Detect	µg/L
MW-32-035	11/10/2022	Molybdenum, dissolved	13	Detect	µg/L
MW-32-035	10/3/2008	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-32-035	9/22/2009	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-32-035	12/9/2010	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-32-035	12/9/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-32-035	3/4/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-32-035	5/4/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-32-035	8/19/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-32-035	11/10/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-32-035	12/6/2016	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-32-035	12/4/2017	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-32-035	12/4/2018	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-32-035	12/9/2019	Nitrate/Nitrite as Nitrogen	0.051	Detect	mg/L
MW-32-035	12/7/2020	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-32-035	11/30/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-32-035	5/4/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-32-035	8/19/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-32-035	12/3/2015	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-32-035	12/6/2016	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-32-035	12/4/2017	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-32-035	12/4/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-32-035	12/9/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-32-035	12/7/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-32-035	11/30/2021	Selenium, dissolved	0.5	Non-Detect	µg/L

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MW-32-035	11/10/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-040	12/7/2018	Molybdenum, dissolved	530	Detect	µg/L
MW-33-040	4/23/2019	Molybdenum, dissolved	130	Detect	µg/L
MW-33-040	12/5/2019	Molybdenum, dissolved	220	Detect	µg/L
MW-33-040	6/17/2020	Molybdenum, dissolved	120	Detect	µg/L
MW-33-040	12/2/2020	Molybdenum, dissolved	440	Detect	µg/L
MW-33-040	4/29/2021	Molybdenum, dissolved	140	Detect	µg/L
MW-33-040	11/30/2021	Molybdenum, dissolved	380	Detect	µg/L
MW-33-040	11/17/2022	Molybdenum, dissolved	340	Detect	µg/L
MW-33-040	10/6/2008	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-33-040	9/24/2009	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-040	12/10/2010	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-040	12/12/2011	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-33-040	2/8/2012	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-33-040	4/23/2012	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-33-040	9/10/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-040	11/17/2022	Nitrate (as nitrogen)	0.38	Detect	mg/L
MW-33-040	4/25/2018	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-33-040	12/7/2018	Nitrate/Nitrite as Nitrogen	0.24	Detect	mg/L
MW-33-040	4/23/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-33-040	12/5/2019	Nitrate/Nitrite as Nitrogen	0.28	Detect	mg/L
MW-33-040	6/17/2020	Nitrate/Nitrite as Nitrogen	0.077	Detect	mg/L
MW-33-040	12/2/2020	Nitrate/Nitrite as Nitrogen	0.41	Detect	mg/L
MW-33-040	4/29/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-33-040	11/30/2021	Nitrate/Nitrite as Nitrogen	0.35	Detect	mg/L
MW-33-040	12/7/2018	Selenium, dissolved	1.5	Detect	µg/L
MW-33-040	4/23/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-040	12/5/2019	Selenium, dissolved	0.85	Detect	µg/L
MW-33-040	6/17/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-040	12/2/2020	Selenium, dissolved	11	Detect	µg/L
MW-33-040	4/29/2021	Selenium, dissolved	0.52	Detect	µg/L
MW-33-040	11/30/2021	Selenium, dissolved	5.7	Detect	µg/L
MW-33-040	11/17/2022	Selenium, dissolved	1.8	Detect	µg/L
MW-33-090	12/7/2018	Molybdenum, dissolved	11	Detect	µg/L
MW-33-090	4/22/2019	Molybdenum, dissolved	8.6	Detect	µg/L
MW-33-090	12/5/2019	Molybdenum, dissolved	8.3	Detect	µg/L
MW-33-090	6/17/2020	Molybdenum, dissolved	8.2	Detect	µg/L
MW-33-090	12/2/2020	Molybdenum, dissolved	9.9	Detect	µg/L
MW-33-090	4/29/2021	Molybdenum, dissolved	8.4	Detect	µg/L
MW-33-090	11/30/2021	Molybdenum, dissolved	8.1	Detect	µg/L
MW-33-090	11/17/2022	Molybdenum, dissolved	8.8	Detect	µg/L
MW-33-090	10/6/2008	Nitrate (as nitrogen)	2.2	Detect	mg/L
MW-33-090	9/29/2009	Nitrate (as nitrogen)	2.6	Detect	mg/L
MW-33-090	12/10/2010	Nitrate (as nitrogen)	1.8	Detect	mg/L
MW-33-090	12/13/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-090	2/9/2012	Nitrate (as nitrogen)	1.6	Detect	mg/L
MW-33-090	4/30/2012	Nitrate (as nitrogen)	1.5	Detect	mg/L
MW-33-090	9/24/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-090	11/17/2022	Nitrate (as nitrogen)	0.98	Detect	mg/L
MW-33-090	4/24/2018	Nitrate/Nitrite as Nitrogen	0.99	Detect	mg/L
MW-33-090	12/7/2018	Nitrate/Nitrite as Nitrogen	0.71	Detect	mg/L
MW-33-090	4/22/2019	Nitrate/Nitrite as Nitrogen	1.1	Detect	mg/L
MW-33-090	12/5/2019	Nitrate/Nitrite as Nitrogen	1.1	Detect	mg/L
MW-33-090	6/17/2020	Nitrate/Nitrite as Nitrogen	1.1	Detect	mg/L
MW-33-090	12/2/2020	Nitrate/Nitrite as Nitrogen	0.99	Detect	mg/L
MW-33-090	4/29/2021	Nitrate/Nitrite as Nitrogen	1.1	Detect	mg/L
MW-33-090	11/30/2021	Nitrate/Nitrite as Nitrogen	1.1	Detect	mg/L
MW-33-090	12/7/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-090	4/22/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-090	12/5/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-090	6/17/2020	Selenium, dissolved	0.5	Non-Detect	µg/L

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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-33-090	12/2/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-090	4/29/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-090	11/30/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-090	11/17/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-33-150	12/7/2018	Molybdenum, dissolved	50	Detect	µg/L
MW-33-150	5/21/2019	Molybdenum, dissolved	48	Detect	µg/L
MW-33-150	12/5/2019	Molybdenum, dissolved	48	Detect	µg/L
MW-33-150	6/17/2020	Molybdenum, dissolved	48	Detect	µg/L
MW-33-150	12/2/2020	Molybdenum, dissolved	41	Detect	µg/L
MW-33-150	4/29/2021	Molybdenum, dissolved	45	Detect	µg/L
MW-33-150	11/30/2021	Molybdenum, dissolved	39	Detect	µg/L
MW-33-150	11/17/2022	Molybdenum, dissolved	37	Detect	µg/L
MW-33-150	10/6/2008	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-150	9/29/2009	Nitrate (as nitrogen)	5	Non-Detect	mg/L
MW-33-150	12/10/2010	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-150	12/13/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-150	2/9/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-150	4/23/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-150	9/11/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-33-150	11/17/2022	Nitrate (as nitrogen)	1.7	Detect	mg/L
MW-33-150	4/25/2018	Nitrate/Nitrite as Nitrogen	1.3	Detect	mg/L
MW-33-150	12/7/2018	Nitrate/Nitrite as Nitrogen	0.91	Detect	mg/L
MW-33-150	5/21/2019	Nitrate/Nitrite as Nitrogen	1.5	Detect	mg/L
MW-33-150	12/5/2019	Nitrate/Nitrite as Nitrogen	1.8	Detect	mg/L
MW-33-150	6/17/2020	Nitrate/Nitrite as Nitrogen	1.4	Detect	mg/L
MW-33-150	12/2/2020	Nitrate/Nitrite as Nitrogen	1.4	Detect	mg/L
MW-33-150	4/29/2021	Nitrate/Nitrite as Nitrogen	1.6	Detect	mg/L
MW-33-150	11/30/2021	Nitrate/Nitrite as Nitrogen	1.5	Detect	mg/L
MW-33-150	12/7/2018	Selenium, dissolved	0.9	Detect	µg/L
MW-33-150	5/21/2019	Selenium, dissolved	0.93	Detect	µg/L
MW-33-150	12/5/2019	Selenium, dissolved	0.85	Detect	µg/L
MW-33-150	6/17/2020	Selenium, dissolved	0.83	Detect	µg/L
MW-33-150	12/2/2020	Selenium, dissolved	0.61	Detect	µg/L
MW-33-150	4/29/2021	Selenium, dissolved	0.82	Detect	µg/L
MW-33-150	11/30/2021	Selenium, dissolved	0.63	Detect	µg/L
MW-33-150	11/17/2022	Selenium, dissolved	0.73	Detect	µg/L
MW-34-055	12/3/2015	Molybdenum, dissolved	4.6	Detect	µg/L
MW-34-055	12/6/2016	Molybdenum, dissolved	5	Detect	µg/L
MW-34-055	12/6/2017	Molybdenum, dissolved	5	Detect	µg/L
MW-34-055	12/5/2018	Molybdenum, dissolved	5.4	Detect	µg/L
MW-34-055	12/10/2019	Molybdenum, dissolved	4.6	Detect	µg/L
MW-34-055	12/3/2020	Molybdenum, dissolved	5.2	Detect	µg/L
MW-34-055	12/1/2021	Molybdenum, dissolved	4.5	Detect	µg/L
MW-34-055	11/9/2022	Molybdenum, dissolved	4.1	Detect	µg/L
MW-34-055	10/7/2008	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-34-055	11/17/2009	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-34-055	12/7/2010	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-34-055	12/6/2011	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-34-055	3/10/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-34-055	5/5/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-34-055	8/23/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-34-055	11/9/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-34-055	12/6/2016	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-34-055	12/6/2017	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-34-055	12/5/2018	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-055	12/10/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-34-055	12/3/2020	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-055	12/1/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-055	5/5/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-055	8/23/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-055	12/3/2015	Selenium, dissolved	0.5	Non-Detect	µg/L

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MW-34-055	12/6/2016	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-055	12/6/2017	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-055	12/5/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-055	12/10/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-055	12/3/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-055	12/1/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-055	11/9/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	6/18/2020	Molybdenum, dissolved	64	Detect	µg/L
MW-34-100	10/1/2020	Molybdenum, dissolved	85	Detect	µg/L
MW-34-100	12/3/2020	Molybdenum, dissolved	57	Detect	µg/L
MW-34-100	2/25/2021	Molybdenum, dissolved	55	Detect	µg/L
MW-34-100	4/28/2021	Molybdenum, dissolved	63	Detect	µg/L
MW-34-100	8/26/2021	Molybdenum, dissolved	65	Detect	µg/L
MW-34-100	12/1/2021	Molybdenum, dissolved	59	Detect	µg/L
MW-34-100	11/9/2022	Molybdenum, dissolved	47	Detect	µg/L
MW-34-100	10/7/2008	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-34-100	9/30/2009	Nitrate (as nitrogen)	5	Non-Detect	mg/L
MW-34-100	12/8/2010	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-34-100	12/6/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-34-100	3/10/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-34-100	5/5/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-34-100	8/23/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-34-100	11/9/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-34-100	10/1/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-34-100	12/3/2020	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-100	2/25/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-34-100	4/28/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-34-100	8/26/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-100	12/1/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-100	5/5/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-100	8/23/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-34-100	6/18/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	10/1/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	12/3/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	2/25/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	4/28/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	8/26/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	12/1/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-34-100	11/9/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-35-060	12/10/2018	Molybdenum, dissolved	9.8	Detect	µg/L
MW-35-060	5/24/2019	Molybdenum, dissolved	11	Detect	µg/L
MW-35-060	12/13/2019	Molybdenum, dissolved	10	Detect	µg/L
MW-35-060	4/27/2020	Molybdenum, dissolved	15	Detect	µg/L
MW-35-060	12/8/2020	Molybdenum, dissolved	10	Detect	µg/L
MW-35-060	4/30/2021	Molybdenum, dissolved	12	Detect	µg/L
MW-35-060	12/6/2021	Molybdenum, dissolved	8.8	Detect	µg/L
MW-35-060	11/17/2022	Molybdenum, dissolved	9.2	Detect	µg/L
MW-35-060	10/7/2008	Nitrate (as nitrogen)	2.3	Detect	mg/L
MW-35-060	9/24/2009	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-35-060	12/14/2010	Nitrate (as nitrogen)	1.9	Detect	mg/L
MW-35-060	12/7/2011	Nitrate (as nitrogen)	1.9	Detect	mg/L
MW-35-060	2/6/2012	Nitrate (as nitrogen)	1.9	Detect	mg/L
MW-35-060	4/26/2012	Nitrate (as nitrogen)	2	Detect	mg/L
MW-35-060	9/10/2012	Nitrate (as nitrogen)	1.8	Detect	mg/L
MW-35-060	11/17/2022	Nitrate (as nitrogen)	2.1	Detect	mg/L
MW-35-060	4/27/2018	Nitrate/Nitrite as Nitrogen	2.2	Detect	mg/L
MW-35-060	12/10/2018	Nitrate/Nitrite as Nitrogen	2.3	Detect	mg/L
MW-35-060	5/24/2019	Nitrate/Nitrite as Nitrogen	2	Detect	mg/L
MW-35-060	12/13/2019	Nitrate/Nitrite as Nitrogen	2.1	Detect	mg/L
MW-35-060	4/27/2020	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-35-060	12/8/2020	Nitrate/Nitrite as Nitrogen	2	Detect	mg/L

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MW-35-060	4/30/2021	Nitrate/Nitrite as Nitrogen	2.3	Detect	mg/L
MW-35-060	12/6/2021	Nitrate/Nitrite as Nitrogen	2	Detect	mg/L
MW-35-060	12/10/2018	Selenium, dissolved	1.4	Detect	µg/L
MW-35-060	5/24/2019	Selenium, dissolved	1.5	Detect	µg/L
MW-35-060	12/13/2019	Selenium, dissolved	1.1	Detect	µg/L
MW-35-060	4/27/2020	Selenium, dissolved	1.5	Detect	µg/L
MW-35-060	12/8/2020	Selenium, dissolved	1.3	Detect	µg/L
MW-35-060	4/30/2021	Selenium, dissolved	1.2	Detect	µg/L
MW-35-060	12/6/2021	Selenium, dissolved	0.92	Detect	µg/L
MW-35-060	11/17/2022	Selenium, dissolved	0.98	Detect	µg/L
MW-35-135	12/10/2018	Molybdenum, dissolved	24	Detect	µg/L
MW-35-135	5/24/2019	Molybdenum, dissolved	19	Detect	µg/L
MW-35-135	12/13/2019	Molybdenum, dissolved	22	Detect	µg/L
MW-35-135	4/27/2020	Molybdenum, dissolved	20	Detect	µg/L
MW-35-135	12/8/2020	Molybdenum, dissolved	21	Detect	µg/L
MW-35-135	4/30/2021	Molybdenum, dissolved	20	Detect	µg/L
MW-35-135	12/6/2021	Molybdenum, dissolved	20	Detect	µg/L
MW-35-135	11/17/2022	Molybdenum, dissolved	9.2	Detect	µg/L
MW-35-135	5/4/2007	Nitrate (as nitrogen)	2.39	Detect	mg/L
MW-35-135	11/14/2007	Nitrate (as nitrogen)	2.74	Non-Detect	mg/L
MW-35-135	10/7/2008	Nitrate (as nitrogen)	2.7	Detect	mg/L
MW-35-135	9/24/2009	Nitrate (as nitrogen)	3	Detect	mg/L
MW-35-135	12/14/2010	Nitrate (as nitrogen)	2.5	Detect	mg/L
MW-35-135	12/7/2011	Nitrate (as nitrogen)	2.6	Detect	mg/L
MW-35-135	4/26/2012	Nitrate (as nitrogen)	2.5	Detect	mg/L
MW-35-135	11/17/2022	Nitrate (as nitrogen)	2.3	Detect	mg/L
MW-35-135	4/27/2018	Nitrate/Nitrite as Nitrogen	2.7	Detect	mg/L
MW-35-135	12/10/2018	Nitrate/Nitrite as Nitrogen	2.3	Detect	mg/L
MW-35-135	5/24/2019	Nitrate/Nitrite as Nitrogen	2.4	Detect	mg/L
MW-35-135	12/13/2019	Nitrate/Nitrite as Nitrogen	2.5	Detect	mg/L
MW-35-135	4/27/2020	Nitrate/Nitrite as Nitrogen	2.6	Detect	mg/L
MW-35-135	12/8/2020	Nitrate/Nitrite as Nitrogen	2.6	Detect	mg/L
MW-35-135	4/30/2021	Nitrate/Nitrite as Nitrogen	2.4	Detect	mg/L
MW-35-135	12/6/2021	Nitrate/Nitrite as Nitrogen	2.5	Detect	mg/L
MW-35-135	12/10/2018	Selenium, dissolved	1.4	Detect	µg/L
MW-35-135	5/24/2019	Selenium, dissolved	1.3	Detect	µg/L
MW-35-135	12/13/2019	Selenium, dissolved	1	Detect	µg/L
MW-35-135	4/27/2020	Selenium, dissolved	0.92	Detect	µg/L
MW-35-135	12/8/2020	Selenium, dissolved	1	Detect	µg/L
MW-35-135	4/30/2021	Selenium, dissolved	1.1	Detect	µg/L
MW-35-135	12/6/2021	Selenium, dissolved	1	Detect	µg/L
MW-35-135	11/17/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/8/2015	Molybdenum, dissolved	5.8	Detect	µg/L
MW-36-040	12/7/2016	Molybdenum, dissolved	6.1	Detect	µg/L
MW-36-040	12/6/2017	Molybdenum, dissolved	4	Detect	µg/L
MW-36-040	12/6/2018	Molybdenum, dissolved	3.5	Detect	µg/L
MW-36-040	12/4/2019	Molybdenum, dissolved	2.4	Detect	µg/L
MW-36-040	12/15/2020	Molybdenum, dissolved	2.9	Detect	µg/L
MW-36-040	12/3/2021	Molybdenum, dissolved	3.5	Detect	µg/L
MW-36-040	11/10/2022	Molybdenum, dissolved	4.5	Detect	µg/L
MW-36-040	11/14/2007	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-36-040	9/30/2009	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-36-040	12/7/2010	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-040	12/14/2011	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-040	3/9/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-36-040	5/4/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-36-040	8/23/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-36-040	11/10/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-36-040	12/6/2017	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-040	12/6/2018	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-36-040	12/4/2019	Nitrate/Nitrite as Nitrogen	0.062	Detect	mg/L

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MW-36-040	12/15/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-040	12/3/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-36-040	5/4/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-36-040	8/23/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-36-040	11/10/2022	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-040	12/8/2015	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/7/2016	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/6/2017	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/6/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/4/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/15/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	12/3/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-040	11/10/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	12/6/2018	Molybdenum, dissolved	19	Detect	µg/L
MW-36-100	4/24/2019	Molybdenum, dissolved	19	Detect	µg/L
MW-36-100	12/4/2019	Molybdenum, dissolved	18	Detect	µg/L
MW-36-100	6/16/2020	Molybdenum, dissolved	20	Detect	µg/L
MW-36-100	12/15/2020	Molybdenum, dissolved	19	Detect	µg/L
MW-36-100	4/28/2021	Molybdenum, dissolved	21	Detect	µg/L
MW-36-100	12/3/2021	Molybdenum, dissolved	19	Detect	µg/L
MW-36-100	11/10/2022	Molybdenum, dissolved	13	Detect	µg/L
MW-36-100	5/4/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-36-100	6/17/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-36-100	7/14/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-100	8/10/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-100	9/14/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-100	10/12/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-100	11/10/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-100	12/7/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-36-100	4/24/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-100	12/4/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-100	6/16/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-100	12/15/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-100	4/28/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-36-100	12/3/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-36-100	5/4/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-36-100	8/10/2022	Nitrate/Nitrite as Nitrogen	0.25	Detect	mg/L
MW-36-100	12/6/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	4/24/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	12/4/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	6/16/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	12/15/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	4/28/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	12/3/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-36-100	11/10/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-37S	12/8/2015	Molybdenum, dissolved	16	Detect	µg/L
MW-37S	12/8/2016	Molybdenum, dissolved	16	Detect	µg/L
MW-37S	12/8/2017	Molybdenum, dissolved	15	Detect	µg/L
MW-37S	12/6/2018	Molybdenum, dissolved	15	Detect	µg/L
MW-37S	12/19/2019	Molybdenum, dissolved	14	Detect	µg/L
MW-37S	12/10/2020	Molybdenum, dissolved	15	Detect	µg/L
MW-37S	12/7/2021	Molybdenum, dissolved	16	Detect	µg/L
MW-37S	12/1/2022	Molybdenum, dissolved	13 J	Detect	µg/L
MW-37S	3/13/2006	Nitrate (as nitrogen)	1.74	Detect	mg/L
MW-37S	5/4/2006	Nitrate (as nitrogen)	1.43	Detect	mg/L
MW-37S	11/14/2007	Nitrate (as nitrogen)	1.74	Non-Detect	mg/L
MW-37S	10/3/2008	Nitrate (as nitrogen)	1.8	Detect	mg/L
MW-37S	9/23/2009	Nitrate (as nitrogen)	1.8	Detect	mg/L
MW-37S	12/10/2010	Nitrate (as nitrogen)	1.5	Detect	mg/L
MW-37S	12/7/2011	Nitrate (as nitrogen)	1.4	Detect	mg/L
MW-37S	12/1/2022	Nitrate (as nitrogen)	1.8	Detect	mg/L

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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-37S	11/12/2014	Selenium, dissolved	0.85	Detect	µg/L
MW-37S	12/8/2015	Selenium, dissolved	0.68	Detect	µg/L
MW-37S	12/8/2016	Selenium, dissolved	0.8	Detect	µg/L
MW-37S	12/6/2018	Selenium, dissolved	0.76	Detect	µg/L
MW-37S	12/19/2019	Selenium, dissolved	0.7	Detect	µg/L
MW-37S	12/10/2020	Selenium, dissolved	0.82	Detect	µg/L
MW-37S	12/7/2021	Selenium, dissolved	0.8	Detect	µg/L
MW-37S	12/1/2022	Selenium, dissolved	0.87	Detect	µg/L
MW-40D	12/12/2018	Molybdenum, dissolved	54	Detect	µg/L
MW-40D	5/22/2019	Molybdenum, dissolved	54	Detect	µg/L
MW-40D	12/11/2019	Molybdenum, dissolved	50	Detect	µg/L
MW-40D	6/17/2020	Molybdenum, dissolved	41	Detect	µg/L
MW-40D	12/10/2020	Molybdenum, dissolved	41	Detect	µg/L
MW-40D	5/19/2021	Molybdenum, dissolved	49	Detect	µg/L
MW-40D	12/6/2021	Molybdenum, dissolved	35	Detect	µg/L
MW-40D	12/1/2022	Molybdenum, dissolved	33 J	Detect	µg/L
MW-40D	5/4/2007	Nitrate (as nitrogen)	19.7	Detect	mg/L
MW-40D	12/14/2007	Nitrate (as nitrogen)	2.91	Detect	mg/L
MW-40D	10/6/2008	Nitrate (as nitrogen)	3.5	Detect	mg/L
MW-40D	9/28/2009	Nitrate (as nitrogen)	3.3	Detect	mg/L
MW-40D	12/15/2010	Nitrate (as nitrogen)	2.9	Detect	mg/L
MW-40D	5/5/2011	Nitrate (as nitrogen)	2.7	Detect	mg/L
MW-40D	12/7/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-40D	12/1/2022	Nitrate (as nitrogen)	3.5	Detect	mg/L
MW-40D	12/12/2018	Nitrate/Nitrite as Nitrogen	10	Detect	mg/L
MW-40D	5/22/2019	Nitrate/Nitrite as Nitrogen	2.5	Detect	mg/L
MW-40D	12/11/2019	Nitrate/Nitrite as Nitrogen	3.1	Detect	mg/L
MW-40D	6/17/2020	Nitrate/Nitrite as Nitrogen	0.57	Detect	mg/L
MW-40D	12/10/2020	Nitrate/Nitrite as Nitrogen	2	Detect	mg/L
MW-40D	5/19/2021	Nitrate/Nitrite as Nitrogen	2.1	Detect	mg/L
MW-40D	12/6/2021	Nitrate/Nitrite as Nitrogen	1.3	Detect	mg/L
MW-40D	12/1/2022	Nitrate/Nitrite as Nitrogen	0.29 J	Detect	mg/L
MW-40D	12/12/2018	Selenium, dissolved	2.5	Detect	µg/L
MW-40D	5/22/2019	Selenium, dissolved	2	Detect	µg/L
MW-40D	12/11/2019	Selenium, dissolved	2	Detect	µg/L
MW-40D	6/17/2020	Selenium, dissolved	0.78	Detect	µg/L
MW-40D	12/10/2020	Selenium, dissolved	1	Detect	µg/L
MW-40D	5/19/2021	Selenium, dissolved	1.8	Detect	µg/L
MW-40D	12/6/2021	Selenium, dissolved	1.1	Detect	µg/L
MW-40D	12/1/2022	Selenium, dissolved	0.84	Detect	µg/L
MW-40S	12/12/2018	Molybdenum, dissolved	13	Detect	µg/L
MW-40S	5/22/2019	Molybdenum, dissolved	18	Detect	µg/L
MW-40S	12/11/2019	Molybdenum, dissolved	19	Detect	µg/L
MW-40S	6/17/2020	Molybdenum, dissolved	30	Detect	µg/L
MW-40S	12/10/2020	Molybdenum, dissolved	5.2	Detect	µg/L
MW-40S	5/19/2021	Molybdenum, dissolved	15	Detect	µg/L
MW-40S	12/6/2021	Molybdenum, dissolved	32	Detect	µg/L
MW-40S	12/1/2022	Molybdenum, dissolved	6.7 J	Detect	µg/L
MW-40S	12/12/2018	Nitrate/Nitrite as Nitrogen	3.5	Detect	mg/L
MW-40S	5/22/2019	Nitrate/Nitrite as Nitrogen	5.6	Detect	mg/L
MW-40S	12/11/2019	Nitrate/Nitrite as Nitrogen	8.9	Detect	mg/L
MW-40S	6/17/2020	Nitrate/Nitrite as Nitrogen	10	Detect	mg/L
MW-40S	12/10/2020	Nitrate/Nitrite as Nitrogen	3.5	Detect	mg/L
MW-40S	5/19/2021	Nitrate/Nitrite as Nitrogen	5.9	Detect	mg/L
MW-40S	12/6/2021	Nitrate/Nitrite as Nitrogen	25	Detect	mg/L
MW-40S	12/1/2022	Nitrate/Nitrite as Nitrogen	3.5 J	Detect	mg/L
MW-40S	12/12/2018	Selenium, dissolved	3.4	Detect	µg/L
MW-40S	5/22/2019	Selenium, dissolved	5.6	Detect	µg/L
MW-40S	12/11/2019	Selenium, dissolved	5.8	Detect	µg/L
MW-40S	6/17/2020	Selenium, dissolved	6.1	Detect	µg/L
MW-40S	12/10/2020	Selenium, dissolved	1.8	Detect	µg/L

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MW-40S	5/19/2021	Selenium, dissolved	3.9	Detect	µg/L
MW-40S	12/6/2021	Selenium, dissolved	11	Detect	µg/L
MW-40S	12/1/2022	Selenium, dissolved	2	Detect	µg/L
MW-41M	12/7/2015	Molybdenum, dissolved	26	Detect	µg/L
MW-41M	12/8/2016	Molybdenum, dissolved	27	Detect	µg/L
MW-41M	12/13/2017	Molybdenum, dissolved	25	Detect	µg/L
MW-41M	12/11/2018	Molybdenum, dissolved	27	Detect	µg/L
MW-41M	12/17/2019	Molybdenum, dissolved	24	Detect	µg/L
MW-41M	12/17/2020	Molybdenum, dissolved	26	Detect	µg/L
MW-41M	12/7/2021	Molybdenum, dissolved	27	Detect	µg/L
MW-41M	11/30/2022	Molybdenum, dissolved	26	Detect	µg/L
MW-41M	12/15/2004	Nitrate (as nitrogen)	0.638	Detect	mg/L
MW-41M	3/13/2006	Nitrate (as nitrogen)	0.702	Detect	mg/L
MW-41M	12/14/2007	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-41M	10/3/2008	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-41M	9/23/2009	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-41M	12/8/2010	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-41M	12/5/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-41M	11/30/2022	Nitrate (as nitrogen)	0.51	Detect	mg/L
MW-41M	12/7/2015	Nitrate/Nitrite as Nitrogen	0.64	Detect	mg/L
MW-41M	12/8/2016	Nitrate/Nitrite as Nitrogen	0.67	Detect	mg/L
MW-41M	12/13/2017	Nitrate/Nitrite as Nitrogen	0.66	Detect	mg/L
MW-41M	12/11/2018	Nitrate/Nitrite as Nitrogen	0.52	Detect	mg/L
MW-41M	12/17/2019	Nitrate/Nitrite as Nitrogen	0.58	Detect	mg/L
MW-41M	12/17/2020	Nitrate/Nitrite as Nitrogen	0.59	Detect	mg/L
MW-41M	12/7/2021	Nitrate/Nitrite as Nitrogen	0.58	Detect	mg/L
MW-41M	11/30/2022	Nitrate/Nitrite as Nitrogen	0.55 J	Detect	mg/L
MW-41M	12/7/2015	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-41M	12/8/2016	Selenium, dissolved	2.5	Non-Detect	µg/L
MW-41M	12/13/2017	Selenium, dissolved	0.54	Detect	µg/L
MW-41M	12/11/2018	Selenium, dissolved	0.72	Detect	µg/L
MW-41M	12/17/2019	Selenium, dissolved	0.65	Detect	µg/L
MW-41M	12/17/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-41M	12/7/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-41M	11/30/2022	Selenium, dissolved	0.53	Detect	µg/L
MW-41S	12/7/2015	Molybdenum, dissolved	16	Detect	µg/L
MW-41S	12/8/2016	Molybdenum, dissolved	16	Detect	µg/L
MW-41S	12/13/2017	Molybdenum, dissolved	14	Detect	µg/L
MW-41S	12/7/2018	Molybdenum, dissolved	13	Detect	µg/L
MW-41S	12/17/2019	Molybdenum, dissolved	13	Detect	µg/L
MW-41S	12/17/2020	Molybdenum, dissolved	13	Detect	µg/L
MW-41S	12/7/2021	Molybdenum, dissolved	14	Detect	µg/L
MW-41S	11/30/2022	Molybdenum, dissolved	12	Detect	µg/L
MW-41S	6/14/2005	Nitrate (as nitrogen)	1.3	Detect	mg/L
MW-41S	3/13/2006	Nitrate (as nitrogen)	1.32	Detect	mg/L
MW-41S	12/14/2007	Nitrate (as nitrogen)	1.32	Detect	mg/L
MW-41S	10/3/2008	Nitrate (as nitrogen)	1.5	Detect	mg/L
MW-41S	9/23/2009	Nitrate (as nitrogen)	1.6	Detect	mg/L
MW-41S	12/8/2010	Nitrate (as nitrogen)	1.3	Detect	mg/L
MW-41S	12/7/2011	Nitrate (as nitrogen)	1.2	Detect	mg/L
MW-41S	11/30/2022	Nitrate (as nitrogen)	2.4	Detect	mg/L
MW-41S	12/7/2015	Nitrate/Nitrite as Nitrogen	1.3	Detect	mg/L
MW-41S	12/8/2016	Nitrate/Nitrite as Nitrogen	1.5	Detect	mg/L
MW-41S	12/13/2017	Nitrate/Nitrite as Nitrogen	1.6	Detect	mg/L
MW-41S	12/7/2018	Nitrate/Nitrite as Nitrogen	2.1	Detect	mg/L
MW-41S	12/17/2019	Nitrate/Nitrite as Nitrogen	2.2	Detect	mg/L
MW-41S	12/17/2020	Nitrate/Nitrite as Nitrogen	2.5	Detect	mg/L
MW-41S	12/7/2021	Nitrate/Nitrite as Nitrogen	2.5	Detect	mg/L
MW-41S	11/30/2022	Nitrate/Nitrite as Nitrogen	2.7 J	Detect	mg/L
MW-41S	12/7/2015	Selenium, dissolved	0.65	Detect	µg/L
MW-41S	12/8/2016	Selenium, dissolved	1	Detect	µg/L

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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-41S	12/13/2017	Selenium, dissolved	1.2	Detect	µg/L
MW-41S	12/7/2018	Selenium, dissolved	1.7	Detect	µg/L
MW-41S	12/17/2019	Selenium, dissolved	1.8	Detect	µg/L
MW-41S	12/17/2020	Selenium, dissolved	1.9	Detect	µg/L
MW-41S	12/7/2021	Selenium, dissolved	2.2	Detect	µg/L
MW-41S	11/30/2022	Selenium, dissolved	2.3	Detect	µg/L
MW-42-030	12/3/2015	Molybdenum, dissolved	21	Detect	µg/L
MW-42-030	12/6/2016	Molybdenum, dissolved	20	Detect	µg/L
MW-42-030	12/4/2017	Molybdenum, dissolved	20	Detect	µg/L
MW-42-030	12/5/2018	Molybdenum, dissolved	29	Detect	µg/L
MW-42-030	12/11/2019	Molybdenum, dissolved	24	Detect	µg/L
MW-42-030	12/16/2020	Molybdenum, dissolved	27	Detect	µg/L
MW-42-030	11/30/2021	Molybdenum, dissolved	17	Detect	µg/L
MW-42-030	11/10/2022	Molybdenum, dissolved	6.3	Detect	µg/L
MW-42-030	3/7/2006	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-42-030	12/11/2007	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-42-030	12/6/2010	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-42-030	12/6/2011	Nitrate (as nitrogen)	1	Non-Detect	mg/L
MW-42-030	3/10/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-42-030	5/5/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-42-030	8/18/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-42-030	11/10/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-42-030	12/6/2012	Nitrate/Nitrite as Nitrogen	0.0121	Detect	mg/L
MW-42-030	11/5/2013	Nitrate/Nitrite as Nitrogen	0.0125	Detect	mg/L
MW-42-030	11/5/2014	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-42-030	12/3/2015	Nitrate/Nitrite as Nitrogen	0.15	Detect	mg/L
MW-42-030	12/6/2016	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-42-030	12/4/2017	Nitrate/Nitrite as Nitrogen	0.053	Detect	mg/L
MW-42-030	12/11/2019	Nitrate/Nitrite as Nitrogen	0.075	Detect	mg/L
MW-42-030	12/16/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-42-030	12/3/2015	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	12/6/2016	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	12/4/2017	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	12/5/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	12/11/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	12/16/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	11/30/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-42-030	11/10/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/4/2015	Molybdenum, dissolved	6.2	Detect	µg/L
MW-44-070	12/7/2016	Molybdenum, dissolved	14	Detect	µg/L
MW-44-070	12/6/2017	Molybdenum, dissolved	11	Detect	µg/L
MW-44-070	12/5/2018	Molybdenum, dissolved	8.7	Detect	µg/L
MW-44-070	12/11/2019	Molybdenum, dissolved	6.3	Detect	µg/L
MW-44-070	12/11/2020	Molybdenum, dissolved	8.8	Detect	µg/L
MW-44-070	12/8/2021	Molybdenum, dissolved	7.6	Detect	µg/L
MW-44-070	11/8/2022	Molybdenum, dissolved	11 J	Detect	µg/L
MW-44-070	10/7/2008	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-070	9/21/2009	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-070	12/9/2010	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-070	12/8/2011	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-070	3/10/2022	Nitrate (as nitrogen)	0.1	Non-Detect	mg/L
MW-44-070	5/6/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-44-070	8/23/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-44-070	11/8/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-070	12/4/2015	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/7/2016	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/6/2017	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/5/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/11/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/11/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-070	12/8/2021	Selenium, dissolved	0.5	Non-Detect	µg/L

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MW-44-070	11/8/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	12/5/2018	Molybdenum, dissolved	170	Detect	µg/L
MW-44-125	4/24/2019	Molybdenum, dissolved	120	Detect	µg/L
MW-44-125	12/11/2019	Molybdenum, dissolved	220	Detect	µg/L
MW-44-125	6/23/2020	Molybdenum, dissolved	13	Detect	µg/L
MW-44-125	12/11/2020	Molybdenum, dissolved	27	Detect	µg/L
MW-44-125	4/28/2021	Molybdenum, dissolved	10	Detect	µg/L
MW-44-125	12/8/2021	Molybdenum, dissolved	230	Detect	µg/L
MW-44-125	11/8/2022	Molybdenum, dissolved	120 J	Detect	µg/L
MW-44-125	5/6/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-44-125	6/17/2022	Nitrate (as nitrogen)	0.25	Non-Detect	mg/L
MW-44-125	7/14/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-125	8/11/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-125	9/13/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-125	10/11/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-125	11/8/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-125	12/6/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-44-125	4/24/2019	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-44-125	12/11/2019	Nitrate/Nitrite as Nitrogen	0.09	Detect	mg/L
MW-44-125	6/23/2020	Nitrate/Nitrite as Nitrogen	0.18	Detect	mg/L
MW-44-125	12/11/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-44-125	4/28/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-44-125	12/8/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-44-125	5/6/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-44-125	8/11/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-44-125	12/5/2018	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	4/24/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	12/11/2019	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	6/23/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	12/11/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	4/28/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	12/8/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-44-125	11/8/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-46-175	6/23/2020	Molybdenum, dissolved	180	Detect	µg/L
MW-46-175	10/1/2020	Molybdenum, dissolved	190	Detect	µg/L
MW-46-175	12/15/2020	Molybdenum, dissolved	190	Detect	µg/L
MW-46-175	2/25/2021	Molybdenum, dissolved	180	Detect	µg/L
MW-46-175	4/29/2021	Molybdenum, dissolved	210	Detect	µg/L
MW-46-175	8/26/2021	Molybdenum, dissolved	200	Detect	µg/L
MW-46-175	12/8/2021	Molybdenum, dissolved	200	Detect	µg/L
MW-46-175	11/17/2022	Molybdenum, dissolved	160	Detect	µg/L
MW-46-175	12/13/2011	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-46-175	2/8/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-46-175	4/23/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-46-175	9/26/2012	Nitrate (as nitrogen)	2.5	Non-Detect	mg/L
MW-46-175	3/3/2022	Nitrate (as nitrogen)	0.76	Detect	mg/L
MW-46-175	5/5/2022	Nitrate (as nitrogen)	1	Detect	mg/L
MW-46-175	8/24/2022	Nitrate (as nitrogen)	1	Detect	mg/L
MW-46-175	11/17/2022	Nitrate (as nitrogen)	0.97	Detect	mg/L
MW-46-175	10/1/2020	Nitrate/Nitrite as Nitrogen	0.92	Detect	mg/L
MW-46-175	12/15/2020	Nitrate/Nitrite as Nitrogen	1	Detect	mg/L
MW-46-175	2/25/2021	Nitrate/Nitrite as Nitrogen	1.1	Detect	mg/L
MW-46-175	4/29/2021	Nitrate/Nitrite as Nitrogen	1	Detect	mg/L
MW-46-175	8/26/2021	Nitrate/Nitrite as Nitrogen	0.94	Detect	mg/L
MW-46-175	12/8/2021	Nitrate/Nitrite as Nitrogen	0.9	Detect	mg/L
MW-46-175	5/5/2022	Nitrate/Nitrite as Nitrogen	1	Detect	mg/L
MW-46-175	8/24/2022	Nitrate/Nitrite as Nitrogen	1	Detect	mg/L
MW-46-175	6/23/2020	Selenium, dissolved	0.55	Detect	µg/L
MW-46-175	10/1/2020	Selenium, dissolved	1	Detect	µg/L
MW-46-175	12/15/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-46-175	2/25/2021	Selenium, dissolved	0.62	Detect	µg/L

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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-46-175	4/29/2021	Selenium, dissolved	0.56	Detect	µg/L
MW-46-175	8/26/2021	Selenium, dissolved	0.79	Detect	µg/L
MW-46-175	12/8/2021	Selenium, dissolved	0.56	Detect	µg/L
MW-46-175	11/17/2022	Selenium, dissolved	0.51	Detect	µg/L
MW-71-035	5/1/2020	Molybdenum, dissolved	15	Detect	µg/L
MW-71-035	12/15/2020	Molybdenum, dissolved	16	Detect	µg/L
MW-71-035	5/26/2021	Molybdenum, dissolved	15	Detect	µg/L
MW-71-035	12/16/2021	Molybdenum, dissolved	15	Detect	µg/L
MW-71-035	3/14/2022	Molybdenum, dissolved	13	Detect	µg/L
MW-71-035	6/15/2022	Molybdenum, dissolved	21	Detect	µg/L
MW-71-035	8/12/2022	Molybdenum, dissolved	23	Detect	µg/L
MW-71-035	11/10/2022	Molybdenum, dissolved	16	Detect	µg/L
MW-71-035	5/18/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-71-035	6/15/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-71-035	7/13/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-71-035	8/12/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-71-035	9/15/2022	Nitrate (as nitrogen)	0.8	Detect	mg/L
MW-71-035	10/12/2022	Nitrate (as nitrogen)	0.5	Detect	mg/L
MW-71-035	11/10/2022	Nitrate (as nitrogen)	0.5	Non-Detect	mg/L
MW-71-035	12/7/2022	Nitrate (as nitrogen)	0.6	Detect	mg/L
MW-71-035	5/1/2020	Nitrate/Nitrite as Nitrogen	0.19	Detect	mg/L
MW-71-035	12/15/2020	Nitrate/Nitrite as Nitrogen	0.092	Detect	mg/L
MW-71-035	5/26/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-71-035	12/16/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-71-035	6/15/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-71-035	8/12/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-71-035	11/10/2022	Nitrate/Nitrite as Nitrogen	0.42	Detect	mg/L
MW-71-035	12/7/2022	Nitrate/Nitrite as Nitrogen	0.53	Detect	mg/L
MW-71-035	5/1/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-71-035	12/15/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-71-035	5/26/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-71-035	12/16/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-71-035	3/14/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-71-035	6/15/2022	Selenium, dissolved	0.51	Detect	µg/L
MW-71-035	8/12/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-71-035	11/10/2022	Selenium, dissolved	1.5	Detect	µg/L
MW-89-183	5/20/2020	Molybdenum, dissolved	10	Detect	µg/L
MW-89-183	8/19/2020	Molybdenum, dissolved	9.5	Detect	µg/L
MW-89-183	12/10/2020	Molybdenum, dissolved	8.1	Detect	µg/L
MW-89-183	2/24/2021	Molybdenum, dissolved	7.4	Detect	µg/L
MW-89-183	5/19/2021	Molybdenum, dissolved	9.7	Detect	µg/L
MW-89-183	8/25/2021	Molybdenum, dissolved	8.3	Detect	µg/L
MW-89-183	12/6/2021	Molybdenum, dissolved	7	Detect	µg/L
MW-89-183	12/1/2022	Molybdenum, dissolved	6.7 J	Detect	µg/L
MW-89-183	5/20/2020	Nitrate/Nitrite as Nitrogen	2.6	Detect	mg/L
MW-89-183	8/19/2020	Nitrate/Nitrite as Nitrogen	3.3	Detect	mg/L
MW-89-183	12/10/2020	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-89-183	2/24/2021	Nitrate/Nitrite as Nitrogen	2.6	Detect	mg/L
MW-89-183	5/19/2021	Nitrate/Nitrite as Nitrogen	2.9	Detect	mg/L
MW-89-183	8/25/2021	Nitrate/Nitrite as Nitrogen	2.7	Detect	mg/L
MW-89-183	12/6/2021	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-89-183	12/1/2022	Nitrate/Nitrite as Nitrogen	2.8 J	Detect	mg/L
MW-89-183	5/20/2020	Selenium, dissolved	2.7	Detect	µg/L
MW-89-183	8/19/2020	Selenium, dissolved	2.7	Detect	µg/L
MW-89-183	12/10/2020	Selenium, dissolved	2.4	Detect	µg/L
MW-89-183	2/24/2021	Selenium, dissolved	2.2	Detect	µg/L
MW-89-183	5/19/2021	Selenium, dissolved	3.1	Detect	µg/L
MW-89-183	8/25/2021	Selenium, dissolved	2.8	Detect	µg/L
MW-89-183	12/6/2021	Selenium, dissolved	2.5	Detect	µg/L
MW-89-183	12/1/2022	Selenium, dissolved	2.6	Detect	µg/L
MW-89-273	5/20/2020	Molybdenum, dissolved	42	Detect	µg/L

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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-89-273	8/19/2020	Molybdenum, dissolved	39	Detect	µg/L
MW-89-273	12/10/2020	Molybdenum, dissolved	35	Detect	µg/L
MW-89-273	2/24/2021	Molybdenum, dissolved	36	Detect	µg/L
MW-89-273	5/19/2021	Molybdenum, dissolved	34	Detect	µg/L
MW-89-273	8/25/2021	Molybdenum, dissolved	33	Detect	µg/L
MW-89-273	12/6/2021	Molybdenum, dissolved	32	Detect	µg/L
MW-89-273	12/1/2022	Molybdenum, dissolved	35 J	Detect	µg/L
MW-89-273	5/20/2020	Nitrate/Nitrite as Nitrogen	2.1	Detect	mg/L
MW-89-273	8/19/2020	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-89-273	12/10/2020	Nitrate/Nitrite as Nitrogen	3	Detect	mg/L
MW-89-273	2/24/2021	Nitrate/Nitrite as Nitrogen	2.7	Detect	mg/L
MW-89-273	5/19/2021	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-89-273	8/25/2021	Nitrate/Nitrite as Nitrogen	2.8	Detect	mg/L
MW-89-273	12/6/2021	Nitrate/Nitrite as Nitrogen	2.7	Detect	mg/L
MW-89-273	12/1/2022	Nitrate/Nitrite as Nitrogen	2.8 J	Detect	mg/L
MW-89-273	5/20/2020	Selenium, dissolved	3.5	Detect	µg/L
MW-89-273	8/19/2020	Selenium, dissolved	3.9	Detect	µg/L
MW-89-273	12/10/2020	Selenium, dissolved	3.5	Detect	µg/L
MW-89-273	2/24/2021	Selenium, dissolved	3.5	Detect	µg/L
MW-89-273	5/19/2021	Selenium, dissolved	3.6	Detect	µg/L
MW-89-273	8/25/2021	Selenium, dissolved	3.7	Detect	µg/L
MW-89-273	12/6/2021	Selenium, dissolved	3.7	Detect	µg/L
MW-89-273	12/1/2022	Selenium, dissolved	3.6	Detect	µg/L
MW-90-031	5/26/2020	Molybdenum, dissolved	14	Detect	µg/L
MW-90-031	8/18/2020	Molybdenum, dissolved	16	Detect	µg/L
MW-90-031	12/2/2020	Molybdenum, dissolved	17	Detect	µg/L
MW-90-031	2/17/2021	Molybdenum, dissolved	16	Detect	µg/L
MW-90-031	5/25/2021	Molybdenum, dissolved	16	Detect	µg/L
MW-90-031	8/18/2021	Molybdenum, dissolved	13	Detect	µg/L
MW-90-031	12/8/2021	Molybdenum, dissolved	18	Detect	µg/L
MW-90-031	11/16/2022	Molybdenum, dissolved	15	Detect	µg/L
MW-90-031	12/2/2020	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-90-031	2/17/2021	Nitrate/Nitrite as Nitrogen	0.11	Detect	mg/L
MW-90-031	5/25/2021	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-90-031	8/18/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-90-031	12/8/2021	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-90-031	5/5/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-90-031	8/19/2022	Nitrate/Nitrite as Nitrogen	0.1	Non-Detect	mg/L
MW-90-031	11/16/2022	Nitrate/Nitrite as Nitrogen	0.03 J	Detect	mg/L
MW-90-031	5/26/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-90-031	8/18/2020	Selenium, dissolved	0.56	Detect	µg/L
MW-90-031	12/2/2020	Selenium, dissolved	0.58	Detect	µg/L
MW-90-031	2/17/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-90-031	5/25/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-90-031	8/18/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-90-031	12/8/2021	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-90-031	11/16/2022	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-95-113	10/20/2020	Molybdenum, dissolved	3.9	Detect	µg/L
MW-95-113	11/18/2020	Molybdenum, dissolved	4.6	Detect	µg/L
MW-95-113	12/15/2020	Molybdenum, dissolved	6.4	Detect	µg/L
MW-95-113	2/25/2021	Molybdenum, dissolved	4.2	Detect	µg/L
MW-95-113	5/19/2021	Molybdenum, dissolved	4.1	Detect	µg/L
MW-95-113	8/25/2021	Molybdenum, dissolved	4	Detect	µg/L
MW-95-113	12/8/2021	Molybdenum, dissolved	4.3	Detect	µg/L
MW-95-113	12/8/2022	Molybdenum, dissolved	4.2	Detect	µg/L
MW-95-113	10/20/2020	Nitrate/Nitrite as Nitrogen	4.8	Detect	mg/L
MW-95-113	11/18/2020	Nitrate/Nitrite as Nitrogen	5.2	Detect	mg/L
MW-95-113	12/15/2020	Nitrate/Nitrite as Nitrogen	4.4	Detect	mg/L
MW-95-113	2/25/2021	Nitrate/Nitrite as Nitrogen	5.7	Detect	mg/L
MW-95-113	5/19/2021	Nitrate/Nitrite as Nitrogen	5.6	Detect	mg/L
MW-95-113	8/25/2021	Nitrate/Nitrite as Nitrogen	6.2	Detect	mg/L

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Location ID	Sample Date	Constituent	Result	Detect or Non-Detect	Units
MW-95-113	12/8/2021	Nitrate/Nitrite as Nitrogen	6.1	Detect	mg/L
MW-95-113	12/8/2022	Nitrate/Nitrite as Nitrogen	6 J	Detect	mg/L
MW-95-113	10/20/2020	Selenium, dissolved	5.4	Detect	µg/L
MW-95-113	11/18/2020	Selenium, dissolved	4.8	Detect	µg/L
MW-95-113	12/15/2020	Selenium, dissolved	3.8	Detect	µg/L
MW-95-113	2/25/2021	Selenium, dissolved	4.8	Detect	µg/L
MW-95-113	5/19/2021	Selenium, dissolved	5	Detect	µg/L
MW-95-113	8/25/2021	Selenium, dissolved	4.7	Detect	µg/L
MW-95-113	12/8/2021	Selenium, dissolved	5.3	Detect	µg/L
MW-95-113	12/8/2022	Selenium, dissolved	5.1	Detect	µg/L
MW-95-157	10/20/2020	Molybdenum, dissolved	4.7	Detect	µg/L
MW-95-157	11/18/2020	Molybdenum, dissolved	3.5	Detect	µg/L
MW-95-157	12/15/2020	Molybdenum, dissolved	5.7	Detect	µg/L
MW-95-157	2/25/2021	Molybdenum, dissolved	5	Detect	µg/L
MW-95-157	5/19/2021	Molybdenum, dissolved	4.8	Detect	µg/L
MW-95-157	8/25/2021	Molybdenum, dissolved	4.1	Detect	µg/L
MW-95-157	12/8/2021	Molybdenum, dissolved	3.8	Detect	µg/L
MW-95-157	12/8/2022	Molybdenum, dissolved	10	Detect	µg/L
MW-95-157	10/20/2020	Nitrate/Nitrite as Nitrogen	0.05	Non-Detect	mg/L
MW-95-157	11/18/2020	Nitrate/Nitrite as Nitrogen	8	Detect	mg/L
MW-95-157	12/15/2020	Nitrate/Nitrite as Nitrogen	7.8	Detect	mg/L
MW-95-157	2/25/2021	Nitrate/Nitrite as Nitrogen	8.9	Detect	mg/L
MW-95-157	5/19/2021	Nitrate/Nitrite as Nitrogen	8.7	Detect	mg/L
MW-95-157	8/25/2021	Nitrate/Nitrite as Nitrogen	9.3	Detect	mg/L
MW-95-157	12/8/2021	Nitrate/Nitrite as Nitrogen	9.5	Detect	mg/L
MW-95-157	12/8/2022	Nitrate/Nitrite as Nitrogen	5.8 J	Detect	mg/L
MW-95-157	10/20/2020	Selenium, dissolved	0.5	Non-Detect	µg/L
MW-95-157	11/18/2020	Selenium, dissolved	0.55	Detect	µg/L
MW-95-157	12/15/2020	Selenium, dissolved	5.7	Detect	µg/L
MW-95-157	2/25/2021	Selenium, dissolved	6.3	Detect	µg/L
MW-95-157	5/19/2021	Selenium, dissolved	6.7	Detect	µg/L
MW-95-157	8/25/2021	Selenium, dissolved	7	Detect	µg/L
MW-95-157	12/8/2021	Selenium, dissolved	6.5	Detect	µg/L
MW-95-157	12/8/2022	Selenium, dissolved	5.9	Detect	µg/L

Notes:
1. The most recent eight groundwater samples from each monitoring well were used to calculate the trigger levels.
If eight groundwater sample results were not available for a well-constituent pair, then a trigger level was not calculated and the data are not presented in this table. A trigger level will be calculated once a sufficient number of samples is collected.

Abbreviations:
COPC = constituent of potential concern
ID = identification
mg/L= milligram(s) per liter

Table D-2
Shewhart Control Limits
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Well	Analyte	Sample Size	Detects	FOD	Summary Statistics [1]							Distribution [3]	SCL Basis [4]	Final SCL [2,4,5]
					Min Detect	Max Detect	Min ND	Max ND	Mean [2]	Median	SD [2]			
MW-14	Molybdenum, dissolved	8	8	100%	8.4	13	NA	NA	11	11.5	1.7	Normal	Normal SCL	20
	Nitrate (as nitrogen)	8	8	100%	2.7	6.4	NA	NA	5.2	5.3	1.2	Normal	Normal SCL	11
	Nitrate/Nitrite as Nitrogen	8	8	100%	2.8	3.7	NA	NA	3.3	3.3	0.36	Normal	Normal SCL	5.1
	Selenium, dissolved	8	8	100%	1.8	2.2	NA	NA	2.0	2	0.14	Normal	Normal SCL	2.7
MW-22	Molybdenum, dissolved	8	8	100%	28	39	NA	NA	34	34	4.0	Normal	Normal SCL	54
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.50	5.0	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	--	--	--	--	--	--	--	--	--	--	N/A	N/A	--
	Selenium, dissolved	8	0	0%	NA	NA	0.50	2.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-23-060	Molybdenum, dissolved	8	8	100%	21	25	NA	NA	23	23	1.2	Normal	Normal SCL	29
	Nitrate/Nitrite as Nitrogen	--	--	--	--	--	--	--	--	--	--	N/A	N/A	--
	Selenium, dissolved	8	8	100%	4.7	5.9	NA	NA	5.1	4.95	0.41	Normal	Normal SCL	7.2
MW-23-080	Molybdenum, dissolved	8	8	100%	40	48	NA	NA	45	45.5	2.6	Normal	Normal SCL	58
	Nitrate/Nitrite as Nitrogen	--	--	--	--	--	--	--	--	--	--	N/A	N/A	--
	Selenium, dissolved	8	8	100%	4.5	5.6	NA	NA	5.1	5.1	0.33	Normal	Normal SCL	6.8
MW-27-060	Molybdenum, dissolved	8	8	100%	3.9	4.7	NA	NA	4.4	4.45	0.28	Normal	Normal SCL	5.8
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.10	0.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	0	0%	NA	NA	0.050	0.10	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-27-085	Molybdenum, dissolved	8	8	100%	16	25	NA	NA	19	19	3.0	Normal	Normal SCL	34
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.25	2.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	1	13%	0.061	0.061	0.050	0.10	NA	0.081	NA	Nonparametric	Max Detect (%NDs > 50%)	DQR [6]
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-32-035	Molybdenum, dissolved	8	8	100%	9.6	14	NA	NA	13	13	1.4	Normal	Normal SCL	20
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.50	2.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	1	13%	0.051	0.051	0.050	0.10	NA	0.10	NA	Nonparametric	Max Detect (%NDs > 50%)	DQR [6]
	Selenium, dissolved	8	0	0%	NA	NA	0.50	2.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-33-040	Molybdenum, dissolved	8	8	100%	120	530	NA	NA	290	280	160	Normal	Normal SCL	1100
	Nitrate (as nitrogen)	8	1	13%	0.38	0.38	1.0	2.5	NA	1.0	NA	Nonparametric	Max Detect (%NDs > 50%)	DQR [6]
	Nitrate/Nitrite as Nitrogen	8	5	63%	0.077	0.41	0.050	0.050	0.19	0.16	0.14	Normal	Normal SCL	0.89
	Selenium, dissolved	8	6	75%	0.52	11	0.50	0.50	1.2	1.18	0.49	Cube Root Normal	Normal SCL	49
MW-33-090	Molybdenum, dissolved	8	8	100%	8.1	11	NA	NA	8.9	8.5	1.0	Quasi-Normal	Normal SCL	14
	Nitrate (as nitrogen)	8	6	75%	0.98	2.6	2.5	2.5	1.7	2.0	0.50	Normal	Normal SCL	4.2
	Nitrate/Nitrite as Nitrogen	8	8	100%	0.71	1.1	NA	NA	NA	1.1	NA	Nonparametric	Max Detect (distribution)	1.1
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-33-150	Molybdenum, dissolved	8	8	100%	37	50	NA	NA	45	46.5	4.9	Normal	Normal SCL	70
	Nitrate (as nitrogen)	8	1	13%	1.7	1.7	2.5	5.0	NA	2.5	NA	Nonparametric	Max Detect (%NDs > 50%)	DQR [6]
	Nitrate/Nitrite as Nitrogen	8	8	100%	0.91	1.8	NA	NA	1.4	1.5	0.26	Normal	Normal SCL	2.7
	Selenium, dissolved	8	8	100%	0.61	0.93	NA	NA	0.79	0.825	0.12	Normal	Normal SCL	1.4
MW-34-055	Molybdenum, dissolved	8	8	100%	4.1	5.4	NA	NA	4.8	4.8	0.42	Normal	Normal SCL	6.9
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.10	0.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	0	0%	NA	NA	0.050	0.10	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-34-100	Molybdenum, dissolved	8	8	100%	47	85	NA	NA	62	61	11	Normal	Normal SCL	120
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.1	5.0	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	0	0%	NA	NA	0.050	0.10	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-35-060	Molybdenum, dissolved	8	8	100%	8.8	15	NA	NA	11	10	2.0	Normal	Normal SCL	21
	Nitrate (as nitrogen)	8	7	88%	1.8	2.3	2.5	2.5	1.9	2.0	0.30	Normal	Normal SCL	3.4
	Nitrate/Nitrite as Nitrogen	8	8	100%	2.0	2.8	NA	NA	0.79	2.2	0.11	Lognormal	Normal SCL	3.8
	Selenium, dissolved	8	8	100%	0.92	1.5	NA	NA	1.2	1.3	0.23	Normal	Normal SCL	2.4
	Molybdenum, dissolved	8	8	100%	9.2	24	NA	NA	NA	20	NA	Nonparametric	Max Detect (distribution)	24

Table D-2
Shewhart Control Limits
Appendix D COPC Perimeter Assessment Plan Methodology
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Topock, California

Well	Analyte	Sample Size	Detects	FOD	Summary Statistics [1]							Distribution [3]	SCL Basis [4]	Final SCL [2,4,5]
					Min Detect	Max Detect	Min ND	Max ND	Mean [2]	Median	SD [2]			
MW-35-135	Nitrate (as nitrogen)	8	7	88%	2.3	3.0	2.74	2.74	2.4	2.6	0.47	Normal	Normal SCL	4.8
	Nitrate/Nitrite as Nitrogen	8	8	100%	2.3	2.7	NA	NA	2.5	2.5	0.13	Normal	Normal SCL	3.2
	Selenium, dissolved	8	7	88%	0.92	1.4	0.50	0.50	1.0	1	0.34	Normal	Normal SCL	2.7
MW-36-040	Molybdenum, dissolved	8	8	100%	2.4	6.1	NA	NA	4.1	3.75	1.3	Normal	Normal SCL	11
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.1	1.0	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	1	13%	0.062	0.062	0.050	0.10	NA	0.081	NA	Nonparametric	Max Detect (%NDs > 50%)	DQR [6]
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-36-100	Molybdenum, dissolved	8	8	100%	13	21	NA	NA	19	19	2.4	Quasi-Normal	Normal SCL	31
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.3	0.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	1	13%	0.25	0.25	0.050	0.10	NA	0.050	NA	Nonparametric	Max Detect (%NDs > 50%)	0.25
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-37S	Molybdenum, dissolved	8	8	100%	13	16	NA	NA	15	15	1.1	Normal	Normal SCL	21
	Nitrate (as nitrogen)	8	7	88%	1.4	1.8	1.74	1.74	1.5	1.7	0.32	Quasi-Normal	Normal SCL	3.1
	Nitrate/Nitrite as Nitrogen	--	--	--	--	--	--	--	--	--	--	N/A	N/A	--
	Selenium, dissolved	8	8	100%	0.68	0.87	NA	NA	0.79	0.8	0.068	Normal	Normal SCL	1.1 [7]
MW-40D	Molybdenum, dissolved	8	8	100%	33	54	NA	NA	45	45	8.3	Normal	Normal SCL	87
	Nitrate (as nitrogen)	8	7	88%	2.7	19.7	2.5	2.5	NA	3.1	NA	Nonparametric	Max Detect (distribution)	19.7
	Nitrate/Nitrite as Nitrogen	8	8	100%	0.29	10	NA	NA	1.5	2.05	0.80	Square Root Normal	Normal SCL	30
	Selenium, dissolved	8	8	100%	0.78	2.5	NA	NA	1.5	1.45	0.65	Normal	Normal SCL	4.8
MW-40S	Molybdenum, dissolved	8	8	100%	5.2	32	NA	NA	17	16.5	9.7	Normal	Normal SCL	66
	Nitrate/Nitrite as Nitrogen	8	8	100%	3.5	25	NA	NA	1.9	5.8	0.48	Cube Root Normal	Normal SCL	80
	Selenium, dissolved	8	8	100%	1.8	11	NA	NA	5.0	4.8	3.0	Normal	Normal SCL	20
MW-41M	Molybdenum, dissolved	8	8	100%	24	27	NA	NA	26	26	1.1	Normal	Normal SCL	32
	Nitrate (as nitrogen)	8	3	38%	0.51	0.702	1.0	2.5	NA	1.0	NA	Nonparametric	Max Detect (%NDs > 50%)	DQR [6]
	Nitrate/Nitrite as Nitrogen	8	8	100%	0.52	0.67	NA	NA	0.60	0.585	0.053	Normal	Normal SCL	0.87
	Selenium, dissolved	8	4	50%	0.53	0.72	0.50	2.5	NA	0.535	NA	Nonparametric	Max Detect (distribution)	0.72 [8]
MW-41S	Molybdenum, dissolved	8	8	100%	12	16	NA	NA	14	13.5	1.5	Normal	Normal SCL	22
	Nitrate (as nitrogen)	8	8	100%	1.2	2.4	NA	NA	0.38	1.3	0.22	Quasi-Lognormal	Normal SCL	4.4
	Nitrate/Nitrite as Nitrogen	8	8	100%	1.3	2.7	NA	NA	2.1	2.2	0.52	Normal	Normal SCL	4.7
	Selenium, dissolved	8	8	100%	0.65	2.3	NA	NA	1.6	1.75	0.59	Normal	Normal SCL	4.6
MW-42-030	Molybdenum, dissolved	8	8	100%	6.3	29	NA	NA	21	20.5	7.0	Normal	Normal SCL	56
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.100	1.00	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	5	63%	0.0121	0.15	0.050	0.05	0.042	0.050	0.047	Normal	Normal SCL	0.28 [9]
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-44-070	Molybdenum, dissolved	8	8	100%	6.2	14	NA	NA	9.2	8.75	2.7	Normal	Normal SCL	23
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.100	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	--	--	--	--	--	--	--	--	--	--	N/A	N/A	--
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-44-125	Molybdenum, dissolved	8	8	100%	10	230	NA	NA	110	120	90	Normal	Normal SCL	560
	Nitrate (as nitrogen)	8	0	0%	NA	NA	0.3	0.5	NA	NA	NA	Unknown	%NDs = 100%	DQR
	Nitrate/Nitrite as Nitrogen	8	2	25%	0.090	0.18	0.050	0.10	NA	0.095	NA	Nonparametric	Max Detect (%NDs > 50%)	0.18
	Selenium, dissolved	8	0	0%	NA	NA	0.50	0.50	NA	NA	NA	Unknown	%NDs = 100%	DQR
MW-46-175	Molybdenum, dissolved	8	8	100%	160	210	NA	NA	190	190	16	Normal	Normal SCL	270
	Nitrate (as nitrogen)	8	4	50%	0.76	1.0	2.5	2.5	-0.076	1.75	0.12	Quasi-Lognormal	Normal SCL	1.7
	Nitrate/Nitrite as Nitrogen	8	8	100%	0.90	1.1	NA	NA	0.98	1	0.063	Normal	Normal SCL	1.3
	Selenium, dissolved	8	7	88%	0.51	1.0	0.50	0.50	-0.57	0.56	0.40	Lognormal	Normal SCL	4.2
MW-71-035	Molybdenum, dissolved	8	8	100%	13	23	NA	NA	17	15.5	3.4	Normal	Normal SCL	34
	Nitrate (as nitrogen)	8	3	38%	0.50	0.80	0.50	0.50	NA	0.50	NA	Nonparametric	Max Detect (%NDs > 50%)	0.8
	Nitrate/Nitrite as Nitrogen	8	4	50%	0.092	0.53	0.050	0.10	0.33	0.1	0.16	Square Root Normal	Normal SCL	1.3
	Selenium, dissolved	8	2	25%	0.51	1.5	0.50	0.50	NA	0.50	NA	Nonparametric	Max Detect (%NDs > 50%)	1.5
	Molybdenum, dissolved	8	8	100%	6.7	10	NA	NA	8.3	8.2	1.3	Normal	Normal SCL	15

Table D-2
Shewhart Control Limits
Appendix D COPC Perimeter Assessment Plan Methodology
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Topock, California

Well	Analyte	Sample Size	Detects	FOD	Summary Statistics [1]							Distribution [3]	SCL Basis [4]	Final SCL [2,4,5]
					Min Detect	Max Detect	Min ND	Max ND	Mean [2]	Median	SD [2]			
MW-89-183	Nitrate/Nitrite as Nitrogen	8	8	100%	2.6	3.3	NA	NA	2.8	2.8	0.22	Normal	Normal SCL	3.9
	Selenium, dissolved	8	8	100%	2.2	3.1	NA	NA	2.6	2.65	0.27	Normal	Normal SCL	4.0
MW-89-273	Molybdenum, dissolved	8	8	100%	32	42	NA	NA	36	35	3.3	Normal	Normal SCL	53
	Nitrate/Nitrite as Nitrogen	8	8	100%	2.1	3.0	NA	NA	NA	2.8	NA	Nonparametric	Max Detect (distribution)	3
	Selenium, dissolved	8	8	100%	3.5	3.9	NA	NA	3.6	3.6	0.14	Normal	Normal SCL	4.3
MW-90-031	Molybdenum, dissolved	8	8	100%	13	18	NA	NA	16	16	1.6	Normal	Normal SCL	24
	Nitrate/Nitrite as Nitrogen	8	2	25%	0.03	0.11	0.050	0.10	NA	0.10	NA	Nonparametric	Max Detect (%NDs > 50%)	0.11
	Selenium, dissolved	8	2	25%	0.56	0.58	0.50	0.50	NA	0.50	NA	Nonparametric	Max Detect (%NDs > 50%)	0.58
MW-95-113	Molybdenum, dissolved	8	8	100%	3.9	6.4	NA	NA	NA	4.2	NA	Nonparametric	Max Detect (distribution)	6.4
	Nitrate/Nitrite as Nitrogen	8	8	100%	4.4	6.2	NA	NA	5.5	5.65	0.65	Normal	Normal SCL	8.8
	Selenium, dissolved	8	8	100%	3.8	5.4	NA	NA	4.9	4.9	0.50	Normal	Normal SCL	7.4
MW-95-157	Molybdenum, dissolved	8	8	100%	3.5	10	NA	NA	1.7	4.75	0.20	Cube Root Normal	Normal SCL	20
	Nitrate/Nitrite as Nitrogen	8	7	88%	5.8	9.5	0.050	0.050	NA	8.35	NA	Nonparametric	Max Detect (distribution)	9.5
	Selenium, dissolved	8	7	88%	0.55	7.0	0.50	0.50	NA	6.1	NA	Nonparametric	Max Detect (distribution)	7

Table D-2
Shewhart Control Limits
Appendix D COPC Perimeter Assessment Plan Methodology
Fourth Quarter 2022 Quarterly Progress Report
Pacific Gas and Electric Company, Topock Compressor Station, Topock, California

Abbreviations:
DQR = double quantification rule
FOD = frequency of detection
Min = minimum
Max = maximum
NA = not available or not applicable
ND = non-detect
SCL = Shewhart Control Limit
SD = standard deviation

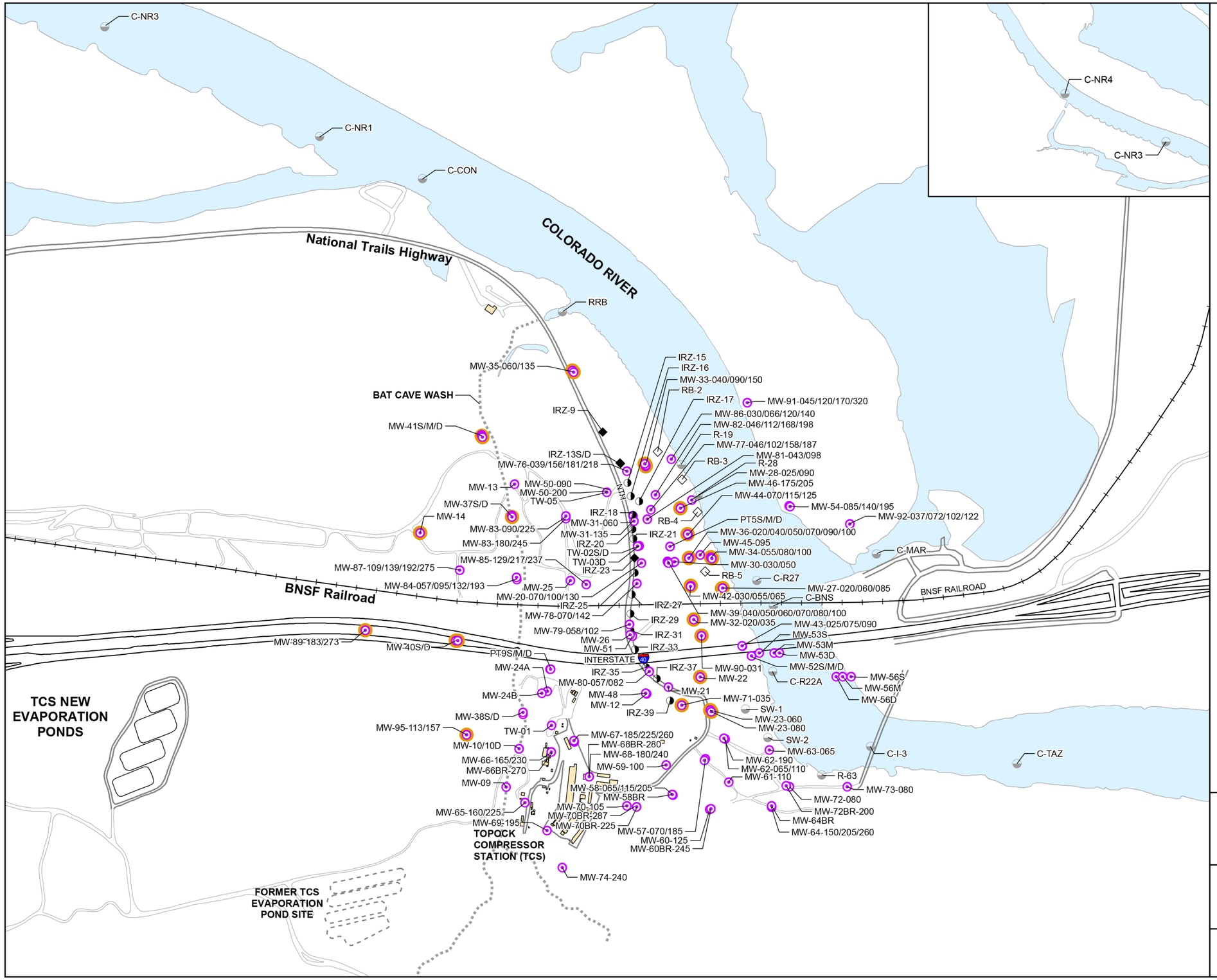
Notes:
[1] Summary statistics and final SCLs are in units of micrograms per liter for molybdenum and selenium and milligrams per liter for nitrate/nitrite as nitrogen and nitrate (as nitrogen).
[2] Mean and standard deviation values based on frequency of detection as follows:
- If the dataset contains 0% non-detects, then the values are directly calculated.
- If the dataset has greater than 0% non-detects, but less than 15% detects, the values are calculated using the reporting limit for non-detects.
- If the dataset has greater than or equal to 15% non-detects, but less than 50% non-detects, the values are calculated using Kaplan-Meier adjustment method.
- If the dataset contains greater than or equal to 50% non-detections, then the values are not calculated.

If a transformation was required to normalize, then the mean and standard deviation are based on transformed data.
[3] Distribution determined using Chemstat Software by Starpoint. Distribution was determined with the Shapiro-Wilk test with non-detects included at their full detection limit
[4] Final SCL values based on distribution and frequency of detections as follows:
- If the dataset is 100% non-detect, then future exceedances will be determined using the Double Quantification Rule (see text).
- If the dataset has non-detects greater than or equal to 50%, then the final SCL is the maximum detect.
- If the dataset has non-detects less than 50% and fits either a normal, square root, cube root, or natural logarithm distribution, then the final SCL is either a normal SCL, square root SCL, cube root SCL, or lognormal SCL, respectively; if a transformation was required, then the SCL is back-transformed for convenience in comparing future data.
- If the dataset has non-detects greater than or equal to 50%, and fits either a normal, square root, cube root, or natural logarithm distribution, then the final SCL is a non-parametric SCL due to the high percentage of non-detects.

[5] SCL = average + standardized control limit x standard deviation
where the standardized control limit = 5 (USEPA 2009) and the average and standard deviation is transformed where applicable.
[6] The maximum reporting limit is greater than the maximum detected value, but all detected values are estimated (J-flagged). The DQR is used as the SCL.
[7] The elevated non-detect result observed on 12/8/2017 (<2.5 µg/L) was not included in the calculation.
[8] The maximum reporting limit is greater than the maximum detected value, but the maximum reporting limit is elevated. The maximum detected value is used as the SCL.
[9] The elevated non-detect results observed on 12/5/2018, 11/30/2021, 5/5/2022, and 8/18/2022 (<0.1 mg/L) were not included in the calculation.

References:
USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. United States Environmental Protection Agency Office of Resource Conservation and Recovery. EPA 530/R-09-007. March.

Figures



LEGEND

- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (NOT PLUMBED INTO SYSTEM CURRENTLY)
- SURFACE WATER MONITORING LOCATION (INCLUDED IN COPC MONITORING PROGRAM)
- COPC MONITORING WELL
- COPC PERIMETER ASSESSMENT PLAN MONITORING WELL
- BAT CAVE WASH

Notes:
1. NTH = National Trails Highway
2. IRZ = In Situ Reactive Zone
3. COPC = Constituent of Potential Concern

0 500 1,000
Feet

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

COPC MONITORING NETWORK

ARCADIS

FIGURE
D-1

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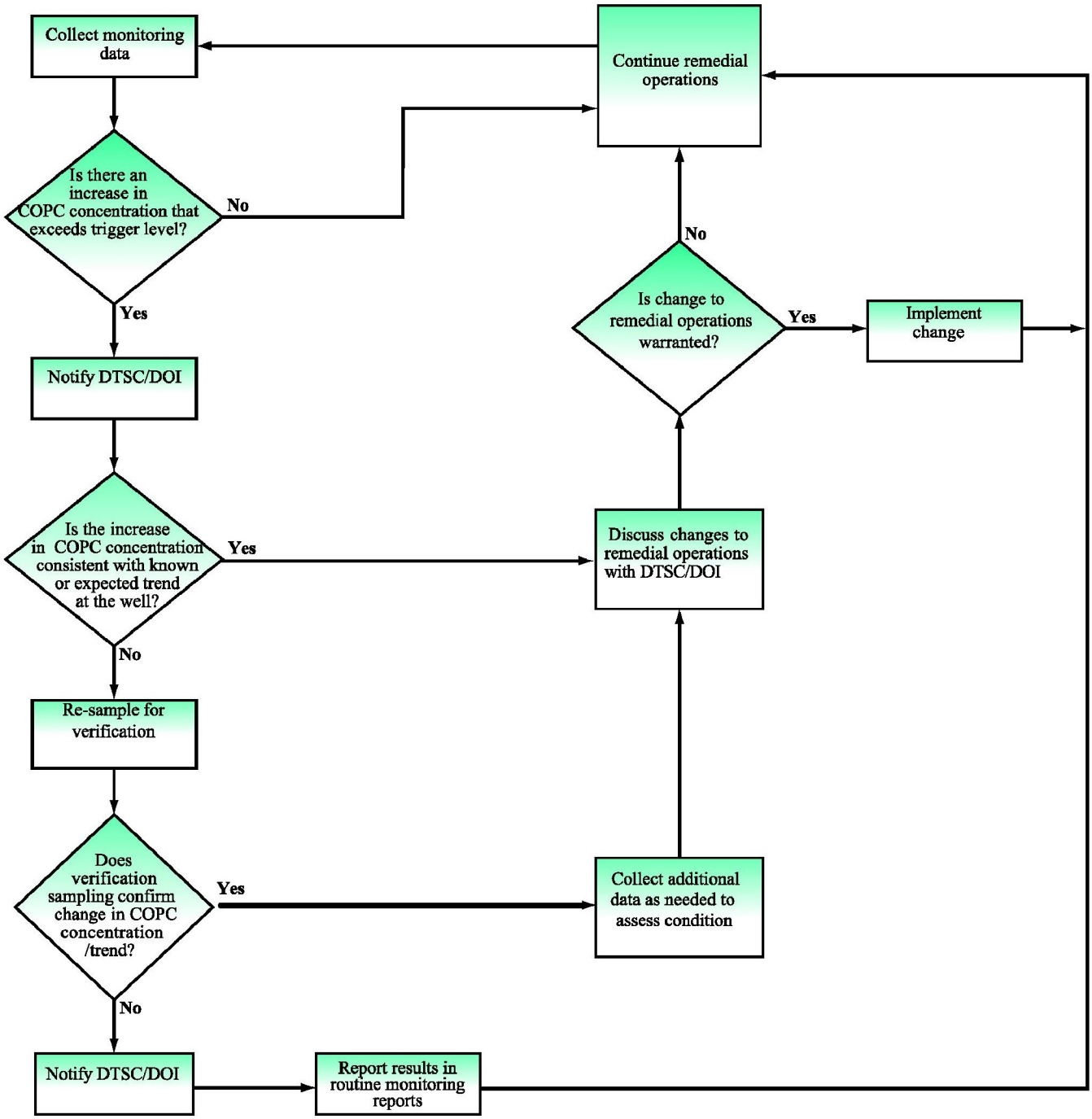


Notes:

1. Notification will be provided within 5 days following receipt of validated laboratory results.
2. Re-sampling to occur within 45 days of receipt of validated laboratory results.
3. Data needed to assess trend or condition may include increased sampling frequency at triggered well, increased sampling at adjacent wells (i.e., lateral, vertical), or collection of additional data to assess change in geochemical conditions.
4. Assess the gradient direction near the triggered well and evaluate potential for remedial measure optimization accordingly. Optimization may include change to pumping or injection rates.
5. Changes to manage constituents of potential concern (COPCs) will be balanced against optimization for chromium removal.
6. DTSC = California Department of Toxic Substances Control
7. DOI = U.S. Department of the Interior

FOURTH QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

COPC PERIMETER ASSESSMENT PLAN

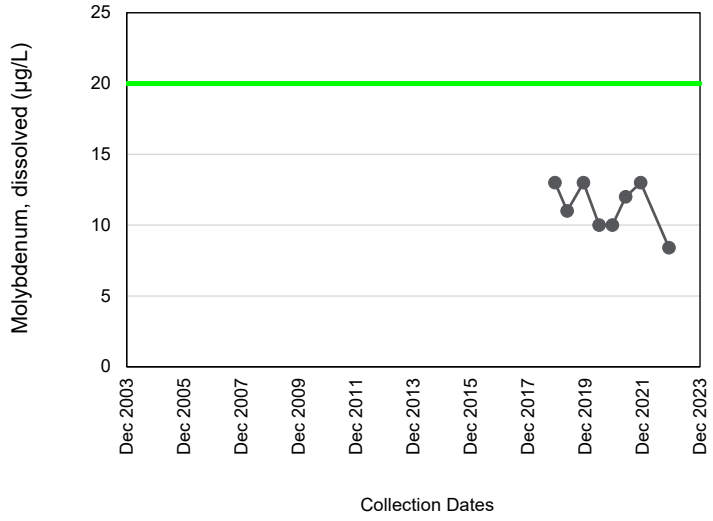
ARCADIS

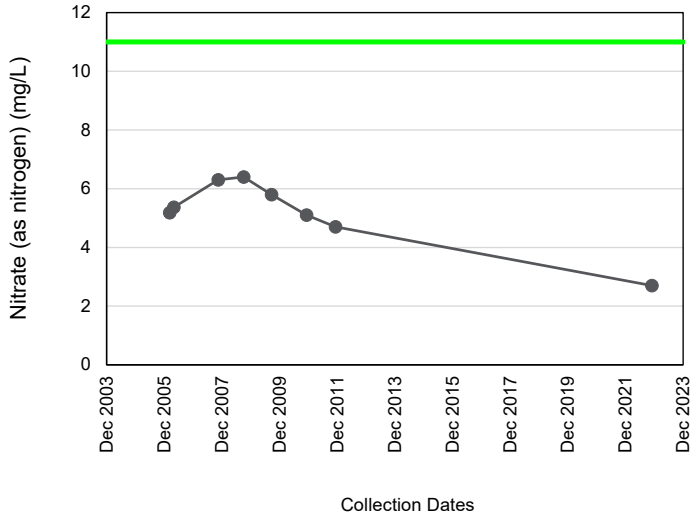
FIGURE
D-2

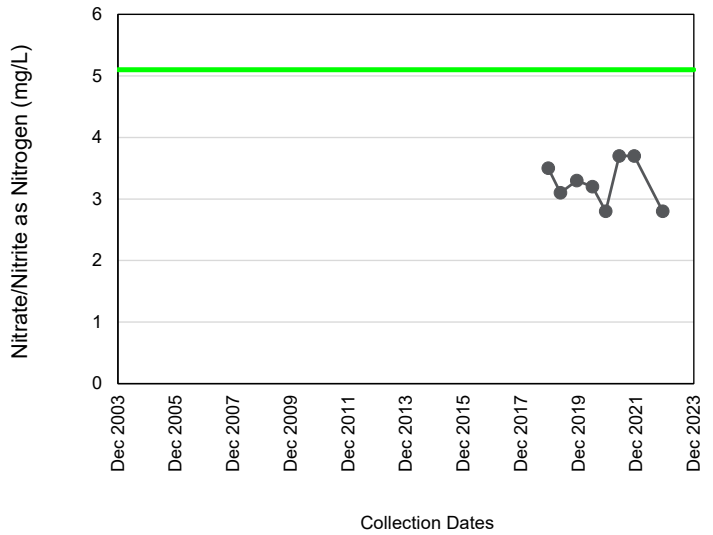
Attachment A

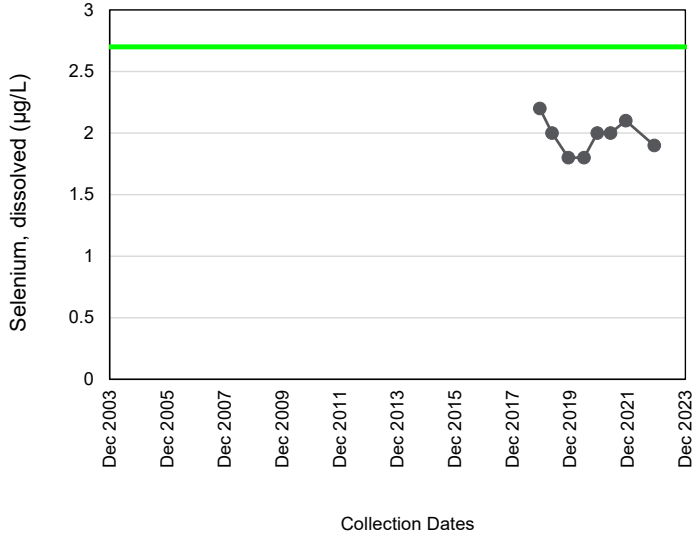
Concentration – Time Series Charts

Location: **MW-14**









Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

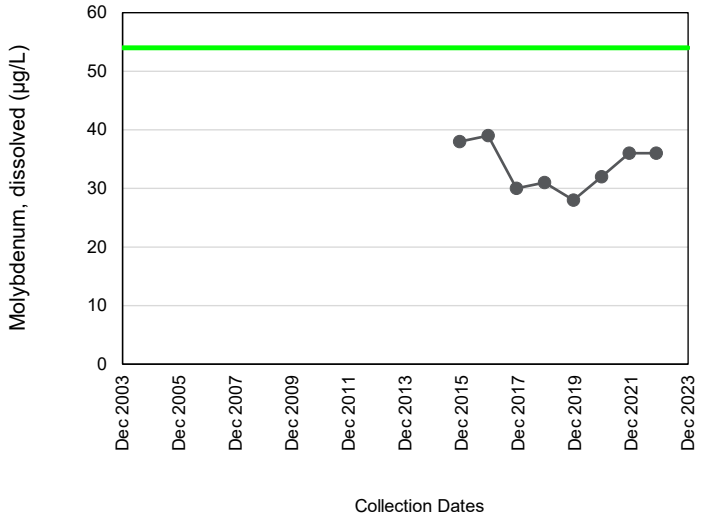
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
ATTACHMENT A

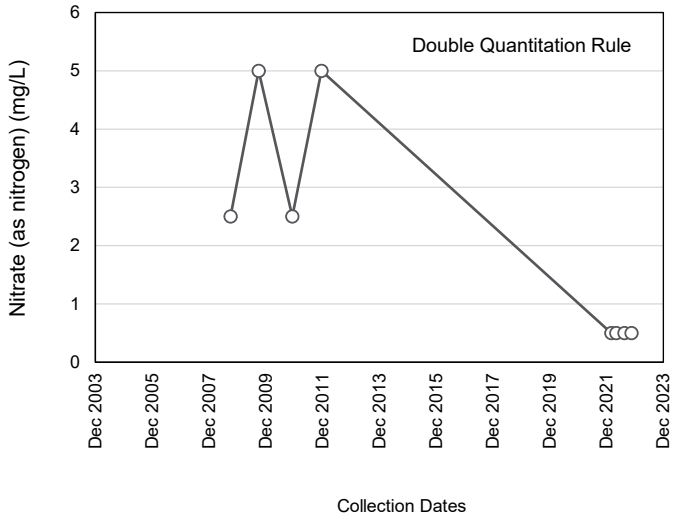
CONCENTRATION TIME SERIES CHARTS

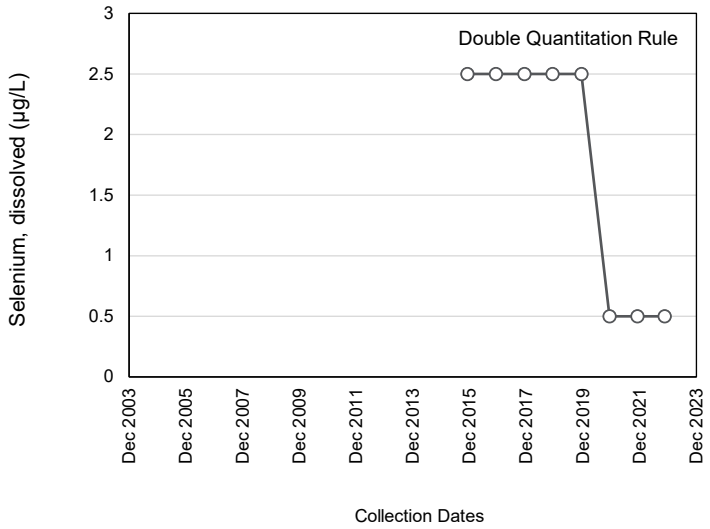
ARCADIS

FIGURE
A-1

Location: **MW-22**







Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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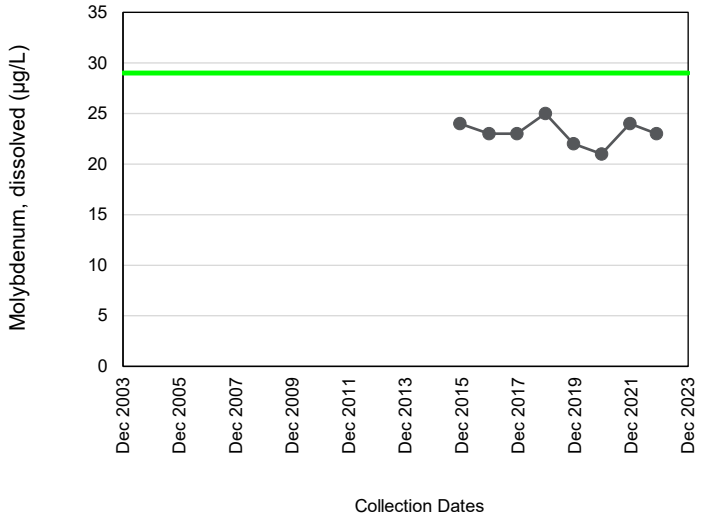
NEEDLES, CALIFORNIA
ATTACHMENT A

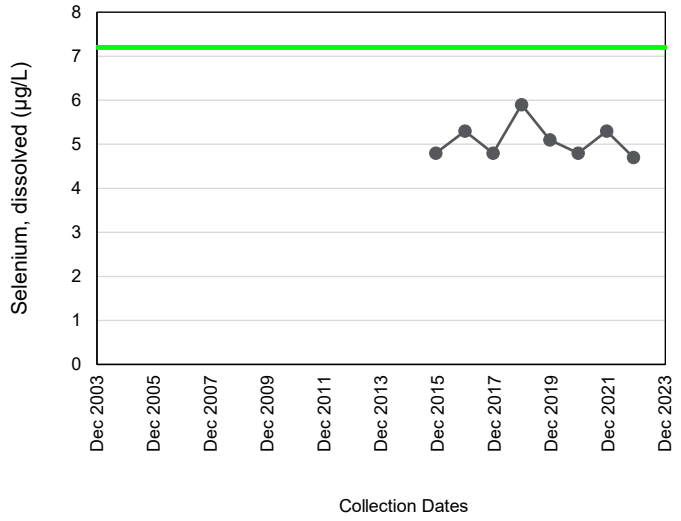
CONCENTRATION TIME SERIES CHARTS

ARCADIS

FIGURE
A-2

Location: **MW-23-060**





Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

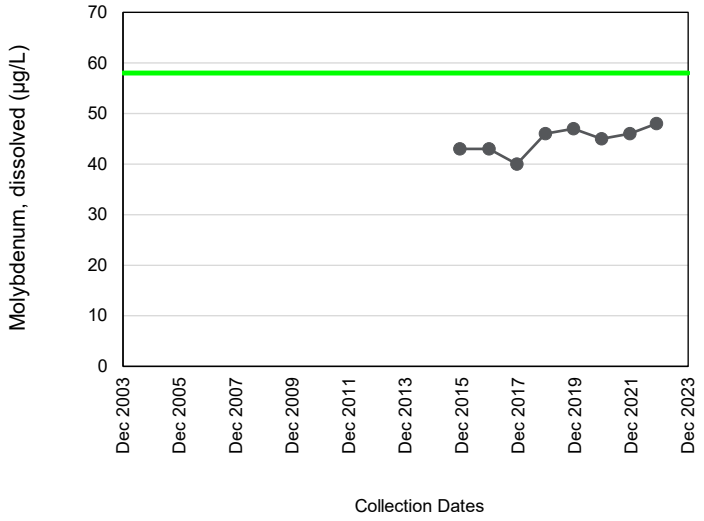
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA
ATTACHMENT A

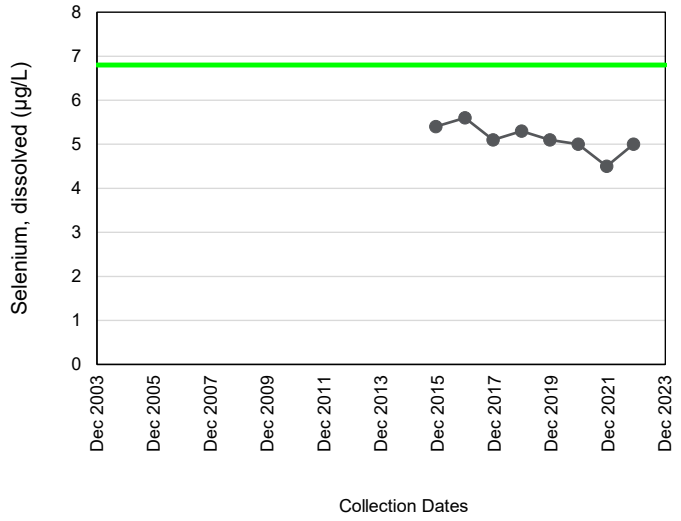
CONCENTRATION TIME SERIES CHARTS

ARCADIS

FIGURE
A-3

Location: **MW-23-080**





Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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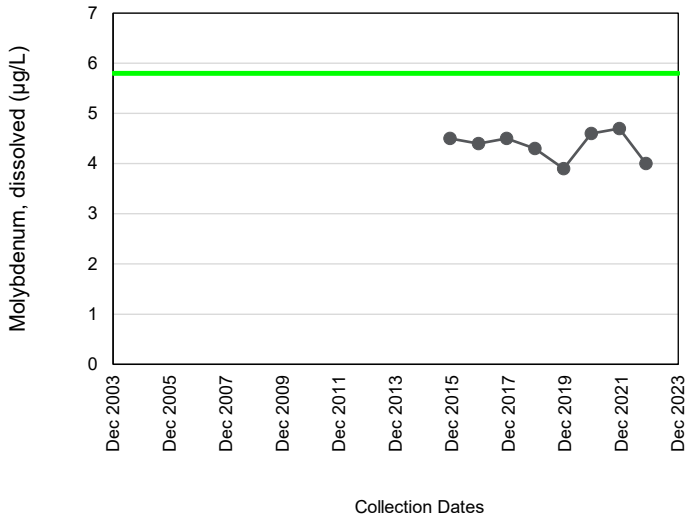
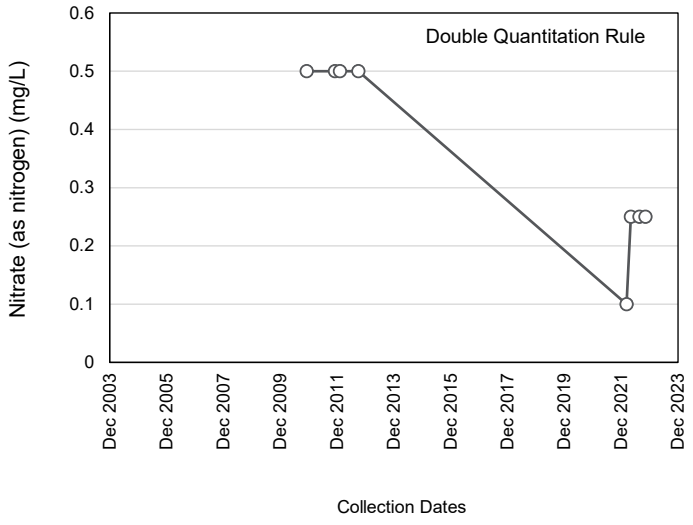
CONCENTRATION TIME SERIES CHARTS

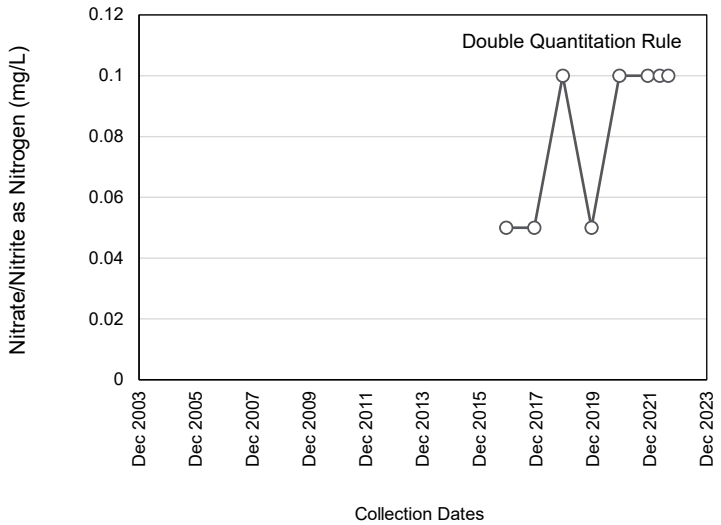
ARCADIS

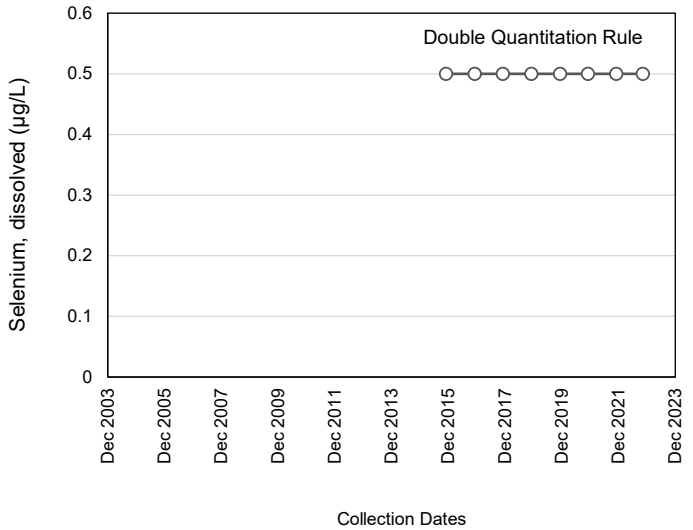
FIGURE
A-4

Location: **MW-27-060**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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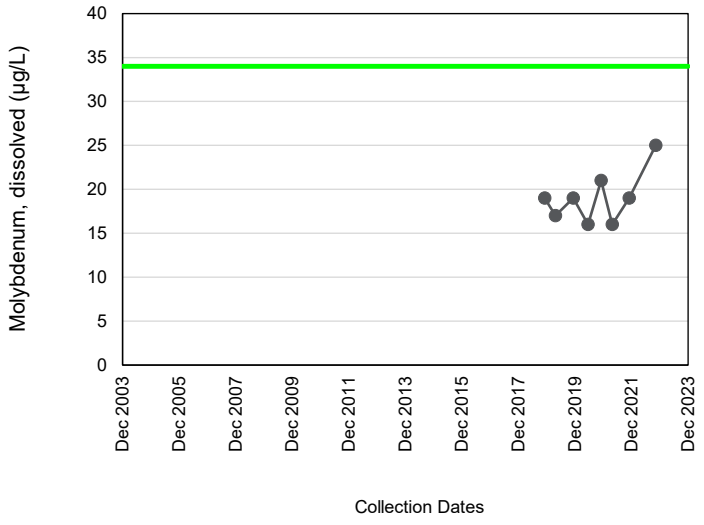
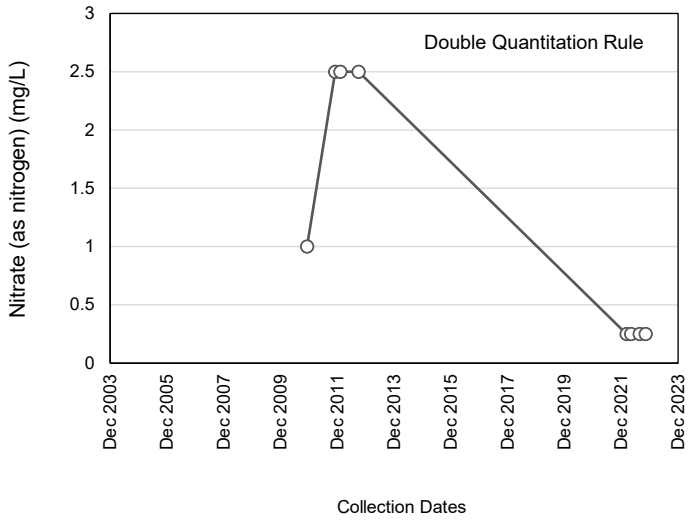
CONCENTRATION TIME SERIES CHARTS

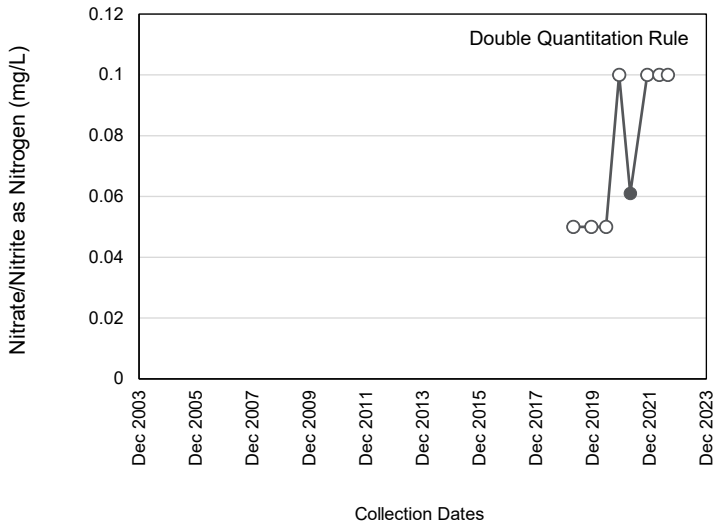
ARCADIS

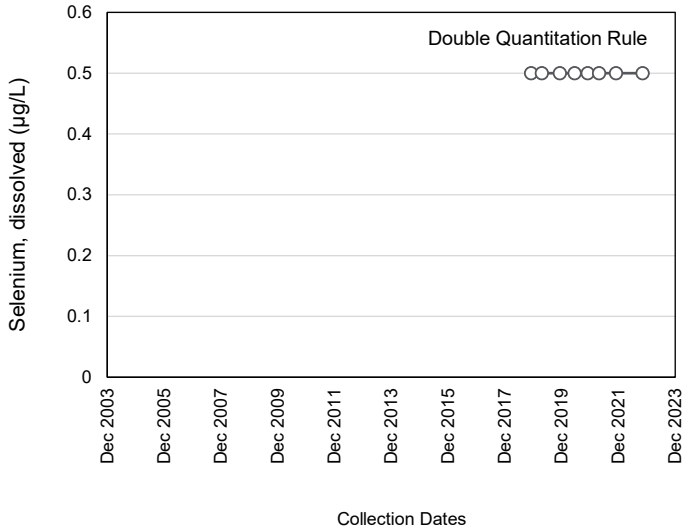
FIGURE
A-5

Location: **MW-27-085**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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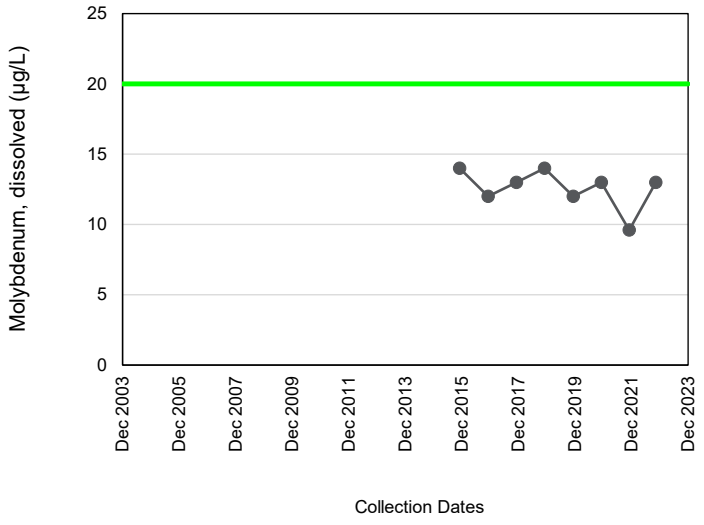
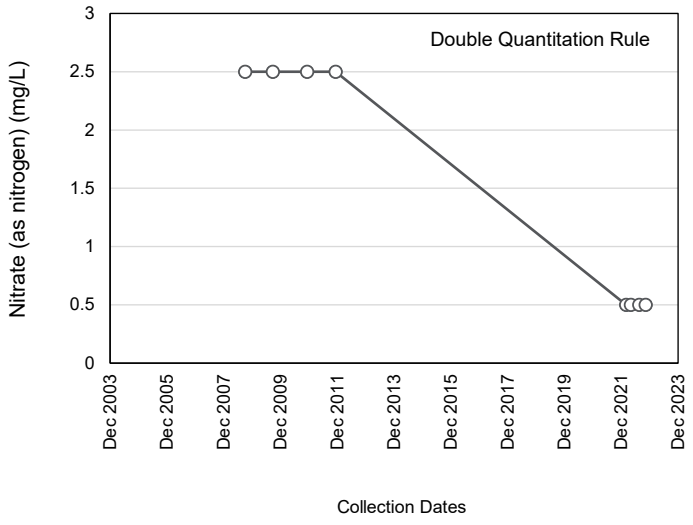
CONCENTRATION TIME SERIES CHARTS

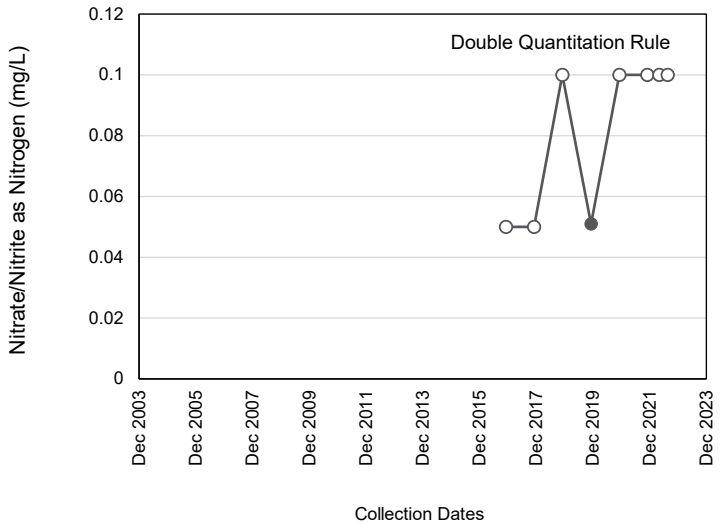
ARCADIS

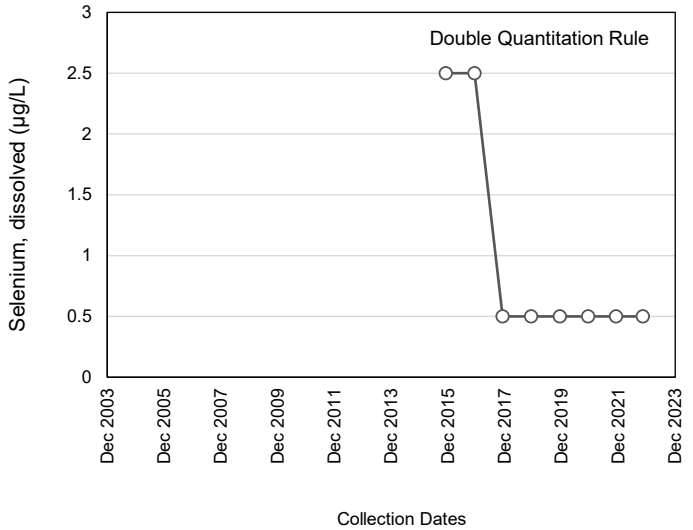
FIGURE
A-6

Location: **MW-32-035**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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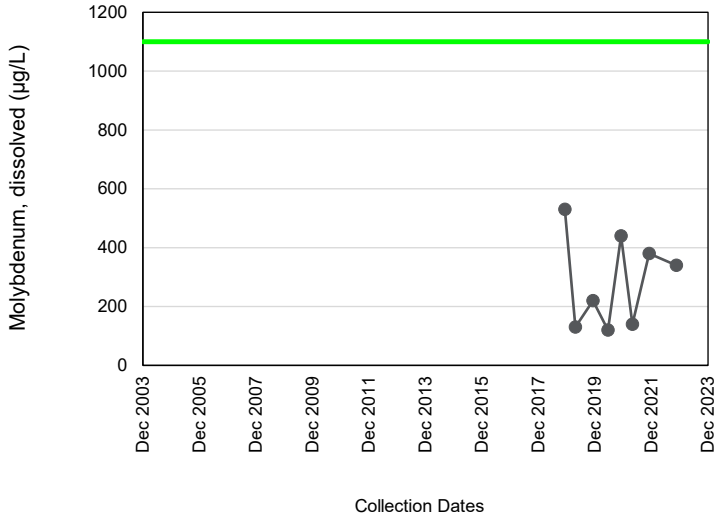
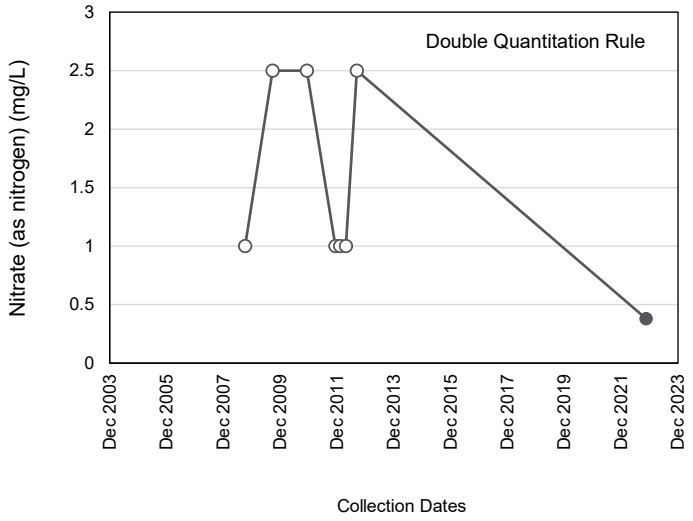
CONCENTRATION TIME SERIES CHARTS

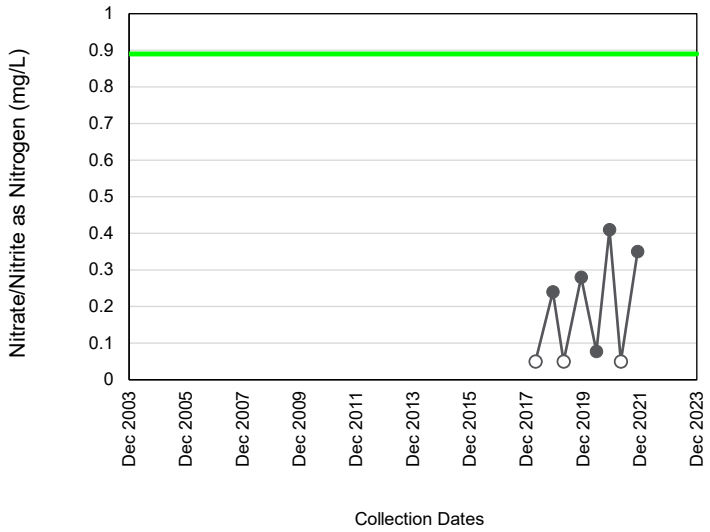
ARCADIS

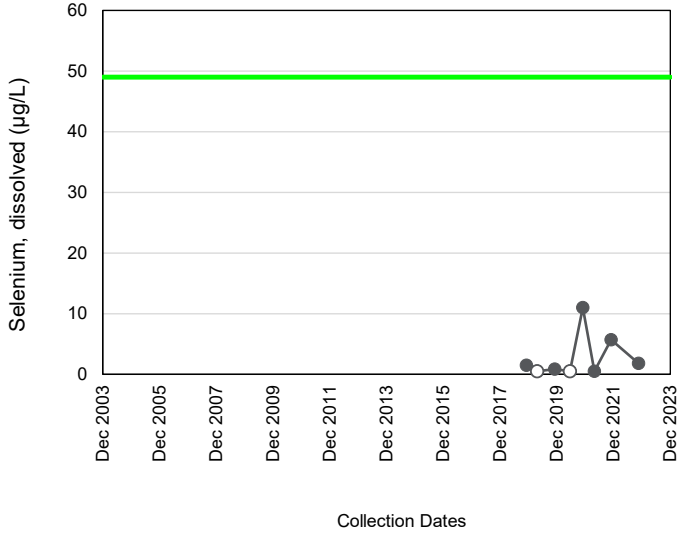
FIGURE
A-7

Location: **MW-33-040**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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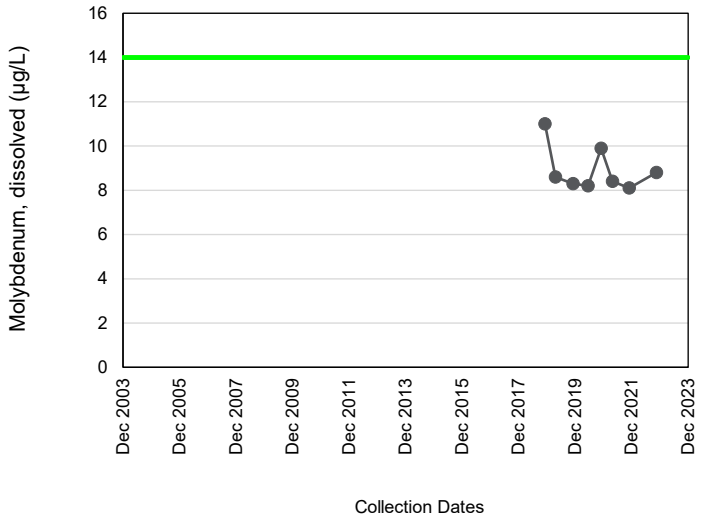
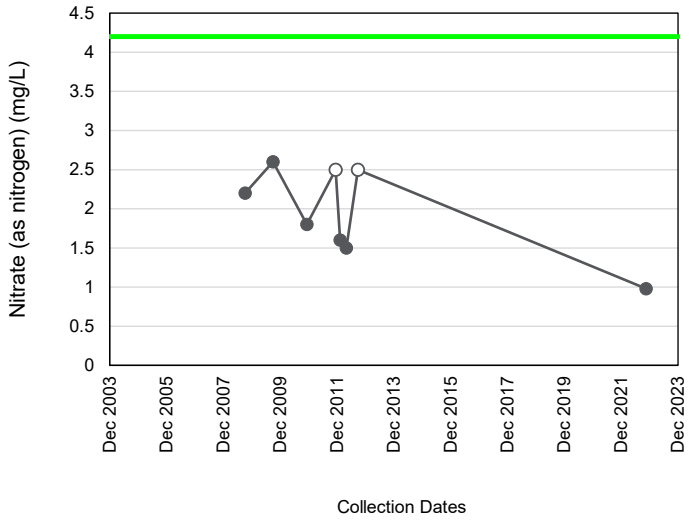
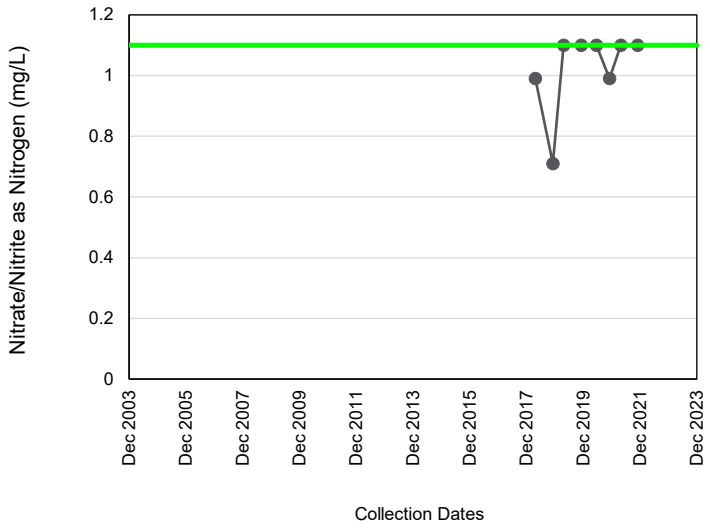
ARCADIS

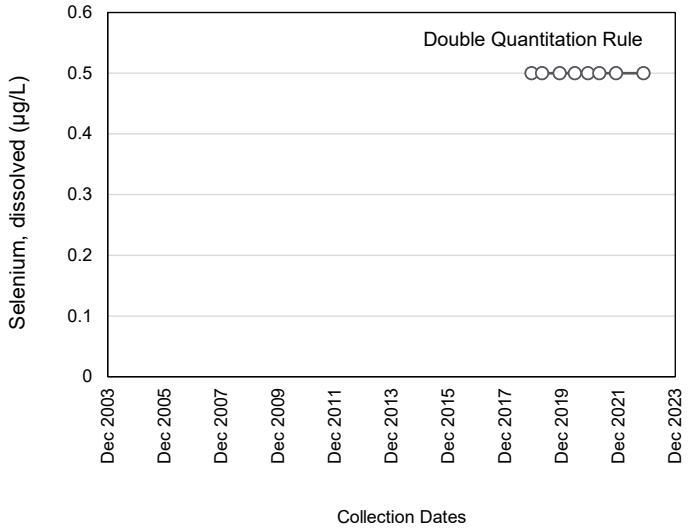
FIGURE
A-8

Location: **MW-33-090**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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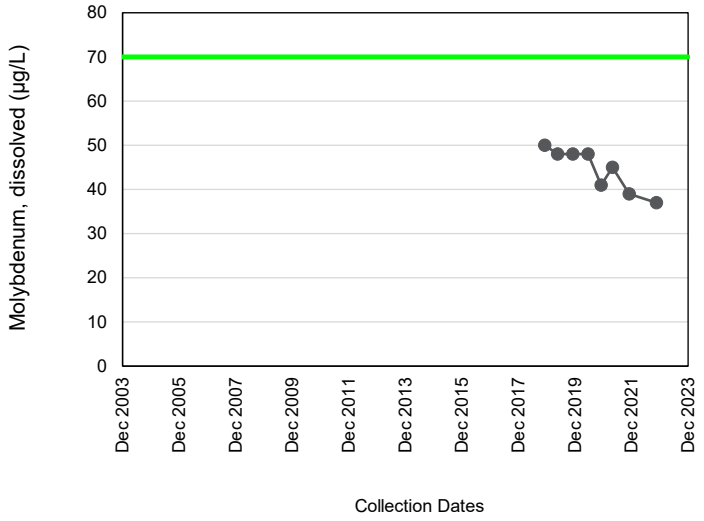
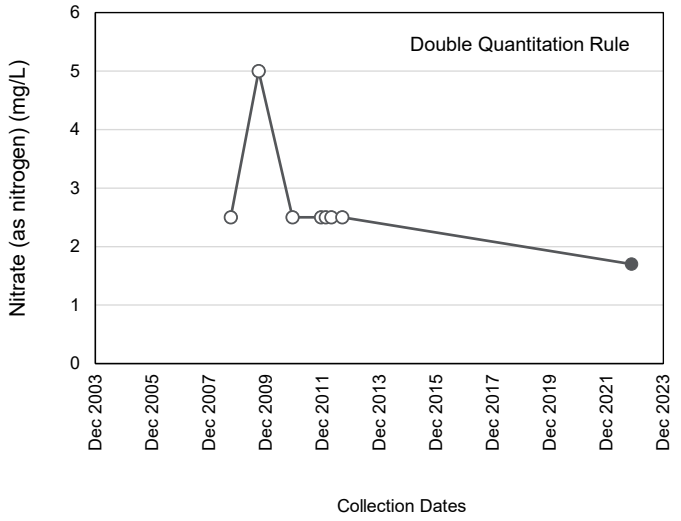
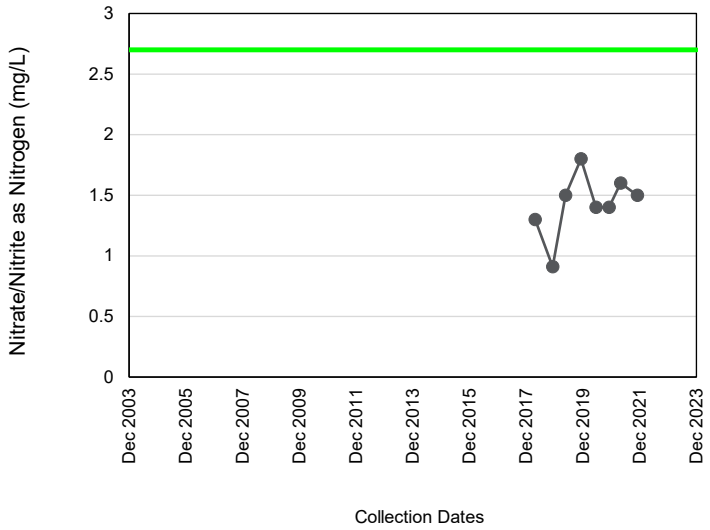
ARCADIS

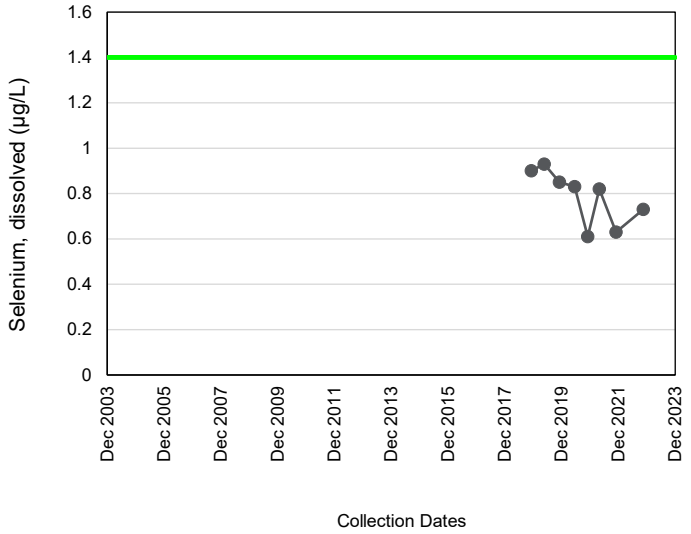
FIGURE
A-9

Location: **MW-33-150**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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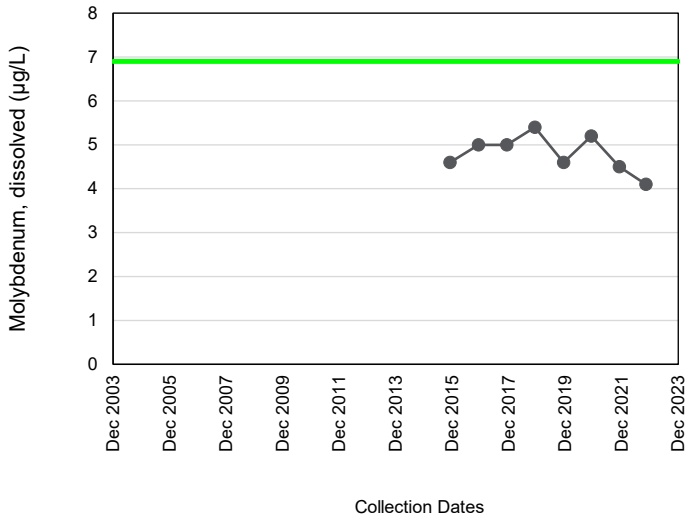
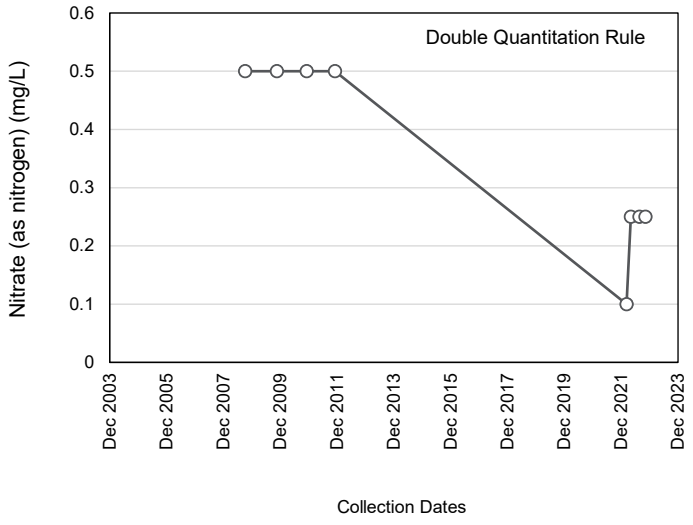
CONCENTRATION TIME SERIES CHARTS

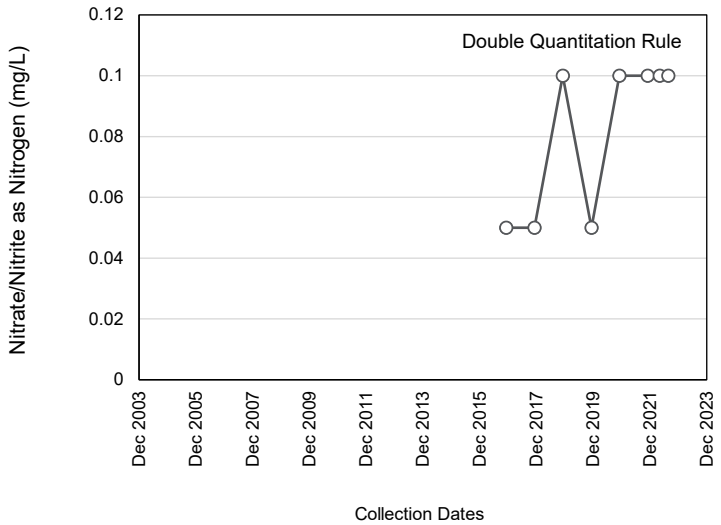
ARCADIS

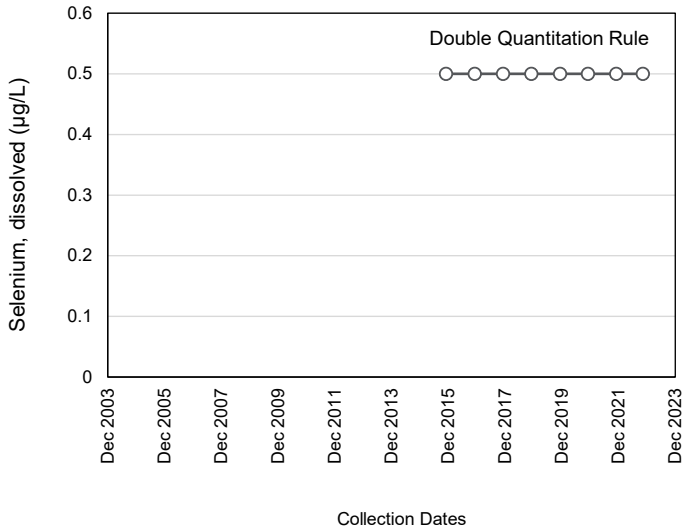
FIGURE
A-10

Location: **MW-34-055**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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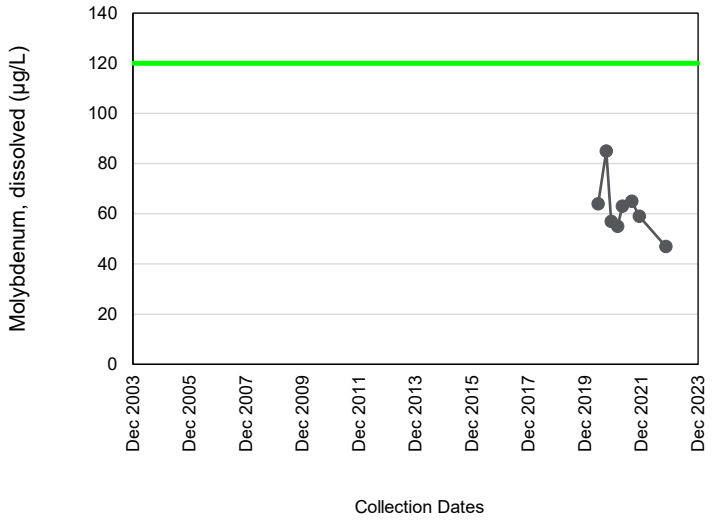
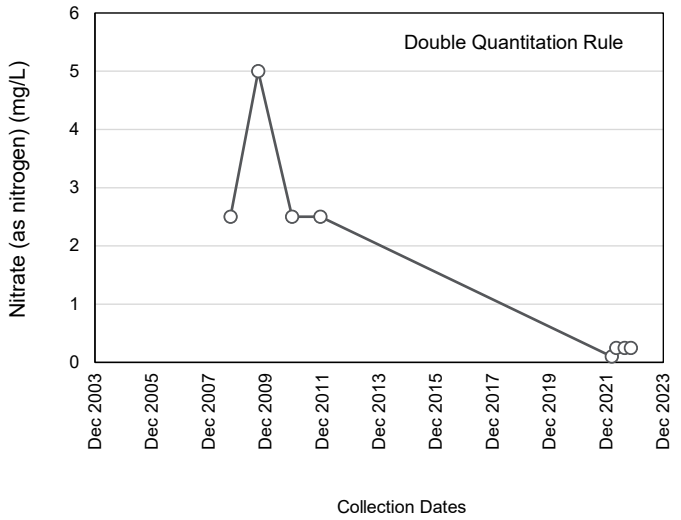
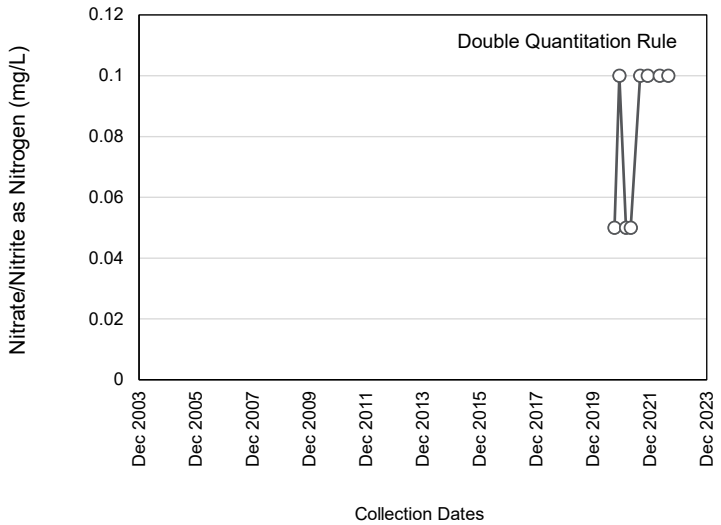
ARCADIS

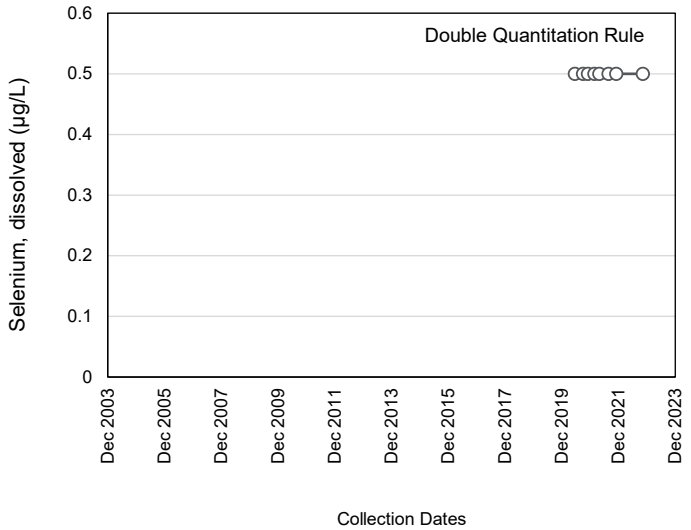
FIGURE
A-11

Location: **MW-34-100**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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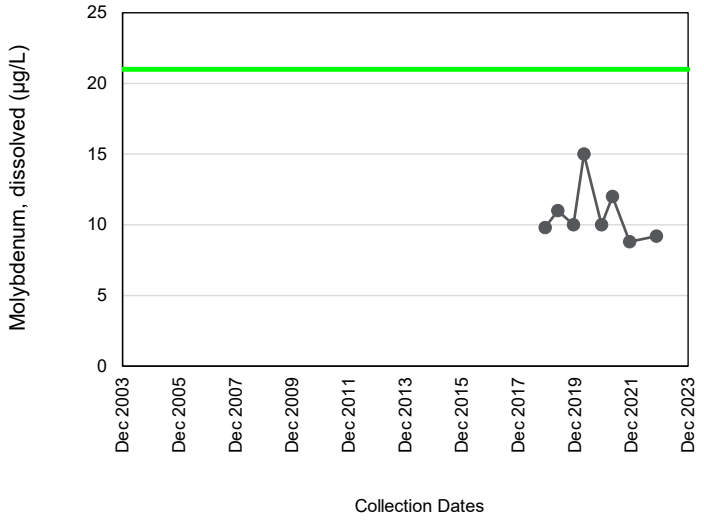
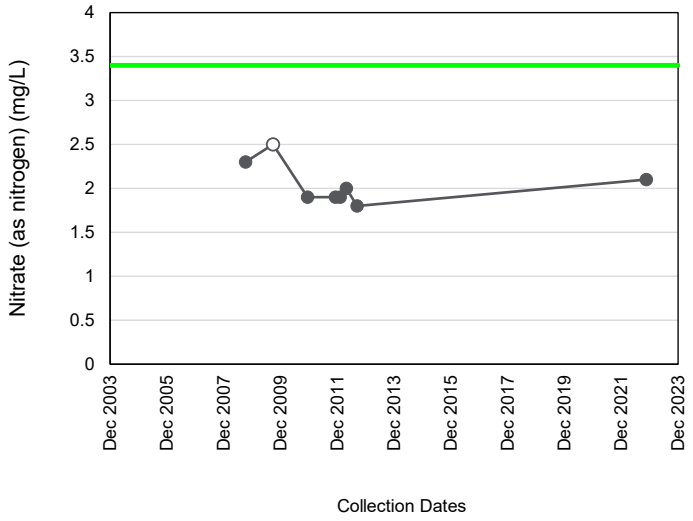
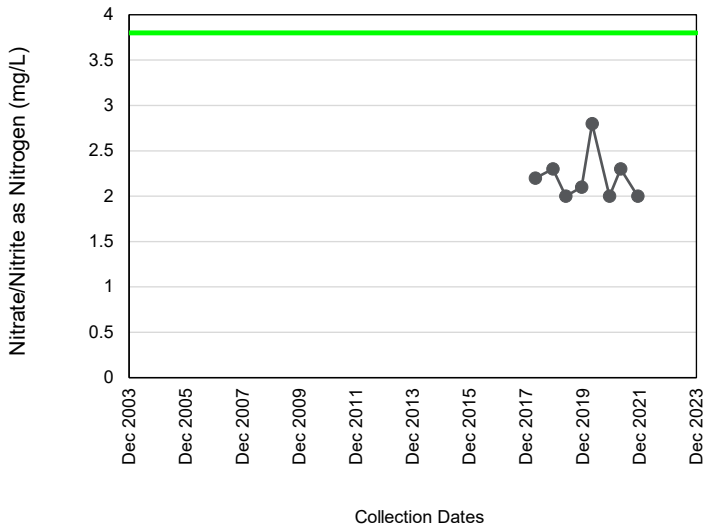
ARCADIS

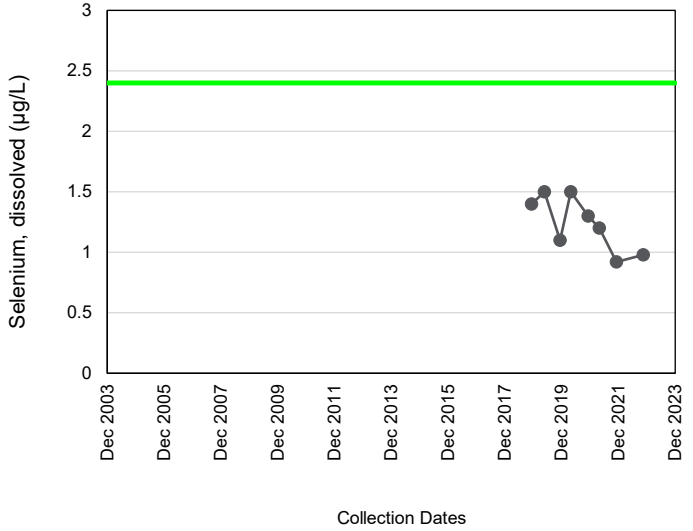
FIGURE
A-12

Location: **MW-35-060**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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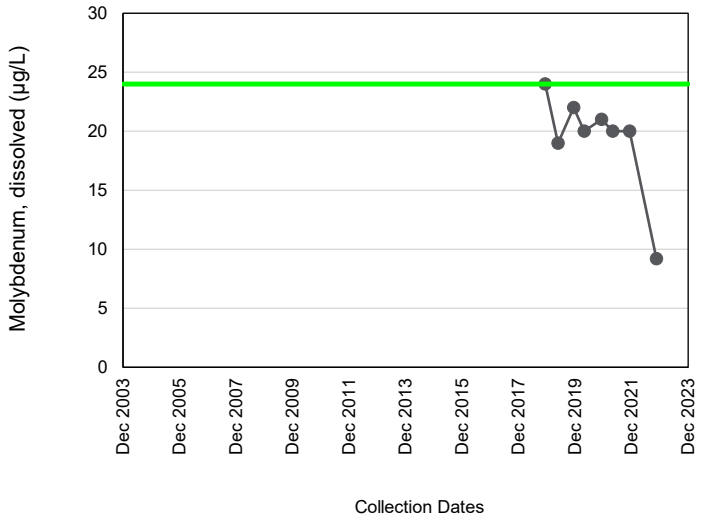
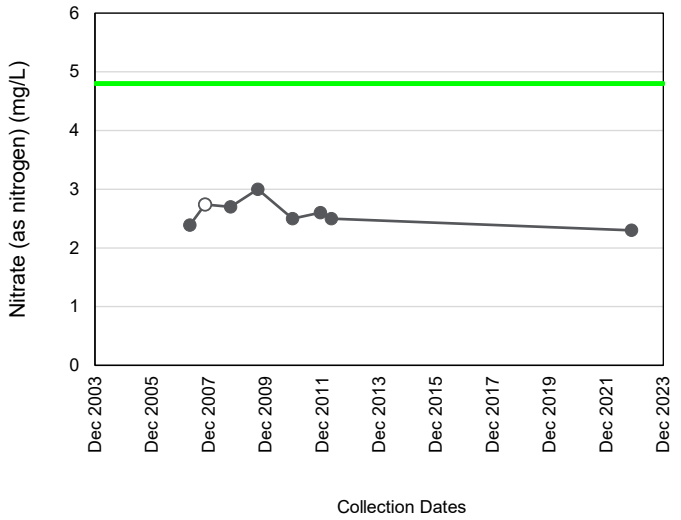
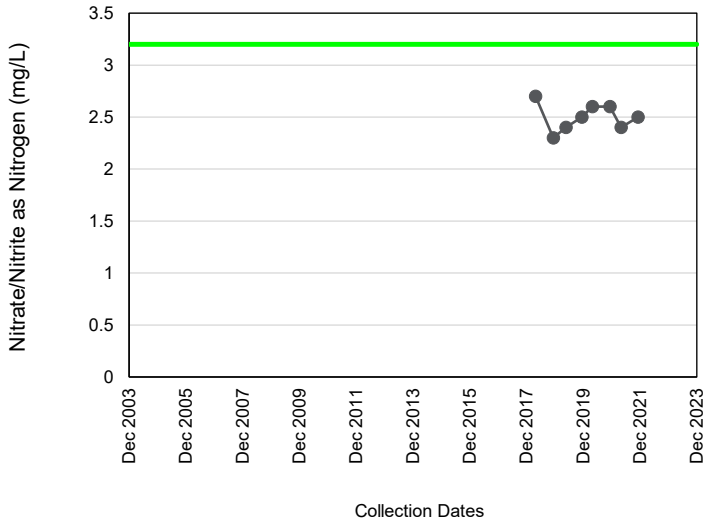
ARCADIS

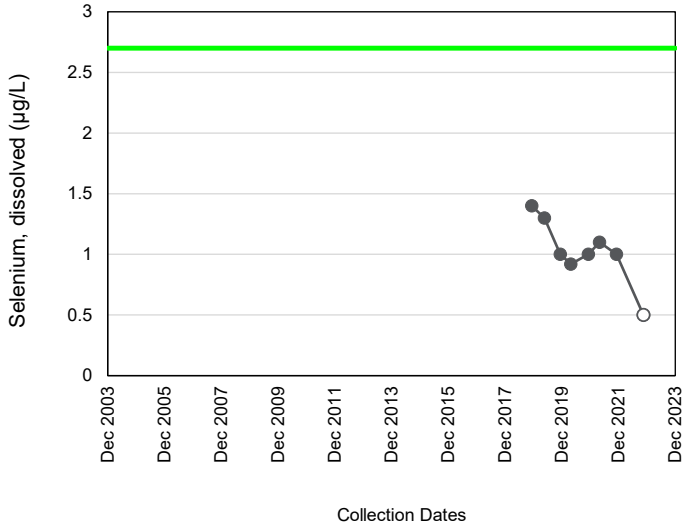
FIGURE
A-13

Location: **MW-35-135**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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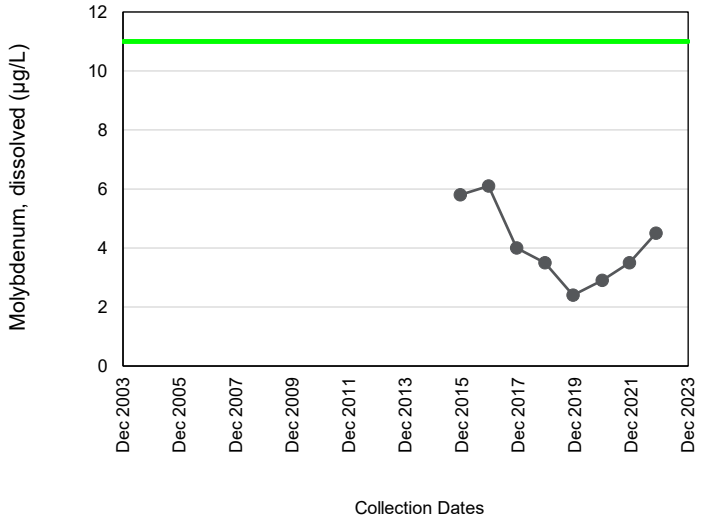
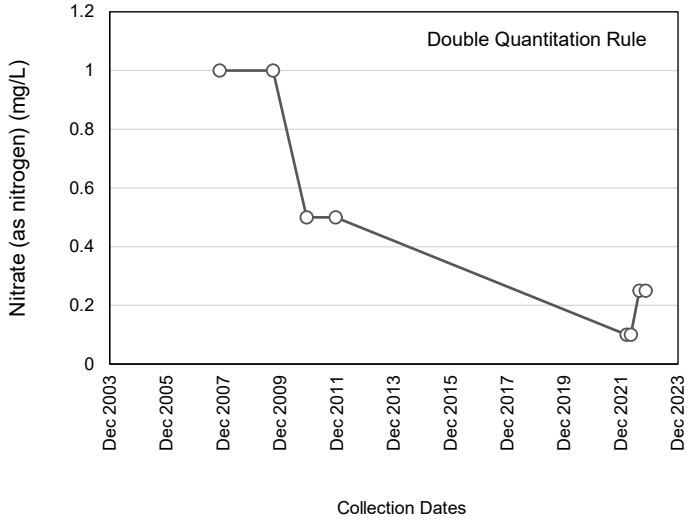
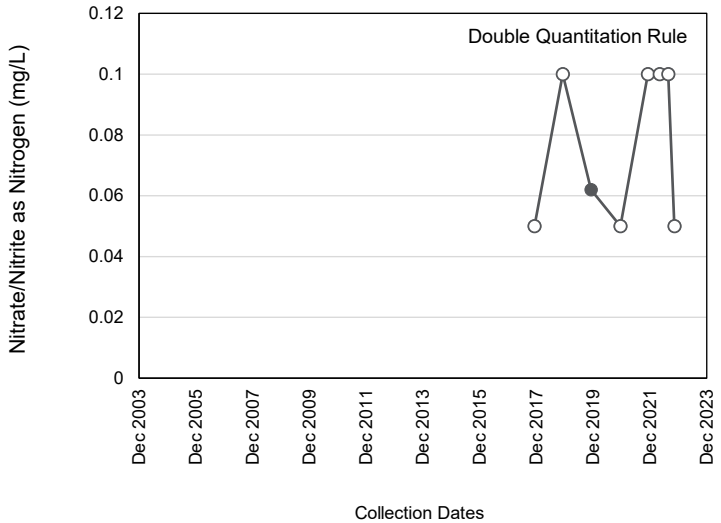
ARCADIS

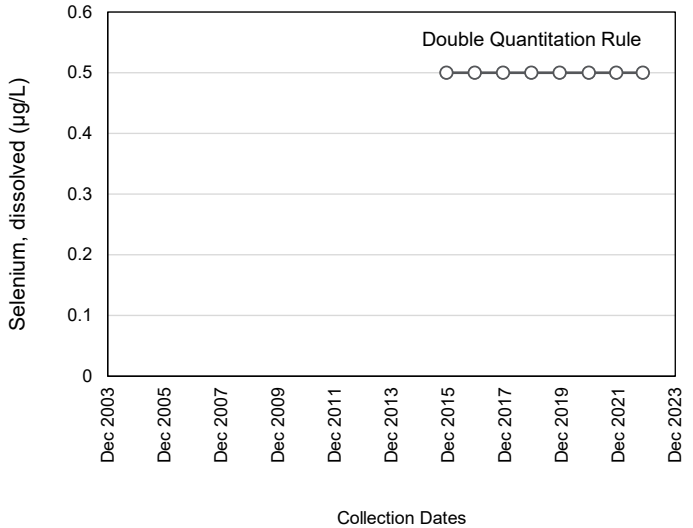
FIGURE
A-14

Location: **MW-36-040**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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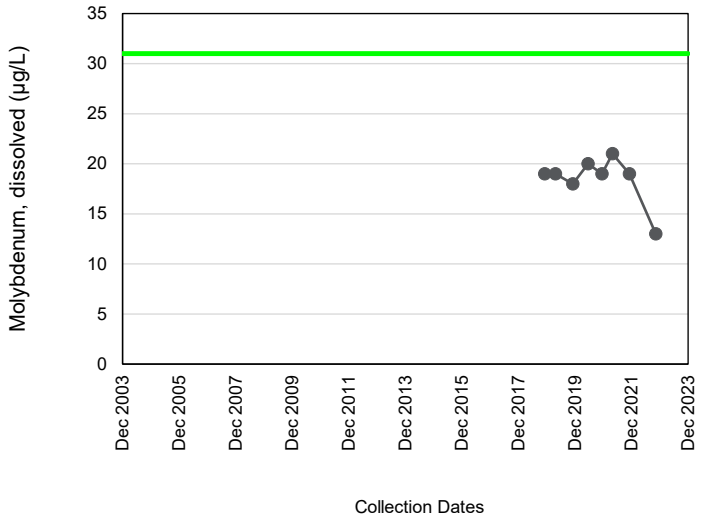
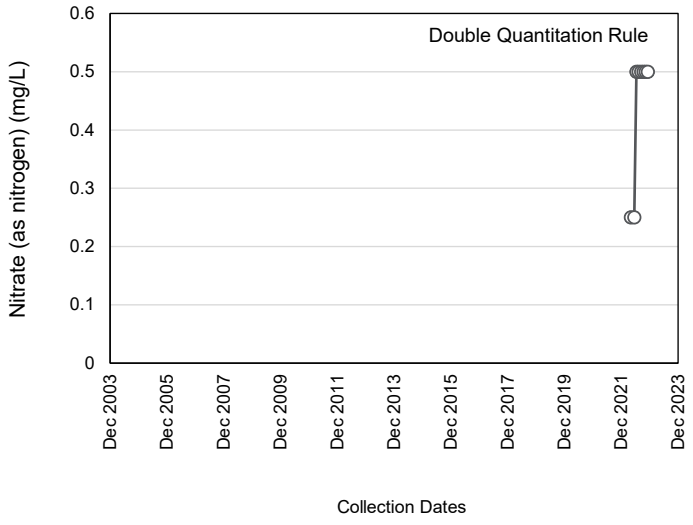
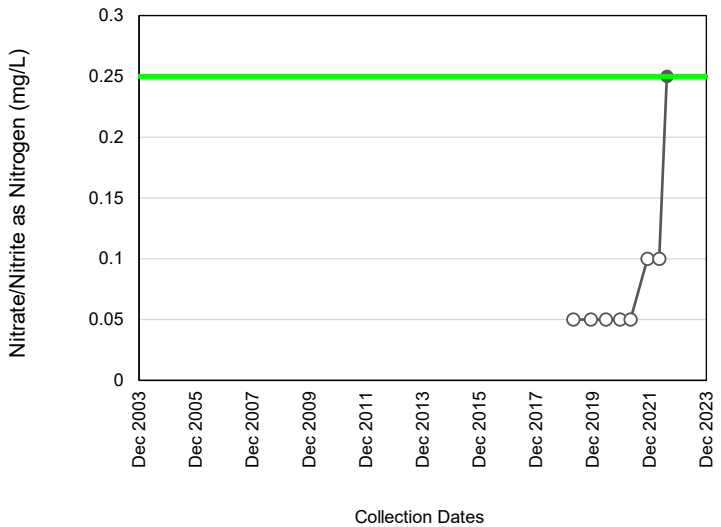
ARCADIS

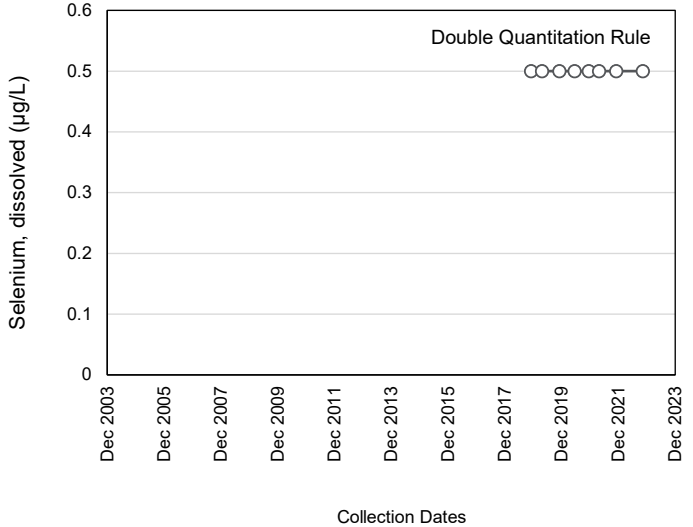
FIGURE
A-15

Location: **MW-36-100**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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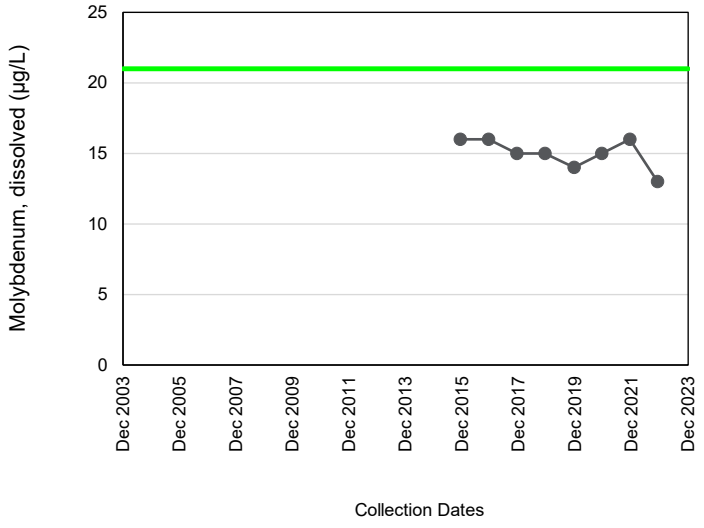
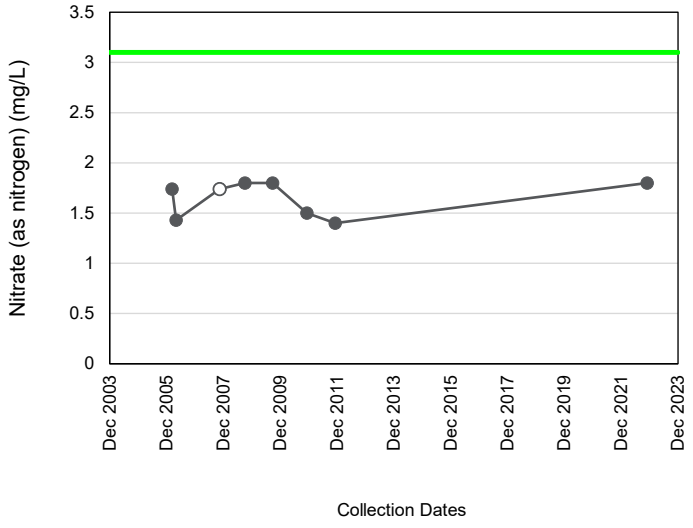
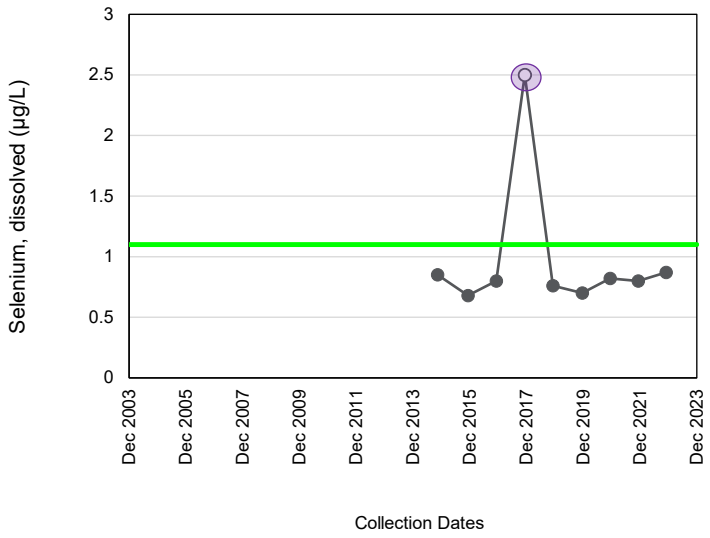
ARCADIS

FIGURE
A-16

Location: **MW-37S**







Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- : Elevated non-detect not included in evaluation
- mg/L : milligram per liter
- µg/L : microgram per liter

PG&E TOPOCK COMPRESSOR STATION
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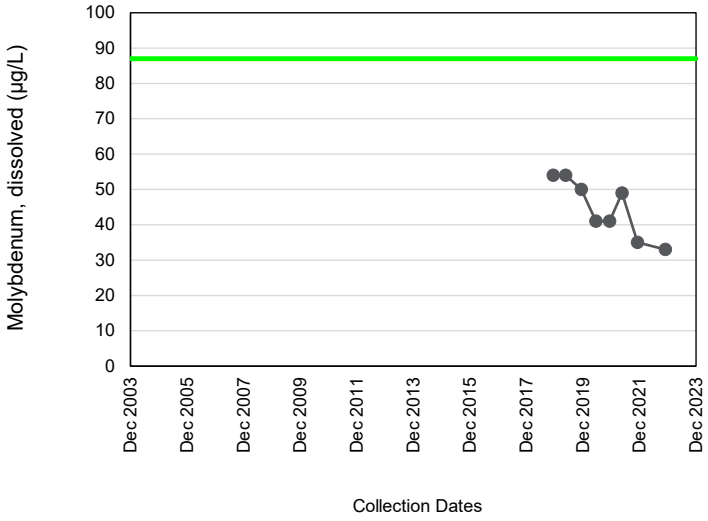
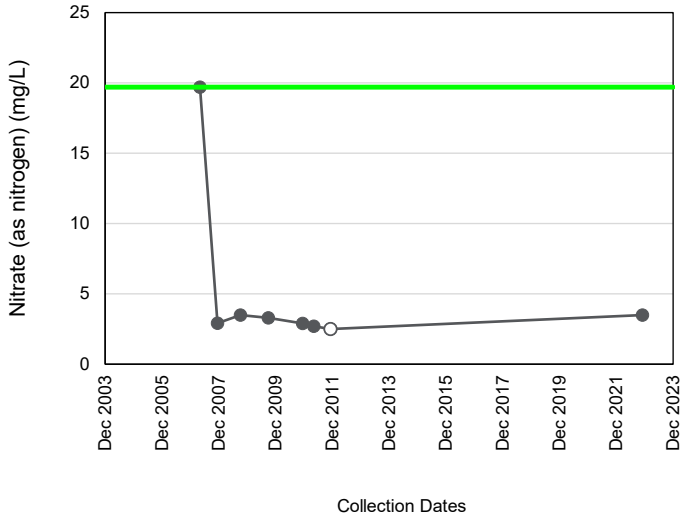
CONCENTRATION TIME SERIES CHARTS

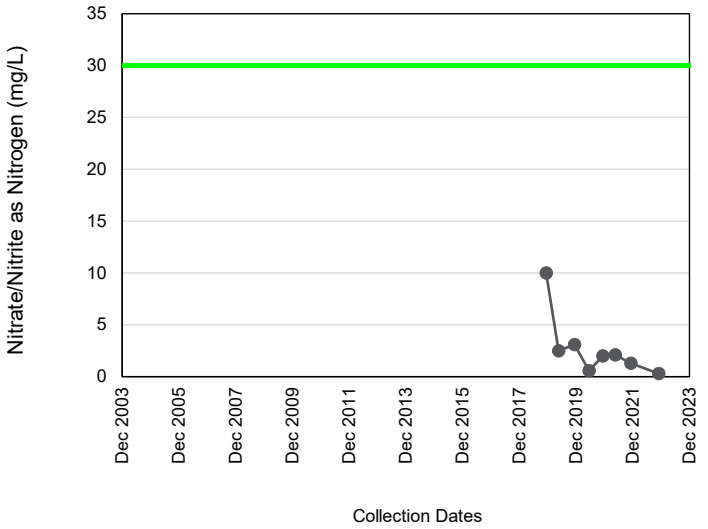
ARCADIS

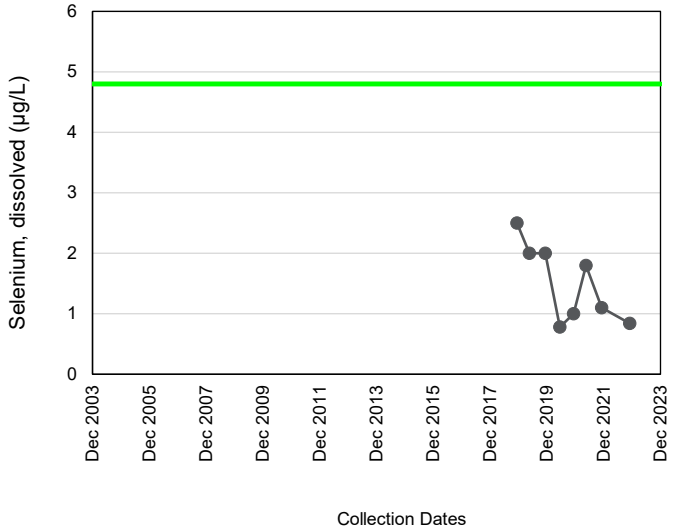
FIGURE
A-17

Location: **MW-40D**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

PG&E TOPOCK COMPRESSOR STATION
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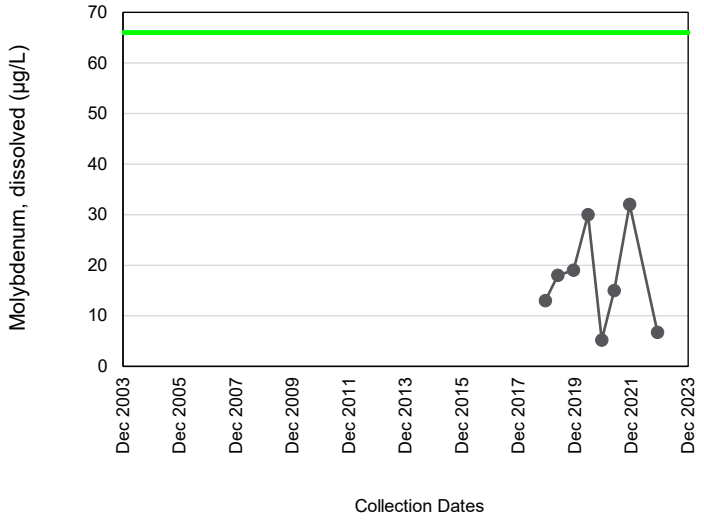
ATTACHMENT A

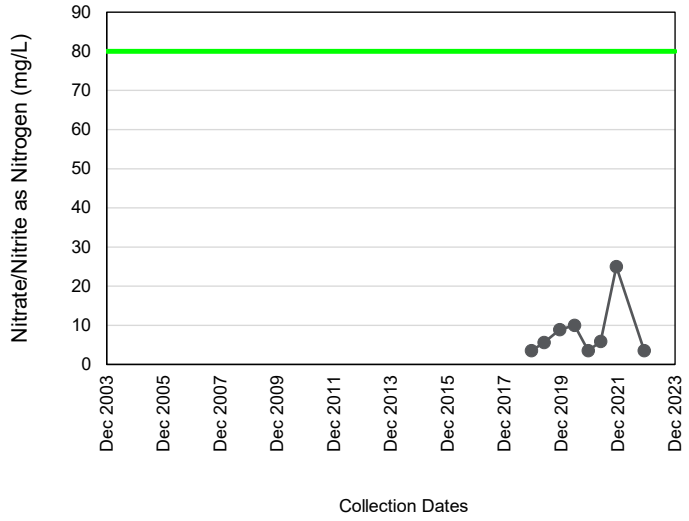
CONCENTRATION TIME SERIES CHARTS

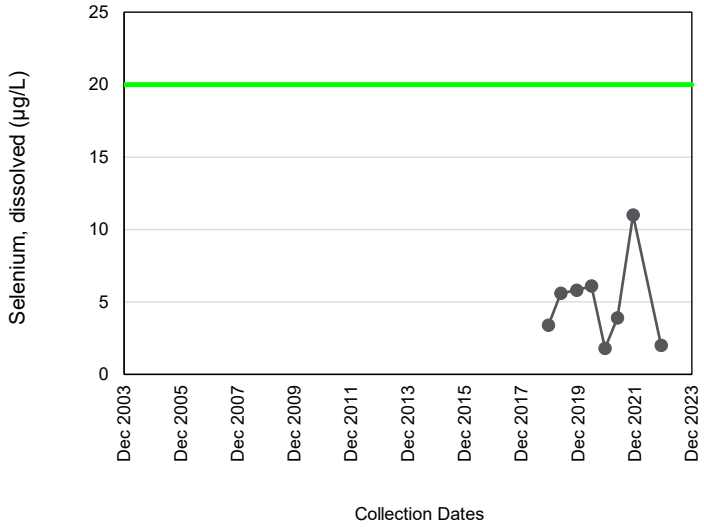
ARCADIS

FIGURE
A-18

Location: **MW-40S**







Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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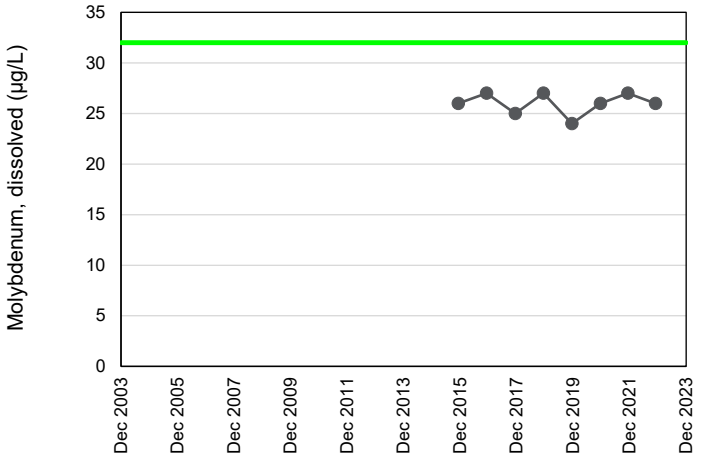
ATTACHMENT A

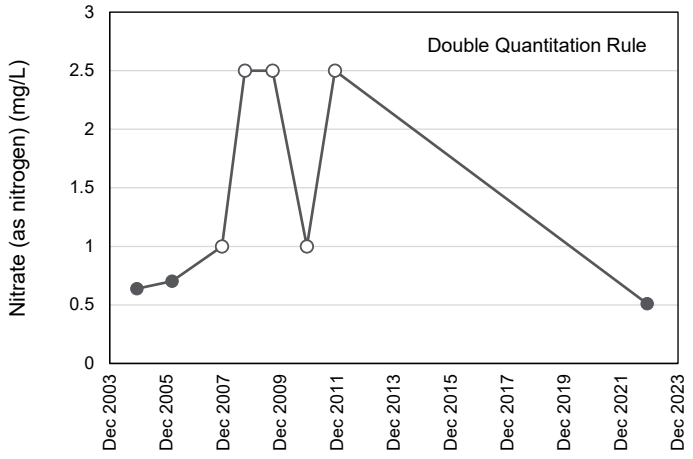
CONCENTRATION TIME SERIES CHARTS

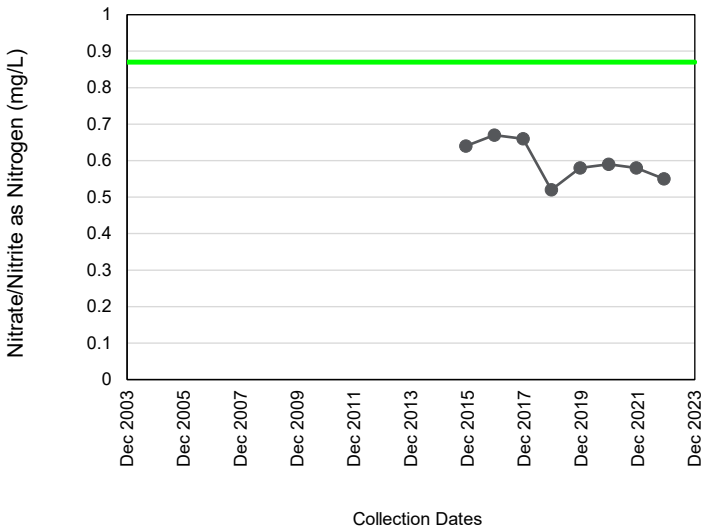
ARCADIS

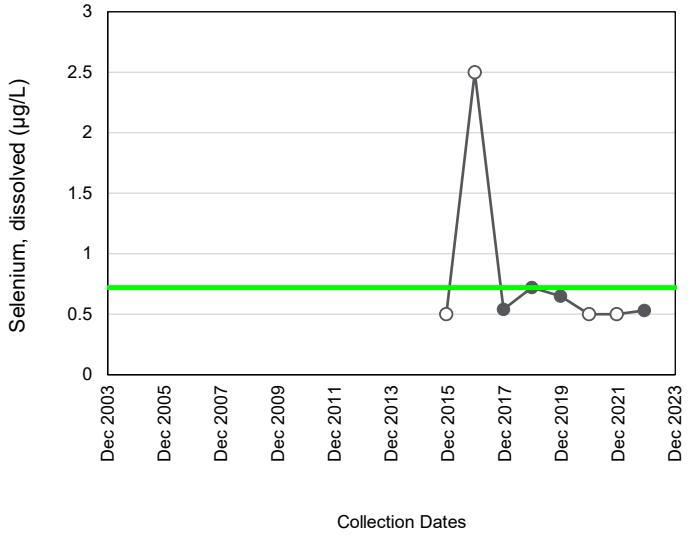
FIGURE
A-19

Location: **MW-41M**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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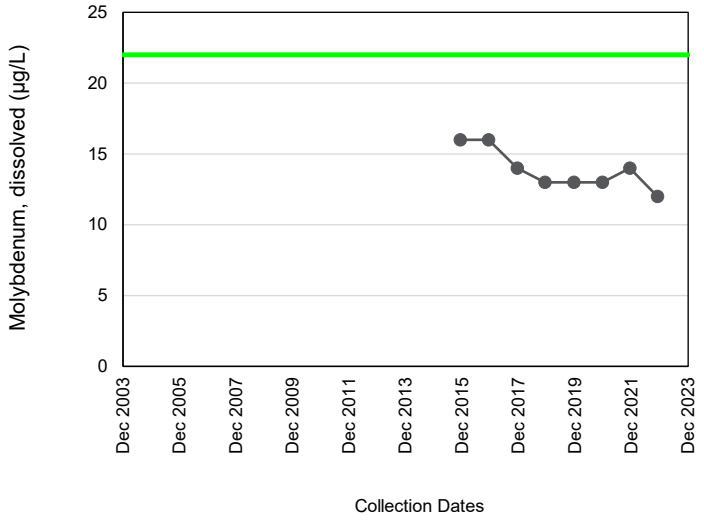
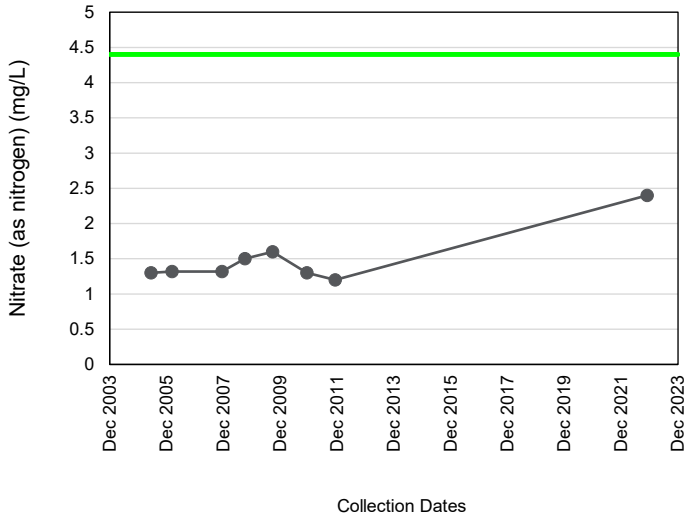
CONCENTRATION TIME SERIES CHARTS

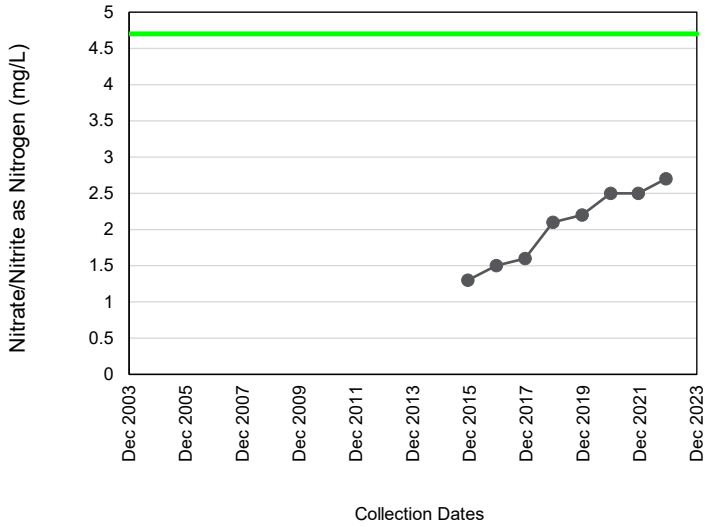
ARCADIS

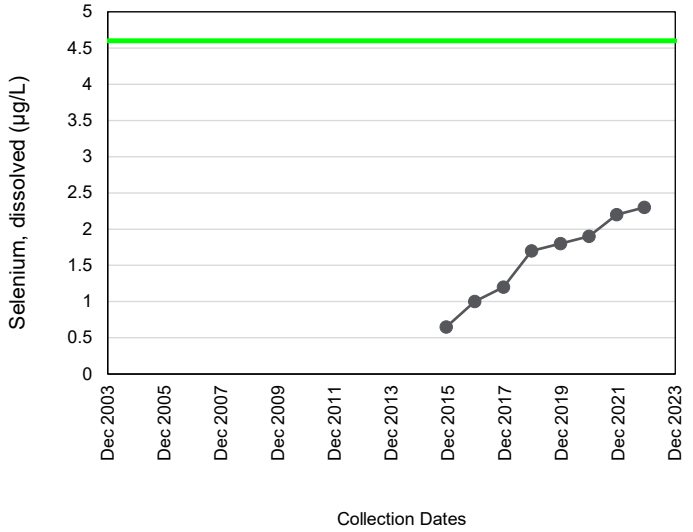
FIGURE
A-20

Location: **MW-41S**









Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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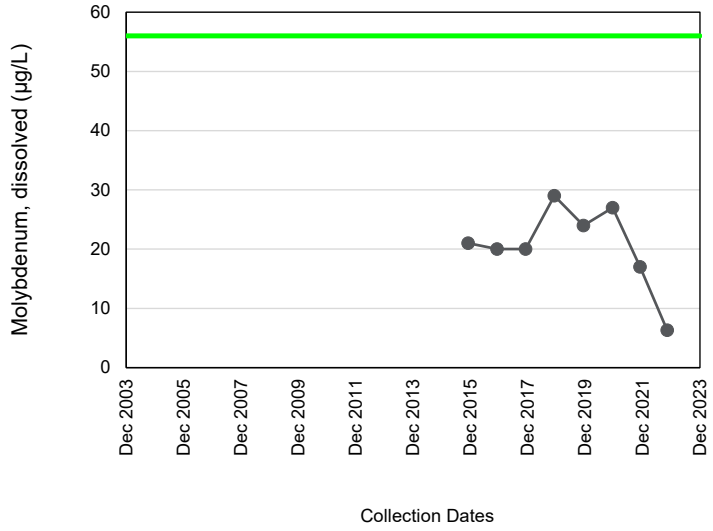
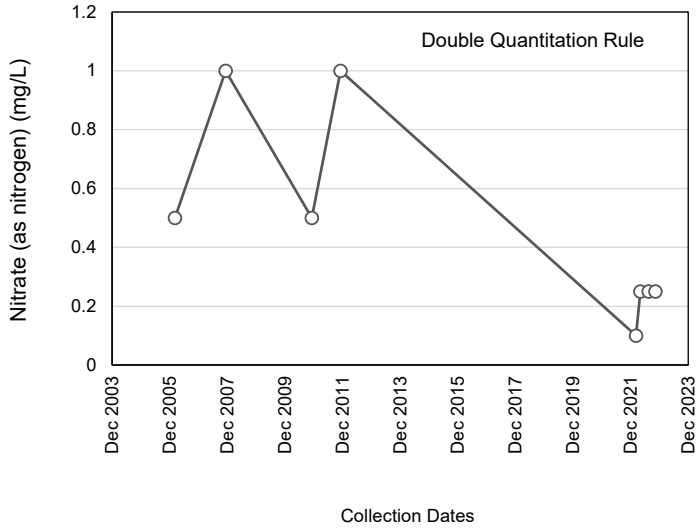
CONCENTRATION TIME SERIES CHARTS

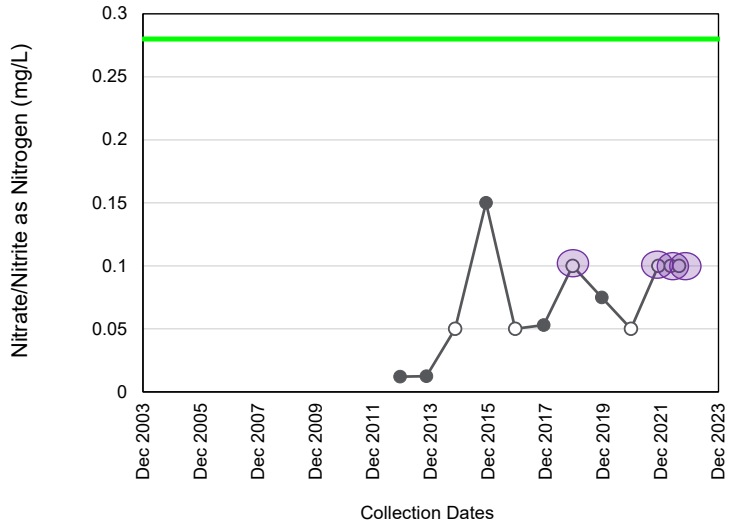
ARCADIS

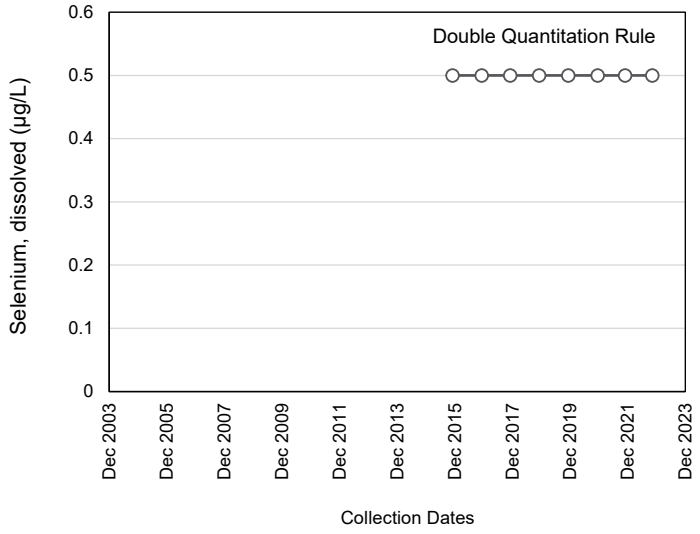
FIGURE
A-21

Location: **MW-42-030**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- : Elevated non-detect not included in evaluation
- mg/L : milligram per liter
- µg/L : microgram per liter

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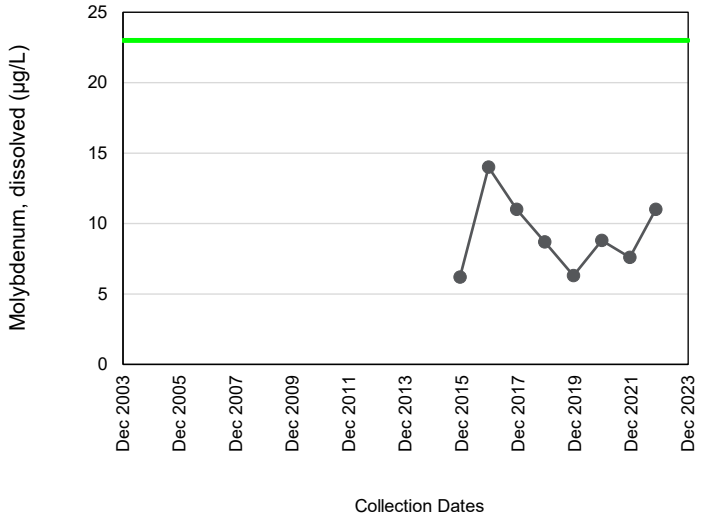
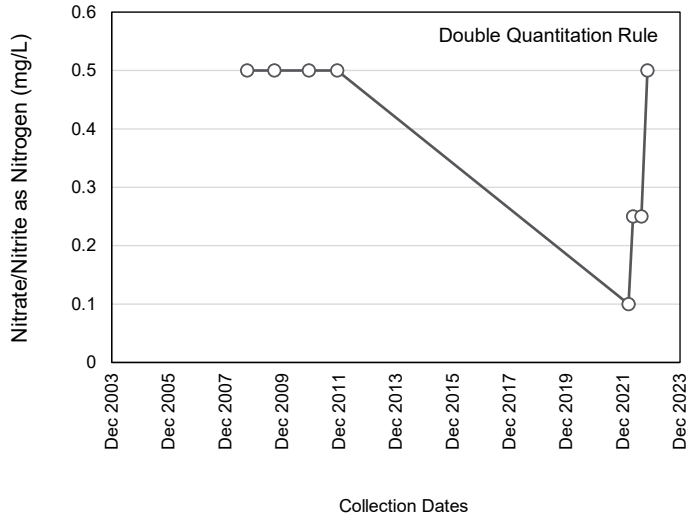
CONCENTRATION TIME SERIES CHARTS

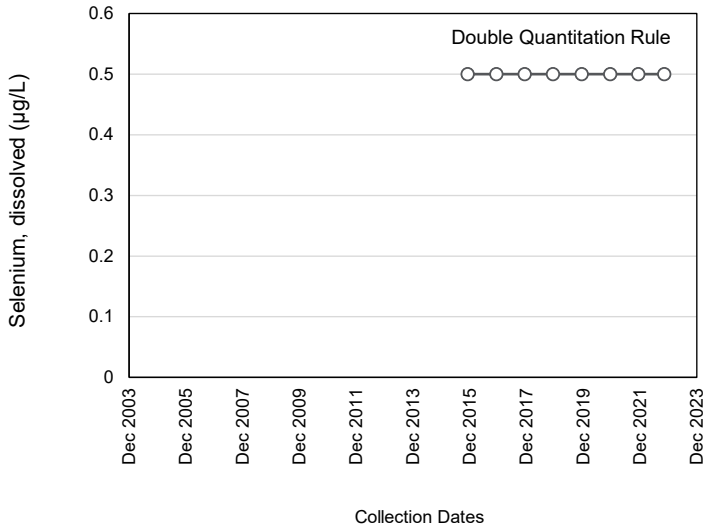
ARCADIS

FIGURE
A-22

Location: **MW-44-070**







Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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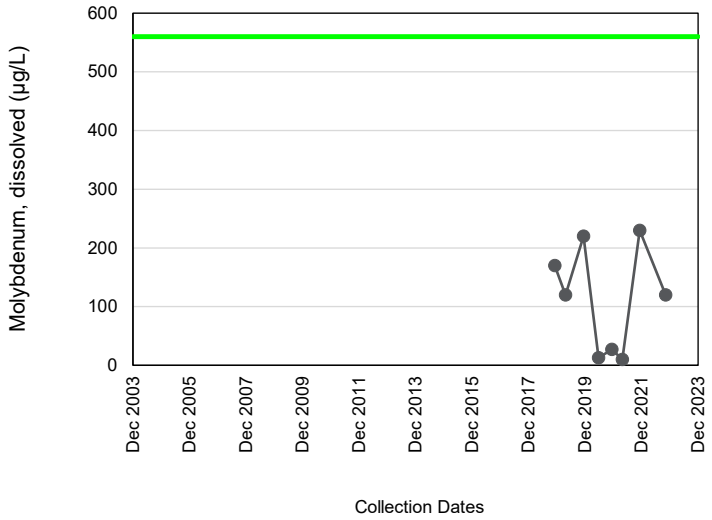
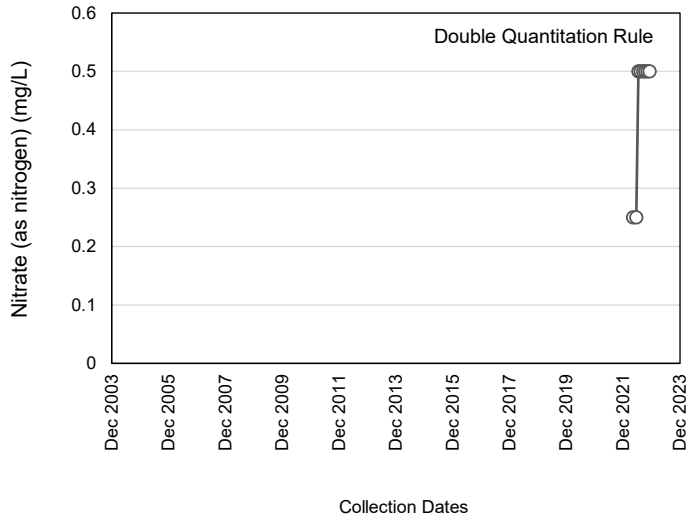
CONCENTRATION TIME SERIES CHARTS

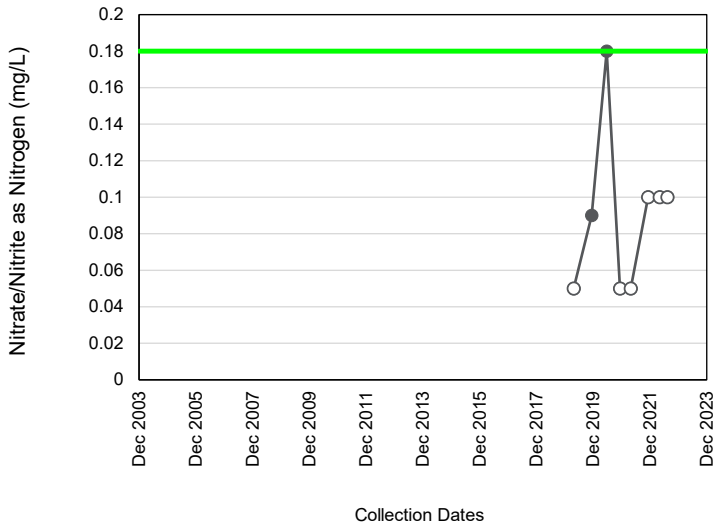
ARCADIS

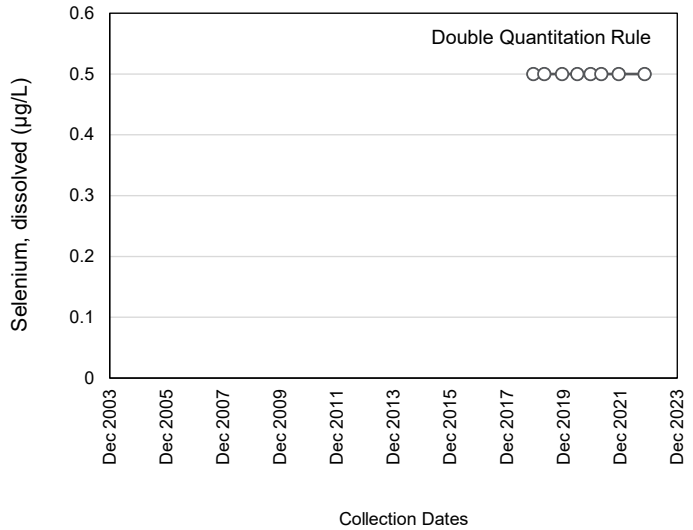
FIGURE
A-23

Location: **MW-44-125**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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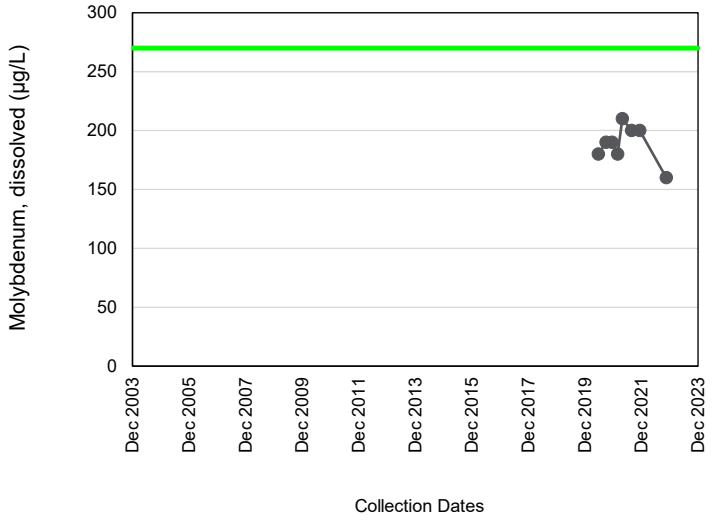
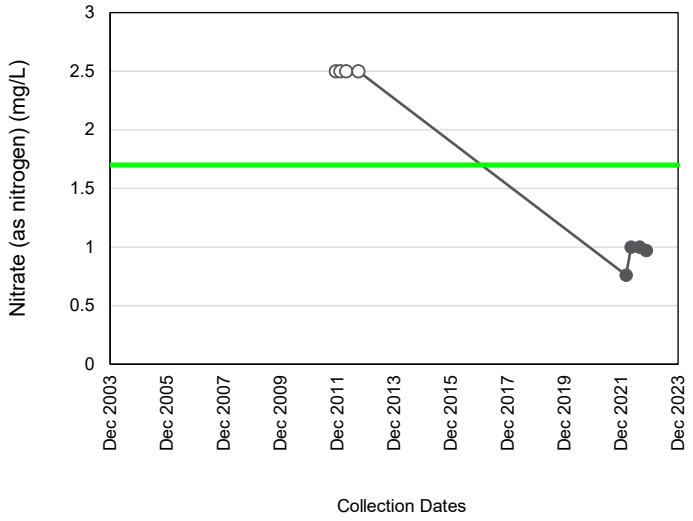
CONCENTRATION TIME SERIES CHARTS

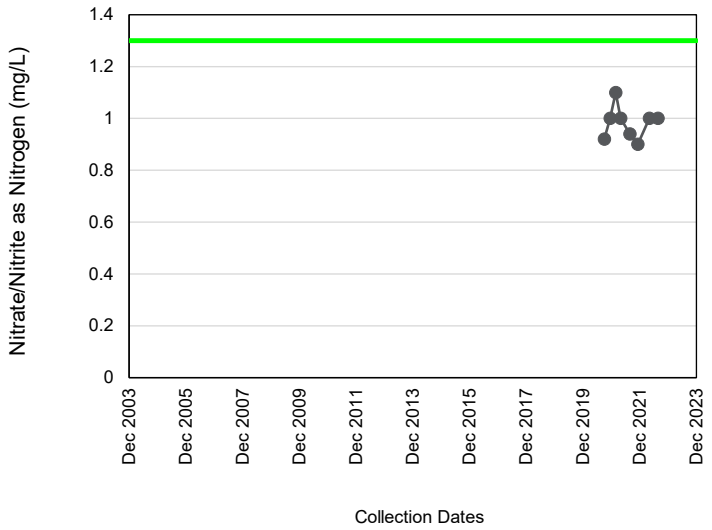
ARCADIS

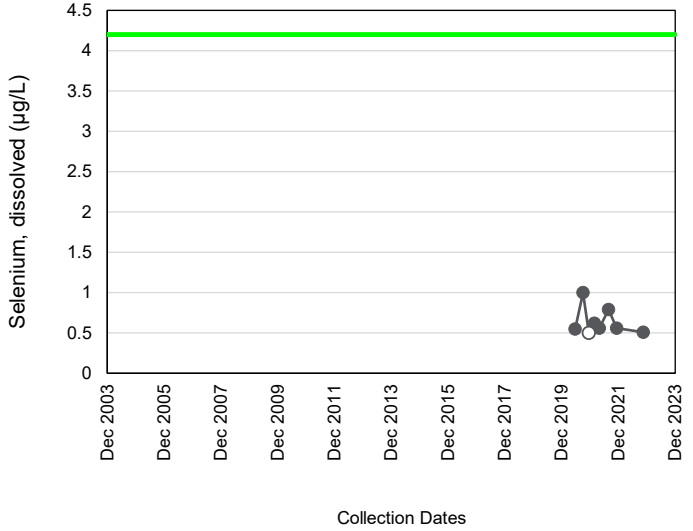
FIGURE
A-24

Location: **MW-46-175**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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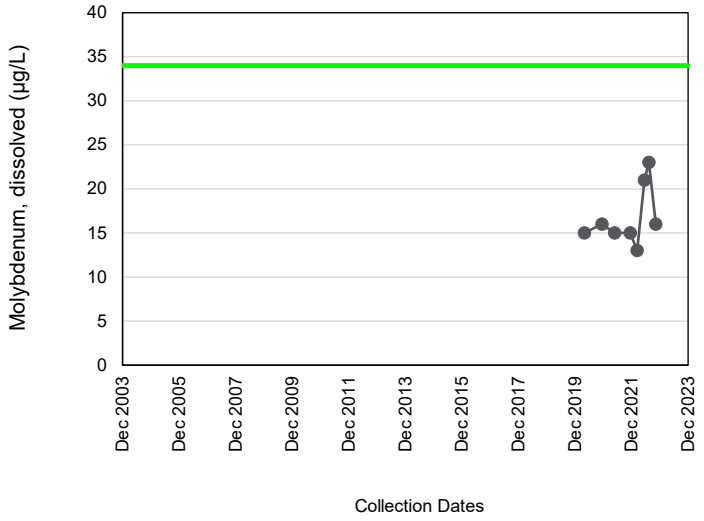
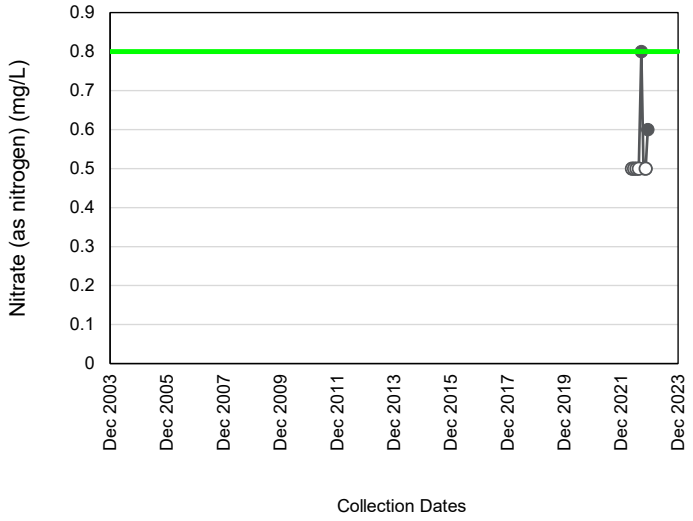
CONCENTRATION TIME SERIES CHARTS

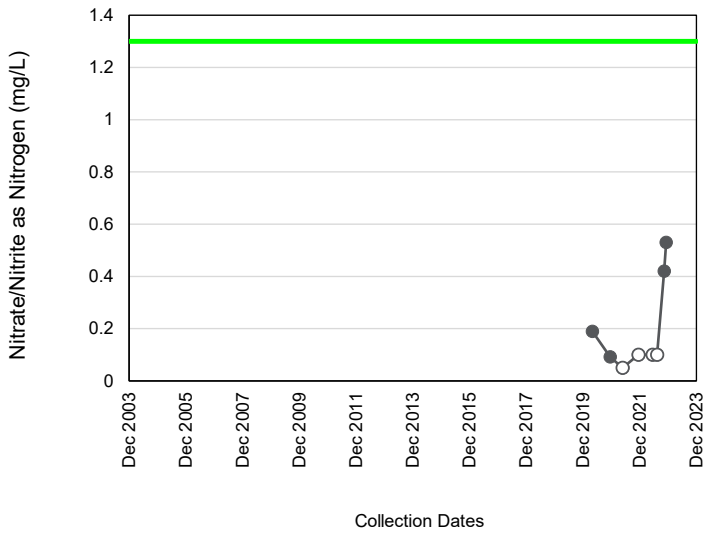
ARCADIS

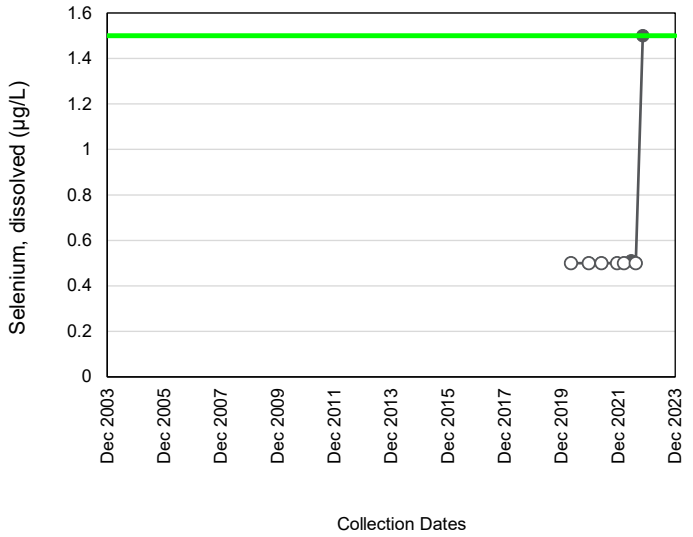
FIGURE
A-25

Location: **MW-71-035**









Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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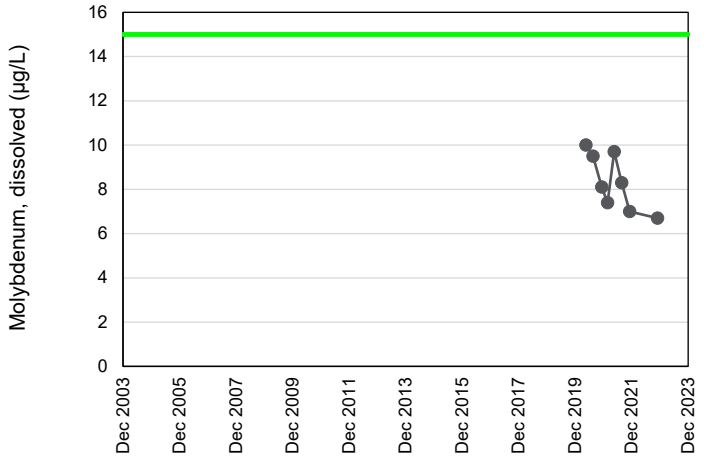
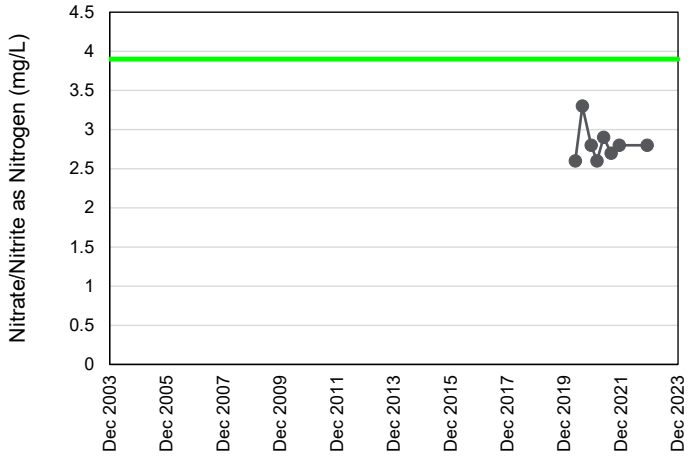
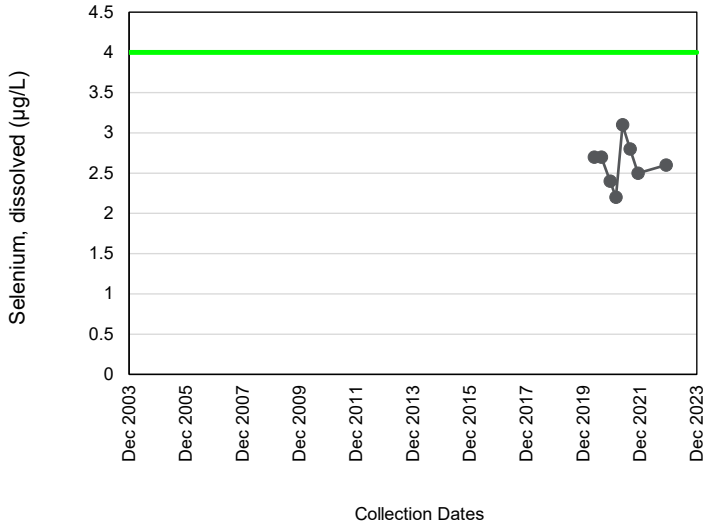
ARCADIS

FIGURE
A-26

Location: **MW-89-183**







Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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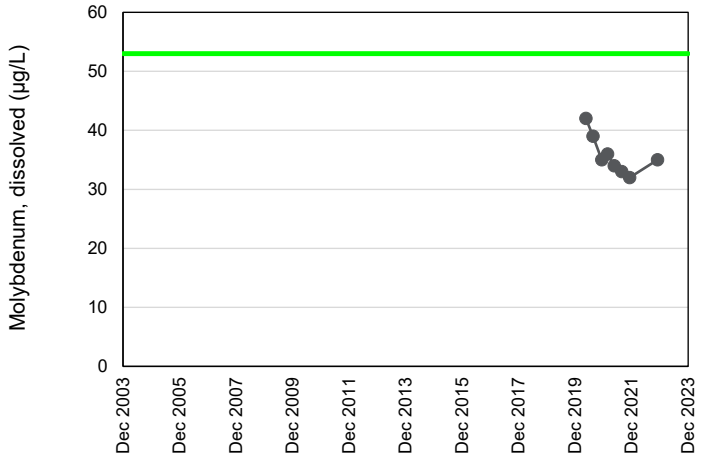
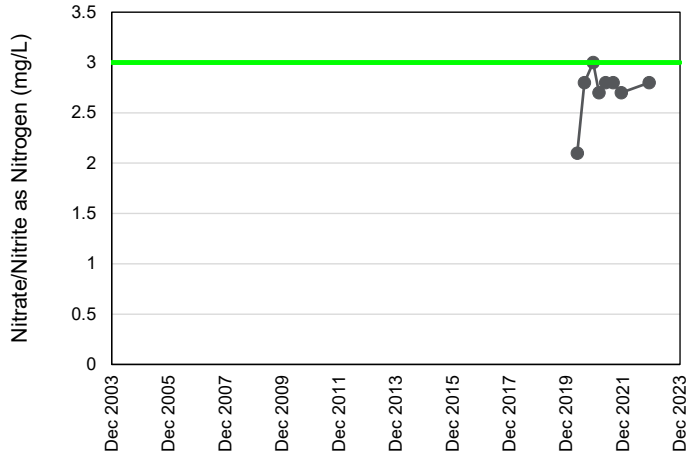
CONCENTRATION TIME SERIES CHARTS

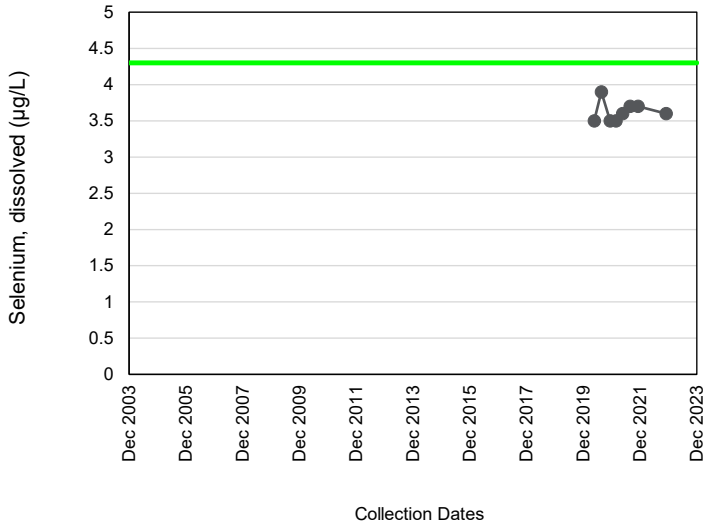
ARCADIS

FIGURE
A-27

Location: **MW-89-273**







Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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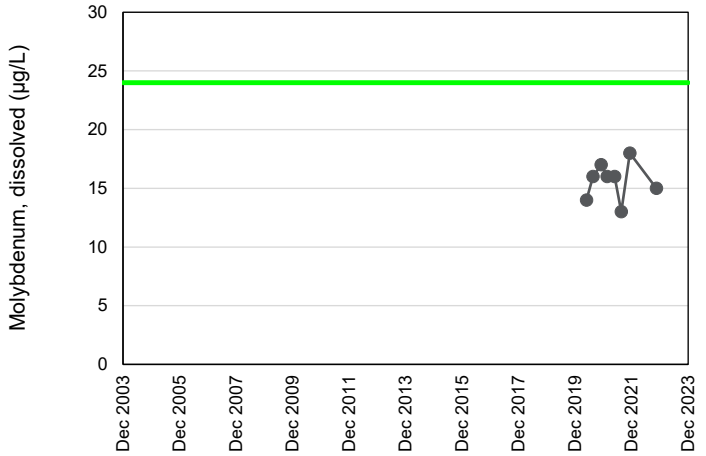
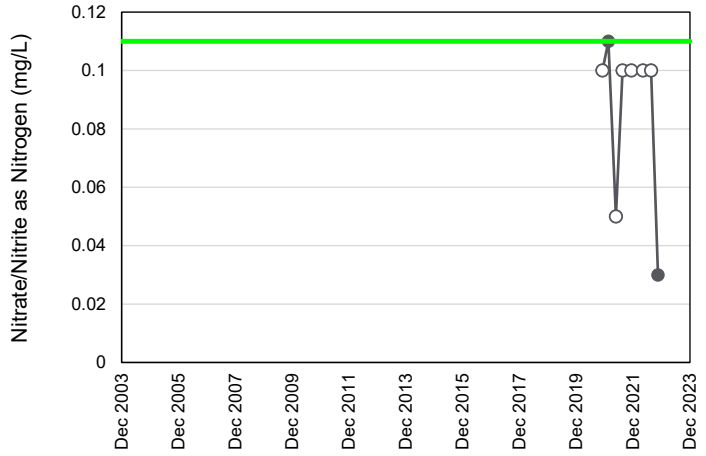
CONCENTRATION TIME SERIES CHARTS

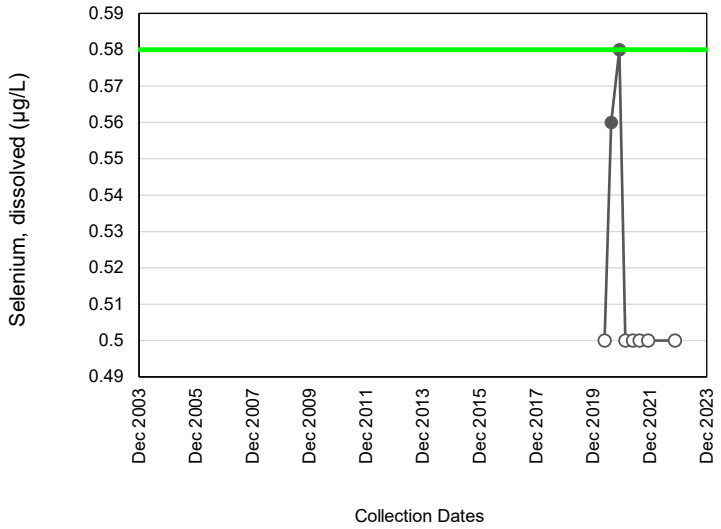
ARCADIS

FIGURE
A-28

Location: **MW-90-031**







Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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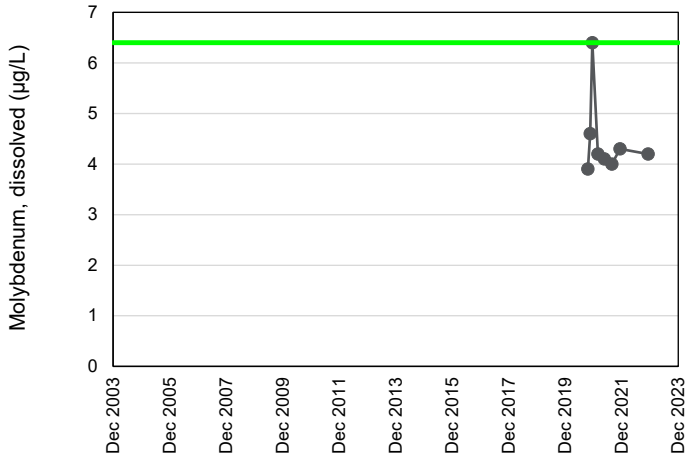
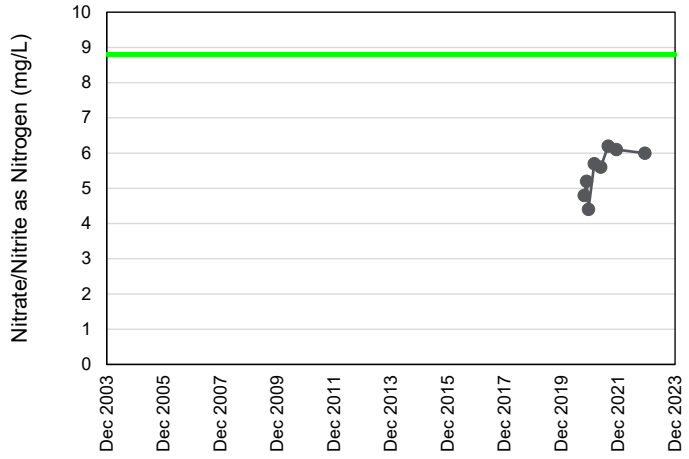
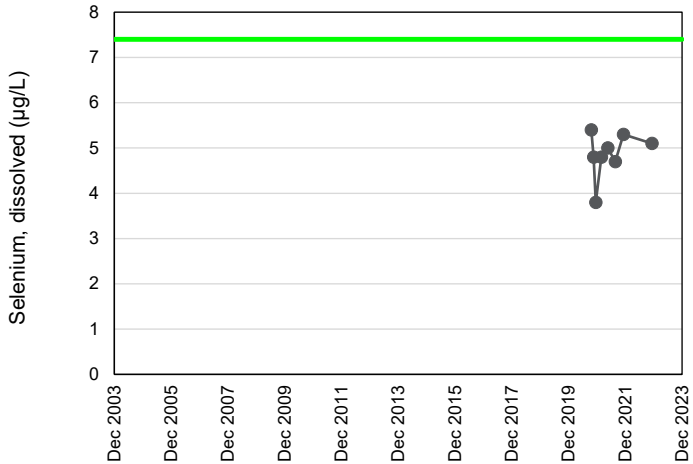
ARCADIS

FIGURE
A-29

Location: **MW-95-113**







Notes:

- Detects indicated by full circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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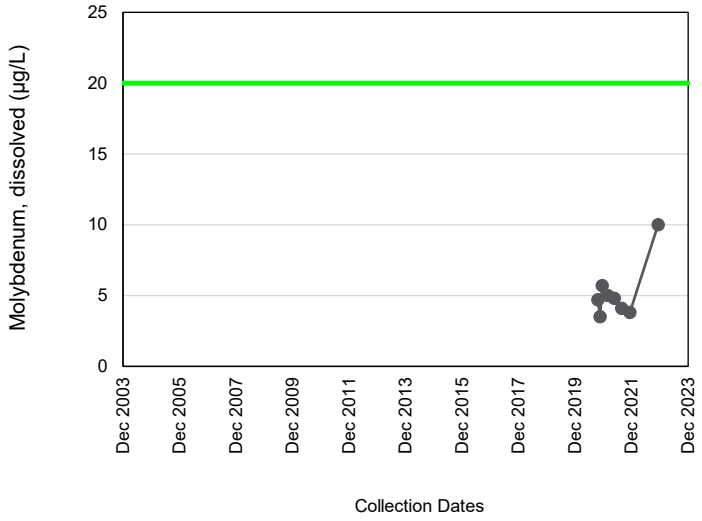
ATTACHMENT A

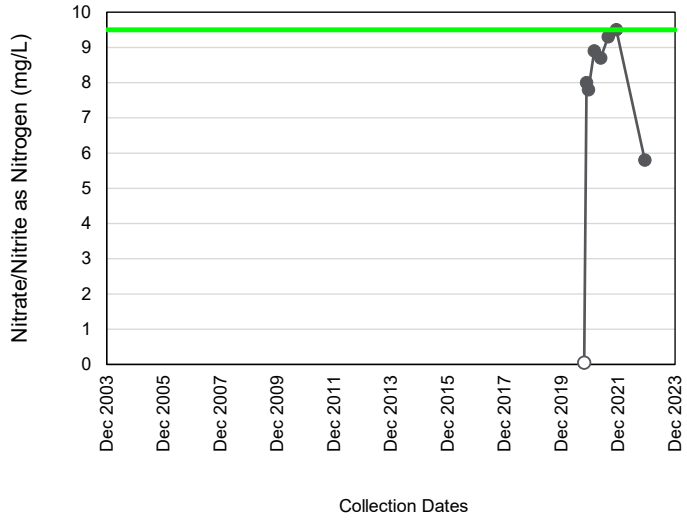
CONCENTRATION TIME SERIES CHARTS

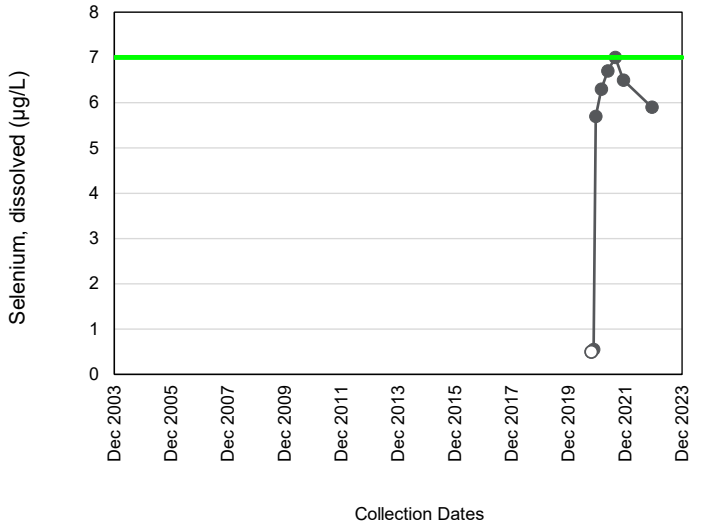
ARCADIS

FIGURE
A-30

Location: **MW-95-157**







Notes:

- Detects indicated by full circle and nondetects indicated by open circle.
- : Shewhart Control Limit (SCL)
- mg/L : milligram per liter
- µg/L : microgram per liter

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NEEDLES, CALIFORNIA
ATTACHMENT A

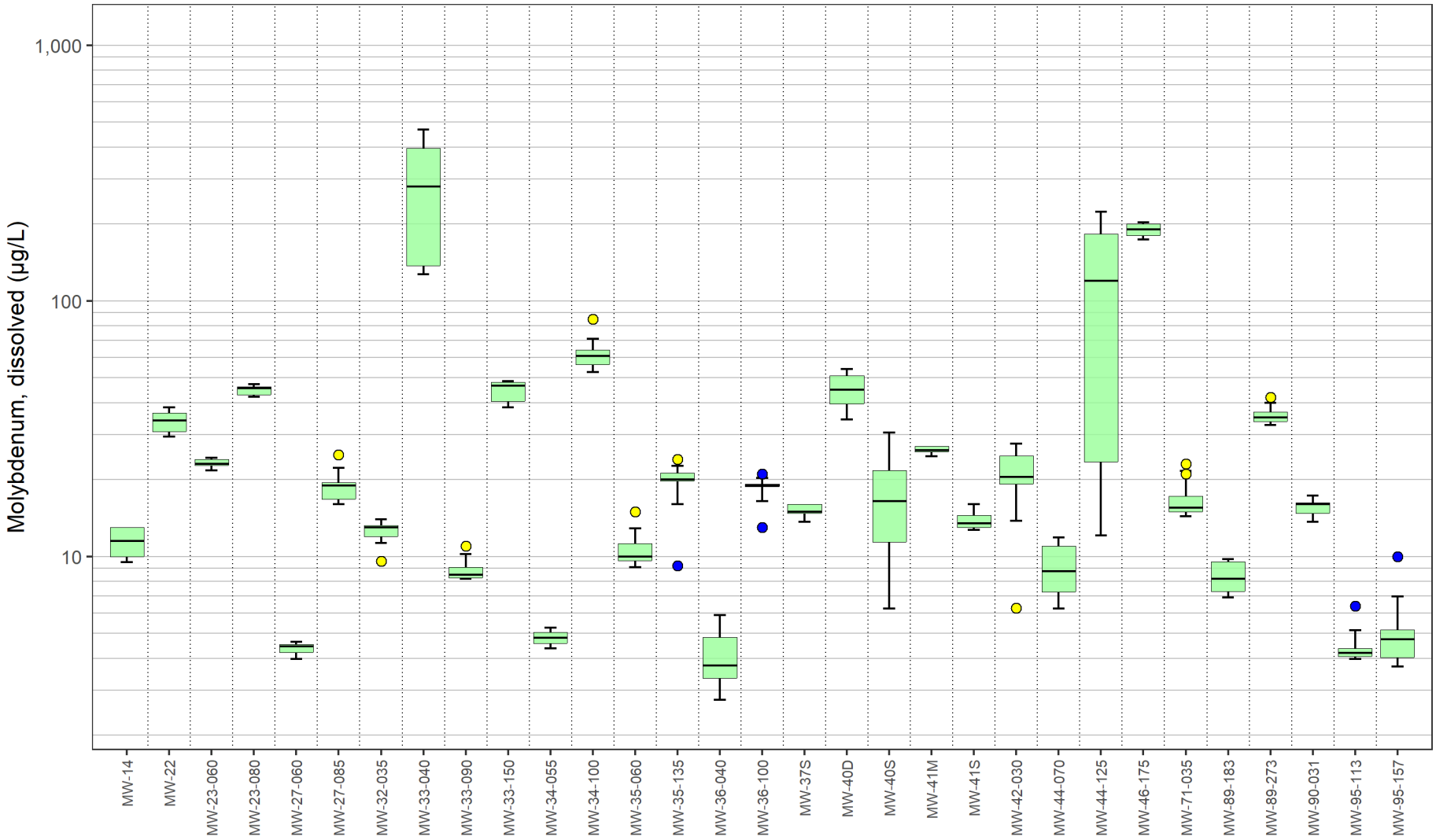
CONCENTRATION TIME SERIES CHARTS

ARCADIS

FIGURE
A-31

Attachment B

Box and Whisker Plots



90th percentile
75th percentile
50th percentile
25th percentile
10th percentile
Interquartile Range (IQR)

Maximum non-detect detection limit
Portions below the maximum detection limit greyed out due to uncertainty in values.

Open symbol indicates non-detect (reported at detection limit).

Closed symbol indicates non-detect (reported at detection limit).

Potential statistical outlier 1.5xIQR above (or below) the 75th percentile (or 25th percentile)

Potential statistical outlier 3.0xIQR above (or below) the 75th percentile (or 25th percentile)

Notes:
Robust Regression on Order Statistics (rROS) imputation was used to estimate the value of non-detects.
Any non-detect value with a detection limit greater than the maximum detected value was excluded from analysis. Elevated non-detect values typically do not have sufficient precision to be informative, and non-detects greater than the maximum detect value cannot be reliably imputed via rROS.
Box plots were not developed for locations with fewer than 3 detected observations. The individual results are shown.

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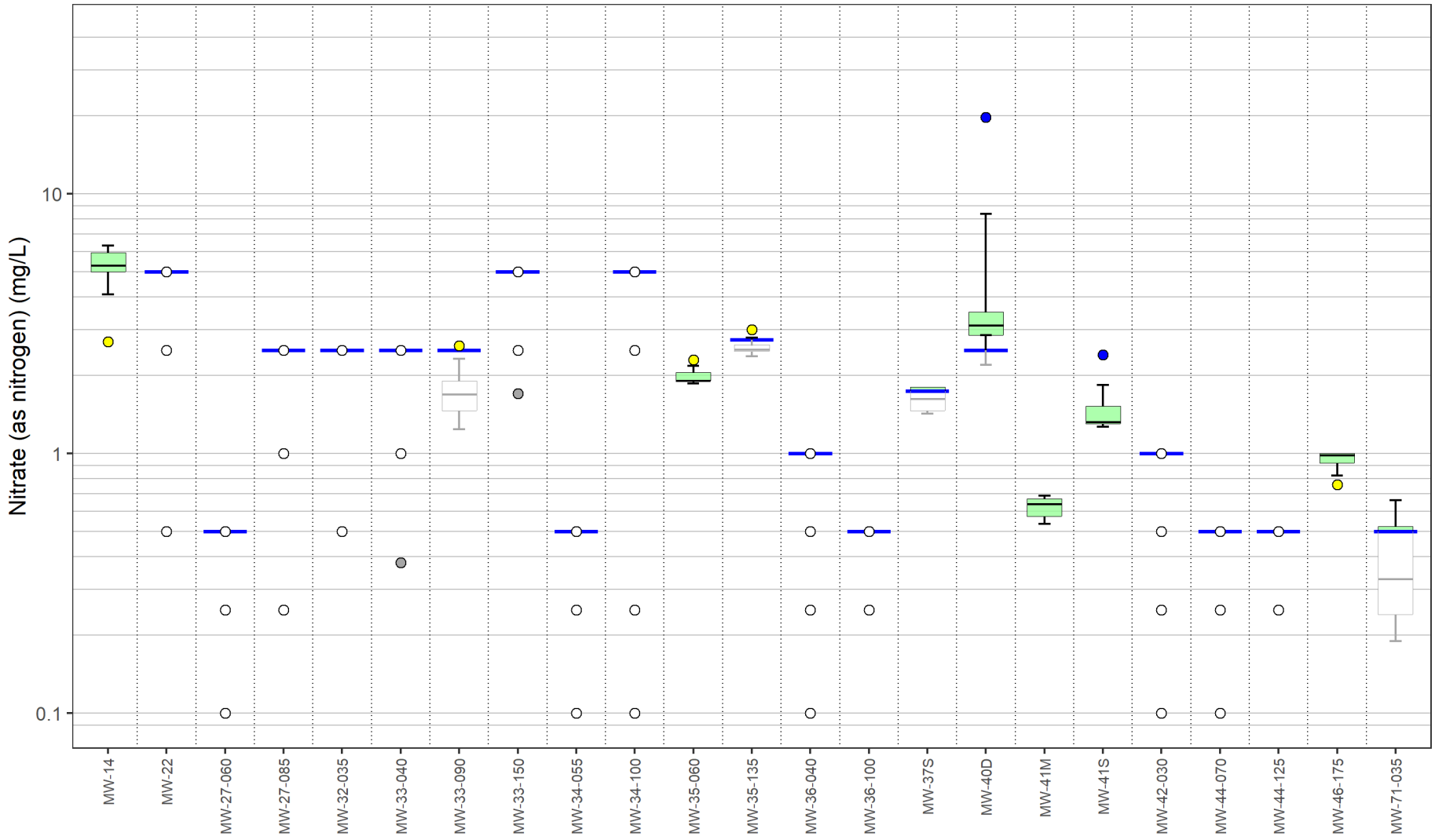
ATTACHMENT B

DISSOLVED MOLYBDENUM CONCENTRATION BOX AND WHISKER PLOTS

ARCADIS

FIGURE
B-1



90th percentile
75th percentile
50th percentile
25th percentile
10th percentile
Interquartile Range (IQR)

Open symbol indicates non-detect (reported at detection limit).

Closed symbol indicates non-detect (reported at detection limit).

Potential statistical outlier 1.5xIQR above (or below) the 75th percentile (or 25th percentile)

Potential statistical outlier 3.0xIQR above (or below) the 75th percentile (or 25th percentile)

Maximum non-detect detection limit
Portions below the maximum detection limit greyed out due to uncertainty in values.

Notes:
Robust Regression on Order Statistics (rROS) imputation was used to estimate the value of non-detects.
Any non-detect value with a detection limit greater than the maximum detected value was excluded from analysis. Elevated non-detect values typically do not have sufficient precision to be informative, and non-detects greater than the maximum detect value cannot be reliably imputed via rROS.
Box plots were not developed for locations with fewer than 3 detected observations. The individual results are shown.

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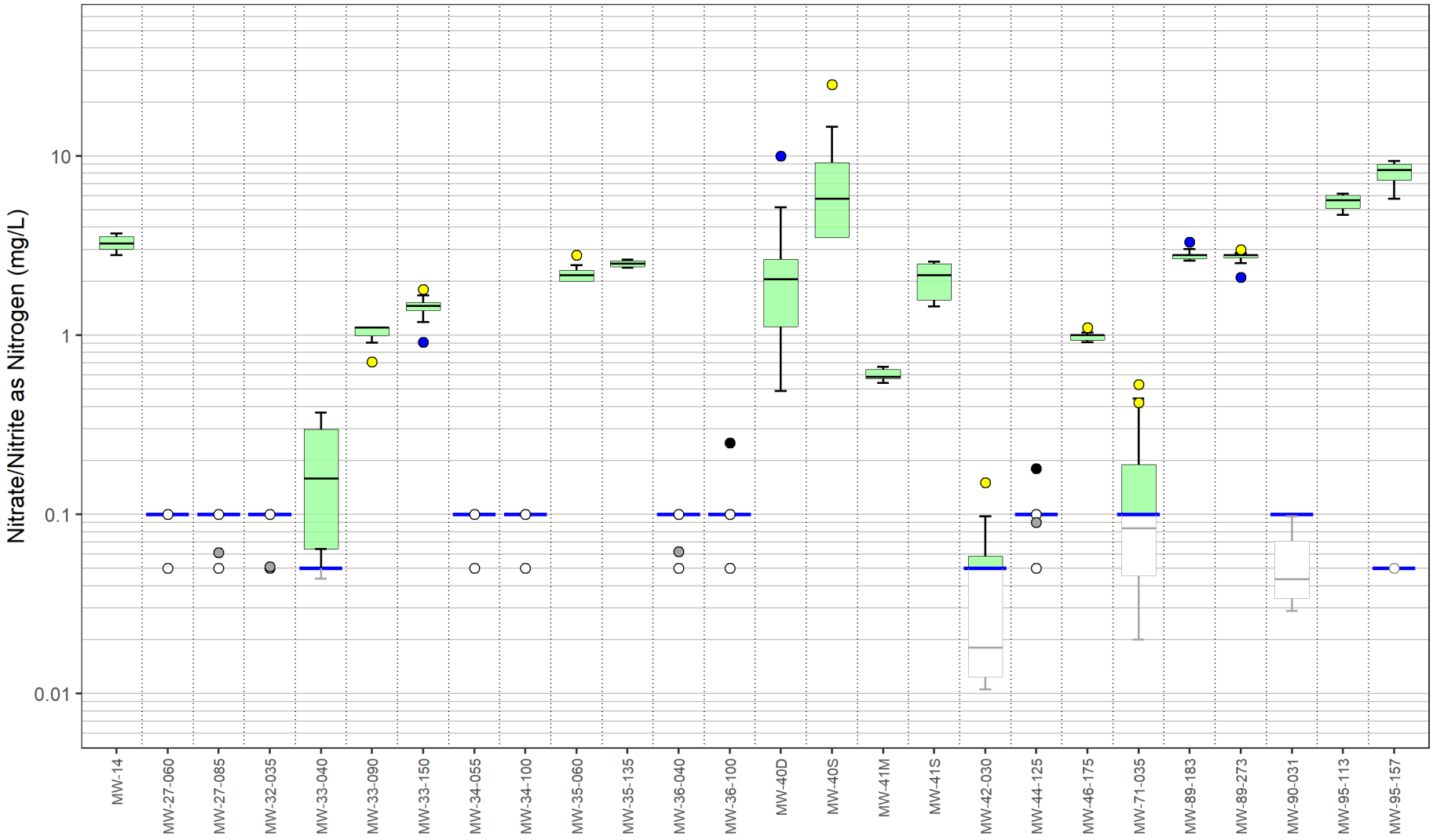
ATTACHMENT B

NITRATE (AS NITROGEN) CONCENTRATION BOX AND WHISKER PLOTS

ARCADIS

FIGURE
B-2



90th percentile
75th percentile
50th percentile
25th percentile
10th percentile
Interquartile Range (IQR)

Maximum non-detect detection limit
Portions below the maximum detection limit greyed out due to uncertainty in values.

Open symbol indicates non-detect (reported at detection limit).

Closed symbol indicates non-detect (reported at detection limit).

Potential statistical outlier 1.5xIQR above (or below) the 75th percentile (or 25th percentile)

Potential statistical outlier 3.0xIQR above (or below) the 75th percentile (or 25th percentile)

Notes:
Robust Regression on Order Statistics (rROS) imputation was used to estimate the value of non-detects.
Any non-detect value with a detection limit greater than the maximum detected value was excluded from analysis. Elevated non-detect values typically do not have sufficient precision to be informative, and non-detects greater than the maximum detect value cannot be reliably imputed via rROS.
Box plots were not developed for locations with fewer than 3 detected observations. The individual results are shown.

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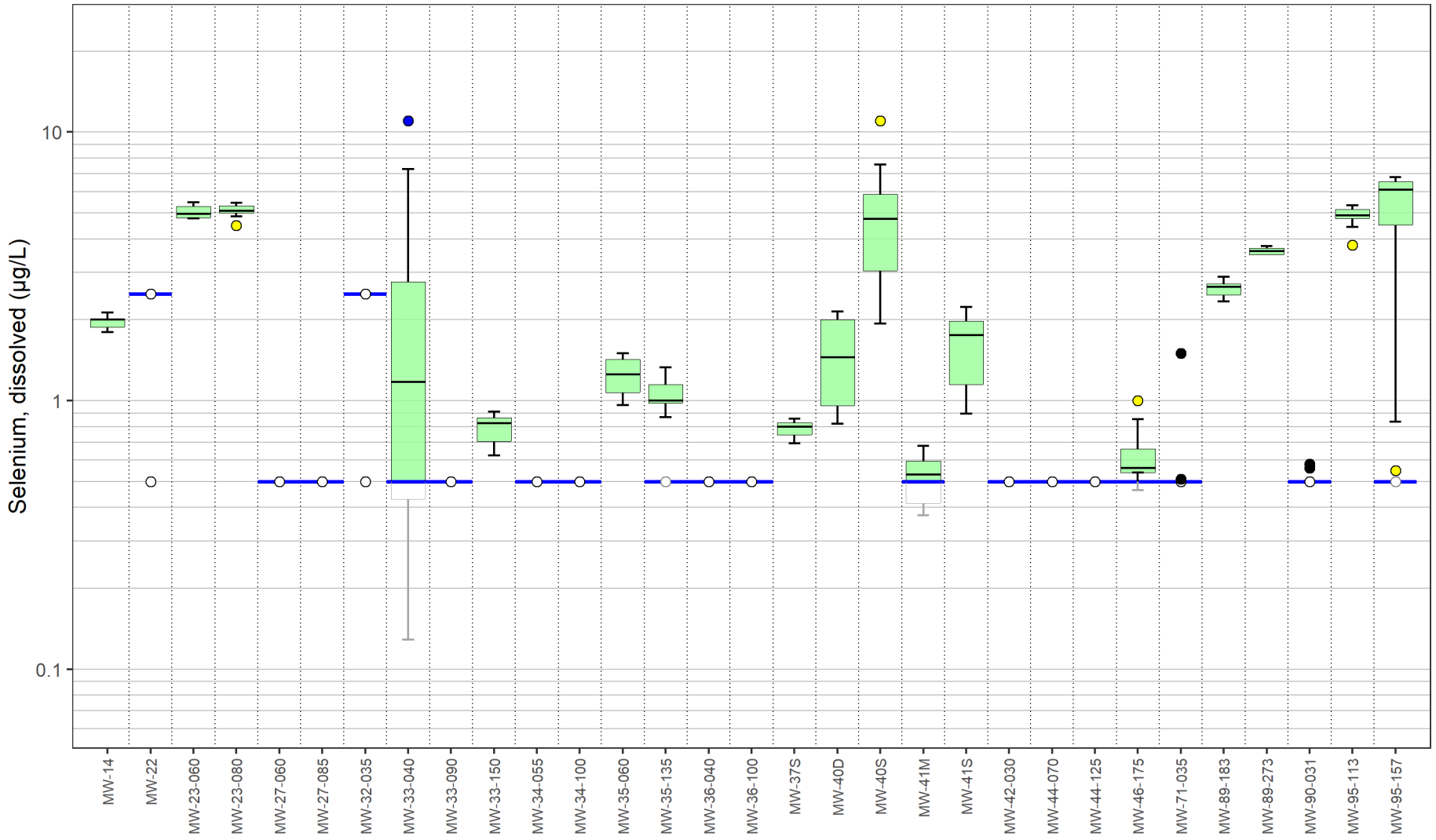
NEEDLES, CALIFORNIA
ATTACHMENT B

NITRATE/NITRITE AS NITROGEN CONCENTRATION BOX AND WHISKER PLOTS

ARCADIS

FIGURE
B-3



90th percentile
75th percentile
50th percentile
25th percentile
10th percentile
Interquartile Range (IQR)

Maximum non-detect detection limit
Portions below the maximum detection limit greyed out due to uncertainty in values.

Open symbol indicates non-detect (reported at detection limit).

Closed symbol indicates non-detect (reported at detection limit).

Potential statistical outlier 1.5xIQR above (or below) the 75th percentile (or 25th percentile)

Potential statistical outlier 3.0xIQR above (or below) the 75th percentile (or 25th percentile)

Notes:
Robust Regression on Order Statistics (rROS) imputation was used to estimate the value of non-detects.
Any non-detect value with a detection limit greater than the maximum detected value was excluded from analysis. Elevated non-detect values typically do not have sufficient precision to be informative, and non-detects greater than the maximum detect value cannot be reliably imputed via rROS.
Box plots were not developed for locations with fewer than 3 detected observations. The individual results are shown.

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ATTACHMENT B

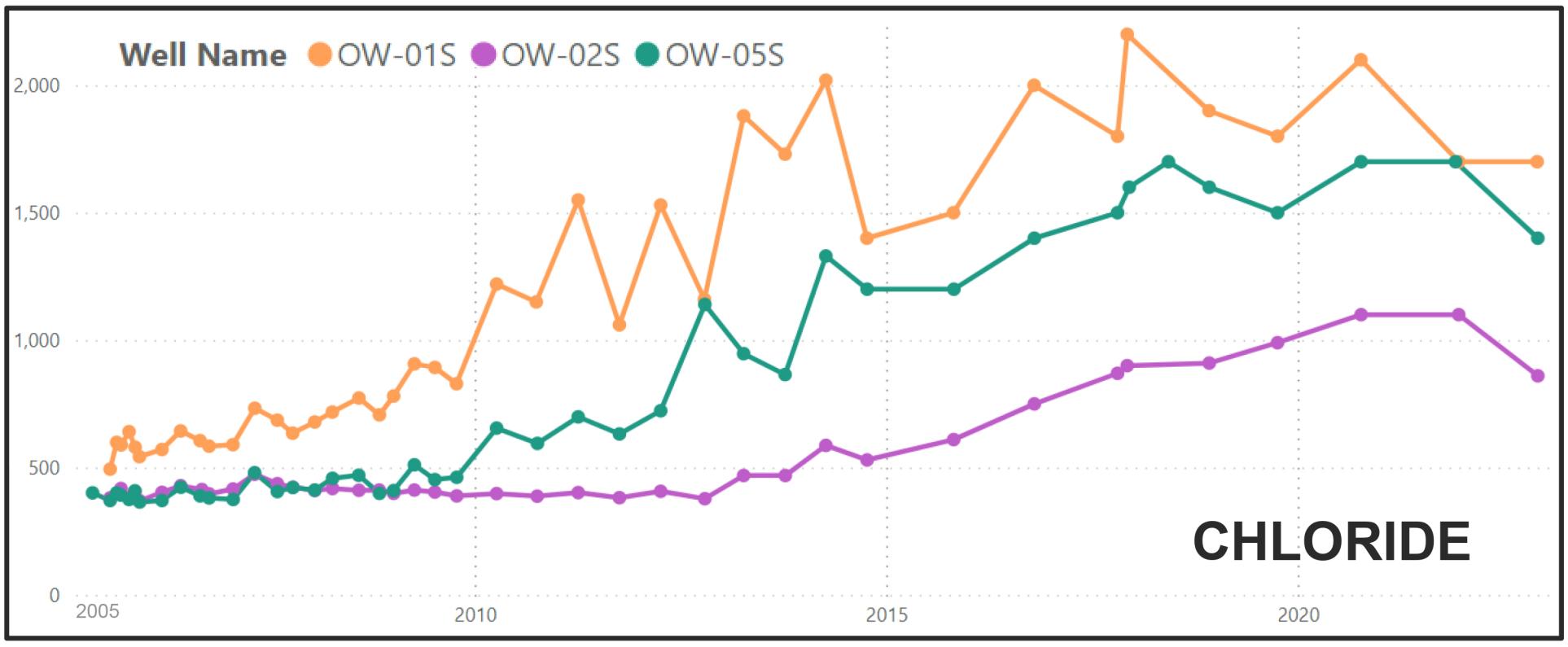
DISSOLVED SELENIUM CONCENTRATION BOX AND WHISKER PLOTS

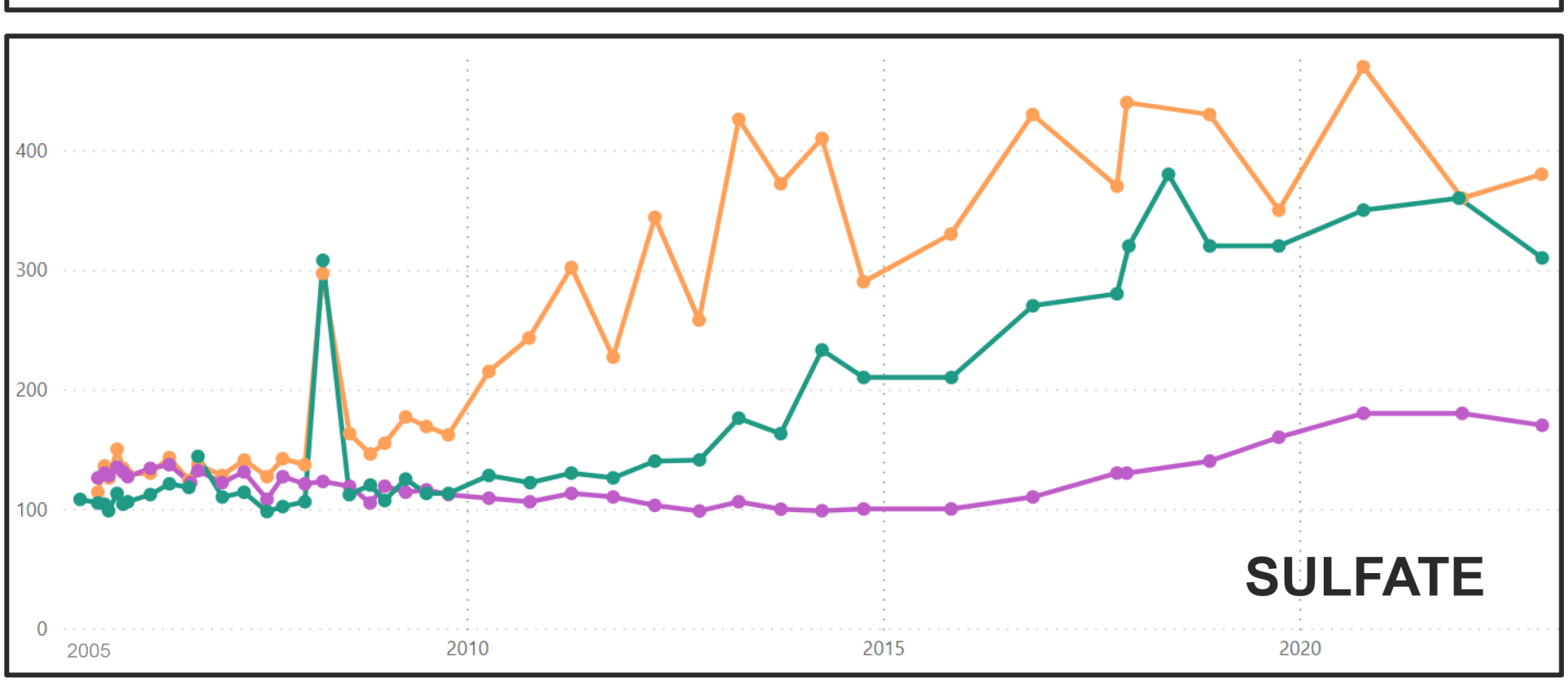
ARCADIS

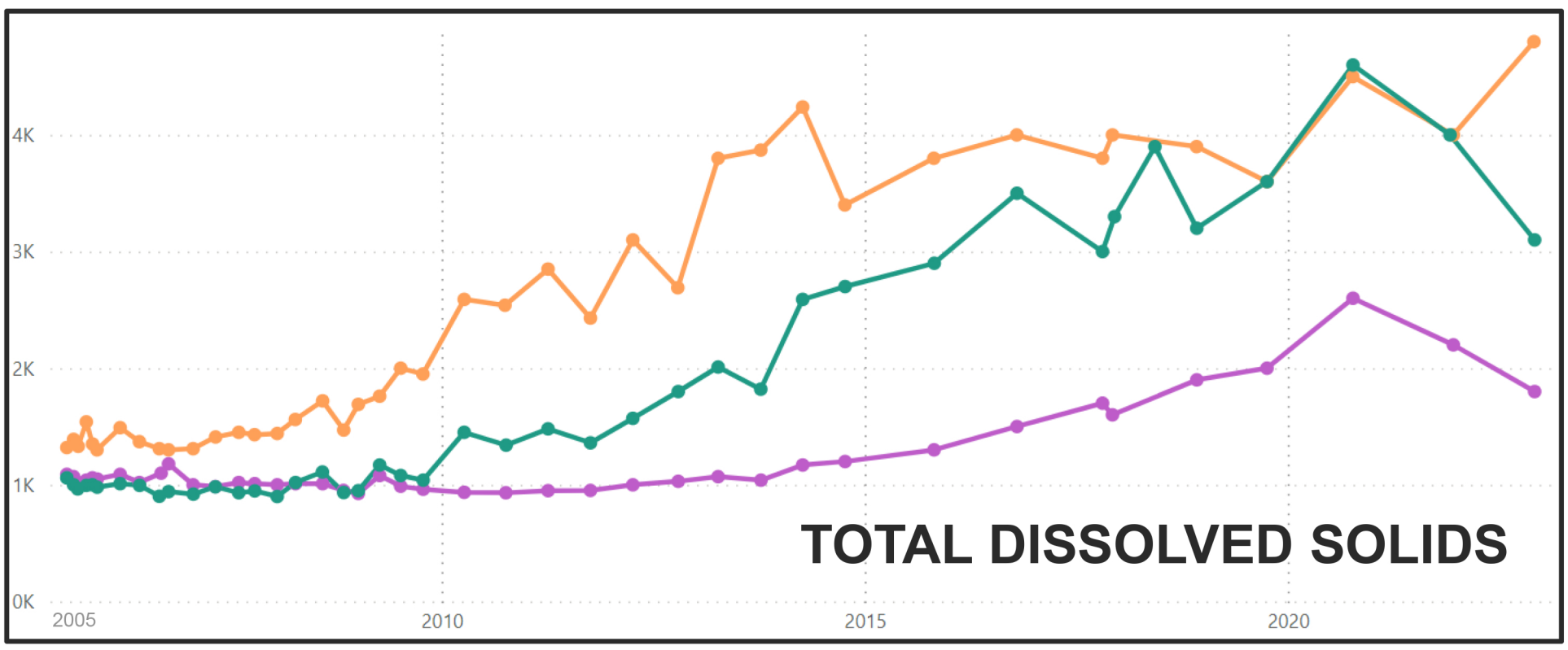
FIGURE
B-4

Appendix E

Former IM-3 Injection Area Monitoring Results







Notes:

S = shallow interval

K = thousand

Chloride (mg/L)

Sulfate (mg/L)

Total Dissolved Solids (mg/L)

milligrams per liter (mg/L)

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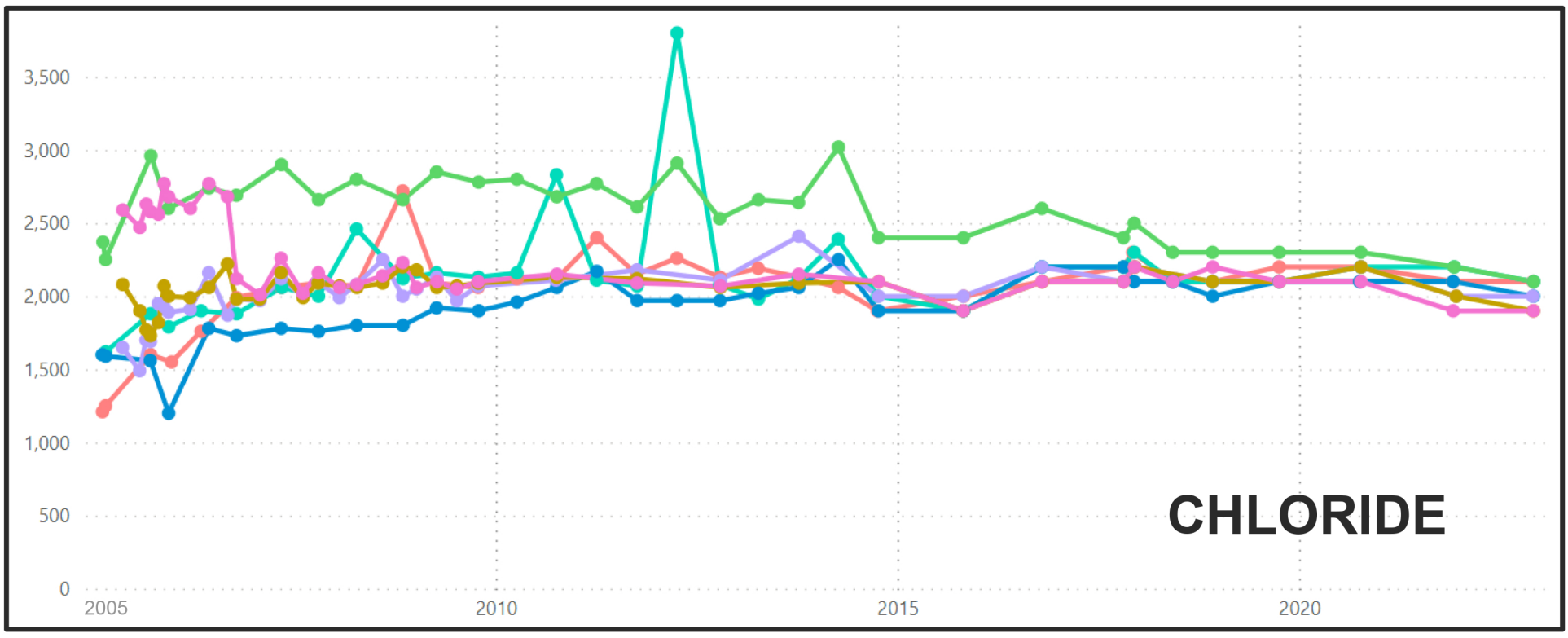
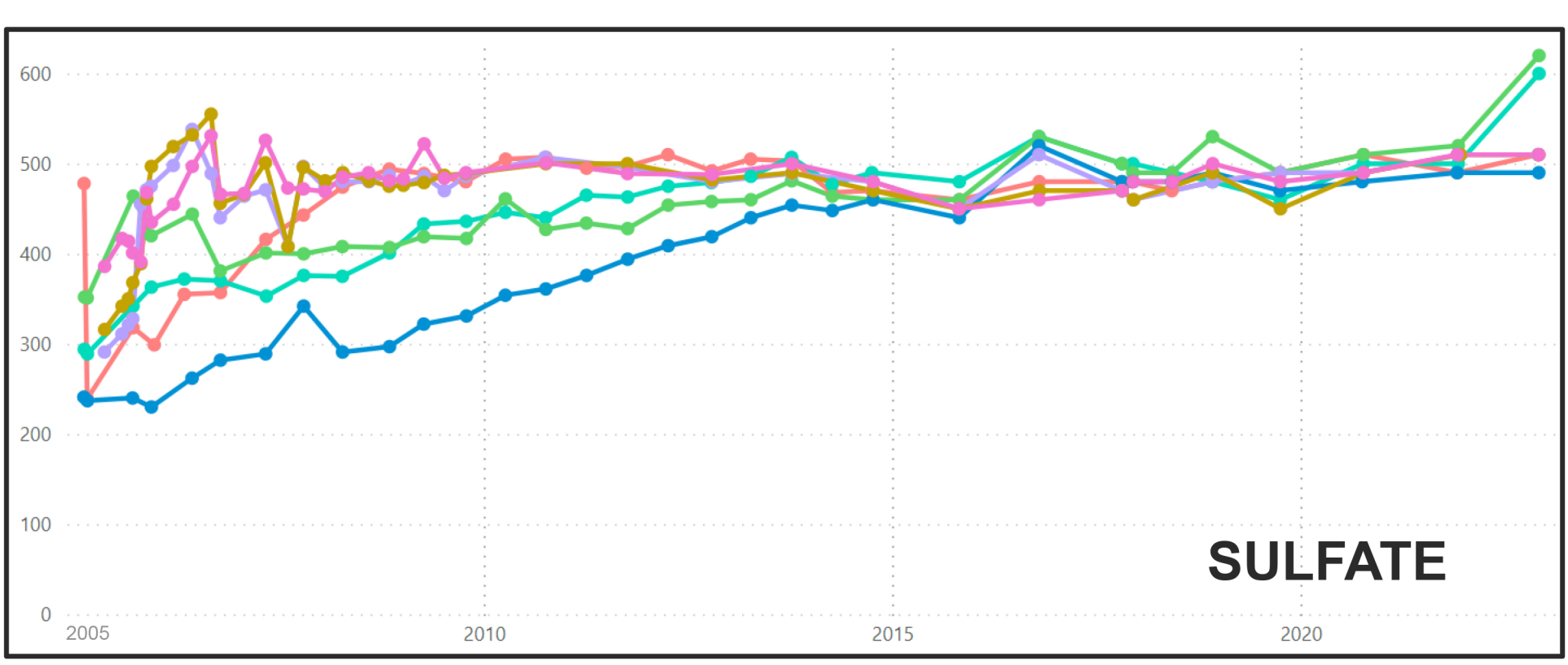
FORMER IM-3 SHALLOW MONITORING WELLS ANALYTICAL RESULTS

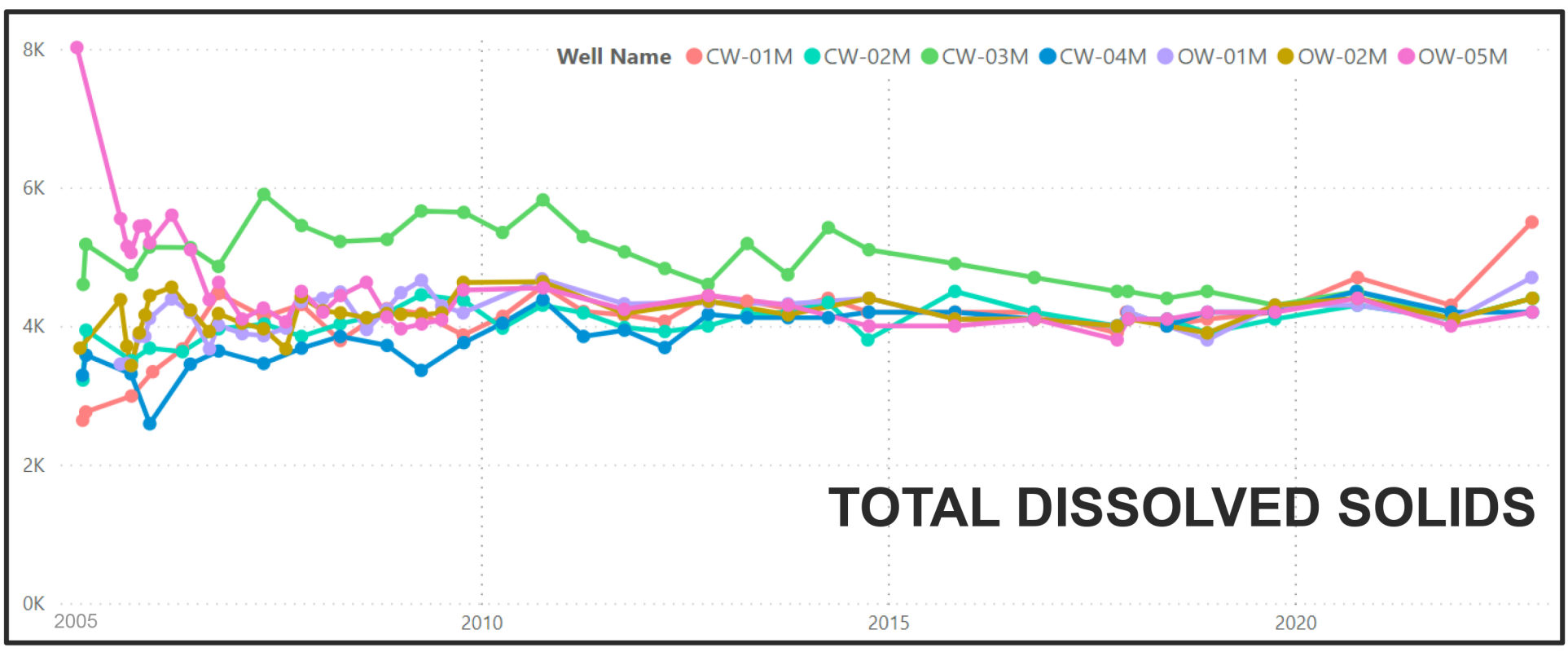
ARCADIS

FIGURE
E-1

3/8/2023 7:59:30 PM







Notes:

M = middle interval

K = thousand

Chloride (mg/L)

Sulfate (mg/L)

Total Dissolved Solids (mg/L)

milligrams per liter (mg/L)

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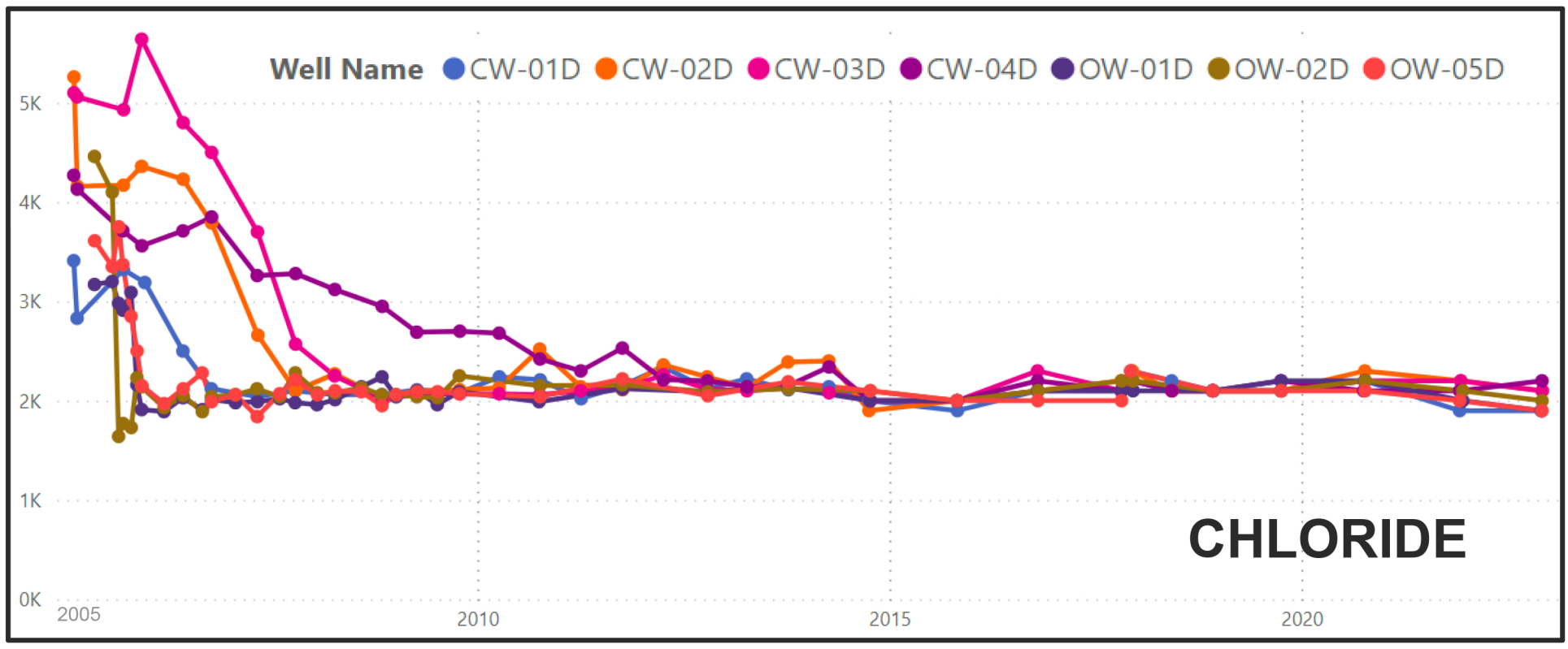
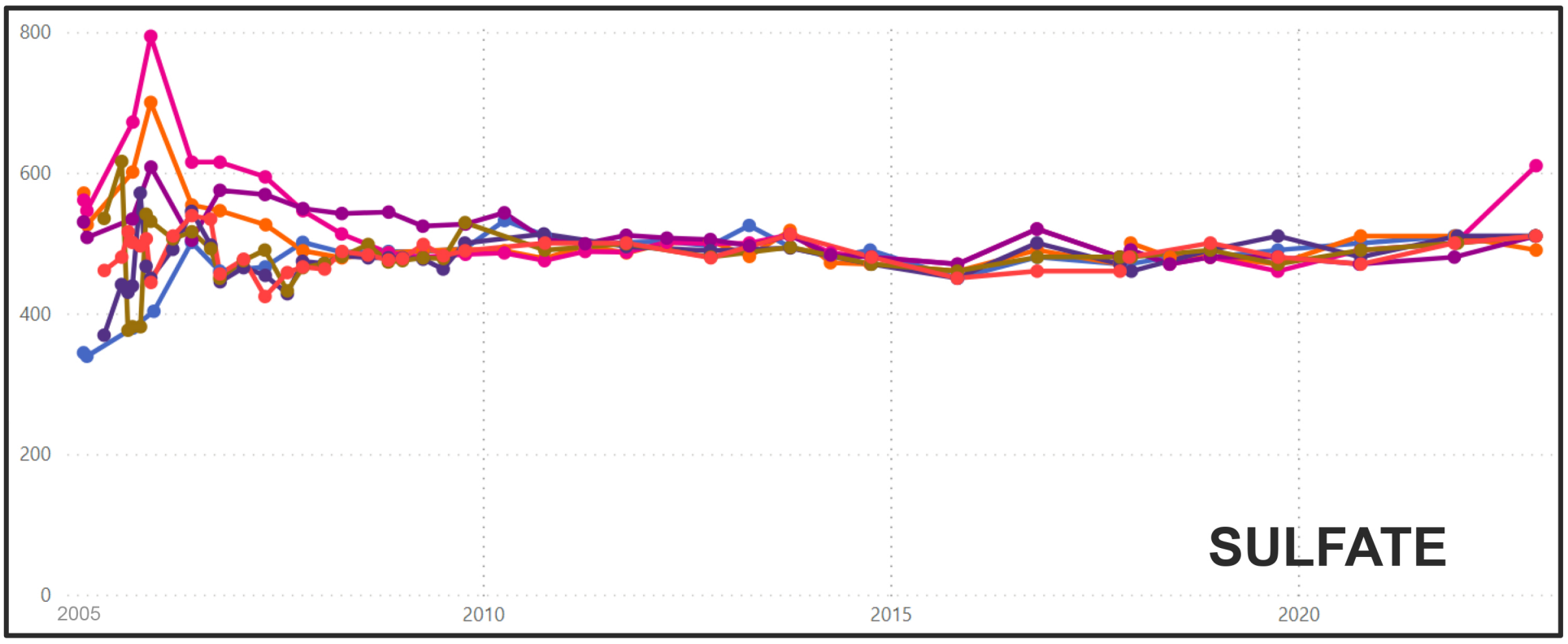
FORMER IM-3 MIDDLE MONITORING WELLS ANALYTICAL RESULTS

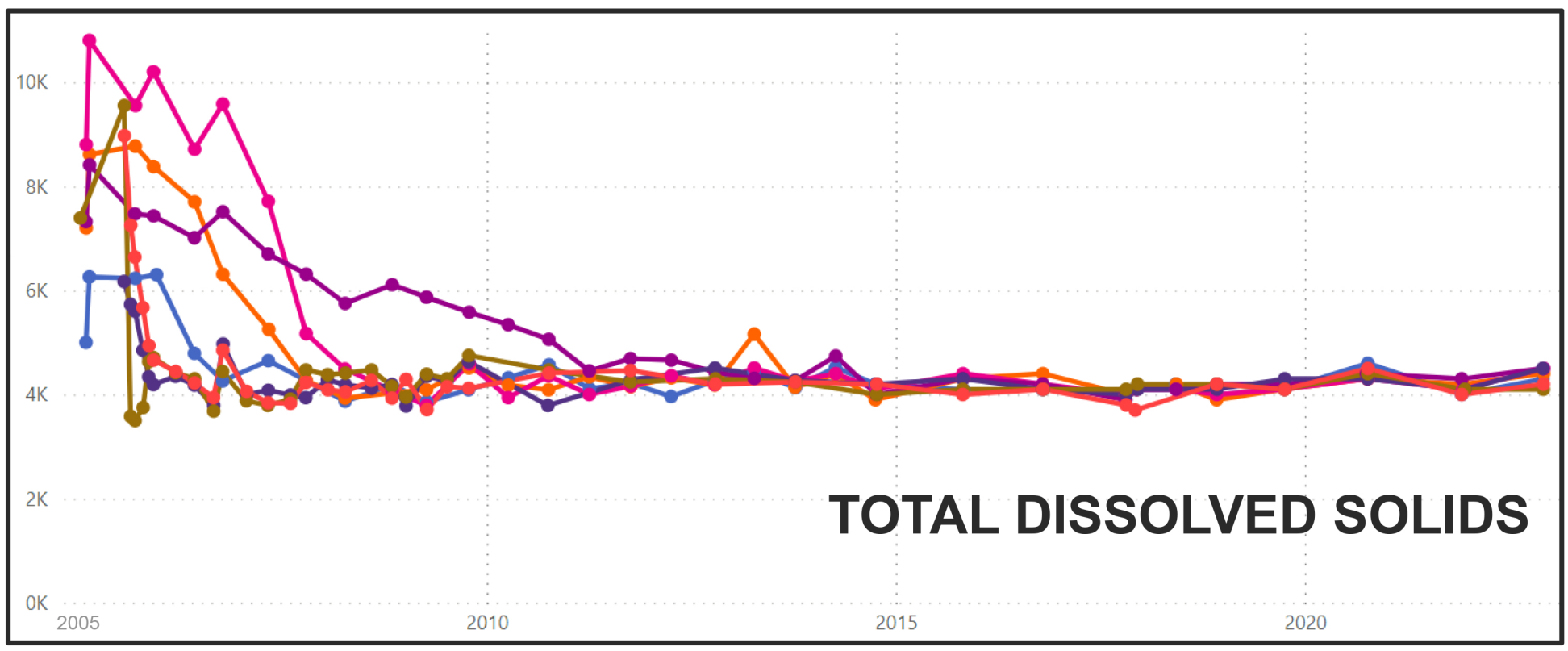
ARCADIS

FIGURE
E-2

3/8/2023 7:59:30 PM







Notes:

D = deep interval

K = thousand

Chloride (mg/L)

Sulfate (mg/L)

Total Dissolved Solids (mg/L)

milligrams per liter (mg/L)

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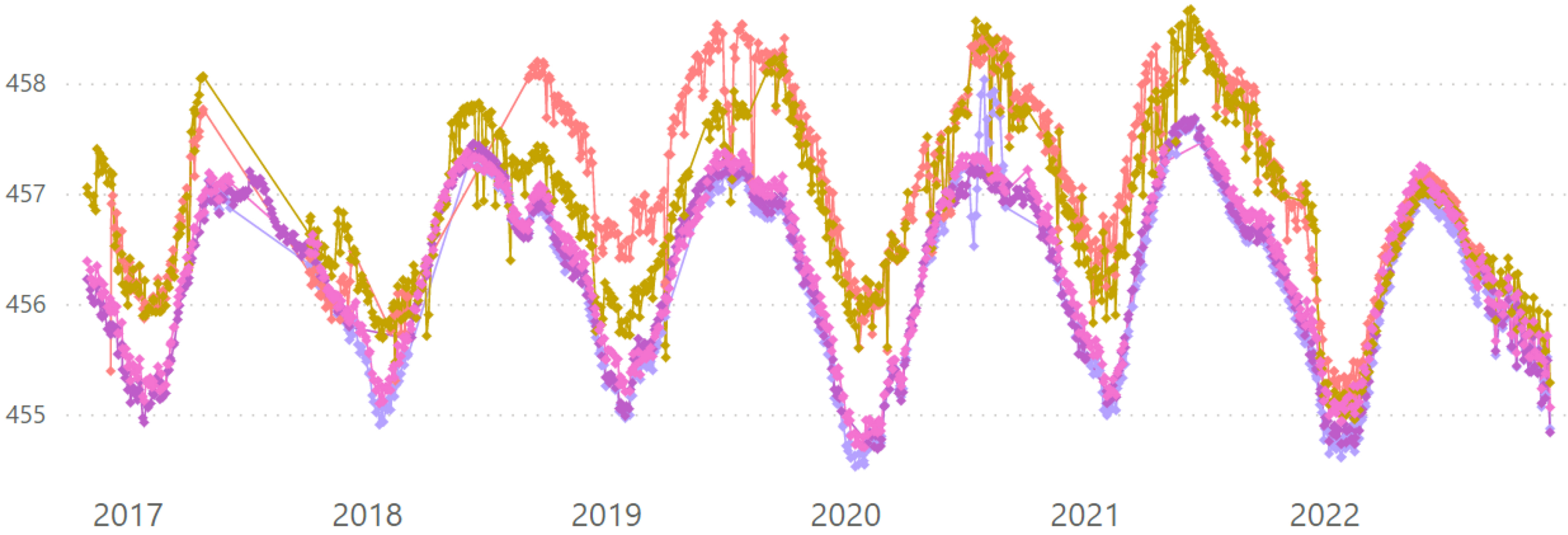
FORMER IM-3 DEEP MONITORING WELLS ANALYTICAL RESULTS

ARCADIS

FIGURE
E-3

3/8/2023 7:59:30 PM



LEGEND

OW-01S OW-02S OW-05D OW-05M OW-05S

Notes:

S = shallow interval

M = middle interval

D = deep interval

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FORMER IM-3 MONITORING WELLS HYDROGRAPH

ARCADIS

FIGURE
E-4

3/8/2023 8:00:15 PM

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